

Baromey Neth

Ecotourism as a Tool for Sustainable Rural Community
Development and Natural Resources Management
in the Tonle Sap Biosphere Reserve

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1st Supervisor: Prof. Dr. Béatrice Knerr
2nd Supervisor: Prof. Dr. Werner Troßbach

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Preface

In the early 21st century, ecotourism has come more and more to the foreground as a possible tool of providing a long-term livelihood security to rural poor while at the same time saving the natural resources which are under pressure as people increasingly draw on them as an additional source of income. In addition, governments of poorer countries as well as international organizations realize its potential as a clean source of valuable foreign exchange. The author of this volume, Neth Baromey, turns to the question how far such strategies can be successful, which obstacles are in the way, and finally which policy measures would be useful to remove them.

For that purpose, Neth Baromey has chosen the Tonle Sap region in Cambodia which is rapidly developing into a hotspot of international tourism due to the close vicinity of the world-famous ruins of Angkor Wat which have been re-opened to the public in the 1990ies. At the same time, however, as tourism spreads into nearby nature reserves and to hitherto untouched villages, rules and regulations, as well as human behavior do not seem adapted to adequately cope with the situation and to resolve burning conflicts. The research work is based on an extensive review of existing literature and material, and in particular on intensive fieldwork close to the stakeholders at grassroots level.

Both the research design chosen as well as the implementation are of excellent quality. Still, in spite of the high-level and complex scientific approach the author has succeeded in presenting his work in a way which makes it understandable also to a broader public.

Against the increasing importance of ecotourism on a global level on the one hand, and an on-going public and scientific discussion where contrasting views collide on the other hand, Neth Baromey's thorough and scientifically sound investigation is of paramount relevance. As the central questions approached have hardly been investigated in-depth and in a systematic way before, this book is expected to become a major resource of knowledge for scientists and stakeholders working in the area of development as well as environmental economics and sociology. Its particular merits are not only the results presented, but also the methodologies used to obtain them.

Prof. Dr. Béatrice Knerr

Department of Development Economics, Migration and Agricultural Policy
Faculty of Organic Agricultural Sciences,
University of Kassel

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Abbreviations and Acronyms

ADB	Asian Development Bank
BTC	Boeung Tonle Chhmar (Core Area)
BPAMP	Biodiversity and Protected Area Management Project
CBET	Community-based Ecotourism
CBNRM	Community-based Natural Resource Management
CCBEN	Cambodia Community-based Ecotourism Network
CFs	Community Fisheries
CNMC	Cambodian National Mekong Committee
CPAs	Community Protected Areas
CRCD	Cambodia Research Center for Development
DFID	Department for International Development
DoE / DNC	Department of Environment / Department of Nature Conservation
DoF / FA	Department of Fisheries / Fisheries Administration
DPR – MoYES	Department of Pedagogical Research - Ministry of Education, Youth and Sport
EIA	Environmental Impact Assessment
FAO	UN Food and Agriculture Organization
GTZ	German Society for Technical Assistance
ICDPs	Integrated Conservation and Development Programs
ICEM	International Center for Environmental Management
IUCN	International Union for the Conservation of Nature
L/INGOs	Local / international non governmental organizations
LLEE	Live and Learn Environmental Education
MAFF	Ministry of Agriculture, Forestry and Fisheries
MLMUP	Ministry of Land Management, Urbanization, Planning and Construction
MoE	Ministry of Environment
MoEYS	Ministry of Education, Youth and Sport
MoP	Ministry of Planning
MoT	Ministry of Tourism
MRC	Mekong River Commission
MRD	Ministry of Rural Development
MWFW	Ministry of Women Affairs and Veterans
NEAP	National Environmental Action Plan
NTFPs	Non Timber Forest Products
PIO / PIU	Project Implementation Office / Project Implement Unit
PTCAMP	Prek Toal Core Area Management Plan
RGC	Royal Government of Cambodia
SEILA	Social Economic Improvement Local Agency
SIMs	Seasonal In-migrants
SLA / F	Sustainable Livelihood Approach / Framework
SNV	Netherland Development Agency
SS	Stung Sten (Core Area)
TCU	Tonle Sap Coordination Unit
TSCP	Tonle Sap Conservation Project
TSEMP	Tonle Sap Environmental Management Project
TSGL	Tonle Sap Great Lake
TSBR	Tonle Sap Biosphere Reserve
TSBR-ED	Tonle Sap Biosphere Reserve Environmental Information Database
UNCTAD	United Nations Conference on Trade and Development
UNDP-GEF	United Nations Development Programs – Global Environment Facilities
UNEP	United Nations Environment Program
UNESCAP	United Nations Economic and Social Commission for Asia and Pacific
UNESCO	United Nations Education, Science and Culture Organization
UNV	United Nations Volunteer
V/CDC	Village / Commune Development Council
WB	World Bank
WCS	World Conservation Society
WTO	World Tourism Organization
WWF	World Wide Fund for Nature

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Neth Baromey

Summary

The Tonle Sap Great Lake (TSGL) is the largest floodplain lake in South-East Asia. It is famous due to its abundant biodiversity resources and rich wetland ecosystem of global environmental significance. In spite of the official designation as Tonle Sap Biosphere Reserve (TSBR) in 1997, the management and environmental governance of the lake have become the most challenging issues. A lot of social and environmental problems increasingly occur throughout the region, especially in its core areas. Many debates are central upon the benefits and sustainability of the lake. Concerned stakeholders have paid attention to biodiversity conservation and local livelihood improvement via sustainable harvestable productivity of natural resources. They have been looking for appropriate integrated conservation and development approaches in TSBR core areas, where natural resources are increasingly shrinking from heavy exploitation of resource-dependent fishing communities. Ecotourism has been suggested by the state institutions and non-state actors such as NGOs, international development organizations and donor agencies to be developed as one of the sustainable approaches to tackle current crises, while stressing socio-economic necessities of the local communities in these core areas. Yet, there has been no study on how to use it as a sustainable means to stimulate economic activities of local communities whose livelihoods are condemned as destructive and illegal, to reduce poverty, while providing strong incentives for sustainable resource conservation.

This study was conducted to provide in-depth understanding and theoretical and empirical findings to the above-mentioned subject matter. It aimed to analyze the potentialities and challenges for ecotourism development and how it can be applied as an integrated tool to provide economic incentives and better opportunities for community development, while improving natural resource management and conservation in TSBR core areas. The capital assets, the context of vulnerability of the local communities along with other significant attributes of the supply side were investigated in-depth. In addition, the potentials of and the challenges for ecotourism development in the selected TSBR core areas, Boeung Tonle Chhmar (BTC) and Stung Sen (SS), were studied thoroughly. Besides analyzing the potentials of the supply side, the demands of tourists (domestic and international) and private business sector for ecotourism development in the areas were envisaged in the study. The impacts of ecotourism on local livelihood improvement, biodiversity resources and natural environment, and management and conservation of the areas were also explored through sustainability concepts. However, the focus of the study was not only on ecotourism potentials and opportunities and ecotourism impact assessment process, but was also on the development of sound guiding principles for planning and management of ecotourism development in BTC and SS in a sustainable manner.

Mixed methods (qualitative and quantitative) were employed for data collection from a wide range of concerned stakeholders and beneficiaries. All relevant secondary data on socio-economic, demographic, geographical and natural conditions of BTC and SS were used to analyze current planning, management policy, and project implementation of responsible government agencies, NGOs, international development communities and donors. The primary data were collected through various applicable methods. The qualitative methods involved participatory rural appraisal (transact walk and cognitive mapping, group meeting and discussion, social mapping, and Venn diagram) with 49 local participants, semi-structured interviews with 120 local household representatives, in-depth interviews with 30 local communities and authorities and executing semi-governmental officers, expert interviews with 20 national and foreign experts, and participant observation. Quantitatively, formal interviews with 15 travel agencies and tour operators and contingent valuation methods (survey-based

interviews) with 300 domestic and international tourists were conducted during the fieldwork period. Concerning the sampling techniques, snowball and purposive samplings were used to select the sample populations for the qualitative investigation, whereas convenience and stratification samplings were followed to identify relevant respondents for quantitative data collection. The analysis of data entailed several methods, namely “content analysis”, “framework analysis”, “ecotourism opportunity spectrum” model, and some basic statistical analyses by using SPSS program.

In this study, the potentiality referred to both supply and demand sides. For the supply side study, four major aspects were encapsulated in the research plans. These included: (1) vulnerability context (shocks, trends and seasonality) of local fishing communities; (2) existing livelihood capital assets and the interaction between each substantial capital for development and conservation; (3) carrying capacity assessment and other challenges for ecotourism development; and (4) community perceptions of and other concerned stakeholders’ attitudes towards ecotourism development in BTC and SS core areas. The research fundamentals of supply side investigation allowed the application of sustainable livelihood approach (SLA) to help analyze the context of local livelihood system and problems and related underlying causes. It was also used to help analyze the complexity of internal and external factors and the evolution of development and conservation processes in BTC and SS which influence community livelihoods and capabilities as well as the effects of local livelihood strategies on the existence of natural resources in the areas. The application of the SLA provided a foundation of concrete analysis upon the effectiveness and applicability of ecotourism as an integrated conservation and development approach and how it could address social and environmental problems in TSBR core areas.

The demand side study encompassed the demands of tourists and private business sector for ecotourism development in BTC and SS. The facts about possible tourist market demands were split into tourist awareness, perceptions, willingness to visit/stay/pay, and tourists’ expected average length of stay and expectation of concerned tourism service and product delivery in BTC and SS. The target data on the demand of Cambodian tour operators and travel agencies were classified into: their knowledge and interest in ecotourism; their experience and interest in bringing tourists to TSBR core areas; their perceptions on potentials and challenges for ecotourism development in BTC and SS; their perceptions of possible impacts of ecotourism in TSBR core areas; their perceived constraints for package tour arrangement and tourist visitation in the areas; and their perceived possible local economic activities and businesses in BTC and SS; etc.

Possible effects of ecotourism on the natural and human environments of BTC and SS were investigated through environmental impact assessment by considering different scenarios of its development. This involved the extent to which ecotourism could possibly contribute to local economic stimulation, appropriate human and resource capacity development, biodiversity conservation and sustainable use of primary resources, and to suitable regional planning and development in BTC and SS. The creation of guiding principles for planning and management of ecotourism development in BTC and SS was done through the analysis of data obtained from different methods, especially from the expert interviews.

The study shows that the main occupation of the local people in BTC and SS core areas is fishing followed by other economic activities, such as fish raising, fish processing, fish dealing, livestock rearing, seasonal crop farming, groceries selling, and paid labour works. Despite living in natural resource rich areas of the TSBR, local fishing communities, especially the subsistence

or small scale fishermen which represent the majority of the total population, are facing many livelihood problems. Poverty and social complexity in BTC and SS are attributable to various critical factors, which have caused livelihood conditions of the local communities worse, while biodiversity conservation remains more challenging due to its close relationship with local livelihood options. These factors include: rapid population growth; inadequate local economic opportunities; constant decline in fish catch and other essential natural resources; lack of public services and infrastructure; lack of ownership right and access to fishery resources and other common property resources; low capacities; insecurity; social inequality and exclusion; and disparity in income generation.

The study has found that local community livelihoods are becoming more vulnerable due to both internal and external reasons. Internally, people's vulnerabilities are caused by their limited education, inadequate knowledge and skills and seasonal health problems, local informal rules (social capital) and social system, spatial condition and complication of the areas, and community attitudes towards fishery and protected area management laws and law enforcement. External problems affecting local livelihoods in BTC and SS include: ideological conflicts of management plans and responsibilities among executing agencies; politics of the concerned state (inter-ministries and semi-governmental agencies) and non-state actors (developmental and conservational NGOs, international communities and funding agencies); interaction between insiders and outside communities and attitudes of the newcomers (i.e. seasonal in-migrants) towards natural resource use and management in the areas; and current national and global environmental issues and movement.

It was found that community's willingness to participate in local development and natural resource management remains a questionable issue to be achieved. This is because local communities are strongly influenced by vertical network of the state administration, deeply-rooted political misconduct, and structured patron-client relationship. The study reveals that there is a strong interaction and interdependency between local livelihoods or poverty and the status and effectiveness of natural resource management in BTC and SS. Challenges to the management and protection of biodiversity resources and natural environment in these core areas are: insecure and inadequate financial support; increasing population pressure; demands on energy sources; economic growth oriented concession policies; unclear legal and institutional frameworks; lack of community support and participation; insufficient local economic alternatives; client-patron relationship; lack of knowledge, skill and capacity among the locals and responsible government staffs; inadequate support infrastructural services; complex geographical condition of BTC and SS core areas; social organization and local network; conflicts of interest over resource consumption and access; overlapped management mandates between responsible agencies; change of fishing attitudes among the local fishermen and seasonal in-migrants; lack of adaptation and respect of local knowledge; unclear definition of the land boundaries; lack of integration and harmonization of development and conservation projects; and lack of local empowerment and external coordination. In other words, it is difficult to achieve natural resource management and conservation goals because of six major constraints - theoretical, policy, legal, institutional, structural and implementation.

The broader context of socio-economic bases for community livelihood improvement in BTC and SS core areas requires appropriate development tools which are equated to the concept of sustainable growth and development. These tools are supposed to provide economic incentives to stimulate the local economy through the creation and diversification of village-based livelihood activities, while at the same time supporting nature conservation. The emergence of ecotourism initiative in the areas could help to address the pressing livelihood context of BTC

and SS communities without compromising the natural base and ecological protection in the areas.

The study indicates that BTC and SS core areas have plenty of potential natural and cultural resources. These resources signify three fundamental elements for ecotouristic destination – quantity, quality, and fascination. The natural attractions consist of vital and sensitive biological and scenic values of the destination areas, including undisturbed habitats, richness in biodiversity and ecosystem, unique ecological and geological formations, remote and beautiful natural landscapes, unique hydrology of the river and its creek system, etc. BTC and SS are home to abundant natural resources, encompassing endemic and illustrious fauna and flora species, some of which are environmentally global significant. The matchlessness and ecological value of these areas can be further connoted through the presence of lavish fish and other marine life, mammal, reptile, and amphibious species. The natural setting, distinctive ecosystem and loaded biodiversity, rare freshwater natural habitats, and reversed hydrological fluctuation of BTC and SS core areas are also of great interest for visitation. In addition, BTC and SS have an amalgam resource base of historic and cultural attractions that can be perceived as distinctive by tourism developers, tourism industry sector, and tourists. Different cultural-historic resources have evolved in different parts of BTC and SS core areas as a result of local diverse settlements, livelihood options, varied social organizations and adaptive strategies of people to their surrounding natural and physical environment, different histories and styles of political and economic development. Cultural attractions in BTC and SS comprise cultural events, objects, and activities. Possible tourist activities can be established through both primary and secondary natural and cultural attractions of the places.

The study demonstrates that local communities have positive perceptions towards ecotourism development, but they are cautious whether it could be brought in as an alternative economic option for the region not at the expense of the community. Other stakeholders' attitudes are also positive but varied depending on their interests, perceived benefits from their involvements, and current socio-economic and political status in the areas. In addition, these attitudes are clearly defined and distinguished between concerned NGOs and line departments of the government sector, which hold different states of the art, know-how, and accountabilities in the areas.

However, there are numerous constraints for ecotourism. The main constraint is the carrying capacity of the areas. In terms of functional physical infrastructure for ecotourism, there is lack of infrastructure and superstructure in BTC and SS to attract and facilitate tourists. Infrastructure projects within and around these core areas are being measured by potential donors and international development agencies as to what it might provoke imbalance and controversy between rural development and conservation principles. The insufficient services, infrastructure and superstructure for facilitating ecotourism process include water supply, water management system, accommodation and food services, zoning and hardening system, health care centers and other social emergency services, waterbirds observing towers, small trekking roads along the flooded forests and semi-evergreen forests, tourism information center and services, landings and platforms, etc.. The human resource capacity to run ecotourism and undertake appropriate NRM strategies is also an obstacle. The meagerness of financial capacity of government and NGOs to carry out action plans for sustaining ecological environment, natural resources and biodiversity of BTC and SS is another challenge to overcome for the success of ecotourism.

Other challenges for ecotourism in BTC and SS are: the constant degradation of natural resources and ecological environment which are the main attractions; lack of basic tourism services and products; unclear government mechanisms regarding the fishery concession laws in the protected areas; influx of seasonal in-migrants and rapid population growth; lack of commitment and collaboration between all concerned stakeholders; political pressure; lack of capital cost in the core areas; land grabbing; conflict of tourism benefit sharing; lack of job creations to support ecotourism product and service development; accessibility and other necessary amenities; poor legal and institutional framework; lack of awareness and capacities among local people, existing developers and authorities; conflicts over natural resource use and access; uncommitted community-based and participatory programs; conflicts between conservation and economic development that lead to unclear government support and political will; and, safety and security.

The impact assessment of ecotourism development shows that there are possible positive and negative impacts on human, natural and cultural environments, local livelihood approaches, and natural resource management in BTC and SS. The potential positive consequences of ecotourism are: improve people's quality of life; increase and diversify village-based economic activities; increase the supply of public and infrastructural services; protect spiritual and cultural significance and improve the recognition of local communities on the value and pride of their resources as well as their capacities; enhance local empowerment and ownership right; increase community's roles / responsibility / awareness and voluntary works; increase local involvement in decentralization practices and in conservation process; and increase community-driven and outreach programs. Prospective ecotourism benefits for natural resource management and protection in BTC and SS include: reduce natural resource depletion and decrease in environmental quality; improve protection and management through economic incentives of ecotourism; increase understanding of tourists and local communities about symbiosis between human and natural environment; increase environmental research and education programs; and increase conservation programs and activities initiated by both inside developers and external forces.

The possible negative effects of ecotourism are: conflict of interest; disparity in income generation and distribution; economic leakage; overcrowded environment; disturbance of natural habitats, waterbirds and wildlife species caused by tourist activities; population booming; land speculation and encroachment; environmental degradation and pollution; change of village landscapes; cultural alienation and modification of culture and nature; increased dependency of local communities on outside developers and planners; and, increased pressure on local community livelihoods caused by environmental strengthening and biodiversity conservation which restrict their access and use over natural resources.

Providing economic alternatives and diversification for the local communities to cope with their livelihood loss and current threats to natural resources is regarded as one of the most desired remedies. It is optimistic that ecotourism development in TSGL core areas will give a lot of benefits to the local people. Nevertheless, they will be prone to its negative consequences as well provided a number of critical issues are overlooked. The study also reveals that ecotourism has the potential to help reduce the amount of natural resource depletion and the growing decline of the environmental quality in the areas. Therefore, six guiding principles are needed to be followed through the entire ecotourism process. These include: (1) integrated and collaborative planning and policy development; (2) systematic management plans; (3) community involvement and community-based approach; (4) awareness raising among concerned

stakeholders; (5) stakeholder partnership building and participation; and, (6) government support programs.

Despite strong optimism, the study finds that because of its limited potential, ecotourism is not the only remedy or panacea for conservation, management and livelihood improvement in TSBR core areas. The success of ecotourism relies on many factors, especially on who are involved in its development and who manage its process based on what politics. Ecotourism in BTC and SS cannot be successful unless all parties share the same foresight and goal, have equal input in assisting its operation, and share mutual benefits. An attempt to develop ecotourism in the areas should not be seen as a definite subjectivity, especially when aiming to use local resources at maximum level to stimulate local economy and to increase the satisfaction of tourists. If it is going to be developed at fast speed without paying much attention to tackle current pressing cross-cutting issues and to design effective development and management mechanisms for resource consumption prior to development stage, ecotourism will only be a blaze. It will run down the quality and quantity of natural environment and biodiversity without benefiting the poor and vulnerable people and the conservation process in the areas. Therefore, management mechanisms of TSGL core areas should start from addressing local survival groundwork to medium and long-term strategic plans for rapid adjustment, local economic development and conservation supported by good micro and sectoral policies.

This study eventually suggests several approaches for sustainable biodiversity conservation and livelihood improvement in BTC and SS core areas. These include: (1) good collaboration and coordination among all concerned stakeholders; (2) local empowerment and respect of local knowledge; (3) harmonization and integration of development policies and programs; (4) adaptive management and effective integrated natural resource management and community development strategies; (5) suitable and clear policies and laws on environmental management, boundary designation, land use planning and business operations in the areas; (6) improvement of capacities of the locals and executing government and project implementation staffs; (7) appropriate law enforcement; (8) supply of technical and financial assistances to implementing staffs and community organizations; (9) provision of necessary public and infrastructural services; (10) effective control over population growth and its pressure on natural environment; (11) promotion of sustainable rural community livelihoods via appropriate small and medium scale enterprises while building a culture of sustainable use of natural resources; and, (12) establishment of well-preserved biodiversity and ecosystem zones in BTC and SS core areas.

Zusammenfassung

Der Große Tonle Sap See (Tonle Sap Great Lake; TSGL) ist der größte Auensee in Südostasien. Er ist bekannt aufgrund seiner großen Biodiversität und als Feuchtgebiets-Ökosystem von weltweiter Bedeutung. Trotz der Gründung des Tonle Sap Biosphärenreservates (Tonle Sap Biosphere Reserve; TSBR) im Jahre 1997 ist das Umweltmanagement des Sees zu einer besonderen Herausforderung geworden. Vielfältige soziale und umweltbezogene Probleme tauchen zunehmend in der Region auf, vor allem in den Kernzonen. Viele Debatten drehen sich um die Nutzung und die Nachhaltigkeit des Sees. Beteiligte Interessenvertreter bemühen sich um den Erhalt der Biodiversität und die Verbesserung der lokalen Lebensbedingungen durch die nachhaltige Nutzung der vorhandenen natürlichen Ressourcen. Sie haben nach angepassten, integrierten Ansätzen des Umweltschutzes und der regionalen Entwicklung in den Kernzonen des TSBR gesucht, wo sich die natürlichen Ressourcen zunehmend verringern, da eine starke Nutzung vor allem durch vom Fischfang lebenden Gemeinden stattfindet. Von staatlichen Institutionen, NGO's, internationalen Entwicklungshilfeorganisationen und weiteren geldgebenden Einrichtungen wurde der Ökotourismus als Lösungsansatz vorgeschlagen, um mit der vorhandene Krise fertig zu werden. Dabei wurden die sozioökonomischen Notwendigkeiten der lokalen Gemeinden in den Kerngebieten betont. Jedoch hat es bislang keine Untersuchungen gegeben, wie der Ökotourismus als nachhaltiges Mittel eingesetzt werden kann, um wirtschaftliche Aktivitäten der lokalen Gemeinden zu unterstützen, deren Lebensweise als zerstörerisch und illegal bezeichnet wurde, um dort die Armut zu reduzieren und gleichzeitig die Bedingungen für einen nachhaltigen Schutz der Ressourcen zu schaffen.

Diese Studie wurde durchgeführt, um das Problem in seiner Tiefe zu verstehen und theoretisch und empirische Lösungsansätze zu finden. Es wird angestrebt, die Potentiale und Herausforderungen des Ökotourismus zu analysieren und herauszufinden, wie dieser als Werkzeug eingesetzt werden kann, um ökonomische Impulse und Impulse der gesellschaftlichen Entwicklung auszulösen, während man zugleich das Management und die Erhaltung der natürlichen Ressourcen verbessert. Die zentralen Vorteile des Ökotourismus und die Störungsanfälligkeit der lokalen Gemeinden – neben anderen entscheidenden Faktoren auf der Versorgerseite – wurden in der Tiefe analysiert. Weiterhin wurden die Potentiale und Herausforderungen im Hinblick auf den Ökotourismus in den ausgewählten TSBR Kerngebieten Boeung Tonle Chhmar (BTC) und Stung Sen (SS) eingehend untersucht. Neben der Untersuchung der Potentiale auf der Versorgerseite wurden auch die Erwartungen von Touristen (aus dem In- und Ausland) sowie der Privatwirtschaft für die Entwicklung des Ökotourismus untersucht. Die Auswirkungen des Ökotourismus auf die Verbesserung der lokalen Lebensbedingungen, auf die Biodiversität und die Umweltentwicklung und -erhaltung durch nachhaltige Konzepte wurden ebenfalls untersucht. Die Schwerpunkt der Studie sind jedoch nicht nur die Potenziale und Auswirkungen des Ökotourismus, sondern auch die Entwicklung von sinnvollen Leitlinien für Planung und Management des Ökotourismus in BTC und SS in nachhaltiger Art und Weise.

Verschiedene Methoden (qualitative und quantitative) wurden angewandt, um Daten von einer breiten Gruppe der beteiligten Interessenvertreter und Geldgeber zu sammeln. Alle relevanten Sekundär-Daten bezüglich sozioökonomischen, demografischen, geografischen und natürlichen Merkmalen von BTC und SS wurden verwendet, um laufende Planungen, das Management und die Projektdurchführung der verantwortlichen Regierungsorganisationen, NGOs, internationaler Entwicklungshilfeorganisationen und der Geldgeber zu analysieren. Die Primärdaten wurden, durch verschiedene, hierzu anwendbare Methoden erhoben. Die

qualitativen Methoden beziehen „Participatory Rural Appraisal“ (u.a. Transact Walk und Cognitive Mapping, Gruppentreffen und -diskussionen, Social Mapping, und Venn-Diagramme) mit 49 lokalen Teilnehmern, halbstrukturierte Interviews mit 120 lokalen Vertretern, Interviews mit 30 lokalen Gemeinde- und Regierungsbeamten, Experteninterviews mit 20 nationalen und ausländischen Experten und teilnehmende Beobachtungen mit ein. Quantitativ werden formale Interviews mit 15 Reisebüros und -veranstaltern und Contingent Valuation (untersuchungsbasierte Interviews) mit 300 einheimischen und internationalen Touristen während der Periode der Feldforschung durchgeführt. Im Hinblick auf die Auswahltechnik wurden Schneeballtechniken und „Bewusste Auswahl“-Techniken angewandt, wohingegen „Convenience-“ und „Schichtungs“-Auswahltechniken angewandt wurden, um relevante Personen für die quantitative Datenaufnahme auszuwählen. Die Datenanalyse beinhaltet verschiedene Methoden wie Inhaltsanalyse, „Framework“-Analyse, „Ecotourism Opportunity Spektrumsmodell“ und einige grundlegende statistische Analysen mit SPSS.

In der Untersuchung beziehen sich die Potentiale sowohl auf die Versorger- als auch auf die Verbraucherseite. Für die Untersuchung der Versorgerseite wurden vier Hauptaspekte im Forschungsplan herausgestellt: 1) Beeinträchtigungskontext (Schocks, Trends und Jahreszeitenabhängigkeit) von lokalen Fischergemeinden; 2) bestehendes Anlagevermögen der Lebensgrundlage und die Interaktion zwischen dem Anlagevermögen für Entwicklung und dem für Erhaltung; 3) Beurteilung der Tragfähigkeit und anderer Herausforderungen für die Entwicklung des Ökotourismus; 4) Einstellungen der Gemeindemitglieder und der Interessenvertreter zur Entwicklung des Ökotourismus in den BTC und SS Kernzonen. Die Forschungsgrundsätze der Untersuchung der Versorgerseite erlauben die Anwendung des nachhaltigen Existenzansatzes („sustainable livelihood approach“ SLA), um den Kontext der lokalen Lebensweise, damit verbundene Probleme und zugrunde liegende Ursachen zu analysieren. Der Ansatz wurde ebenfalls verwendet, um die Komplexität innerer und äußerer Faktoren und die Entstehung des Entwicklungs- und Umweltschutzprozesses in BTC und SS zu untersuchen, der Gemeindelebensweisen und –lebensmöglichkeiten beeinflusst, wie auch die Effekte lokaler Lebensstrategien auf die Naturressourcen in dem betrachteten Gebiet. Die Anwendung von SLA lieferte die Grundlage der konkreten Analyse der Effektivität und Anwendbarkeit des Ökotourismus als integrierter Entwicklungs- und Umweltschutzansatz und ferner die Lösung sozialer Probleme und Umweltprobleme in den Kernzonen des TSBR durch Ökotourismus.

Die Untersuchung der Nachfragerseite umfasst die Ansprüche der Touristen und der privaten Wirtschaft an die Entwicklung des Ökotourismus in BTC und SS. Die Fakten über mögliche Marktanforderungen von Touristen wurden unterteilt in Touristenwahrnehmung, Sichtweisen, Bereitschaft zu kommen, zu bleiben, und zu zahlen, die erwartete durchschnittliche Aufenthaltsdauer sowie die Erwartung an Service und Produktlieferung in BTC und SS. Die Zieldaten der Nachfragerseite von kambodianischen Reiseveranstaltern und Reisebüros wurden gruppiert in: ihre Kenntnisse und ihr Interesse bezüglich Ökotourismus; ihre Erfahrungen und ihr Interesse, Touristen in die TSBR Kernzone zu bringen; ihre Sichtweisen über Potentiale und Herausforderungen der Entwicklung des Ökotourismus in BTC und SS; ihre Sichtweise von potentiellen Auswirkungen des Ökotourismus in der TSBR Kernzone; die von ihnen wahrgenommenen Hemmnisse für Pauschal-tourismus-Angebote und Touristenbesuche in der Gegend; ferner ihre Wahrnehmung von möglichen örtlichen Wirtschaftsaktivitäten in BTC und SS; usw.

Mögliche Auswirkungen des Ökotourismus auf die Natur und die Bevölkerung von BTC und SS wurden durch Bewertung der Umweltbeeinflussung („environmental impact assessment“) auf

Grundlage verschiedener Entwicklungs-Szenarios untersucht. Dies beinhaltet das Ausmaß, mit dem Ökotourismus zur lokalen wirtschaftlichen Stimulation, zur angemessenen Entwicklung der Humankapazitäten und der Ressourcenkapazitäten, zum Biodiversitätsschutz, zur nachhaltigen Nutzung primärer Ressourcen, zur angemessenen Regionalplanung und schließlich zur Entwicklung in BTC und SS beitragen könnte. Die Entwicklung von Leitprinzipien zur Planung und Verwaltung der Ökotourismusedwicklung in BTC und SS wurde über die Analyse von Daten durchgeführt, die auf verschiedenen Wegen vor allem durch Experteninterviews gewonnen wurden.

Die Studie zeigt, dass die Hauptbeschäftigung der örtlichen Bevölkerung in BTC und SS der Fischfang ist, gefolgt von anderen wirtschaftenden Aktivitäten wie Fischzucht, Fischverarbeitung, Fischhandel, Landbau, Lebensmittelverkauf und Lohnarbeit. Trotz der an natürlichen Ressourcen reichen Lebensumwelt des TSBR, stehen die lokalen Gemeinden, besonders Selbstversorger und Kleinfischer, die den Hauptanteil der Bevölkerung darstellen, vor ernststen Problemen. Armut und soziale Schwierigkeiten lassen sich vielfältigen kritischen Faktoren zuordnen, die dazu geführt haben, dass sich die Lebensbedingungen der lokalen Gemeinden verschlechtert haben, wobei der Biodiversitätsschutz aufgrund der Wichtigkeit für das Leben der Menschen von herausragender Bedeutung ist. Die Faktoren beinhalten: Schnelles Bevölkerungswachstum, nicht ausreichende regionale ökonomische Alternativen, kontinuierliche Abnahme der Fänge, das Fehlen öffentlicher Dienstleistungen und der Infrastruktur, das Fehlen von Besitzrechten und Zugangsrechten zu Fischressourcen und anderem Gemeineigentum, Unsicherheiten, soziale Ungerechtigkeiten und Ausschlüsse sowie Einkommensungleichheiten.

In der Studie wurde herausgefunden, dass die lokalen Gemeinden aufgrund interner und externer Einwirkungen und Faktoren armutsgefährdeter werden. Innere Faktoren sind die geringe Bildung der Bevölkerung, unangepasstes Wissen und Fähigkeiten, saisonale Gesundheitsprobleme, lokale informelle Regeln, das soziale System, regionaltypische Einstellungen in den Gemeinden zum Fischfang und den Gesetzen, die mit den Schutzgebieten zusammenhängen. Von außen einwirkende Faktoren in BTC und SS umfassen ideologische Konflikte bei den Managementplänen und Verantwortlichkeiten der ausführenden Stellen; Vorgehensweisen der beteiligten staatlichen und nicht-staatlichen Akteure (Entwicklungshilfe und Umweltschutz-NGOs, Geldgebern ..); die Interaktionen zwischen den einheimischen und den nicht einheimischen Gruppierungen und die Einstellungen der Ortsfremden (saisonale Einwanderer) zu den Naturressourcen und deren Management in der Gegend; ferner globale Umweltprobleme und Umweltbewegungen.

Es wurde festgestellt, dass die Mitwirkungsbereitschaft der lokalen Gemeinden an der Regionalentwicklung und dem Ressourcenmanagement ein fragliches Thema bleibt, auf das hingearbeitet werden muss. Das liegt daran, dass lokale Gemeinden stark durch vertikale Netzwerke der staatlichen Verwaltung, durch tief verwurzeltes politisches Fehlverhalten und strukturierte „Patron-Klient“ Beziehungen beeinflusst werden. Die Studie enthüllt, dass es eine starke Interaktion und Abhängigkeit zwischen der Existenz oder der Armut und dem Status und der Effektivität des Ressourcenmanagements in BTC und SS gibt. Herausforderungen für Management und Schutz der Biodiversität in diesen Kernzonen sind: unsichere und nicht ausreichende finanzielle Unterstützung; steigender Bevölkerungsdruck; Nachfrage nach Energie; wachstumsorientierte Vergabe von Lizenzen; unklare institutionelle und gesetzliche Rahmenbedingungen; Fehlen der Unterstützung durch die Bevölkerung und deren Partizipation; nicht ausreichende ökonomische Alternativen; „Klient-Patron“ Beziehungen; Unwissenheit, Fertigkeiten und Kapazitäten des verantwortlichen Regierungspersonals und des

Personals vor Ort; nicht ausreichende unterstützende Dienstleistungen; geografisch komplizierte Bedingungen der BTC und SS Kernzonen; soziale Organisation und regionale Netzwerke; Interessenkonflikte bezüglich des Ressourcenverbrauches und –zuganges; sich überlappende Mandate der zuständigen Stellen; sich wandelnde Einstellungen bei lokalen Fischern und bei den saisonalen Immigranten; fehlende Adaption und fehlender Respekt vor dem regionalen Wissen; unklare Abgrenzungen einzelner Ländereien; Fehlen der Integration und Harmonisierung von Entwicklungshilfe- und Umweltschutzprojekten; Fehlen von lokalen Zuständigkeiten und externer Koordination. Mit anderen Worten gesagt ist es schwierig, die Ziele des Managements der natürlichen Ressourcen und des Umweltschutzes zu erreichen, da sechs Haupthemmnisse bestehen: theoretische, taktische, rechtliche, institutionelle, strukturelle, und Realisierungsprobleme.

Der breitere Kontext der sozioökonomischen Basis für die Verbesserung der Lebensbedingungen in den Gemeinden in den BTC und SS Kernzonen erfordert angepasste Entwicklungs-Werkzeuge, angelehnt an das Konzept des nachhaltigen Wachstums und der nachhaltigen Entwicklung. Diese Werkzeuge sollen ökonomische Anreize schaffen, um die regionale Wirtschaft auf dem Wege der Schaffung und Diversifizierung von Aktivitäten auf Dorfebene zur Sicherung des Lebensunterhaltes zu stimulieren. Gleichzeitig sollen sie den Naturschutz befördern. Das Auftreten der Ökotourismus-Initiative in den Gebieten könnte dabei helfen, die drängenden Existenzprobleme der BTC und SS-Gemeinden zu mindern, ohne dabei einen ungünstigen Kompromiss im Hinblick auf die Naturressourcen und den Naturschutz eingehen zu müssen.

Die Studie zeigt das vielfältige naturräumliche und kulturelle Potential der BTC und SS-Kernzonen. Diese Potentiale kennzeichnen drei fundamentale Elemente für ein Urlaubsziel: Quantität, Qualität und Faszination. Die naturräumlichen Attraktionen bestehen aus vitalen und sensiblen biologischen und szenischen Werten, wie z.B. unberührte Habitate, Reichtum an Biodiversität und Vielfalt an Ökosystemen, einzigartige ökologische und geologische Formationen, abgeschiedene und wunderschöne Naturlandschaften, eine einzigartige hydrologische Lebenswelt des Flusses und des Systems seiner Nebenflüsse, etc. BTC und SS sind Heimat überfließender Naturressourcen, mit endemischer und vielfältiger Fauna und Flora, wobei einige Arten von weltweiter Bedeutung sind. Die Einmaligkeit und der ökologische Wert dieser Gegenden kann weiterhin unterstrichen werden durch den Fischreichtum und den Reichtum an Säugetier-, Reptilien- und Amphibienarten. Die Naturkulisse und seltene Frischwasser- und Naturhabitate der BTC und SS Kernzonen sind für Touristen interessant. BTC und SS besitzen historische und kulturelle Attraktionen, die von Tourismusentwicklern, der Tourismusindustrie und den Touristen selber als unverwechselbar wahrgenommen werden können. Verschiedenartige kulturhistorische Ressourcen haben sich in den unterschiedlichen Teilen der BTC und SS Kernzonen entwickelt. Die Gründe hierfür sind räumlich voneinander getrennte Siedlungen, verschiedene Lebensgrundlagen, unterschiedliche soziale Organisation und Anpassungsstrategien der Bevölkerung an ihre natürliche und physische Umgebung, verschiedene Historien und verschiedene Stile der politischen und ökonomischen Entwicklung. Kulturelle Attraktionen in BTC und SS umfassen kulturelle Events, Objekte und Aktivitäten. Mögliche Touristenaktivitäten können sowohl auf Grundlage primärer, als auch sekundärer Natur- und Kulturattraktionen der Gegend etabliert werden.

Die Studie zeigt, dass die regionalen Gemeinden der Entwicklung des Ökotourismus grundsätzlich positiv gegenüberstehen, aber Wert darauf legen, dass dieser als zusätzliche ökonomische Option für die Region und nicht auf Kosten der Gemeinden eingeführt wird. Die Einstellungen anderer Interessenvertreter sind ebenfalls positiv, variieren aber je nach ihren

Interessen, angenommen Vorteilen von ihrer Einmischung und ihrem sozio-ökonomischen und politische Status in der Region. Zusätzlich sind diese Einstellungen bei beteiligten NGOs auf der einen und Regierungseinrichtungen auf der anderen Seite klar verschieden, die einen von einander abweichenden Stand des Wissens und andere Verantwortlichkeiten haben.

Alles in allem gibt es zahlreiche Hemmnisse für den ökologischen Tourismus. Das Haupthemmnis ist die Tragfähigkeit der Gebiete. Im Hinblick auf eine funktionierende Infrastruktur und einen funktionierenden Oberbau mangelt es in BTC und SS, um Touristen anzuziehen. Infrastrukturprojekte in und um die Kerngebiete herum werden von potentiellen Geldgebern und internationalen Entwicklungshilfeorganisationen im Hinblick auf mögliche Konflikte zwischen Regionalentwicklung und dem Naturschutz kritisch gesehen. Die nicht ausreichenden Dienstleistungen, fehlende Infrastruktur und der mangelnde Oberbau umfassen die Wasserversorgung, das Wassermanagementsystem, Unterbringungen und Lebensmittelversorgung, Einrichtungen der medizinischen Versorgung, Plattformen zur Beobachtung der Wasservögel, kleine Wanderwege entlang der Auenwälder und der semi-immergrünen Wälder, Touristen-Informationszentren, Anlegestege usw. Auch die Ressource Mensch zur Durchführung des ökologischen Tourismus und zur Unternehmung angemessener NRM Strategien stellt ein Problem dar. Die Dürftigkeit der finanziellen Ausstattung der Regierungsorganisationen und der NGOs ist eine weitere zu überwindende Herausforderung bei der Umsetzung von Aktionsplänen des nachhaltigen Ökotourismus und zum Erhalt der Biodiversität in den betrachteten Regionen, um letztendlich den ökologische Tourismus erfolgreich einzuführen.

Weitere Probleme sind: Der konstante Rückgang der natürlichen Ressourcen und die Degradierung der Umwelt, also der Hauptattraktionen; das Fehlen grundsätzlicher touristischer Dienstleistungen und Produkte; undurchsichtige Verwaltungs-Mechanismen bezüglich der Fischereilizenzen in den Schutzgebieten; die saisonale Einwanderung und die Bevölkerungszunahme; fehlende Einsatzbereitschaft und Zusammenarbeit zwischen allen beteiligten Interessenvertretern; politischer Druck; Fehlen von Kapital in den Kernzonen; Landnahme; Konflikte, die die Verteilung der Gewinne aus dem Tourismus betreffen; Fehlen von Arbeitsplatz-Neuschaffungen, um die Entwicklung der Ökotourismusprodukte und -dienstleistungen zu unterstützen; Zugänglichkeit und andere notwendige Annehmlichkeiten; unzureichende gesetzliche und institutionelle Rahmenbedingungen; Fehlen des Bewusstseins und der Kapazitäten unter der lokalen Bevölkerung, Entwicklern und den Behörden; Konflikte bezüglich der Nutzung der und des Zuganges zu Naturressourcen; nicht engagierte gemeindebasierte und partizipatorische Programme; Konflikte zwischen Naturschutz und ökonomischer Entwicklung, die zu unklarer Regierungsunterstützung und politischem Willen führen und mangelnde Sicherheit.

Die Beurteilung der Auswirkungen der Entwicklung des ökologischen Tourismus zeigt, dass es mögliche positive und negative Auswirkungen auf den Menschen, die natürliche und kulturelle Umwelt, die regionale Lebensweisen und das Naturressourcenmanagement in BTC und SS gibt. Die möglichen positiven Konsequenzen des Ökotourismus sind: Verbesserung der Lebensqualität; Steigerung und Diversifizierung der dörflichen Wirtschaftstätigkeiten; Erhöhung der Versorgung mit öffentlichen und infrastrukturbezogenen Dienstleistungen; Schutz der Kultur und der Spiritualität und Verbesserung der Wahrnehmung der lokalen Gemeinden von ihrem Stolz und dem Wert ihrer Ressourcen und Kapazitäten; Unterstützung der lokalen Bevollmächtigung und der Besitzrechte; Steigerung der Rolle der Gemeinschaft/ der Verantwortung/ des Bewusstseins und ehrenamtlicher Arbeit; Vermehrung regionaler Beteiligung an der Dezentralisierung und am Umweltschutzprozess; Steigerung

gemeinschaftsträger Programme. Voraussichtliche Vorteile des Ökotourismus für das Management der Naturressourcen und den Umweltschutz in den BTC und SS Kernzonen sind: Verminderung der Erschöpfung der Naturressourcen und der Abnahme der Umweltqualität; Verbesserung von Schutz und Management durch ökonomische Anstöße über den Ökotourismus; Erhöhung des Verständnisses der Touristen und der lokalen Gemeinden über die Symbiose zwischen dem Menschen und seiner Umwelt; mehr Programme der Umweltforschung und -erziehung; mehr Umweltschutzprogramme und -aktivitäten initiiert von Entwicklungshelfern und externen Kräften.

Die möglichen nachteiligen Auswirkungen des ökologischen Tourismus sind: Interessenkonflikte ungleiche Einkommensverteilung; wirtschaftliche Verluste; zu viele Menschen in der Natur; Störung natürlicher Habitate, der Aktivitäten von Wasservögeln und anderen Wildtieren durch die Touristen; Bevölkerungszuwächse; Landspekulationen; Umweltverschmutzung; Änderung des Bildes der Dörfer; kulturelle Verfremdung und Veränderung der Kultur und der Natur; zunehmende Abhängigkeit der lokalen Gemeinden von Entwicklungshelfern und Planern und zunehmende Abhängigkeit der lokalen Gemeinden durch Biodiversitätsschutz, der den Zugang zu den Ressourcen limitiert.

Das Geben von Wirtschaftsalternativen und Diversifizierung an die lokalen Gemeinden, damit diese den Verlust ihrer Existenzgrundlage abwenden können, wird als eins der am meisten erwünschten Heilmittel gesehen. Es ist optimistisch, zu glauben, dass die Ökotourismusentwicklung in den TSGL Kernzonen eine Menge Vorteile für die lokale Bevölkerung bringt. Obwohl sie anfällig für die erwähnten negativen Konsequenzen ist, so sind einige kritische Punkte doch überschaubar. Die Studie zeigt auch, dass der Ökotourismus in der Gegend das Potential hat, das Ausmaß der Erschöpfung der Naturressourcen und die wachsende Abnahme der Umweltqualität abzuschwächen. Deshalb sollte während des ganzen Prozesses sechs Leitkriterien gefolgt werden. Diese umfassen: 1) integrierte und gemeinsame Planung und Vorgehensentwicklung, 2) systematische Managementpläne, 3) Beteiligung der Gemeinden und eine gemeindebasierte Herangehensweise, 4) Schaffung von Bewusstsein unter den beteiligten Interessenvertretern, 5) Bildung von Partnerschaften unter den Interessenvertretern und Partizipation, 6) Unterstützungsprogramme der Regierung.

Trotz eines starken Optimismus kommt die Studie zu dem Schluß, dass der Ökotourismus aufgrund seines begrenzten Potentials nicht das einzige Heilmittel für den Naturschutz sowie die Verbesserung des Managements und der Lebensbedingungen in den TSBR Kernzonen ist. Der Erfolg des Ökotourismus basiert auf vielen Faktoren, besonders darauf, wer an der Umsetzung beteiligt ist und der den Prozess auf welcher politischen Grundlage managt. Ökotourismus in BTC und SS kann nicht erfolgreich sein, wenn nicht alle Parteien demselben Ziel folgen, den gleichen Input zur Unterstützung geben und wechselseitige Vorteile genießen. Ein Versuch, Ökotourismus in diesen Gegenden zu etablieren sollte nicht als Subjektivität angesehen werden, besonders wenn man darauf abzielt, lokale Ressourcen in größtmöglichem Maße zu nutzen, um die lokale Wirtschaft zu stärken und die Zufriedenheit der Touristen zu erhöhen. Wenn dieser jedoch unter Hochgeschwindigkeit entwickelt wird, ohne dazwischenkommenden Sachverhalten Beachtung zu schenken und ohne effektive Managementmechanismen bezüglich des Ressourcenkonsums vor dem Erreichen der jeweiligen Entwicklungsstufe zu entwickeln, dann wird der Ökotourismus nur eine Feuerlohe sein. Dann wird er Quantität und Qualität der Biodiversität und des Naturraumes reduzieren, ohne den bedürftigen Menschen und dem Umweltschutzprozess in der Region zu Gute zu kommen. Deshalb sollten Managementmechanismen in den TSGL Kernzonen sich zunächst mit den örtlichen Überlebensgrundlagen, dann mit mittel- und langfristigen Strategieplänen für

schnelle Anpassung sowie regionaler Wirtschaftsentwicklung und dem Umweltschutz befassen, unterstützt durch sektorale Vorgehensweisen.

Diese Studie schlägt mehrere Ansätze für nachhaltigen Biodiversitätenschutz und die Verbesserung der Lebensgrundlagen in den BTC und SS Kernzonen vor. Diese umfassen: 1) gute Kollaboration und Koordination aller beteiligten Interessenvertreter; 2) regionale Bevollmächtigungen und Respektierung der örtlichen Wissens; 3) Harmonisierung und Integrierung von Entwicklungshilfeprojekten und – vorgehensweisen; 4) adaptives Management, effektives, integriertes Naturressourcenmanagement und Entwicklungsstrategien für die Gemeinden; 5) klare Vorgehensweisen und Gesetze zum Umweltmanagement, zur Grenzziehung, zur Landnutzungsplanung, und zur Planung von Wirtschaftsaktivitäten in der Gegend; 6) Verbesserung der Kapazitäten des lokalen Personals der Exekutivregierung und der Projektumsetzung; 7) angemessene Umsetzung der Gesetze; 8) Gewährung von technischer und finanzieller Unterstützung für entsprechendes Personal und Gemeindeorganisationen; 9) Bereitstellung der notwendigen öffentlichen und infrastrukturellen Dienstleistungen; 10) effektive Kontrolle des Bevölkerungswachstums und des Drucks auf den Naturhaushalt; 11) Förderung nachhaltiger Lebensweise auf Dorfebene auf dem Wege kleiner und mittlerer Unternehmen, wobei eine Kultur der nachhaltigen Nutzung der Naturressourcen aufgebaut wird; und 12) Entwicklung von in gutem Zustand erhaltenen Biodiversitäts- und Ökosystem-Bereichen in den BTC und SS Kernbereichen.

CHAPTER 1: INTRODUCTION

1.1 Ecotourism Context in Cambodian Protected Areas

Cambodia is located in the land-mass of Southeast Asia, which captivates images of a glorious and mysterious past and abundance of cultural, historical, and natural heritages and patrimonies dating back thousands of years. It locates in a rich tropical region, which is classified by the International Union for Conservation of Nature (IUCN) as Indo-Burma Biosphere Hotspot (Birdlife International, 2007). This country has high potential and competitive advantage for tourism development. It is home to the world's unique ancient temple city epitomized through the Angkor Wat Temple that entices evermore visitors from all over the world.

Cambodia has just emerged from a long period of political instability and has only been recognized as a possible touristic destination since the late 1980ies (Burton, 1998). Since then, tourism development has been on the upsurge, gradually growing throughout major topographical regions, particularly in the country's four priority regions¹ of tourism. The Royal Government of Cambodia (RGC) considers tourism as a vital mitigation mechanism to help rebuild the country's economy and enhance global political, cultural and economic integration. In addition, tourism has been used as a tool to reduce the protracted poverty rate to achieve the direction of the Rectangular Strategy² which is the core foundation of the third government mandate 2003-2008 (RGC, Address by Samdech Hun Sen, 2004).

The dual slogan for tourism in Cambodia is "culture and nature", but most investments are devoted to the cultural sites, particularly promoting the Angkor complex as the most important attraction. Tourism development in Cambodia, including ecotourism in protected areas (PAs), has grown rapidly after 1993 with the rate of approximately 21.3% per annum. According to the first quarterly report of the Ministry of Tourism (MoT, 2008), the total number of international tourist arrivals in 2007 reached 2,015,128 with the growth rate of 18.53% as compared to those in 2006. Based on IMF statistics for 2000-2002, the Economic Institute of Cambodia projected in their Economic Watch that tourism would outgrow the garment industry by 2008 (EIC, 2005), representing one of Cambodia's best hopes for economic growth (International Center for Environmental Management-ICEM, 2003). The obvious trend towards nature-based tourism and ecotourism is growing significantly, though Cambodia has not yet implemented its ecotourism development plans.

Ecotourism development in Cambodia takes place mostly in PAs, a system which was established since 1925 as a controversial legacy of the French colony from 1863 to 1953 (ICEM, 2003). By then, valuable resources that provided basic survival to the rural poor were transformed into a recreational sphere for the French and the urban elites. Until 1953 Cambodia became politically independent from the French colony, and entered a new global trend of the modernization paradigm. Across time, the PA's function has shifted from being a recreational luxury for the elite to an essential strategy for economic development of the

¹ Siem Reap, Phnom Penh and the surrounding areas, coastal zone (Kampot and Kep, Sihanouk Ville and Koh Kong), and the northeastern part of the country (Cambodian National Tourism Development Plan 2001-2005).

² "Rectangular Strategy" is a new political platform of the Royal Government of Cambodia for the third legislature of the National Assembly. It is an integrated structure of four major intersecting rectangles – enhancement of agricultural sector, further rehabilitation and construction of physical infrastructure, private sector development and employment generation, and capacity building and human resource development – which has good governance as the core of reform (RGC, 2004).

country (ibid.). However, the poor rural residents have often been excluded and have suffered adverse impacts of tourism development and denial of access to livelihood sources.

Like other sectoral development mechanisms, tourism is under privatization schemes of the RGC as part of the country's adaptation to trade liberalism (World Investment News - Top Report on Cambodia, 2004). The policy contributes to increase Cambodia's GDP, but heightens the state of poverty among its rural population. Poverty threats are closely linked with natural resource management patterns (Chanto and Ham, 2005). Despite restricted laws on illegal encroachment, many rural poor move to live near or inside PAs, which become available common resources when they are denied the access to private lands (Asian Development Bank-ADB, 2001). Population movement and illegal natural resources extraction by the concession activities pose new threats to natural resource management strategies in PAs, particularly when the management is poorly financed and under-staffed.

Ecotourism or community-based ecotourism (CBET) projects are adapted mostly in such natural resources rich areas with high chronic human poverty. Developing ecotourism in conflicted PAs is often seen as part of community-based natural resource management (CBNRM) or decentralization and community empowerment programs (Ken *et al.*, 2004). It aims to alleviate environmental problems, to nurture democratic society and decentralization, to improve natural resource management and conservation, and to reduce poverty in rural poor communities (Ken *et al.*, 2004; Rith, 2004; Yin, 2003). This practice is fueled by the growing social conflicts, rapid natural resource depletion, inadequate government funding for the management of PAs, increasing dependency on external aids, and the need for economic growth and poverty reduction.

For the RGC, economic growth is a priority, while conservation is a commitment they must perform to the international governance agendas. Since the International Year of Ecotourism 2002 and WTO International Conference on Tourism and Sustainability in Siem Reap 2004, the RGC has shown various efforts to preserve and conserve its cultural and natural heritages. The country pays more attention to the conservation of natural assets in various PAs. The commitment of the RGC shows a positive indicator which stimulates the interest of concerned public institutions, civil society, international communities and donor agencies to use ecotourism as one of the integrated development tools in PAs and biosphere reserves³ and other fragile rural destinations of strong human-nature relationship. Within this framework, ecotourism has become a promising tool for promoting PAs' objectives in providing incentives to maintain ecosystem integrity, biodiversity, and in improving the livelihoods of local communities dependent upon natural resources.

This research analyzes the feasibility of using ecotourism as a tool for providing additional livelihood strategies to fishing communities complementary to integrated conservation mechanisms in the core areas of the Tonle Sap Biosphere Reserve (TSBR). It investigates the potential contribution that ecotourism could make to sustainable livelihoods of local communities as well as how it affects their current livelihoods, biodiversity⁴ conservation, and the management of natural resources. This crisscrosses between ecotourism and community

³ Biosphere Reserves are internally recognized areas of terrestrial and coastal ecosystems promoting solutions to reconcile the conservation of biodiversity with its sustainable use (UNESCO, 1968 cited in the Training Manuals for Tonle Sap Conservation and Management, 2005). According to the Protected Area Laws of the RGC (2006), biosphere reserve is an area representing an ecosystem that is important and not severely damaged, and surrounded by sustainable development zones, allowed for limited human activities.

⁴ Biodiversity refers to various organisms in the same or different species and living organisms of all levels and sources, including land, marine and fresh water ecosystems, and the ecological relationships in which these ecosystems exist (RGC, Protected Area Law *et al.*, 2006, p.16).

development and the appropriate development process that ecotourism could generate incentives leading to improved conservation status in the areas. Before presenting contextual, theoretical and methodological problems of this research, it is important to understand the issues of livelihoods and conservation practices in the TSBR and other baseline information related to the areas of study. The details of such information are provided in Section 1.2 and 1.3.

1.2 Issues of Community Livelihoods and Natural Resource Management in the Tonle Sap Biosphere Reserve

In Cambodia, it is hard to achieve sustainable community development without the recognition of integrated approaches for environmental management, as people's livelihoods depend on natural resources. The economy of Cambodia is based on agriculture with approximately 84% of the total population living in rural areas and having their main occupation as farmers (RGC, 2001). One of the richest regions in Cambodia in terms of biodiversity and natural resources is the Tonle Sap Great Lake (TSGL) region, which is adjoined by five provinces with a total population of 2.9 million (National Forum on Tonle Sap Initiative - NFTSI, 2007). The TSGL ecosystem provides socio-cultural and economic resources for Cambodians, especially fish which is a main source of protein intake. The lake supplies around 250,000 tones of fish per annum, accounting for 60% of the country's total fish catch (NFTSI, 2007).

Despite living in this biodiversity rich region, 40% of the total population in the TSBR are living below the poverty line⁵; while 82% of rural households have no toilet and less than 1% have electricity (Live & Learn Environmental Education - LLEE, 2004). Receiving access to public utilities and social services (i.e. schools, health care centers, clean water and sanitation, etc.) is a need for improving the well-beings of TSBR communities. Yet, great concern is also placed on sustainable livelihood options and income diversification without compromising socio-economic and environmental necessities of the young generation. Declining fish catch, constant degradation of natural resources, lack of floodplain agriculture, population growth, competition over resource use and access, and social inequality are considerable problems related to livelihoods of TSBR communities (Chanto and Ham, 2005; Seak, Mak, Ham and Rath, 2005; Ham, 2006). Most of the inhabitants, especially those living in and adjacent to TSBR core areas (please see definition in Section 1.3), are unable to meet their basic needs, and local natural resources are essential for their subsistence. Under such conditions, they remain committed to illegal fishing and other destructive resource extraction activities or to sell their labors to secure their livelihoods (Asian Development Bank - ADB, 2005).

The RGC and its counterparts with strong support from international development agencies (i.e. ADB, WB, UNDP, GEF, FAO, IUCN, and UNESCO) have realized that the management and conservation of natural resources in the TSBR are impossible if local livelihoods are not enhanced and diversified. This requires investment in a variety of income strategies, opportunities, human capital and asset ownership rights of communities, as well as in public administration and policy reform related to pro-poor economic growth and sustainable integrated resource management (UNDP-GEF, 2005; MoP, 2006). It also involves state intervention in ecological sustainability as degradation of natural resources and other enabling environments directly influence rural community livelihoods in the TSBR. This tracks the Cambodia's National Environmental Action Plan (NEAP) 1998-2002, which highlights four principles of state intervention in natural resource management and environmental protection.

⁵ The "poverty line" is the per capita expenditure needed to secure an intake of 2,100 calories per day (ADB, 2003).

These principles are: (1) the recognition of the link between poverty alleviation and the environment; (2) the recognition of the importance of communities; (3) the recognition of the need for institutional capacity building, and; (4) the recognition of the importance of integrated approach to environmental planning (RGC, 1998).

Many concerned government, civil society and international development agencies have implemented different projects under the ADB-supported Tonle Sap Environmental Management Project (TSEMP). The TSEMP has been coordinated by the Cambodian National Mekong Committee (CNMC) with around a dozen of ministries, two of which are considered as the main responsible bodies - Ministry of Environment (MoE) and Ministry of Agriculture, Forestry and Fishery (MAFF). Within its framework, three components have to be carried out structurally by the project bodies, contracting and sub-contracting agencies. These include: (1) strengthening natural resource management in the TSBR; (2) organizing communities for natural resource management; and (3) building management capacity for biodiversity conservation (UNDP-GEF, 2005). At present, according to the Inception Report in 2005, the seven-year (2004-2011) Tonle Sap Conservation Project (TSCP) is working as a continuous project integrated within the third component of the TSEMP. Besides, it works out various cross-cutting activities of the first and second components of the TSEMP, and its aims are to: (1) enhancing the capacity for management of biodiversity in TSBR core areas; (2) developing systems for monitoring and management of biodiversity; and (3) promoting awareness, education and outreach programs on biodiversity conservation in the TSBR (ibid).

Following TSEMP and TSCP activities in TSBR core areas, several community-based projects, such as community fisheries (CFs) and community protected areas (CPAs), have been established and reinforced to achieve the above aims (TSCP, 2006; TSCP, MoE and MAFF, 2007). The executing departments⁶ of MAFF and MoE and other external agencies (i.e. LLEE, United Nations Volunteers - UNV, World Conservation Society - WCS, UNESCO, IUCN, etc.) are working with the Project Implementation Units (PIU), community organizations and vulnerable groups to enhance their knowledge, skills and capacities and provide inspiration for local participation in conservation. The emergence of community organizations which work to follow proper management plans, rules and norms for resource management in TSBR core areas represents a good condition provided by the TSCP. On the one hand, such a mechanism could be seen as an initiative that is integrated within the community-based natural resource management (CBNRM)⁷ approach. It is believed that this approach helps to overcome problems related to consumption, exploitation, and management of common property resources in protected areas (Berkes, 1987, 1989; Carson, 2002). Benefits provided by this approach are: increased local income and diversified local economic activities, increased employment opportunities and economic wellbeing of communities, increased local empowerment and participation, improved social welfare and infrastructure, better conflict resolution and improved resource conservation (Jones, 2004; Roe *et al.*, 2006; USAID, 2007; Carson, 2002). On the other hand, there are still concerns that this approach is not appropriately applied due to lack of care, commitment, capacity, and equity among communities and implementing agencies, and may not benefit the poor.

Low capabilities, vulnerability, livelihood insecurity, power relation and social exclusion are reflected as common characteristics of poverty in the TSBR. This has brought many conflicts on

⁶ The Project Implementation Offices (PIO) of the Department of Fisheries (DoF), which is promoted as the Fisheries Administration (FA), and the Department of Nature Conservation or Department of Environment (DoE).

⁷ According to Toby Carson (2002, p. 353), CBNRM is characterized by local communities playing the central role in identifying resources, defining development priorities, choosing and adapting technologies and implementing management practices.

the utilization, management and conservation of natural resources, especially in the core areas. To tackle these problems, according to the Prek Toal⁸ Core Area Management Plan (PTCAMP 2007-2011), ecotourism is proposed to be developed as a tool to secure conservation and promote development of rural communities in TSBR core areas. It has emerged from market-based, economic diversification and stakeholder partnership principles of executing ministries and civil society organizations with suggestion and support from concerned international development programs. As a part of CBNRM and integrated conservation and development projects (ICDPs), it is also used to reduce social conflicts, stimulate local livelihood options, increase local involvement, power and rights as well as to promote equitable benefit-sharing (TSCP, MoE and MAFF, 2007). With no detail study and management plans, ecotourism has been operated in the Prek Toal core area by Osmos, a non-profit conservation, education and tourism association, in collaboration with the MoE since 2003. As stated in the PTCAMP (2007), similar examples of fully operationalized ecotourism development would be followed in two other core areas, Boeung Tonle Chhmar and Stung Sen, although contextual problems might differ from Prek Toal.

However, developing ecotourism in TSBR core areas has its challenges. Because of their immense economic value, natural resources of the TSBR, especially fishery and forestry resources, often trigger conflicts of interest among individuals and beneficiary groups vying for access, ownership and consumption. Moreover, successful ecotourism development depends on many critical factors, such as: improvement of environmental conservation; least economic leakages; community participation; human resources / capacities and skills; enhancement of local community livelihoods; and, tourist satisfaction.

1.3 Study Areas and Reasons for Choosing the Site

The TSGL is the largest floodplain lake in Southeast Asia and one of the world's richest wetland ecosystems, comprising abundant and diverse aquatic resources, wildlife and natural habitats, swamp forests, fishes and waterbirds (ADB, 2006). The unique hydrology of the lake and the Mekong waters play a crucial role for the perpetuation of productive biodiversity resources, for the land use pattern, and for the emergence of cultural diversity. The lake's system provides main support to the livelihoods and economic activities of rural Cambodians, especially those living in, within or adjacent to it. Cambodian culture is adapted to and flourishing in harmony with the TSGL and the Mekong, which serve as sources of material needs and of spiritual development. Farming, fishing, socio-economic rural development and traditions are closely connected with the annual fluctuation of the TSGL waters.

This prime freshwater lake is located in the central floodplain of Cambodian territory. It is bordered by five provinces, namely Kompong Chhnang, Pursat, Battambang, Kompong Thom and Siem Reap, with total catchments of 80,000 km² (Hand, 2002). There are approximately 2.9 million inhabitants (22% of the country's total population) living in and adjacent to the TSGL region, whose livelihoods strongly rely on the resources of the lake. Approximately 1.2 million of them who are distributed in 160 communes reside in the area of utmost flooding around the lake (ADB, FAO, DoF, 2003). About three-quarters of these people dwell around the high water level, whereas one quarter forms diverse diffusive communities in floating villages on the lake or in the floodplain in thatch-roofed houses suspended on poles or bamboo hordes. The findings of an UNDP study conducted in 2001 showed that the population growth rate in

⁸ Prek Toal is one of the three core areas of the TSBR. Ecotourism has been introduced and developed actively in that area to receive tourists who flow from Siem Reap province as a tour circulation after visiting Angkor complex.

the areas was 2.5% per annum, 57% were being under 20, and 20% of households are headed by women (UNDP, 2001).

Since the RGC and the UNESCO consented to designate the TSGL as Biosphere Reserve in 1997, its entire magnitude is divided into three zones, each of which serves different management and development purposes (Wetland International, 2004). The core areas (42,257ha) are set aside for biodiversity preservation, the buffer zone (541,000ha) is marked out for sustainable fishery and flooded forest management, whilst the transition zone (900,000ha) is demarcated for sustainable agricultural development (ADB and CNMC 2004; NFTSI, 2007). Besides being a fundamental habitat for over 500 fish species, the TSGL is rich in flora and fauna species, including a significant existence of widespread and endangered species⁹. More than 225 bird and waterbird species, 200 plant species, and other aquatic resources¹⁰ are found in the TSGL (UNDP, 2001; Neou, 2003). Abundant nomadic and non-migratory waterbirds and other globally endangered species (i.e. Bengal Florican, Hairy-nosed Otter, Siamese Crocodile, Giant Mekong Catfish, Burmese Python, Yellow-headed Temple Turtle, etc.) are also observed to present in the TSGL region. These evidences have incited concerned environmental international and non-governmental organizations (I/NGOs) and international development communities to focus more on and retain its regional and global ecological values through various environmental and development projects. They have been working to prevent beneficiary groups from doing illegal fishing, deforestation, and other destructive activities by improving their agricultural methods and socio-economic status. Hitherto, numerous key policy programs¹¹ have been developed by the RGC in close collaboration with related government, non-government, local and international bodies ADB and CNMC, 2004; ADB, 2005). These programs were issued by the Council of Ministers (CoM) for implementation with the MoE and the MAFF as the leading agencies in preparation and inspection.

The degradation of the TSGL ecosystem and biological diversity is not only regarded as a critical issue for Cambodia, but also as a serious global dilemma for the Gross Mekong Sub-region Countries¹² (ADB, UNDP-GEF and Capacity 21, 2001). This is because these countries share common interests together in terms of water and its rich natural resources. The water regime and biodiversity resources of the TSGL are strongly interconnected with the flow, sediment and water conditions of the upstream Mekong River. According to the Mekong River Commission (MRC, 2003), the Mekong Agreement¹³ reveals the importance of the TSGL as a flood basin and a fisheries habitat of the Lower Mekong Basin and the necessity to conserve the natural resource flow to the TSGL during flood season. From its regional relationship, the MRC has carried out four major programs in support of the Mekong Agreement in order to fulfill its

⁹ There are one plant, four fish, six reptile, six mammal and sixteen bird species have been put in the IUCN Listing as world endangered species (Goes, WCS-Cambodia, 2005).

¹⁰ Other aquatic resources are turtles, watersnakes, mollusks, amphibians, otters, macaques, silvered languors, and wild crocodiles, etc.

¹¹ These programs are related to pro-poor approach, decentralization, fishery and forestry management, integration of environmental concerns and economic stimulation activities, cost-effective prevention of environmental stresses and environmental rehabilitation programs, coordination and development of water and related natural resources, legal framework for natural resources management and ecosystem, reform of fishery and forestry laws, fishing lot concession for technical research, access to safe drinking water programs, etc.

¹² The GMS countries consist of Southern China (Yunan province), Laos, Vietnam, Cambodia, Myanmar, and Thailand.

¹³ According to the Mekong River Commission (MRC, 1995, 2003), four riparian countries of the Lower Mekong Basin, namely Cambodia, Laos, Thailand and Vietnam decided to sign the Mekong Agreement on 05 April 1995 in Chiang Rai, Thailand. Two countries in the Upper Mekong Basin, China and Myanmar, did not sign the agreement from seeing less benefit from the cooperation, while the Lower Mekong Basin countries considered less contribution from these nations. There were five main principles of this agreement: (1) peaceful resolution of disputes; (2) freedom of navigation; (3) reasonable and equitable utilization of Mekong waters; (4) state responsibility for injurious activities; and (5) environmental integrity of the Mekong River including maintenance of its natural flows.

global mission. These programs include: water utilization programs; environment programs; basin development plan; and flood protection programs. These are being implemented with supports from the DANIDA, SIDA, SwissAid, and the AUSAID. Technical and institutional capacity strengthening assistances are provided for all member countries, especially Cambodia. These assistances place importance on overcoming challenges, particularly those related to fishery and agricultural productivities, as well as on assessing and addressing changes in community livelihoods by introducing possible economic alternatives. Every alternative option is formed on a basis of natural resources management and local economic stimulation which might provide benefits for long-term conservation and development.

1.4 Research Rationale

Contextual Problems

In 1995, with support from the UNESCO, the RGC established the Technical Coordination Unit (TCU) for the TSGL. It is an inter-ministerial coordinating body or inter/cross-sectorial effort based in the MoE, which works to promote the sustainable use, management and the conservation of biodiversity resources and ecological environment in the TSGL region. The TCU or the “Safeguard and Management of the TSGL” works in collaboration with various ministries and concerned I/NGOs supported by international financial institutions (FAO, 1997). Recognizing the ecological, economic, and socio-cultural values, the lake was proposed to be the World Heritage Site in 1993, and subsequently was proposed in 1997 by the RGC and the UNESCO as a Biosphere Reserve with three different zones. The core areas of the TSBR are Prek Toal, Boeung Tonle Chhmar and Stung Sen covering 21,342ha, 14,560ha, and 6,355ha respectively (UNDP, 2001). Since 1999, one of the TSBR core areas, Boeung Tonle Chhmar (BTC) and its associated creek system of 28,000 ha, has been recognized as the first *Ramsar Site*¹⁴ in the country. In the Protected Area Law, the RGC (2006, p.17) defined the word ‘Ramsar Site’ as “...wetland that is considered as an area of ecological or biological importance of international nature.”

In spite of the official designation in 2001, the management of core areas has become the most challenging issue. Ecological, economic and socio-cultural problems occur in even the most protected agro-ecological sites (NFTSI, 2007). The rapid regional population growth has become one of the major environmental threats, ranging from over-exploitation of fisheries and wildlife resources, encroachment, and cutting of the flooded forests (Ham, 2005; Mak, 2006; Nao, 2007). The amount of fish catches declines every year as human and natural pressures increase (ADB, FAO and DoF, 2003). Water altitude becomes shallower as a result of the flooded forest clearance for hunting and agricultural purposes and changes of water regime of the Mekong (MRC, 2003). The dilapidation of natural vegetation is obliterating habitats and resulting in declining of water quality and regime, soil quality, and amplified silt level (NFTSI, 2007). Large-scale¹⁵ and illegal fishing¹⁶ and fishing in breeding season are practiced persistently. Inappropriate implementation of the fishery policy reform and corruption among responsible government officers have limited the capacities of the communities in getting access to and using natural assets (ADB, 2005; Ngy, 2007). Also, it has encouraged the large-scale

¹⁴ There are three Ramsar Sites (RS) in Cambodia, namely Boeung Tonle Chhmar RS, Stung Treng RS and Koh Kapi RS (Biodiversity and Protected Area Management Plan-BPAMP, 2005).

¹⁵ ‘Large scale fishing’ refers to the operation of the fishing lot owners or fishing concessionaires, which are leased out through auctions, within designated fishing areas from 01 October to 31 May annually (Seak, Mak, Ham and Rath, 2005)

¹⁶ Illegal fishing refers to the use of illegal gears and methods in fishing, for example, electro fishing and fishing using sweeping and narrow seine nets and pumping fishing grounds, as well as fishing in inappropriate time and location (Cambodia Community Fisheries – CFF, 1999; Mak, 2006).

private sector and seasonal in-migrants (SIM) to misuse the areas. Relatively, this is also triggered by lack of consolidated enactment and poor law enforcement to manage TSBR core areas, lack of government commitment, unsound transparency and accountability, and centralization that always lead to bad social and environmental governance and mistrust amongst stakeholders (ADB, 2005; Ngy, 2007; NFTSI, 2007). The poverty rate among the local population has been soaring up. Food deficiency and the inability to get access to natural resources, which are the main sources of livelihoods, have pushed local communities to carry out illegal activities or to migrate to the neighboring Thailand or urban areas in order to obtain alternative sources of income (Chan and So, 1999; Acharya, 2003; ADB, 2004; NFTSI, 2007). This brings a constant decline in ecological, economic and socio-cultural assets. Many wildlife species become extinct and threatened when habitats, nesting spheres, and food drop off. Since the late 1990s, a large number of trans-border and urban migrants have returned to their rural home areas addicted to drugs and infected with various diseases such as AIDS, and hence with a reduced labor productivity and giving additional burdens to their communities and families (Acharya, 2003).

Combating poverty in Cambodia requires a strong endeavor to work with the rural poor, whose livelihood assets are being basically influenced by adverse trends. The TSBR is a live evidence of such unfavorable trends. According to the poverty analysis done by ADB in 2003, poverty around the TSGL region is widespread. About 50% of villages have 40% to 60% of households living below the poverty line. The increasing poverty rate is related to lack of livelihood assets and limited human, social, natural, physical, and financial capitals. The RGC has proposed to the international bodies to help support the conservation of environmental biodiversity around the TSBR and to help tackle poverty among local communities in a timely and sustainable manner. These issues were also highlighted by the ADB in the 2005 Project Overview – *The Tonle Sap Initiative: Future Solutions Now* – and the Country Strategy and Program 2005-2009 for Cambodia. To address these concerns, the RGC and its executing bodies in collaboration with I/NGOs and international development agencies are working to improve environmental governance and introduce sustainable livelihood alternatives to the areas.

While people suffer from declining local sources of livelihood, tourism has become a tool for economic development in the TSGL region, sparkling mainly through Angkor complex in Siem Reap province, which is a major international tourist destination since the late 1990s. The tourists' interest in additional activities in the region has expanded over the TSBR, mainly its core areas (Cambodian Research Centre for Development - CRCDC, 2003). However, the economic opportunities offered by tourism are taken by dynamic enterprises and individuals mostly coming from outside the region. Although tourism contributes around 10% annually to the Cambodian Gross Domestic Products (GDP), offering about 255,000 jobs to Cambodian nationals, 40% of tourism revenue was reported as economic leakage¹⁷ to outsiders (Organization for Economic-Cooperation and Development - OECD, 2001; United Nations Conference on Trade and Development- UNCTAD, 2007; MoT, 2007). This leakage is predicted to last until 2010 (UNCTAD, 2007). In case of TSBR, mainly Prek Toal, equipped with education, experiences and capital, outsiders are able to offer services to the tourists, such as extended boat trips on the lake which exploit local natural resources and limit local rights to

¹⁷ According to OECD (2001, p.8), there are three types of leakage: (1) internal leakage or the import-coefficient of tourism activities; (2) external leakage or pre-leakage (depending on the commercialization mode of the tourism package and the choice of airline); and (3) invisible leakage or foreign exchange costs associated with resource damage or deterioration. This organization defined "leakage" as "... the process whereby part of the foreign exchange earnings generated by tourism, rather than being retained by tourist-receiving countries, is either retained by tourist-generating countries or repatriated to them in the form of profits, income and royalty remittances, repayment of foreign loans, and imports of equipment, materials, capital and consumer goods to cater for the needs of international tourist and overseas promotional expenditures." (OECD, 2001, p.8)

resource access and use. This largely excludes the local population from any profit and in addition, what is worse, contributes to destroy the region's assets and the local population's basis of livelihood, without yielding compatible economic alternatives. These problems reveal a lack of sound study on the potentialities and challenges of the sites for ecotourism development, and on how ecotourism could work to improve conservation and development activities in the areas (Neou, 2003).

In case of the TSBR, Prek Toal core area has been developed to be an ecotourism destination that obtains positive outcomes in ecological preservation (Neou, 2003), though livelihood improvement has remained a challenging task to resume. However, Boeung Tonle Chhmar (BTC) and Stung Sen (SS), both are located in Kampong Thom province and are in close proximity to each other, have remained untouched. A comparative study conducted by the BPAMP (2005)¹⁸ has provided substantial facts on degrees of biological importance, socio-economic importance, relative vulnerability, and pressures and threats related to BTC and SS in comparison to PT and other protected areas¹⁹ in Cambodia. In terms of grading biological significance²⁰, BTC and SS core areas receive comparable score to PT (37:40 points), ranking them the 8th out of 26 protected areas. In terms of socio-economic significance²¹, BTC and SS receive higher score or higher value than PT (42:37 points). However, levels of threats and pressure remain high in these core areas. The vulnerability of the people is much more critical than that in the PT core area and across other 21 protected areas in Cambodia. BTC and SS, which represent the core areas of the Tonle Sap Multiple-Use Area (TSMUA)²², stand out as the second and fourth most vulnerable areas in the system respectively. This is due to widespread poverty caused by limited livelihood options in these core areas and other places adjacent to them, which creates a high demand for natural resources.

Realizing severe local livelihood and environmental crises, effective mitigation measures are needed to address these issues in a timely manner in order to promote integrated conservation and development processes. So far, only few environmental features and issues have been gradually studied by some environmental-concerned researchers, while alternative livelihood strategies have never been recommended and identified yet. Inevitably, these TSBR core areas cannot be maintained and managed properly unless poor local communities who reside in the areas receive alternative livelihood options rather than just fishing and harvesting natural

¹⁸ The research was on "Management Effectiveness Assessment of the System of Protected Areas in Cambodia Using WWF's RAPPAM Methodology". The term 'RAPPAM' refers to Rapid Assessment and Prioritization of Protected Area Management.

¹⁹ In total, there are 26 protected areas in Cambodia (BPAMP, 2006). A protected area refers to an area of the State's public properties in land or water territories, including coasts and sea, located in the area established by a Royal Decree or a new area established in the jurisdiction of the Ministry of Environment. These areas are of physical and biological importance which requires management by law with the purpose of protecting and maintaining biological, natural and cultural resources, and shall be sustainably managed in every generation for environmental, social and economic benefits (RGC, 2006).

²⁰ The assessment was based on ten criteria, such as: presence of rare or endangered species, provision of critical landscape function, comparative range of plant and animal diversity, relative contribution to representativeness in the system of protected areas, presence of viable population of key species, consistency of structural diversity with historic norms, protection of ecosystems whose range have greatly diminished, and maintenance of the full range of natural processes and disturbance regimes (BPAMP, 2005, p.13).

²¹ The used criteria were: a source of employment or natural resources for the subsistence of local communities, a creator of development opportunities through sustainable resource use, a spiritual or religious site, an area of exceptional aesthetic value, a haven for animal or plant species of high socio-cultural and economic value, a site of exceptional recreational value, a provider of significant ecosystem services and benefits to communities, and a site of high educational and scientific value (BPAMP, 2005, p.13).

²² TSMUA refers to an area in land and/or water territories, which is rich in natural resources that are intact and require management activities to ensure long-term protection and maintenance of biological resources and ecosystem. In the meantime, it provides natural products and services for use to meet the community needs (RGC, 2006, p.17).

resources. In their studies, Mam and Sok (2001) and Suy, Uy and Mam (2002) suggested that alternative income activities such as ecotourism be operated instantaneously in these core areas in order to provide an alternative option to the locals. Therefore, this study was designed to explore the feasibility and potential of ecotourism development in BTC and SS and the extent that it could flourish to provide economic alternatives to communities, while preserving the environmental entity of TSBR core areas.

Theoretical Problems

After a decade of comprehensive implementation, ecotourism and CBET remain a huge challenge and a mystery for mediators and researchers. As happening elsewhere as well as in Cambodia, there are as many failed implementations as successful stories of ecotourism (Kiss, 2004). Cambodia has been looking for appropriate integrated conservation and development approaches in rural areas, where natural resources are increasingly shrinking from heavy exploitation of resource-dependent communities. Ecotourism or CBET is promoted as a tool to secure conservation and promote development of rural society, sparking through local communities to the Cambodian state. CBET initiative is considered as one of the most ideal driving forces for many projects in national parks, protected areas and biosphere reserves (Men, 2007). Yet, it is still questionable on how to use it as a sustainable means to stimulate economic activities of local communities whose livelihoods are condemned as destructive and illegal, to reduce poverty, while providing strong incentives for sustainable resource conservation. This makes the researcher doubt about the use and effectiveness of ecotourism and inspired to investigate how ecotourism could be used as tool to address this dual need – resource conservation and community development. The central thread of this research is the utilization of sustainable livelihood framework (SLF) as the foundation for the analysis of how ecotourism could impact on current local livelihoods and management and conservation of natural resources in TSBR core areas. Besides, it explores guiding principles for concerned stakeholders as well as proper mechanisms to use ecotourism in an effective and sustainable manner. By gaining insights into critical socio-economic profiles of communities, which conventional research approaches have missed (Ashley and Carney, 1999; DFID, 1997, 1999, 2001), this research will contribute to a new theoretical basis for the study of ecotourism, as well as to providing new approach for using it as a tool for both conservation and development.

While nature-based tourism may be broadly delineated as tourism where natural attractions of ecological significance are at the destination (Wells, 1997), ecotourism is considered to be a subset and more sustainable form of nature-based tourism. Generally, it offers close relation to the concepts of sustainable community development, is small-scale by nature, and has less impact on human society and environment than nature-based tourism (Brandon, 1996). The benefits of ecotourism are seen through its contribution to conservation and development and with sound mechanisms, it could build positive bond that provides synergistic effects between tourism, community development and resource management and protection (Ross and Wall, 1999a, 1999b). In other words, ecotourism quality lies with its pervasive objectives – protection of natural area, natural and cultural appreciation, revenue generation, education, quality tourism, and local participation - which are commonly used to measure its success as well (Pedersen, 1991; Sirakaya, Sasidharan and Sonmez, 1999). However, theoretically, it is still uncertain that ecotourism could be developed without any challenges which could obstruct its developers and planners to link this tool to sustainable local livelihoods and resource management and conservation (Goodwin and Roe, 2001; Mariki, 2002; Gouvea, 2004). Ecotourism has been developed under two main schemes - CBNRM and ICDPs - in Cambodia with strong support from environmental I/NGOs and international development agencies.

Though, the researcher doubts how ecotourism can work on a community development oriented process in Cambodian protected areas, where social system and conservation course play crucial roles in development policies and resource access and consumption.

Like other developing countries, the challenges occurring in ecotourism or CBET projects in Cambodia noticeably are: communication among stakeholders; access to development resources; local support and participation; local capabilities to maintain ecotourism management and development; and power and control over natural resources. Development and conservation organizations often use their politics, agendas and presumption to identify what local communities would need and should do, and what would best tackle the existing problems, based on their modernist and populist attitudes (Reed, 1997; Few, 2002; Berkes 2004; Butcher, 2007). The state economic growth and environmental governance are priorities over the strengthening of social fabric and improvement of community wellbeing (Gimmire and Pimbert, 1997; Abbot and Thomas, 2001; Few, 2002; Kiss, 2004; Butcher, 2007). This leads to low recognition of local involvement, unequal benefit sharing, restriction over resource use, and misinterpretation of socio-economic and political contexts of communities, let alone the marginal or vulnerable locals to face insecure livelihoods (Kiss, 2004; Rith, 2004; Blackstock, 2005; Men, 2007). Therefore, it is necessary to understand the context of vulnerability, capital assets, livelihood system and strategies and the involvement of external actors before analyzing how useful ecotourism is for conservation and development.

Methodological Problems

Many approaches have been used to sustain management of natural resources and improve community livelihoods, as poverty reduction and conservation are interdependent. Since the rise of integrated conservation and development model in the mid-1980s, more focus has been set on the identification of alternative livelihood options which help to combat poverty and conflicts between local communities and protected areas (Goodwin and Roe, 2001). Realizing increased economic substitution or revenue generation based on natural resources, the locals would be more willing to participate in and promote conservation courses (Salafsky *et al.* 2001, cited in Hill, 2005; Mbuvi and Ayiamba, 2005). Because it provides economic incentives for local communities, ecotourism could also support natural resource protection in a way that it reduces people's dependency on resources (Ross and Wall, 1999a, 1999b; Goodwin and Roe, 2001; Stone and Wall 2003). Another school of thought conventionally attempts to paint conservation realization as the main path of ecotourism development from which the maintained resources could reassure that basic needs of local communities are available at least on a subsistence basis (Lash, 2003).

However, it is still difficult to find out what approaches causing success or failure in using ecotourism as an integrated conservation and development tool. In tourism literature, three approaches to ecotourism development have been revealed, both in theory and practice. The first approach follows the neo-liberalist poverty alleviation plan, while the second one adapts the neo-populist community development ethos (Milne and Atejavie, 2001; Harrison and Schipani, 2007; Schilcher, 2007). In contrast to these two pro-poor approaches, the third model has been defined to handle criticism over single-coined thoughts of ecotourism development. It was first based on the triple bottom line concept, which balances between conservation, economic development and social wellbeing (Wood, 2004; Ameeta, 2006), and then two more elements – technological and political – were proposed as added indicators of sustainable ecotourism (Choir and Sirakaya, 2006). Besides, the success of ecotourism was also seen through its empowerment of local communities to become key players in resource governance, benefit sharing, and development planning (Hall, 1994, 2007; Akama, 1996; Honey, 1999). In

her content analysis for building a holistic empowerment framework, Scheyvens (1999) synthesized four major determinants of empowerment which bring impacts of ecotourism initiative on local communities. These include: (1) economic empowerment that ensures long-term economic returns; (2) psychological empowerment that enhances confidence, sense of pride and self-esteem of communities; (3) social empowerment that promotes community cohesiveness and camaraderie and community development; and (4) political empowerment which strengthens local political structure and local participation in making voices of different groups heard. This last approach is more community-oriented in terms of strengthening people's multi roles in decision and participation to make ecotourism really pays its way for conservation and community development programs, and to make all concerned stakeholders more responsible for what they are doing.

The above-mentioned approaches identified by previous scholars lack significant insights into how ecotourism could work to change or improve the system of community livelihoods which are influenced by resources and internal and external factors. Rather than focusing on the single essentials of each approach, meaning economic development or environmental governance, ecotourism developers should work to balance all the elements of ecotourism sustainability. These elements entail social, ecological, economic and institutional or technological aspects. The use of ecotourism should not be aimed just at providing economic incentives for conservation and local livelihood improvement. It should also aim at securing community livelihood assets (both material and social resources), increasing capability of communities as a system and their resilience to cope with major disturbances caused by severe shocks or stresses and external stakeholders at present and in future, and at sustaining community livelihood strategies. To achieve these, it requires a micro-scale livelihood approach for ecotourism developers and researchers to investigate the potentials, challenges and effectiveness in using ecotourism as a tool for conservation and community development in complex rural context. Theoretically and methodologically, this approach is holistic and explicit for ecotourism development which previous studies failed to throw a light on factors causing the failure of ecotourism projects. It offers critical analysis of community structure and system, existing local livelihood strategies to response to their vulnerability, available resources and technology and external influence, barriers to livelihood improvement and resource conservation, and community readiness to adapt ecotourism to increase their security and welfare as well as to ensure sustainable resource management. In other words, this approach simply could help the researcher to draw in-depth picture of the supply side (host communities of ecotourism), which is a part of the two major foci of the study of ecotourism development (supply and demand sides).

1.5 Research Objectives and Activities

The impetus of this research was to analyze the feasibilities (potentials and opportunities) and constraints for community-level ecotourism development to stimulate community development and at the same time to effectively conserve natural resources in BTC and SS core areas of the TSBR.

To achieve this aim, two priority objectives were screened and completed so that the research process could run efficiently and pragmatic research findings could be generated theoretically and practically. Each objective involved sequential activities as follows:

*** Objective 1:**

Investigate the potential of ecotourism for improving livelihoods of local communities in BTC and SS core areas of the TSBR.

Activities:

1. Identify the vulnerability context of local communities in BTC and SS
2. Measure existing regional and local capital assets of productive resources in BTC and SS.
3. Analyze their interactions in the selected core areas of the TSBR.
4. Investigate the potentials of supply for ecotourism development.
5. Investigate the potentials of demand for ecotourism development.
6. Investigate ecotourism benefits for stimulating local livelihoods and economy in the two core areas.

✱

Objective 2:

Investigate projected effects of ecotourism on the human society and natural environment of BTC and SS core areas.

Activities:

7. Assess the possible risks for the environment and local communities which are associated with the ecotourism development.
8. Identify guiding principles for concerned stakeholders for planning and management of ecotourism development in these TSBR core areas.

1.5.1 Main Research Questions and Strategies

▪ **Activities 1, 2 and 3**

Measure existing vulnerability context, livelihood problems and capital assets BTC and SS core areas of the TSBR and analyze their interactions.

Strategies:

1. Identify livelihood shocks and stresses, trends and context of seasonality which affect local livelihoods in BTC and SS.
2. Identify human, natural, physical, social, and financial capitals in these two core areas.
3. Investigate the interactions and relations between each capital and its consequences which influence daily local community livelihoods.

▪ **Activity 4**

Investigate the potentials of supply side for ecotourism development in BTC and SS core areas.

Strategies:

4. Determine the potentials and challenges for ecotourism development in BTC and SS.
5. Explore underlying infrastructure and superstructure, as well as supported attributes, which are compulsory for ecotourism development in these core areas, especially focusing on three major components – attractions, accessibility, and amenity.
6. Identify the perceptions and attitudes of local communities and concerned institutions towards ecotourism development in BTC and SS core areas.
7. Undertake SWOT (Strength, Weakness, Opportunity, and Threat) analysis for ecotourism initiation and development in the two core areas of the TSBR.

- **Activity 5**
Investigate the potentials of demand for ecotourism development in BTC and SS core areas.

Strategies:

8. Identify the national, regional, and global trends on ecotourism development by focusing on tourist arrivals in the TSBR.
9. Identify eco-tourist patterns and their perceptions on ecotourism development, their attraction preferences and willingness to pay and level of payment on ecotourism services, as well as their expected service delivery and length of stay in TSBR core areas.
10. Discover the perceptions of the private business sector, particularly potential travel agencies and tour operators, as well as their interests in ecotourism development in BTC and SS core areas.

- **Activity 6**
Investigate ecotourism potentials for stimulating local livelihoods and economy in the chosen core areas.

Strategies:

11. Discover possible social, cultural and economic impacts of ecotourism development in BTC and SS core areas on local livelihoods and system.
12. Identify the possible factors that prevent local community, especially poor and vulnerable groups in the chosen core areas from participating in ecotourism development process as well as in benefit sharing.
13. Determine to what extent the potential role of ecotourism is effective and supportive in mitigating impoverishing factors caused by present problems in the two core areas of the TSBR, particularly stressing on its contribution to poverty alleviation and sustainable livelihood alternatives of communities.

- **Activity 7**
Assess the possible risks for the environment and local communities in BTC and SS associated with ecotourism development.

Strategies:

14. Identify the symbiosis between human activities (socio-cultural and economic) and natural ecosystem in BTC and SS core areas for ecotourism foundation.
15. Identify the possible jeopardy of ecotourism on human and natural systems, and measure to what extent ecotourism can be used as a tool for local livelihood improvement, community development, and conservation of natural resources in BTC and SS core areas of the TSBR.

- **Activity 8**
Identify guiding principles for concerned stakeholders for planning and management for ecotourism development for the core areas of the TSBR.

Strategies:

15. Conduct stakeholder analysis for ecotourism operation in the two areas of investigation.
16. Determine substantial characteristics of ecotourism and guidelines for concerned stakeholders for planning and management of ecotourism development in a timely and sustainable manner in BTC and SS.

1.6 Expected Research Outcomes

At the beginning of this research project, it was hoped that it would provide substantial and reliable findings of a high standard for the:

- understanding of the complex vulnerability context of the local fishing communities in BTC and SS core areas as well as considerable internal and external factors that affect their livelihoods and determine their strategies to tackle the problems;
- understanding of the livelihood capital assets of the communities in BTC and SS and the policies and institutions that influence the local fishermen in accessing and improving these assets;
- understanding of the potentials of BTC and SS core areas for the development of ecotourism as an integrated conservation and development tool;
- understanding of the potentials and challenges as well as the limitation of using ecotourism to contribute to the livelihood improvement and development in BTC and SS core areas as well as in the core areas of the TSBR as a whole;
- understanding of the impacts of ecotourism on human and natural environments in BTC and SS core areas; *and*
- design of appropriate guiding principles for promoting sustainable ecotourism development in the core areas of TSBR that could contribute to local community development, while at the same preserve the natural environment.

This study was expected to generate an innovation for ecotourism development that can offer sustainable rural livelihood alternatives to help alleviate poverty among local population in TSBR core areas through a wide range of support and benefits. In addition, at policy level, the research findings could be productive for on-going government commitment, policy-makers, decision-makers, planners and other concerned stakeholders. This would help them to:

- develop ecotourism to foster economic and human development which is socio-culturally and ecologically sustainable;
- implement practical approaches for assessing progress towards sustainable use in biosphere reserves by understanding effective and efficient protected area management system and by incorporating ecotourism into broader development programs to help alleviate rural poverty and promote nature conservation; *and*
- use the suggested guiding principles that provide a wide spectrum of designation to develop and manage ecotourism process in TSBR core areas in a timely and sustainable manner.

1.7 Structure of Dissertation

This dissertation is organized into different chapters as follows. It begins in Chapter 2 with a discussion of concerns on the management and conservation of natural resources and consequential approaches which have been used until the manifestation of community-based natural resource management concepts. Diverse schools of thought with regard to sustainable development of natural resource rich but impoverished communities are conferred in this chapter. The development of concepts of sustainable or alternative tourism, which is being used to promote community development and conservation in rural areas, is highlighted. This chapter particularly articulates the principle theories of ecotourism conducive to integrated conservation and development discourse in protected areas. In addition, it portrays necessary potentials, inputs, challenges, key players, and benefits of ecotourism, as well as reveals mechanisms that developers and conservationists should do when using it to benefit the poor

and improve environmental governance of the places. All of these issues or theoretical thoughts along with considerable empirical case studies are important to support the study.

Chapter 3 starts with an explanation of analytical framework, which is followed throughout this research, as well as related hypotheses and key indicators to measure them in order to achieve the research objectives. After contextualizing the potential of the approach in the study of ecotourism, it justifies sequential steps of fieldwork, data collection methods and tools, and sample size and populations compliant with individual objectives. It also discusses the fieldwork challenges and research situations. At the end of this section, methodological approaches for data analysis are critically debated.

Chapter 4 focuses on the context of livelihoods in BTC and SS core areas of the TSBR. This section consists of four major parts. To come to concrete scrutiny, the first part begins with general situation of BTC and SS core areas. The second part points up an analysis of vulnerability context, livelihood problems and existing coping strategies of BTC and SS communities. The third part indicates the five related capital assets of community livelihoods that are considered as key internal factors which support the community system and development. Rather than sticking to conventional approaches of livelihood analysis, this chapter looks into deep community-oriented system, its elements and their interactions which trigger specific poverty and social issues and challenges to conservation and management of natural resources in the areas. Finally, it discusses a need for additional local livelihood options, both village-based and non village-based, which could improve the livelihood strategies and well-being of communities without compromising the natural bases.

Chapter 5 evaluates tourism potentials in BTC and SS core areas. All substantial elements of the supply side, meaning the host communities, are assessed thoroughly in this chapter. These include institutional and policy analysis, ecotourism attraction appraisal (both cultural and natural) and carrying capacity assessment (human, infrastructure, physical, and financial capacities). Moreover, it explores and deliberates attitudes, perceptions and motivations of local communities, local authorities and other concerned management-related stakeholders of the areas towards ecotourism development in BTC and SS. By including current management and project implementation issues, this section lastly analyzes the internal (strengths and weaknesses) and external (opportunities and threats) environments, and discusses general and specific issues for ecotourism development.

Chapter 6 analyzes the demand for ecotourism development in BTC and SS. This involves two major stakeholders of the demand side – tourists (national and international) and private business sector. Chapter 7 projects and elucidates impacts of ecotourism development on community livelihoods, local social structure and system, community development, as well as on biodiversity resources and natural environment of the places. The impact assessment combines the perceptions of both local community and expert groups. Various suggestions for planning and management of ecotourism as well as for the betterment of natural resource management and poverty reduction in BTC and SS given by these two groups are also categorized and analyzed in some way.

Chapter 8 uses the conceptual stage downward and discusses the results of this research with the reviewed theories in the literature in order to find out their links to research objectives, questions and hypotheses. Apart from stressing a need for local livelihood development and diversification, it synthesizes significant internal and external factors that affect local livelihoods in BTC and SS. In this respect, it also demonstrates the interdependency between

livelihood improvement and management and conservation of natural resources which cohesively need an appropriate integrated approach to address the issues holistically. Then, it discusses potentials and opportunities to develop ecotourism, and analyzes the quality and fitness of ecotourism to be used as an integrated conservation and development tool in BTC and SS. After measuring the potential of ecotourism, several characteristics and suitable guidelines for sustainable ecotourism development in these core areas are generated and thrashed out in detail for all concerned stakeholders to pursue.

Chapter 9 summarizes the main topics discussed and findings relative to the main impetus of this research. Three major steps of policy implication, which comprise various approaches as set in a holistic strategic framework for sustainable conservation and development in BTC and SS, are proposed in this section. Last but not least, it provides several recommendations in the hinsight of policy implication for further investigations of researchers who are interested or willing to conduct their prime studies in TSBR core areas.

CHAPTER 2: LITERATURE REVIEW

2.1 Challenges to Natural Resources Management

Field (2001) cited that the high demand for and expansion of natural resource use can possibly signify the causes why actual rates of use are often not optimal. This relates mostly to resource mismanagement. In economics, two indicators - efficiency and equity- are often used to measure and evaluate the effectiveness of resource management. A natural resource is not being managed efficiently unless it produces the maximum net value to society. "Producing" in this sense, according to Field (2001) and Mitchell (2002), means more than conventional extractive activities; it also encompasses values that resources can generate when they are not used in traditional ways, but rather are conserved for ecological purposes or other non-extractive roles. In the idea of Birner and Gunaweera (2002), resource use and access trigger conflicts of interest in addition to other major disruptions, especially when the use is intensified by increasing demands of people. On the other hand, a natural resource is not being used equitably unless the distribution of the net benefits obtaining from its service is considered as fair. The theory of institutional economics deliberates the complexity and dynamics of human interactions in the area of resource utilization. It initiates discussions about property rights and the management of common pool resources, which affect the behavioral thinking and understanding of the use and conflicts over natural resources among different groups (Berkes and Folke, 1994, 1998 cited in Adams, 2001). Dick, Knox, Place and Swallow (2002) cited a definition of property rights from Bromley (1991, p.15) and Libecap (1989 in Ensminger, 1992, p.124) as "... *the capacity to call upon the collective to stand behind one's claim to a benefit stream*" or "*social institutions that define or delimit the range of privileges granted to individuals to specific assets ... [they] critically affect decision-making regarding resource use, economic behavior and performance.*"

The challenge to developers and conservationists is to ensure that natural resources and other necessary attributes of community-value are applied and developed in a sustainable manner, so that they give rise to effective and practical social and environmental mitigation strategies for sustainable community development (Markey, Conn & Roseland, 2004; Rapley, 2002). There have been various debates over characteristics and overall visions of community development in this respect. Roberts (1979) and Blackstock (2005) argued that the significance of 'community development' lies with a process to build active and sustainable communities founded on social justice and mutual respect. The focus on social justice emerged as the world sees a socially fair situation which the share or distribution of society's goods and bads is significantly unequal between those who deserve and those who receive more goods than others (Dobson, 2003). This perception is considered as an urgent requirement for environmental sustainability after the environmental justice movement (started firstly in the US) was introduced to treat people equally, regardless of sex, background, race, wealth and status in receiving environmental bads (Dobson, 2003; Agyeman, Bullard and Evans, 2003). Another thought revealed diverse goals of community development that basically entail the promotion of public participation at all types (public action, public involvement, electoral involvement and obligatory participation) and community well-being over a connecting process (Langton, 1978; Green and Haines, 2001).

Many nations have showed strong political commitment to apply integrated approaches for the rural development, poverty alleviation and sustainable development via responsible solutions. The emergence of integrated approaches is seen when development and biodiversity programs attempt to define win-win strategies to attain or balance economic, social and environmental gains, while minimizing trade-offs that compromise long-term sustainability (Porritt, 2000).

Circumstances in which all the objectives of sustainable development can gain equally through systemic planning processes are still questionable. The report of RCEP²³ (2002), which was cited in the book²⁴ of Haughton and Counsell (2004) about environmental planning, argued that there are substantial practical difficulties in achieving economic, social, and ecological goals concurrently from natural resource use in development. The report highlighted that *“...achieving environmental sustainability means achieving legitimate economic and social goals in ways that safeguard and where appropriate enhance the quality of the environment.”* An under-explored issue in developing new planning strategies has been the significance of the opening up of planning processes and development system to active public participation (Long, 2001; Haughton & Counsell, 2004). This offers new opportunities for development in rural, peripheral or remote areas in order to challenge underlying critical issues of natural resources management and the sustainability of community livelihoods. As mentioned in Bruce Mitchell (2002), the management of natural resources incorporates actual decision and actions concerning policy and practice regarding how natural resources and the environmental systems are appraised, protected, allocated, developed, used, rehabilitated, remediated and restored, monitored and evaluated. Based on his analysis on different concepts provided by Bryant (1992), Bryant and Bailey (1997), Wynne (1992) and Dorsey (1986), Bruce Mitchell (ibid) operationalized several works of resource management as follows:

- Management of processes of change in human and natural system (institutional, behavioral, physical, knowledge, perceptual, policy, and technological changes);
- Management of relationship between change and conflict and management of complexity, such as population growth, unequal political system, poverty rate, and shortage of economic opportunities;
- Management of uncertainty; and
- Management of conflict which can lead to natural resource or environmental degradation.

To maintain biodiversity resources and ecosystem, the state considers and bounds up the use of land with natural resource accounting, and determines policies for conserving nature having traditionally had a clear spatial dimension (Owens & Cowell, 2002; Field, 2001). As a result, new environmentally-sensitive and well-organized economic-oriented development schemes have been implemented in many natural resource rich but economically poor regions in the world. These schemes are proposed to prevent constant environmental degradation which is caused by a failure of sustainable management of resources, ecosystem and natural environment. Adams (1990, 2001) explained that the mainstream sustainable development theory viewed environmental degradation as the deterioration of rural environments, and the actions of the poor were considered as destructive. Even though the poor are blamed for being resource-dependent, they suffer livelihood problems caused by environmental degradation and often are considered as a marginal group to receive benefits of development projects. Harvey (1996) and Adams (2001) argued that poverty and environmental degradation are interrelated, and thus makes debates of environmental governance or resource conservation and development to involve central discussions on economic, social and political aspects. This is because the poor have limited capabilities to stop increasing degradation and less opportunity to move elsewhere or to resolve their intensive stresses and increase their livelihood strategies.

Amartia Sen's (1999) capability theory provides the intellectual basis for human development and for including participation, human well-being and freedom (especially of the poor and

²³ Royal Commission on Environmental Pollution (2002).

²⁴ Haughton, G., and Counsell, D., 2004 (ed.). *Regions, Spatial Strategies and Sustainable Development*. UK: Routledge, Taylor & Francis Group.

vulnerable groups) as central features of development. Freedom is both a basic component of development in itself and the enabling key to other aspects, including economic, political, legal and social ones. This theory also has unique features that make it applicable and adaptable to many development and conservation principles, including empowerment. This theory is viewed as a precondition of many other approaches which place centrality on the importance of local control and management of natural resources. One of these theories is the community-based natural resource management approach. Yos (2003) argued that communities have potentials to manage local resources obviously through their subsistence livelihoods and production culture, in the conservation principles, and in the multiplication of spiritual and cultural values of their living environments. They could adapt changes to make their livelihoods appropriate in the context of intensive socio-economic and political pressures, competition and influence of external powers. The next section discusses the development of concepts of this approach in detail.

2.2 The Emergence of Community-based Natural Resources Management

As part of the aspirations of the Rio Earth Summit, which was described in Agenda 21, local communities and local authorities are key players in sustainable development. Their ideas are vital and can be incorporated into integrated planning. The aim of this message was to draw communities into a participative and collaborative policy making process. As Agenda 21 claimed, sustainable development could also be achieved through planned, democratic, cooperative means, including community involvement in decision-making, planning and implementation (Carter, 2001).

The aftermaths of the Rio World Summit brought the implicit recognition of sustainable development and indeed the conservation of nature. Local communities and their societies are regarded as important players in making decision and improving environmental and economic justices concerning the use and management of natural resources. This school of thoughts has caused the emergence of concepts of community-driven and sustainable approaches in development and conservation milieus.

The last two decades have witnessed the rise of a new movement in the management of natural resources, the so-called participatory approach, also known as “decentralized and community-based management”. Community-based natural resource management (CBNRM) is associated with a variety of related terms. These include community resource management, community-based coastal resource management, community forestry, community fishery, community protected areas, collective resource management and co-management. There is abundance of definitions for CBNRM, some of which are stated in Table 2.1.

Table 2.1: Definitions of Community-Based Natural Resource Management

Defining Community-Based Natural Resource Management	
1.	CBNRM is both a conservation and rural development strategy, involving community mobilization and organization, institutional development, comprehensive training, enterprise development and monitoring of the natural resource base. (IUCN, 2006) ²⁵
2.	CBNRM is a bottom-up approach to the integration of conservation and development. (Cornell International Institute for Food, Agriculture and Development, 2000) ²⁶

²⁵ Botswana CBNRM Support Program, IUCN, Proceedings for the 4th National CBNRM Conference and CBNRM Status Report 2006.

²⁶ Cornell International Institute for Food, Agriculture and Development Annual Report, 1999-2000.

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| <p>3. CBNRM is the management of natural resources under a detailed plan developed and agreed to by all concerned stakeholders. The approach is community based in that the communities managing the resources have the legal rights, the local institutions, and the economic incentives to take substantial responsibility for sustainable use of these resources. Under natural resource management plans, communities become the primary implementers, assisted and monitored by technical services. (USAID, 2000)</p> |
| <p>4. CBNRM addresses interactions among the factors that influence natural resource access, use and management patterns. The participation and leadership of local people are essential in CBNRM approaches as innovations must be built on voluntary improvements to local knowledge and practice, rather than imposed from outside. It also requires recognition of the heterogeneity and multiple interests of different community members and outside resource users. (IDRC, 2000) ²⁷</p> |

This section will provide an overview on the development of conservation approaches that influence CBNRM. For the present purposes, conservation measures can be grouped into two broad categories. First, there are those which aim at rehabilitating or improving the environmental resources in or adjacent to settlement areas to ameliorate living conditions of some social groups, such as farmers, pastoralists and the landless (Ken, 2005; Brown, 2002; Agrawal & Gibson, 1999; Gimmire & Pimbert, 1997). Second, there are programs that seek to preserve important tracts of forests and water bodies for biodiversity protection or scientific research, sometimes combined with recreation and tourism development (Berkes, 2004; Brown, 2002; Agrawal & Gibson, 1999; Gimmire & Pimbert, 1997; Pimbert & Pretty, 1997). In the conservation discourse, these are referred to as “protected areas” and are considered to be essential for the conservation of biodiversity. “Conservation” became recognized internationally in the early 1980s through the World Conservation Strategy. That was when it brought and spread the ideology originating from the North to the countries of the South. In the North, approaches to conservation have been discussed much earlier, and have been modified constantly. Three approaches have evolved: the “classical”; the “populist”; and the “neo-liberal” approaches (Mitchell, 2004; Berkes, 2004; Brown, 2002; Blackie & Jeanrenaud, 1997).

The classical approach sees local people as direct threats to biodiversity; thus to save it, developers and conservationists design plans to get rid of people. In industrial countries, the implementation of the classical approach involves government setting areas of particular scenic beauty or uniqueness exclusively for conservation. The first protected areas were established during 19th century (i.e. Yellowstone National Park, 1872), and became widespread in the 20th century. The creation of most of these protected areas involved the exclusion of people and excluded their survival need to be fulfilled in these areas. In the South, such implementations in those early periods occurred mostly in countries under colonial administration (Gimmire and Pimberts, 1997). However, since the mid-1980s, land alienation for protected areas has been increasing globally under the programs of the Global Environmental Facility (GEF) and international conservation NGOs, which promote large national parks and wilderness areas (Pretty, 2003; Agrawal and Gibson, 1999). This rapid expansion of protected areas where local people’s survival needs are neglected has caused unrest social atmosphere, loss of traditional wisdom and local culture as well as failure to conservation initiatives (Pretty, 2003; Agrawal and Gibson, 1999; Gimmire and Pimberts, 1997).

Those who were working in favor of the grassroots movements have then introduced the populist approach. This new approach is contradictory to the classical approach. It sees the participation and empowerment of local people as a key to finding solutions to more sustainable use of biodiversity (see Table 2.2). Populism is most often used to describe any political

²⁷ IDRC CBNRM program initiative phase II prospectus, 2000-2003.

movement seeking to mobilize people as individuals, rather than as members of a particular socio-economic group, against an overbearing authority, usually the state or foreign states (Marshall, cited in Butcher 2007). Populism has an affinity with 'the people', and also with the notion of civil society, which is a realm of social action separate and distinct from the state and market. However, Brown and Berkes criticized that this bottom-up approach places too much emphasis on communities just as the top-down approach ignored it, and both disregarded the broader social system in which all stakeholders are present; therefore, this new approach may also fail like the last one before it did (Berkes, 2004; Brown, 2002).

Finally, the neo-liberal approach emerged. This approach places importance on institutions, market and policy, and the solutions is in adding economic value to biodiversity, and argues that the solutions to environmental problems are proper pricing strategies and market intervention. It emphasizes a move away from traditional thinking about states as the most important political actors in the global system, and the recognition of the geo-political and economic change. The integrated conservation and development projects (ICDP) were developed (Brown, 2002). To some extent this approach appears to satisfy both conservationists and developers where economic incentives are concerned. This innovation bears traits and characteristics of the populist approach, but adds the market component and social institutions into place. To some commentators, CBNRM approaches belong to this category, and the original community resource management has been blended with market needs to become more practical and self-sufficient (Ken, 2005). To others, it derived from neoliberalism through global-local (glocalization) nexus strategy (Duffy, 2006; Milne and Ateljevic, 2001).

The last two approaches seem to be partly logical when considering how CBNRM was spread internationally. Observers have witnessed the emergence of a loosely woven transnational movement, based particularly on advocacy by NGOs working with local groups and communities on the one hand, and the national and transnational organizations on the other. This movement concentrates on building and extending new versions of environmental and social advocacy that link social justice and environmental management agenda (Brosius, 2005).

It appears difficult to locate CBNRM precisely in any of the three approaches. However, according to the blending process, as discussed above, the current CBNRM approaches differ from an early concept advocated by the populist. It reveals that communities have full and generally autonomous responsibility for the protection and use of natural resources. The new concept of CBNRM has derived from indigenous systems of natural resource management, where local knowledge and institutions have evolved together with those ecosystems. Though it still keeps the focus on communities, it becomes more enterprise-based and market oriented, in order that livelihood objectives are achieved at the same time with conservation objectives. To sum up, CBNRM initiatives offer great promise for addressing the link between concerns about social justice and environmental construction by:

- Applying participatory approach to planning and management (collaborative planning and co-management).
- Emphasizing the environmental conservation as a primary goal.
- Incorporating basic needs of local communities into conservation plans.
- Empowering local communities to become partner with other players concerning the decision over the use and management of resources that affect their lives.

Table 2.2: Comparison of characteristics between classical, populist and neo-liberal approaches to conservation

Characteristics	Classical Approach	Populist Approach	Neo-liberal Approach
<i>Orientation</i>	“People out” or “exclusionary approach”	“Inclusive” or “participatory approach”	“Growth oriented” or “human-centered approach”
<i>Based on</i>	Western model – protected area system	Stakeholder involvement theory & post cold war political atmosphere	Economic cost-benefit analysis & the notion of economic growth
<i>Driven by</i>	The interests of elite and affluent (amenity, aesthetic & enjoyment of nature)	Civil society (emergence of CBNRM, community based conservation - CBC, & ICDP)	Capitalist & globalization process (new forms of CBNRM, CBC & ICDP)
<i>Immediate causes of environmental problems</i>	Mismanagement by others	Mismanagement by state, capitalists, TNCs and big businesses	Poor government policies & bureaucratic rules & regulations
<i>Structural causes of degradation</i>	Over-population, backwardness, lack of foresight & ignorance	Resource distribution & inappropriate technology	Inappropriate property rights, institutions, prices & rapid population growth
<i>Institutional prescription</i>	Top-down centralized decision-making	Bottom-up participation	Market policies, property rights, resource pricing, self targeting safety nets
<i>Orientation to market</i>	Not considered	Exploitation	Optimality & externalities
<i>Models of peasant society</i>	Conservative & paternalistic	Egalitarian	Democratic and liberal
<i>Views of collective action</i>	Deficient	Essential and unproblematic	Condition rationality / political entrepreneurs
<i>Technology</i>	Fortress conservation	Agronomic techniques of conservation	Not specified
<i>Diagnosis of environmental problem</i>	Environmental solutions	Socio-political solutions	Economic solutions

Source: Blackie & Jeanrenaud (1997)

2.3 Sustainable Rural Community Development

The concept of development has concealed itself in the background of mankind as long as the history goes. The terminology has been coined and taken seriously into consideration only at the dawn of industrialized society, particularly after World War II (Escobar, 1995), though the discussion about it was first evidenced in the late 19th century (Wetch, 2007). It was ignited in 1949 when the president of the US, Harry Truman, announced his concept of “fair deal” for the entire world and the States’ intention to assist the “perceived impoverished” in the so-called “underdeveloped areas” to realize the aspiration and better life that they defined (Escobar, 1995). Ever since, development concept and practice become dynamic over time and space. This concept involves the transformation from traditional to modern society with economic growth and political stability and autonomy as primary concerns.

Criticism to the success and failure of “development” in developing nations condemns two theories (Evans, 1979; Colclough, 1991; Sen, 1999). These nations have been accused of introducing neo-colonization and political upheaval. The two theories, modernization and historical structuralism models of development, which encouraged developing countries to catch up with the industrialized world, have been recognized as discourses which propagandize

the economic and social systems of Western capitalism. Its grand schemes signify that the path to prosperity is leading through pursuance of democracy, growth, mass production and consumerism based on modern technology developed in Northern hemisphere (Escobar, 1995; Weiss, 2000; Ayer, 2006).

There were pros and cons to the concepts of development. The economists fended for its merits to enable the large scale economic growth. In contrast, the environmentalists and conservationists viewed it as a critical cause of human-induced environmental crisis and the change of local traditional knowledge. Some of the major components of development include poverty alleviation, economic growth, and prosperity. These components have been used as terms common to the state development frameworks and mechanisms. At the community-based level, the most relevant ideas of local communities and civil society organizations towards 'development' are the improvement of community livelihoods and people's quality of life (Bouapao, 2005).

In the post-World War II era, the term 'development' was regarded as synonymous as the term 'economic development' (Escobar, 1995; Telfer, 2002), and natural or primary resources were considered merely as a means to achieve growth. For decades, natural resources had been exploited for market-oriented growth, and for responding to the consumption needs of the fast growing population. There had been less concern about the destruction from the mainstream capitalists. Nonetheless, the degradation of environment creates devastating effects on natural and human ecology. The early attempts concerning the notion of sustainability were only found mostly in religious orthodox and at individual level (Mebratu, 1998). The rapid economic expansion ideology drew environmentalists' immediate attention to the limits of nature. Following the 1972 UN Conference on Human Environment in Stockholm, there were increasing discussions on the issues of environmental degradation and responsible or sustainable development (Dubose, 1995 cited in Mebratu, 1998). Since then, the paradigm shifts for development has been introduced to generate alternative development approaches.

The concept of conservation had been introduced as a result of state and global anxiety over the sustainability of natural resources that were fundamental to development. Subsequently, the evolution of combined terms emerged in the global arena, and these include 'environment and development', 'development without destruction' and 'environmentally sound development'. Finally, the term 'eco-development' was used in the UN Environmental Program Review in 1978 (Mebratu, 1998). From that time onwards, it became recognized internationally that environmental and developmental concepts needed to be considered carefully and concurrently through appropriate conservation initiatives (Gimmire & Pimbert, 1997; Sharply & Telfer, 2002).

Following the IUCN formulation of the World Conservation Strategy in 1980, the 'Brundtland Report of the World Commission of Environment and Development' in 1987, and sequential world events²⁸, the state and global politics tended to focus on sustainable development as a catalyst of long-term growth. Sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generation to meet their own needs" (WCED, 1987). UNEP (1990, cited in Agyeman, Bullard & Evans, 2003) related sustainable development to a development direction that is pursued to deliver improved quality of life of the people or community whilst living within the carrying capacity of supporting ecosystems.

²⁸ For example, the 1992 UNCED in Rio and the Summit in New York in 1997.

Generally, growth, conservation, ownership rights, poverty reduction, capacity, equity, empowerment, participation, collaboration, precautionary approaches and governance considerations are embedded in most conceptualizations of sustainable development (Bryant & White, 1982; Stiglitz, 1998; Agyeman *et al.*, 2003; Bouapao, 2005). These considerations have placed importance on rural community development in order to reduce the imbalance caused by urban-oriented growth mechanism which generates dichotomy between rural and urban areas (Hirsch, 1987). The concept of rural community development allows (poor or marginalized) rural communities to participate in and benefit from economic growth and development. Their participation allows them to improve their economic and social lives and intervene in resource redistribution and consumption for the betterment of their quality of life (Chamber, 1983; Hirsch, 1987; Buller & Wright, 1990; Bouapao, 2005). In addition, this promotes conservation process in rural areas, where are normally home to abundance of natural resources and rich ecosystems of regional and global environmental significance.

Rather than stressing economic generation and growth in rural areas, developers, planners, conservationists and environmentalists have defined a new concept. This concept aims to attain the real economic development for the regions or areas under socio-economic and environmental pressures (Field, 2001; Carlos 2004). Not only based on economic growth as a single destiny, Carlos (2004) defined “development” as “the capability of a country or region to determine, thrash out, approve and resolve their existing and future constraints with less costs and negative impacts, varying from social, economic, cultural, to ecological risks.” He argued that it confers the capacity of a nation or region to mobilize, allocate, appraise, and retain their cultural and natural inheritance while pulling off a higher quality of life and social or community fulfillment. These desired outputs come along with an increased social and collective satisfaction and connivance for present and future generations all the way through a mutual integration with the rest of the world. To overcome the barriers behind sustainable community development, six proposed approaches outlined by the expert workshop participant of WSSD (cited in Markey *et al.*, 2004) are important to consider. These include:

- (1) mobilizing synergies for sustainable community development through the creation of more viable economic incentives or alternatives for communities;
- (2) empowering and building community capacity for sustainability;
- (3) catalyzing and enabling innovation for sustainable community;
- (4) developing and applying innovative technology;
- (5) building a culture of sustainability; *and*
- (6) restoring a sense of place.

Economic imbalance, social inequality and marginalization of the poor usually trigger over exploitation of resources, although over-consumption of natural resources is central to the challenge of sustainable community development. Environmental injustice (please see the “environmental justice movement” in section 2.1) and economic inequality in rural development cause more poor people suffer from loss of livelihood assets, opportunities, and traditional knowledge. This happens when developers and planners do not pay much attention to local social structure/system and immediate needs of communities (Agyeman *et al.*, 2003). Appropriate principles and directions should be determined for successful rural community development prior to development process takes place in order to combine forces to maximize positive impacts at optimal level. According to Ashley & Maxwell (2001, p.418), to obtain successful rural community development through multi-sectoral strategies, developers and planners regard the following principles: recognize the great diversity of rural situations; respond to past and future changes in rural areas; be consistent with wider poverty reduction policy; reflect wider moves to democratic decentralization; and, make the case for the

productive sectors in rural community development, as a strategy to maximize growth and to reduce poverty.

These principles are still general and lack core aspects of rural community development which have been affected constantly by changes and external forces. Based on the CBT (Community Toolbox Bringing Solutions to Light) Model for Community Development, Cesáreo Fernández (2005, p.7) defined successes and best practices of community development as follows: (1) development programs support community objectives; (2) encourage and maintain community initiatives; (3) strengthen stakeholder coalitions and partnerships; (4) building community leadership; (5) develop intervention programs to support community system; (6) increase community participation and membership; (7) enhance community's cultural competence; (8) improve organizational management and development of community and other concerned stakeholders; and (9) increase community influence on policy development. The European Commission (2000) highlighted four major elements in the European Community's Development Policy, including community capacity building, food security, equitable access to social services, and poverty reduction. Compared to Langton (1978), Roberts (1979), Green and Haines (2001), and Blackstock (2005), these elements of successful rural community development are not grounded on or represent the three pillars of sustainable development as equitable access to and sustainable utilization and protection of community resources are overlooked. At present, it is still questionable to rural developers and planners what sectors or tools are suitable for promoting local participation, increasing local economic activities and improving conservation status through community non-traditional export.

2.4 Tourism as a Sustainable Development Approach in Rural Areas

Approximately 75% of the total poor (1.2 billion population earning less than one dollar per day) in the world settle in rural areas (IFAD, 2001; Holland, Burian & Dixey, 2003). Most of the highly-demanded touristic destinations in less developed countries are typically located in rural or peripheral regions (Towner, 1996; Hall, 2005). These destinations are scaling on the basis of national parks, wilderness zones, mountainous areas, cultural sites, and other protected areas and biosphere reserves which inhabit rich ecosystem and biodiversity (Campbell, 1999; Holland *et al.*, 2003). Rural economies are exposed to global influences, they are economically, socio-culturally and environmentally different and their inhabitants are becoming stronger in larger regional centers (Hall, 2005). Hall argued that developments in both local and global economics bring changes to rural areas, and tourism is becoming a fundamental approach to help rural areas adapt to these changes. For this reason, there is widespread optimism that tourism can be potentially developed as a key sector to help recuperate rural economy in those topographic places. Poor rural areas are often characterized by tourism potential which provides good opportunity for economic development in the long-run. It has been regarded as a tool that spreads out benefits to the areas, while at the same time triggers positive impacts on poverty reduction and environmental strengthening. A question behind sustainable development is what type of tourism can be adapted as a pro-poor catalyst compliant with unique characteristics of each rural area.

It is difficult to define "rural" as there are no commonly conventional terms for what makes up differences between rural and urban. To specify the idea of rural in social, demographic and spatial terms, Ashley and Maxwell (2001b) introduced some typical qualities that constitute rural areas. These include: (1) places where human community and inhabitation as well as infrastructure occupy only small physical spaces of the landscape, most of which are surrounded by fields and pastures, forests, water, mountain and desert; (2) places where people

most habitually run through their working time on farms; (3) abundance and relative tawdriness of land; (4) high transaction costs due to long distance and poor or insufficient infrastructure; and (5) geographical conditions that increase political transaction costs and blow up the risks from elite capture or urban bias. Introducing appropriate or responsible tourism such as ecotourism to rural areas can provide a variety of advantages to people. It increases local ownership on businesses and control over resources in the locality and enhances local participation in the development (Ashley, Goodwin & Roe 2001 cited in Holland, Burian & Dixey, 2003). Apart from this, as indicated by Kieselbach and Long (1990), Gannon (1994) and Commonwealth Department of Australia (1999), it may bring other benefits to rural areas, such as: economic growth, diversification, and stabilization; job creation; expansion of local services; scope for integration of regional development strategies; decrease of out-migration and depopulation; maintenance and improvement of public services and infrastructure; renaissance of local culture and identity; increased opportunities for social interaction between elements in the system and for social capital intensification; community empowerment; protection and improvement of natural and built environment; increased local sense of pride; increased awareness of rural precedence; and increased development capability by policy-makers and economic planners.

2.5 Definitions, Concepts and Implications of Ecotourism

Ecotourism has occurred as a result of changes to development and conservation thoughts. It has been brought forth by the industry's and developer's attempts to integrate tourism into the scheme of sustainability. As tourism now has become the world's most important service industry (Hall, 2005), representing annually a US\$ 3.5 trillion activity (WTTC, 1998), ecotourism is starting to provide tangible benefits to the host countries. Ecotourism is typically described as a professional couple who has higher than average income and education compared to other travelers. Since it has diverse meanings, ecotourism can be a concept of development or a subset of new emerging tourism industry. Weaver (1998) and Epler Wood (2002) debated that ecotourism is a form of eco-development or sustainable tourism development. It is derived from a concept of responsible or alternative tourism and from the industry's endeavor to integrate tourism industry into the umbrella of sustainable development.

There are various definitions of ecotourism. The International Ecotourism Society (TIES, 1998) defined ecotourism as "Responsible travel to natural areas, which conserves the environment and sustains the well-being of the local people." From another corner of scientific points of view, Priskin (2003) conducted a holistic study on tourism classification, and finally he suggested that ecotourism is a subset of nature-based tourism. The principles and definitions of ecotourism had been widely debated by Blamey (1997), Bottril & Pearce (1995), Buckley (1994), Fennel (1999), Moore & Carter (1993), and Ormans (1995), all of whom seemed to work on the same point of study. Slightly different to the above authors, the Australian National Ecotourism Society (cited in Allcock, 1994) defined ecotourism as 'a segment of nature-based tourism that entails education and interpretation of the natural environment and it is normally directed and managed to be ecologically sustainable.'

Yet, this brief generic definition has often led to confusions as to what constitutes this segment of nature tourism market. A number of additional definitions of ecotourism have emerged over the years. According to Sirakaya, Sasidharan, and Sonmez (1999), who performed a content analysis on 25 of the most widely accepted ecotourism definitions, ecotourism is operationally characterized as a form of tourism activities and development that produces: (1) a minimal negative impact on the host environment; (2) an evolving commitment to environmental protection and conservation of resources; (3) a generation of financial resources to support and

sustain ecological and socio-cultural resources; (4) an active involvement and cooperation of local residents as well as tourists in enhancing the environment; and (5) economic and social benefits to the host community.

Other scholars like Allcock (1993), Lindsay and Vogler (2004), Hammer (2003), Siegrist (2002), and Goodwin (2002) mentioned that besides the utilization of environmentally sustainable practices and the stimulation of local economy, ecotourism emphasizes education as a sub component. Tourists want information about the environment, history, and culture of the area to upgrade their knowledge and experiences as a part of holiday making. This means providing quality experiences for sustainable business, encouraging good word-of-mouth recommendation and the repeated visitation of both domestic and international visitors. Among these scholars, Goodwin indicated that ecotourism provides opportunities for interactions with local communities who are the human capital of the area. Therefore, it has some linkages with the concept of cultural tourism which is perceived as an inherently compatible entity with sustainable tourism. Goodwin pondered that by its nature, ecotourism could work as a passport to celebrate cultural and natural diversity, to consider the relationship between the diversity of people on this planet and the places they live. Moreover, ecotourism creates opportunities to empower the hosts and make a reality of Valene Smith's and Galli's viewpoints of host and guest communities. The term host empowerment is ubiquitous in the discourse of ecotourism when it enables local communities to shape their own lives and the kind of society in which they live.

While presenting only 5% to 10% of the overall travel market, ecotourism is currently one of the most popular and fastest growing tourism segments. Growth rates for ecotourism are estimated to range from 10% to 30% annually compared to the growth rate (4%) of tourism overall, with the greatest growth in ecotourism industry anticipated to occur in the international market (Ayala 1996; Reingold, 1993; Dimanch & Smith, 1996; Lingberg, 1997; Mader, 1998). Ecotourism represents one of the few areas where the link between economic development and conservation of natural areas is potentially clear and direct (Brandon, 1996, p.2). Ecotourism development also has become a prominent approach to address socio-economic concerns in a conservation context. Fransson & Gaerling (1999) and Borchers (2003) pointed out that in the emerging globalization of market economy, ecotourism has become an efficient tool in combating socio-economic problems in conservation context, especially for natural resource dependent countries. When referring to ecotourism, developers and conservationists discuss its contribution to the conservation of natural resources and local culture, environmental education and experience enhancement, and local economic stimulation.

Ecotourism is small scale and judged to be a type of sustainable resource use, which offers incentives and opportunities to conservation and rural development; it strengthens management of natural resources and provides sustainable livelihood alternatives to the locals. Another benefit of ecotourism lies within its spectrum as an exemplar for tourism through the promotion of sustainable development principles. Therefore, ecotourism could be considered as ideal means of furthering the sustainable development paradigm in a protected area context, by meeting the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987, p.43; Fannell, 1999, p.10; Brandon, 1996).

2.6 Ecotourism Development in Protected Areas

Biosphere Reserves are protected areas created under the UNESCO Man and Biosphere Program to provide demonstrations of sustainable landscape management, encapsulating the principles of sustainable development by managing for both conservation and local economic development (UNESCO, 1996). However, Biosphere Reserves are normally established over

human occupied landscapes in rural context, seeking way to incorporate the development and resource needs of those local communities, and the conservation of the natural environment.

The International Ecotourism Society (TIES) and UNEP declared for 2002 as the international year of ecotourism, and presented ecotourism as one of the major components of the Earth Summit in Johannesburg (WSSD, 2002). This declaration has sensitized and popularized international development aids to implement ecotourism as a tool for ICDPs in resource rich areas. Ever since, it is often regarded as a reliable alternative for sustainable local community livelihoods because main concern of ecotourism development is sustainability, encompassing multiple aspects in social, economic, environmental, and cultural context. The conservation community has adopted the ecotourism concept as a means to partake in the sustainable development discourse, which justifies conservation regimes in the face of development needs (Ziffer, 1989; Boo, 1991; Cambell, 2000; Honey, 1999, Swarbrooke, 1999; Thwaites, 1998). Nowadays, tourism policy-makers and developers regard ecotourism as a reliable means which comprises pro-poor tourism concepts in rural nature-based areas. This is because it places importance on both the protection of local natural ecosystem and sustainable livelihood approach. Recent research on pro-poor tourism suggests that there is potential to apply tourism development to natural areas to stimulate income opportunities for the poor communities. To achieve sustainability tourism developers and managers balance political support with strategy that maintains the region's ecological integrity, while demonstrating economic benefits and development for the region (Crouch & Richie, 1999; Owen Witt & Gammon, 1993; Richie, 1999).

Under current conservation regimes, customary forms of resource use, such as agriculture, fishing and hunting, are often conceptualized as potentially unsustainable and are restricted or prohibited. Without significant involvement in and benefits from protected area tourism, protected area's communities struggle to meet subsistence needs to the extent that resettlement may be the only option to sustain their livelihoods. The trend of out-migration among the locals happens when there is a tough restriction over available resources or a prohibition on other forms of resource use. This strategy of marginalizing protected area's communities to the extent of exclusion is connected with a renewed emphasis on traditional protectionists' approaches to conservation and protected area management. These approaches prioritize ecological imperatives ahead of socio-economic objectives under the perception of a global biodiversity crisis (Gimmire & Pimberts, 1997; Wilshusen, 2002). Instead, conservationists promote ecotourism as the most sustainable form of resource use. The adoption of ecotourism principles allows them to criminalize other forms of resource use, yet within the policy requirements of providing local benefits and empowerment (Goodwin, 1996 cited in Diamantis, 1999). It also links to the political agenda in pursuing benefit sharing and sustainable use of natural resources as outlined in the Convention on Biological Diversity (CBD, 1992). With resource extraction restricted or prohibited, the local involvement in tourism development and the provision of economic incentives are crucial steps to meet subsistence and livelihood needs of communities within the protected area.

2.7 Communities as Resource Owners in Ecotourism: Attitudes and Perceptions Affect Development

Developing ecotourism requires a participatory process including all concerned stakeholders who directly and indirectly influence its operation. Hawkin (2003, p.3 cited in Heher, 2003) presented twelve role players of ecotourism, ranging from government, academic institutions, private business sector, consulting agents, tourists, media and local NGOs to donor agencies. Donor agencies are considered as main sources of development funding for ecotourism projects,

and they are bilateral donors (e.g. USAID, CIDA, SIDA, etc.), international foundations (e.g. Ford Foundation, Rockefeller Foundation, etc.), development banks (e.g. World Bank Group, ADB, etc.), big international NGOs – BINGOS (e.g. CI, IUCN, UNDP, etc.), and corporate philanthropy (e.g. WB through GEF and IFC, IADB, etc.). However, these are only external stakeholders, while local communities and their authorities are the most important actors of ecotourism within their own internal system.

The definition of “communities” varies depending on spatial or social factors, internal structure or local system, external linkages, cultural, political or natural boundaries (Carson, 2002). The term can be referred to members or people who have different ideas, interests, strengths, capabilities, needs and concerns based on their demographic and socio-economic backgrounds, but would like to share common tasks and things together in a same definite location (Roddick, 2000 cited in Murphy and Murphy, 2004; Carson, 2002). At present, this term has become a catchword commonly used in defining goals of tourism development projects. According to the Conservation International (CI, 2003 cited in Heher, 2003), the effects of integrating tourism into development projects in the world are mostly evidenced through alternative local income generation and community participation, followed by expansion of protected areas, job creation and biodiversity conservation.

There are almost no literatures which previously stated that ecotourism can be developed successfully without local community support (Wearing & McLean, 2000). Developing ecotourism as a new responsible agent of change in conservation context requires developers and planners to reflect on the sense of community (Markey, 2003). Community’s perceptions and attitudes towards ecotourism development within their own system affect the overall process, especially the host-and-guest relationship (Williams & Lawson, 2001). The sense of pride from community members (spatial, socio-cultural, and ecological) is regarded as a vital or determinant constituent of long-term community development. This relates to sustaining of community identity, purpose and culture, and at the same time directing the ways to clutch diversity and progressiveness and tolerance within the community. While the community’s needs and development needs are clearly distinguished and synchronized, there is a need for development directions to incorporate community’s rights and wills.

The resources of the destination belong to the local people, and are conceived as the precious properties of the community (Russo, 2002). They have right and responsibility to understand, appreciate, and conserve its universal values, and benefit from and have control over the use of these assets. Looking upon the rights and preferences of the host community, property possessors and pertinent indigenous people who may exercise traditional and cultural rights or responsibilities over their own land and resources, is one of the major steps to tourism success (ICOMOSE, 1999). Besides providing benefits mainly to the host community, tourism can help motivate people to raise concerns on maintaining their resources as key players for entire community development. The involvement and cooperation of the local community could accelerate the progress of ecotourism progress and enhance the protection and preservation of natural resources and other heritage resources of the site (Murphy, 1985; Garrod, 2001). This could be done in decision-making, establishing goals, strategies, policies and protocols for the identification, conservation, management, and interpretation of their natural resources and cultural diversity for ecotourism, as well as in planning and implementation. Simmons (1994), Cater (1994), Wild (1994), and Campbell (1999) argued that active involvement from the local community is an indicator in safeguarding that benefits reach local residents in destination regions. Then again, Campbell cited Kutay’s notion (1992) that there is a close relationship

between community participation and environmental conservation effort in developing countries.

Few studies have been devoted to examining resident attitudes in destination regions, especially at the inception stages when the support and involvement of the local community is critical to the success of tourism development efforts. But, in general, there was a substantial body of literature examining local community's attitudes towards and perceptions on tourism (Adam, 1992; Wu, 2000; Ratz, 1996; Ratz & Puczko, 2000; Murphy, 1985; Lui & Var, 1983; Long, Perdue & Allen, 1990; King, Pizam & Milman, 1993; Tosun, 2001; and Jurowski, 1996). These issues were regarded as important components of planning and policy considerations for successful development, marketing, and operation of existing and future tourism programs and projects (Ap, 1992, p.665). Particularly for ecotourism, community participation and control over resources are the most substantial aspect, according to Campbell and Mattila (2003). If this is so, it is required to obtain community support for effective conservation and sustainable use of natural resources. As the concept of ecotourism sustainability does not only look at economic incentives of ecotourism, attaining active community involvement is important to reduce threats and challenges to community system and resources caused by external forces.

However, as communities are not homogenous and their knowledge, expectations and needs, and social, economic and political powers are varying, it is difficult to only depend on them as the change agent of conservation and development in their areas. A strong desire to gain benefits as much as possible from ecotourism easily makes the local community to weaken their awareness of or even ignore its potential effects. Consequently, the principles for and elements of successful ecotourism industry could be ignored by the locals. Therefore, ecotourism projects should motivate the local communities to actively participate from the early stage of planning, so that they understand the principal concepts and have pragmatic views and expectations of ecotourism (Wearing & McLean, 2000). Maximizing benefits for the local communities requires a mutual understanding and discussion among community members and other concerned stakeholders upon the nature of ecotourism and its significances for local resources and local livelihoods. This requires participatory co-management systems that communities and other key players could work together to manage the resources. Wearing & McLean (2000) and Williams & Lawson (2001) reiterated that as long as community members benefit from ecotourism, they will be willing to participate in the conservation and revitalization of natural resources and cultural heritages and shore up ecotourism activities. However, this attempt will fail unless proper mitigation strategies, e.g. fair economic distribution principles, concerning benefit sharing and involvement are set up prior to development.

Overestimating the social environment and structure of the communities, community attitudes and perceptions of tourism and tourists would bring a lot of problems as a result of ecotourism development. Many authors have suggested that better understanding of community perceptions and attitudes towards tourism development helps to reduce negative community reactions to tourism and visitors and contribute to sustainable tourism growth (Ap & Crompton, 1998; Boyne, 2005; Hall, Roberts & Mitchell, 2005). Therefore, there are two complex relations for ecotourism developers and planners to consider: (1) the relation between community responses and tourists' experiences / satisfactions; and (2) the relation between community support / participation and sustainable tourism development.

2.8 Tourist Demand: A Key Push Factor in Ecotourism Development

The decrease of natural resources and change in the host culture may cause the ecotourism destination's image to decline possibly to the point of destroying or severely damaging the

environment and cultural heritage that tourists want to explore (Gamper, 1981; Keating, 1992; MacCannell, 1973; MacNaught, 1982; Sheldon & Var, 1984, cited in Ko, Murdy and Kim, 2000; Wearing *et al.*, 2002)). But this case is not the only problem. A question behind sustainable tourism development is what type of tourism should be made fully operationalized as a pro-poor catalyst compliant with unique characteristics of destination areas. Considerably, as natural areas become trendier and highly developed, they are also prone to pressure (Lawrence, 1997; Priskin, 2003). Success in ecotourism development might beget letdown or fiasco over the long-run (Stem, Lassole, Lee & Deshler, 2003). This is because different stakeholders of ecotourism development yearn for different changes and outcomes, and they always wish to experience what they observe as a progress in the existing situation (Wall, 1997). In that case, management efforts put strong emphasis on the use patterns of natural resources, which are varying depending on the purposes and intensity of use. In ecotourism development study, this emphasis is placed on how resources are used and what facilities are catered for consumers, as well as how their demands affect development. Therefore, besides focusing on feasible tourism attractions, accessibility and amenity to sensitize tourist market segments, ecotourism planners and developers are also interested to grasp tourist demands (Newhouse, 1990; Selwood & May, 2001). This impetus brings concrete insights of visitor characteristics, behaviors, use patterns and attitudes which provide better options for designing suitable strategic frameworks for ecotourism.

As mentioned by Walker (1997), demand is a well-defined part of the tourism planning process. It varies from macro economic level and microeconomic level to a specific tourism one in accordance with its applied concepts in tourism industry business. In her report on 'Tourism Assessment of the Kbal Chhay Watershed' in 2004, Bauld defined 'market' as "a group of tourists with similar characteristics." The forecast of demand in tourism study emerges within a spectrum approach related to visitor numbers as compared to change of cost. Usually, it is shown through a demand for a recreational experience in a particular place. In tourism sector, the study of demand is vital for the analysis of market growth and share. Moreover, it provides better understanding about tourist perceptions in order that appropriate planning and management of a destination can be generated. There are many factors that usually influence tourist demand, both with intrinsic and extrinsic values. Intrinsic factors are those from the tourist side and their living environments, which influence them to decide to (or not to) travel from the tourist generating regions. Extrinsic factors are those from the tourist destination regions or the supply side, which affect the motivations, expectations, and willingness of tourists to travel. Martin (2003) designed a model to specify underlying determinants of tourist demand at five different stages: (1) participation decision; (2) tourist budget constraint; (3) frequency and length of stay; (4) kind of destination; and, (5) destination and transportation mode choice. Martin articulated that the fluctuation of demand is subjective to the following variables, ranging from the characteristics and socio-demographic aspects of tourists, destination attributes, and mix variables. These variables are: age, education, income, labor condition, characteristics of the place of residence, size and composition of the family, health education, risk aversion and propensity to travel, kind of tourist environment, time, physical and intangible attributes of the destination, relative price and exchange rate, accommodation cost index, weather, safety, crowding, development and facilities, transportation cost, travel time cost, available information, language, suitability and accessibility of the destination, and marketing and promotion.

According to Blake and Becher (1994), as quoted in Cespedes (1996), (eco-) tourism must also focus on tourist motivation and education. They pursued a number of definitions and strongly concluded that a majority of ecotourists are encouraged to travel for thoughtful and profound

learning, experiential or self-exploration reasons. Motivations for ecotourism involvement fall along a continuum, from those who decide to travel solely or basically for ecotourism purposes (i.e. experience nature and wildlife and local culture) to those for whom ecotourism participation is a constituent of their trips (i.e. interaction with people and participation in natural resource conservation).

Tourist motivations, expectations, knowledge and experiences usually influence activities of tourists at the site. However, tourist activities are also dependent on ecotourism attractions and programs of the site. Duffus and Dearden (1990) summed up all nature-based or ecotourism activities into three main categories. These are consumptive use, low consumptive use, and non-consumptive use categories. As cited in Diamantis (1999), consumptive use refers to activities that could inflict direct impacts on natural resources, such as hunting, fishing, and collecting of other fauna and flora species. Low consumptive use includes activities related to observation purposes in specific attractions and settings, such as zoos, animal parks, and scientific research. Non-consumptive use entails activities subjective to nature dependence, such as bird-watching, trekking, hiking, and photographing natural areas. Generally, the third category of tourist activities does not impose impacts on the living organisms of the attractions.

The development and distribution of tourism facilities, opportunities and sites are anchored in tourist demand, current demographic appraisal and the prognosis of the characteristics or personality of the population (Shultz, Pinazzo & Cifuentes, 1998). According to Bargur & Arbel (1976, cited in Walker, 1997), the pragmatic study of demand relationships helps ecotourism developers, planners and practitioners to single out and scrutinize the four main abilities of tourism planning. These include: (1) ability to address the optimal levels of tourism impacts on a local, regional, or national level; (2) ability to identify the inputs needed to meet the high tourism outcome levels; (3) ability to settle and decide on charismatic tourism products (goods and services) an ecotourism site can beneficially develop, given features and constraints of the area; and, (4) ability to muster tourist attractions and dispend tourist activities across seasonal restraints.

Because ecotourism is a market-driven activity (Cespedes, 1996), the views, needs, behaviors, and the level of satisfaction of tourists can directly influence the alteration of destination image. It is, therefore, important for ecotourism planners and developers to explore tourists' thoughts, motivation, and expectation on the environment of destination for understanding their demands and psychological views before or in time of development process (Small, 2001). Additionally, level of tourist education is also one of the criteria when targeting or attracting clients for ecotourism business. Ecotourists are required to have good knowledge or awareness about the significance of natural resources and other practical realities and legitimacies of ecotourism.

2.9 Impacts of Ecotourism

Ecotourism is promoted as an environmentally safe way for rural communities to generate income from exploiting natural resources in a sustainable manner. It is considered as an alternative tourism which involves more sustainability perspectives on conservation, resource consumption, community development, local empowerment and participatory development (Dowling, 1995; Blamey, 1995). The sustainability of ecotourism is unachievable unless developers, planners and conservationists apply, promote, and balance the triple bottom lines concept (Berkes, 2004). This concept includes environmental imperative, social imperative and economic imperative angles. Proper and careful study on how this tool is appropriately put in

place is regarded as one of the most required actions. In addition, collaborative planning and co-management approaches through active participation of all concerned stakeholders are also substantial to ensure its sustainability. Visitation to the protected natural areas and biosphere reserves is a crucial attribute of ecotourism, and thus must be sustainable. Farrell and Marion (2001) argued that such visitation can deteriorate natural resources, particularly in areas of intense visitor activities like trails and recreation sites. This concern has been universally considered since different cases of ecotourism destinations in Bali, Phuket and Ko Samui, Belize, and Costa Rica have been explored (Stem, Lassole, Lee & Deshler, 2003). This has attracted many tourism scholars to find out or project possible benefits and negative consequences of ecotourism as it is not always a benign incentive provider (Diamantis, 1999).

Ross and Wall (1999a, p.673) argued that “ecotourism has the potential to contribute to both conservation and development and as a minimum, it involves the creation of positive synergetic relationships between tourism, biodiversity and local people through the application of appropriate management strategies.” They explained that positive impacts on biodiversity resources can be the provision or increase of economic incentive for environmental protection and the improvement of environmental education for all concerned players of ecotourism development. Similar to these scholars, Weaver (2000) considered ecotourism contribution to environmental protection through the way it promotes awareness and benign attitudes and activities of the host community and tourists to support in conservation process. This is possible in many ecotourism destinations, such as in Coasta Rica and Ecuador, where ecotourism principles and revenues have provided much support to the conservation process and research activities to sustain the ecology and biodiversity resources of the areas (Elper Wood, 1998; Gouvea, 2004).

The contributions of ecotourism to the sustainable development of the local communities are seen when it provides direct, indirect and induced socio-economic and cultural benefits, without compromising important bases of their places such as natural resources (Ross and Wall, 1999; Weavor, 2002). Besides acting as a guard to protect and revitalize local culture (Farrell and Runyan, 1991), ecotourism could provide other advantages to the communities. These include job creation, generation of revenue for the community economic development, improvement of community participation and empowerment, diversification local economy, increase in natural and cultural appreciation among the locals and other multiplier effects (Mowforth and Munt, 1998; Weavor, 2002; Jenkins and Wearing, 2003; Bynoe, 2003). Through the case of Cuyabeno in Ecuador, ecotourism revenue is not only generated directly as income for the people, but it is also used to support infrastructure development in the areas, such as building schools, strengthening health care services and promoting communication services and facilities in the locality (Elper Wood, 1998). In Eselenkei, Kenya, after realizing the earnings to support community livelihood initiatives (i.e. school building, payment for medical services, maintenance of boreholes, etc.), the community started to participate in trainings to improve their capacities to help conserve the environment and stimulate local development programs (Ogutu, 2002).

Ecotourism is also potential to generate negative impacts on the host environment. Due to its sensitivity, natural and cultural resources and environment of the ecotourism destination, which are usually known as pristine protected areas, can be affected easily by tourist activities especially when the visitor management strategies of the place are not sound (Jenkins and Wearing, 2003). According to Holland, Burian & Dixey (2003) and Wall (1997), some critical trade-offs such as population displacement and resettlement, conflict of interest and rivalry upon resource access and ownership are also the consequences of tourism development in rural

areas. In addition, solid waste and wastewater generation, habitat annihilation, and socio-cultural harms are regarded as the negative outputs of ecotourism (Isaacs, 2000; Stem, Lassole, Lee & Deshler, 2003). When optimizing ecotourism benefits through large-scale development or mass ecotourism, the activities of tourists and migrants flooded into the areas in search of economic incentive could make natural landscapes and resources and cultures fragile and inappropriately commercialized (King and Stewart, 1996; Weaver, 2002). Weaver (2002) also argued that inappropriate behaviors of tourists and outsiders could easily make the locals angry and try to antagonize unwelcome activities in their area. This could be happened more with those who enjoy few or no benefits from ecotourism development. To sustain ecotourism, it is necessary that the benefits and costs are projected prior to its development. Jenkins and Wearing (2003) summarized the potential impacts of ecotourism by categorizing them into environmental, economic and socio-cultural in the following table.

Table 2.3: Example of Impacts of Ecotourism

Types of Impacts and Characteristics	Positive Impacts / Benefits	Negative Impacts / Costs
<i>Environmental</i>	<ul style="list-style-type: none"> - An incentive for conserving natural areas - Provide resources for environmental conservation and management - Provide incentives to maintain or enhance the physical environment - Engender an environmental ethic 	<ul style="list-style-type: none"> - Clearance and damage to - Indirect damage to vegetation - Altered habitats - Inapt tourist activities, i.e. hunting - Disturbance of wildlife - Soil erosion and compaction, leading to modifications in land cover and modifications of plant cover - Pollution – air, noise and waste - Introduction of exotic species and other negatives - Inappropriate commodification of natural areas and resources
<i>Economic</i>	<ul style="list-style-type: none"> - Foreign exchange earnings - Economic development and diversification - Distribution of income to local economies and communities - Tendency of ecotourists to spend more and stay longer - Generation of income for conservation - Increased employment opportunities - Local infrastructure development 	<ul style="list-style-type: none"> - Failure of total revenue to match costs of ecotourism impacts - Increased burden on under-funded resource management agencies
<i>Socio-cultural</i>	<ul style="list-style-type: none"> - Employment opportunities - Diversification of the economic base - Diversification of facilities and services - Assist in long-term conservation of cultural heritage - Revitalization of local culture - Historical perspectives concerning indigenous peoples and flora and fauna - Conservation of traditional cultural activities - Encourage local communities to value and benefit from natural and cultural assets 	<ul style="list-style-type: none"> - Overcrowding - Seasonality - Diversion of resources (opportunity costs) away from other activities / issues - Conflicts over access and appropriate use - Inappropriate commodification of local cultures - Improper tourist behavior

Source: John Jenkins and Stephen Wearing (2003, in Fennel and Dowling, ed., 2003, p.214-215), adapted from Commonwealth Department of Tourism (1994), Buckley and Pannell (1990), Pigram and Jenkins (1999), and Buckley (2000)

2.10 Challenges of Ecotourism

The effectiveness of using ecotourism as a means for sustainable conservation and community development is still uncertain, and this concern is growing among tourism scholars and experts. The level of success or impacts of ecotourism is varying depending on many factors, many of those are known as challenges of ecotourism (King and Stewart, 1996; Poon, 2002). This section discusses the pitfalls of ecotourism as an integrated conservation and development tool and some considerable challenges to ecotourism development as follows.

Ecotourism, as it is grounded and extended, is not really decentralized or community-oriented, but is suppressed by the conservation or developmental agenda according to who initiates it and leads its management and implementation. Ecotourism has been imposed by responsible NGOs to be developed on community-based level as they need to follow the “greening of aid”, which encourage them to play more roles in spreading participatory development and environmental governance (Kiss, 2004; Hira and Parfitt, 2004). These NGOs are fund-oriented; the outcomes of their community-based ecotourism (CBET) projects have to fulfill the agendas of donors, who support them rather than to address the exact needs of communities (Kin and Stewart, 1996; Weinburg *et al.*, 2002; Jone, 2005). Hira and Pitfall (2004) noted that donor agencies include funding for conservation activities and capacity building in the development aid packages; accordingly, series of trainings, fieldtrips and program implementations are made (Lash, 2003). Both technical and financial aids are given to ensure that CBET project is small-scale devoid of mistakes caused by mass tourism (Hira and Pitfall, 2004). However, many programs run by NGOs have short mandates and are fund-dependent (Few, 2002), and they normally make CBET project collapsed when the communities, whose capabilities (money, knowledge and skills) are seen inadequate, to continue after the programs terminated (Kiss, 2004). From her extensive study on 36 funded CBET programs, Kiss (2004) remarked that CBET may not be a worthy program of biodiversity funding option. She criticized that CBET programs mostly run with strong backups of NGOs and their networks. She claimed that such programs would collapse once those enabling structures cease. Her accusation was derived from the community’s relative inability to manage the business on their own after receiving limited, short-term assistance from external forces.

The cases of ecotourism at “Del Este National Park” in Dominican Republic (Macleod, 2003) and at Yak Loam CBET (Yin, 2003) in Cambodia also prove that communities fail to carry out ecotourism properly after responsible environmental NGOs (Ecoparque and DRIVE in that order) leave the communities to become self-sufficient on ecotourism. This is due to lack of capabilities among members of the fishing cooperative (Del Este) and indigenous community (Yak Loam) to operate ecotourism enterprises and maintain healthy environments in their areas. The sense of job insecurity, social inequality and incompetence have caused sever staffing and management problems and other socio-economic ones, such as economic leakage, social exclusion, monopolistic business competition and resource degradation.

The thinking that communities are a homogenous group and that they have a single voice is another challenge of ecotourism development. Many ecotourism projects have failed to address the structural inequality within communities that influences local participation in planning and implementation. In their roles as advocates of the local resource management regime, ecotourism coordinators, especially NGOs, often collaborate with a small legitimized group which works on behalf of the community constituting the entities and interests they claim to represent (Agrawal and Gibson, 1999; Broius, Lauwenhaup and Zerner, 2005). The failure to grasp the complex nature of community means ecotourism paradigms assume shared interests and consent on the preferred outcomes from tourism and conservation initiative. This conceptualization of community ignores how some community groups act out of self-interests rather than for collective good, and thus leads to outcomes that build exclusive group capital rather than inclusive social capital (Winter, cited in Blackstock, 2005).

Since ecotourism is small-scale in both operation and impacts, this failure can easily cause social exclusion, people’s dissatisfaction and negative response, conflicts of interest, unequal benefit sharing, and dominant power controlled by the few rich and elite. An instance of

ecotourism in Phai Phong Phang in Samutsongkhram province in central Thailand shows that about 80% of community residents are not able to participate in CBET activities and remain entirely dependent on their traditional agriculture (Sangkakorn, 2006). Besides being unable to benefit from CBET development, they have to shoulder the burden of tourism impacts, such as land conflicts, pollution and land erosion. The CBET community shares benefits only among themselves; none of the profits are paid to the protection of common pool resources. Only a small group of people who are members of the opposition party dare to confront the political power of the Chairman of this CBET project. Some unhappy villagers could only complain and gossip the management, while some angry locals challenge the management system by destroying tourist attractions. The case of ecotourism in Hainan province of China also shows a failure of ecotourism implementation which does not contribute mainly to community's social capital building, local livelihood improvement and the increase of generated-fund for conservation (Stone and Wall, 2003).

The right of communities to participate in the management and implementation of ecotourism is also considered as a challenge. King and Stewart (1996) argued that the protectionist policies to safeguard and promote an area to be an attraction of nationally and globally environmental significance could impose ecotourism developers and planners to exclude local people from accessing its resources. The absence of local participation would lead to inappropriate patterns of the management and use of the territory and resources to the hand of outsiders who have limited knowledge about local land-use practices (Kiss, 1990; King and Stewart, 1996). In addition, it would also lead to conflicts over resource access and consumption (Kent, 2003) and commodification of local natural and cultural resources (Watson and Kopachevsky, 1994 cited in King and Stewart, 1996). The transformation of the traditional *Alarde* (a Basque festival in Spain) performance dated to 17th AD into a show to respond to the increasing visitation in Spain is one of the instances of the commodification of local intangible culture (Greenwood, 1977 cited in King and Stewart, 1996). The change of natural area and its resources, which provide use value for subsistence livelihoods, into tourism products (goods and services) affects the relationship between the locals and nature. In addition, it also reduces the opportunity cost in using natural areas for other purposes (Isaacs, 2000; Pat, 2001). An analysis of this symbiosis affected by ecotourism in North Sulawesi, Indonesia, showed disharmony between people and their nature (Ross and Wall, 1999a). Ecotourism impacts were noticed through the change of agricultural lands into protected areas, which caused conflicts of interest over boundary demarcation, resource restriction and many other social problems. With continuing construction of tourism facilities (roads, hotels, etc.), most people became a marginalized group with few opportunities to recover their livelihood loss.

There are many stakeholders of ecotourism development, such as conservationists, permanent local folks, commercial interest groups, government, entrepreneurs or investors, and tourists. Because most of them yearn for changes differently, there is regularly disagreement or conflict regarding what kinds of change are suitable for the context of ecotourism in rural or remote areas with rich natural resources (Wall, 1997). Conflict during planning for implementation of ecotourism is a possible drawback due to the value-laden nature of the issues involved and different perceptions of different beneficiary groups (Wearing & McLean, 2000). Normally, there are those in the community who favor uncompromising conservation of natural areas, while others favor maximizing the economic benefits of ecotourism and related small and medium scale enterprises (SMEs). Wearing & McLean explained this phenomenon as a dilemma to reach a compromise between conservation objectives on the one hand and economic development on the other.

From economic perspective, Isaacs (2000) and Pat (2001) noticed ecotourism challenge in its ability to provide economic incentive to sustain conservation process, while not imposing more expenses on addressing negative impacts caused by tourist activities (i.e. pollution, wildlife disturbance, damage of natural habitats, etc.). In addition, they raised a concern over the spread of destructive or illegal resource extraction committed by local communities of protected ecotourism sites in other natural areas, where restrictions are not yet legitimized. Other scholars, such as Poon (2002, p.15), Neou (2003), Sangkakorn (2006) and Phiyathip (n.d.), viewed the challenges of ecotourism from considerable problems which could make the success of ecotourism projects for conservation and development purposes impossible. These include: low development of linkage, weak SMEs, low level or absence of local participation, inadequate human resources, lack of standards and quality measures, insufficient product development and diversification, inadequate marketing and promotion, weak institutional framework, unclear legal mandate, lack of government enforcement and political will, lack of stakeholder partnership and collaboration,

2.11 Ecotourism and Guiding Principles for Its Development

At the UNESCAP / SPTO Seminar on ‘Sustainable Development of Ecotourism in Pacific Island Countries’ in Fiji, 2001, Michael Fagence raised four challenges to ecotourism that reveal the nature of complexity of ecotourism products. First, not all ecological environments and natural features are attractive and appropriate for ecotourism business. Second, not all tourists are well-educated, environmental friendly and willing to adopt an ecological frame of mind. Third, basic principles of ecotourism attractions and the primary concept of ecotourism are environmentally-based, opting mainly for conservation activities. Fourth, management of ecotourism could be geographically exclusive, probably creating tourist enclaves in natural areas. This insight provides good reasons to ecotourism developers and planners to also pay attention to the limitations or pitfalls of ecotourism while attempting to use it as a tool in conservation and development of protected areas. In addition, they are required to determine clear scenarios of ecotourism development from the beginning. This strategy works to avoid or reduce negative impacts which can be generated any time as a result of the interaction between human activities and natural environment of the place.

There are possibilities that ecotourism may collapse at the end of the project funding. Local people’s naivety and shortage of technical knowledge and expertise as well as different political agendas, which set nature and economic values above human virtue and values, could also contribute to this collapse. However, there are cases when ecotourism succeeds, especially when the coordinating agencies (i.e. NGOs) are able to bring up the right mix and work out the right ways that suit the locals and the markets (Jones, 2005; Weinberg *et al.*, 2003; Abbot and Thomas, 2001; Hatton, 1999). In this case, ecotourism becomes prosperous and communities benefit more from the projects. They can learn about the problems they are facing and understand the right strategies to alleviate problems and earn from it. In spite of this, even in such cases, problems still emerge from different factors (see section 2.10) and obstruct ecotourism, especially when it is run on community-based level; it can be grabbed by powerful or rich investors who might turn ecotourism into eco-mass tourism (Weinberg *et al.*, 2003). For instance, ecotourism industry in Costa Rica has operated since the early 1980s by privatizing some of its reserves, such as Monteverde Biosphere Reserve and Rava Avis Reserve, to maximize profits (Gouvea, 2004). The commodification of these natural reserves into commodity has benefited its government and the private enterprises a lot, while indigenous communities continue to face problems of economic leakage and ownership rights.

Butler (1980) explained that all tourism destinations will evolve through a Tourist Area Life Cycle (TALC), beginning with the exploration stage to involvement, development, stagnation to decline or rejuvenation. Some researchers agreed that there may be no exception for ecotourism as well (Weinberg *et al.*, 2003). Weinberg and his group elaborated this assumption based on their studies of two successful destinations in Costa Rica and New Zealand. They asserted that while NGOs are working hard to scribe the right guidelines and strategies for technical assistance, those projects have already moved on to the next stage of their life cycles and face other obstacles. These obstacles derived from the locals' dependency on external sources from the beginning. The treadmill processes were as follows: (1) the original ideas came from the outsiders while based on indigenous resources; (2) the projects were socially and ecologically successful in the early years; (3) these successes brought in extra local businesses, which in turn displaced local people culturally, geographically and economically; (4) these local businesses made big investments which the proprietors were trying to recoup by exerting pressure to expose communities to more ecotourism activities; and finally (5) the increase brought negative impacts that the locals lacked the political power to address or stop. It could be argued that understanding the touristic destination development or destination trend simply helps the development of community-based and sustainable ecotourism approaches at the involvement stage. To implement such approaches in later stage may cause severe problems to both human society and natural environment of the areas.

Therefore, regular assessment prior to and after the development is vital for the understanding of the trend of ecotourism, so that appropriate strategies could be set up and incorporated into coherent, pragmatic frameworks. Most importantly, appropriate guiding principles for planning and management of ecotourism are imperative and needed for all concerned stakeholders to follow. According to the WWF International (2001), after identifying clear purposes and projecting the potential benefits and negative impacts of development, the responsibility of ecotourism developers and planners is to take several key guiding principles into consideration. These include: community involvement and empowerment; stakeholder partnership, collaboration and integrated development strategies; protection and maintenance of environmental and cultural integrity; market realism and effective promotion; quality tourism product development and appropriate marketing strategies; impact management and monitoring; encouragement for tourist and private sector interests and supports; and, performance management, monitoring and excelling.

CHAPTER 3: RESEARCH METHODOLOGIES

3.1 Analytical Framework

There are many factors that affect community livelihoods (capabilities, assets, and activities) and community enthusiasm to accept changes in their livelihoods, as well as the dynamic relationship between these. To respond to this need, the Sustainable Livelihood Framework (SLF) has been adapted by an increasing number of researchers as a tool for analyzing complex livelihoods of people (Scoone, 1998; DFID, 1999; Ellise, 2000). The SLF is seemingly parallel to the Sustainable Livelihood Approach (SLA), and is used as a holistic, structural approach to identify influential factors that are centered on people and important in contributing to community livelihood diversification²⁹ and livelihood sustainability supported by existing activities (Gardon, 1999). The DFID (1999) and Carney (1998) articulated that this framework could be used by researchers, planners and developers who deal with a complex human subject, especially in rural areas, where people live in pressing social and environmental conditions. This tool helps these stakeholders with a range of perspectives and capacities to participate in structured and coherent study and deliberate over the factors that influence community livelihoods, their relative significance and the way in which these factors interact. Thus, stakeholders are able to determine and suggest appropriate development mechanisms or tools to be applied in a rural context for the enhancement and diversification of community livelihoods. In addition, the SLF provides an in-depth reflection upon the community development schemes, which enable local residents to tackle their poverty and other socio-economic and ecological impediments from their own efforts.

This research uses SLF to analyze the way that ecotourism could contribute to livelihood improvement, community development and conservation in BTC and SS by incorporating economic incentives and other positive impacts into local livelihood strategies and the management of the areas. It will assist the researcher to identify the causes of local livelihood problems, people's access to resources and ways of deploying livelihood assets and their livelihood activities influenced by institutional structures and processes. The complexity of internal and external factors and their relationships with how local communities in BTC and SS pursue their livelihood strategies, which also impact on the utilization of natural resources, will be also discovered through this approach. Because ecotourism can be both a tool and principle, it is required to understand the system of communities and its underlying elements before it is dynamically used to improve or intervene in the system.

According to Murray (2001, p.6), the quality of the SLF lays in its multiple applications as a "people-oriented", "dynamic" and "holistic" approach which works to address diverse dimensions of sustainability (economic, social, environmental and institutional). It provides fuller insight of the real local livelihood context for improving rural development policies or interventions which are not at the expense of communities and based on the locals' needs to engage in and influence developments imposed by external forces (Allison and Ellis, 2001; Murray, 2001; Adato and Meinzen-Dick, 2002). This approach will help the researcher to shape a concrete form of holistic analysis upon the applicability of ecotourism as an alternative livelihood approach which addresses social and environmental problems in BTC and SS. To be specific, it is used as a basis to find out how ecotourism could work to reduce the vulnerability of the locals and strengthen the institutional structures and processes, while promoting the asset

²⁹ According to Ellis (1997) cited in DFID (2005, p. 20), livelihood diversification is the process by which rural families construct a diverse portfolio of activities and social support capacities in their struggle for survival and in order to improve their standards of living.

base upon which communities build their livelihoods in a sustainable way. Also, the researcher will use it to discover whether ecotourism is accepted by communities, what capacities and factors influence their willingness and decision.

According to Figure 3.1, the outset of the SLF analysis is the “vulnerability context” within which communities operate (Carney, 1998; Nicol, 2000). This represents external impediments and internal vulnerability, which influence livelihood components (assets, activities, access and consumption of resources) and are beyond people’s control (Adato and Meinzen-Dick, 2002; Start and Johnson, 2004). It is confined to factors of sensitivity and power that affect the ways people think and decide upon problems and construct their livelihood strategies to increase their resilient abilities to cope with them. Different physical, social and political environments create different levels and types of vulnerability for people, especially poor and vulnerable ones, to secure their livelihood options (Nicol, 2000). These include local norms and customs, power relation, political pressure, social structure and processes, natural disasters and climate change, disintegration of communities, gender equity, social and political evolution, and national, regional and global policy issues. Normally, the vulnerability context comprises three main elements, each of which involves different indicators, for measurement (DFID, 1999; Carney, 1998; Ellis, 2000). These are known as:

- Shocks: social conflict and disorder, natural disasters and problems, human health shocks, education economic shocks, and crop/livestock shocks;
- Trends: resource trends, population and migration trends, economic trends, and trends in governance; *and*
- Seasonality: production, price, and employment opportunities.

The second step of the SLF focuses on the livelihood components of local communities by using the household as the unit of analysis (Carney, 1998, 1999; Nicol, 2000). In SLF principles, community livelihoods are formed by a large number of different forces and factors that are changing over space and time. The analysis of community livelihoods embarks on the assessment of community assets which define the capabilities of each household to undertake different activities and livelihood strategies involved to realize their desires. Their activities and strategies signify relative success that enables people to secure their livelihoods and wellbeing by combining and investing capital assets to reach positive adaptation to changes (Davies, 1996 cited in Start and Johnson, 2004). In addition, the accumulation of capital assets increases people’s abilities to reduce their vulnerabilities, especially on household basis, and to influence institutional structures and processes (Gordan, 1999; Carney, 1999; Nicol, 2000). However, capital assets do not directly generate livelihood strategies for communities in its capacities. The pointing arrow represents people’s capacities and the availability of resources which could shape their objectives, realize their livelihood needs and fashion their strategies to increase security. Access to assets is often influenced by the internal system and external forces (e.g. institutions and policies) of the “Transforming Structures and Processes”. Followings are the components of capital assets and their underlying indicators for analysis (Carney, 1998; DFID, 1999; Ellis, 2000; Markey, 2003; Carlos, 2004).

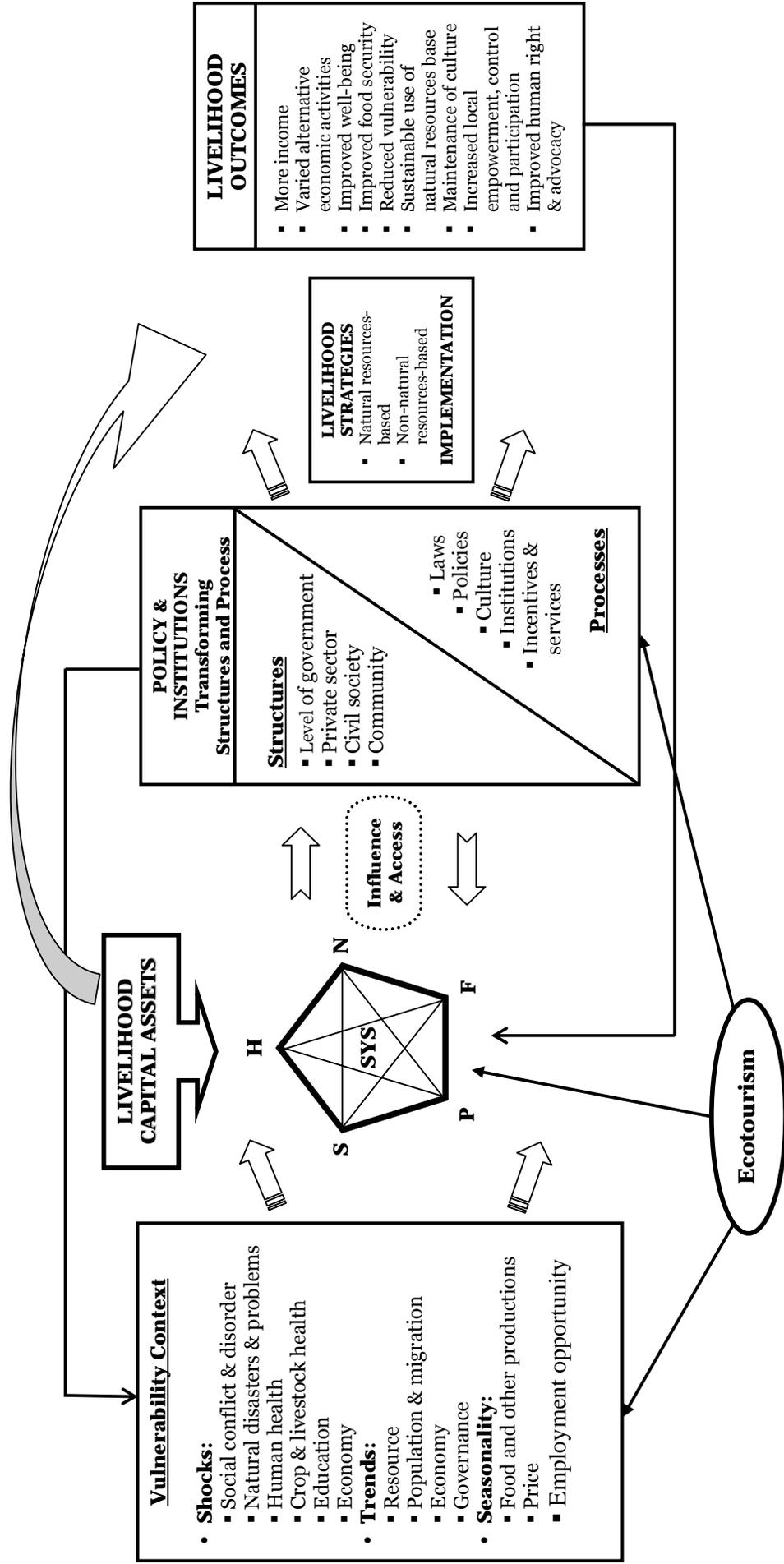
- Human capital: (Primary indicators) - skills, knowledge, ability to labor, health condition (Secondary indicators are needed to complete the analysis) - complex of local environment, sources of network of information access, social inclusion vs. exclusion, influence of knowledge managers on local knowledge, tradition of local innovation, and people’s awareness about their rights and policies;
- Social capital: social network, social norms, trust and relationship of trust, reciprocity and exchange of services, and membership of more formalized groups;

- Natural capital: (Primary indicators) – natural resources and biodiversity, living resources, and energy sources
(Secondary indicators are needed to complete the analysis) - relationship between natural capital and people’s vulnerability, and rules, laws or regulations for the management of natural capital;
- Physical capital: physical infrastructure (shelters and building, transport, water supply and sanitation, energy and access to information - communication); *and*
- Financial capital: Available stocks (i.e. savings, micro-credit programs), and regular inflows of money (i.e. income, pension, remittance).

It is important to ponder the “Transforming Structures and Processes” when analyzing the complexity of community system and livelihoods by using the SLF. Its core components, such as formal and informal institutions, organizations, policies and legislations, are powerful and have the capacities to shape or direct community livelihoods. They also affect how people access and use their assets to build their livelihood strategies. They function at multiple levels (from household to community, national, regional and global levels) with different momentums of power and effect. The access (i.e. to assets and sources of power, etc.), vulnerability, and terms of exchange and interaction between each element of asset base, and returns (economic and social) to livelihood strategies are usually influenced by these factors (DFID, 1999; Adato and Meinzen-Dick, 2002).

Livelihood outcomes present different types of impact of interest and have relationship with livelihood assets of communities and the local system. Outcomes, such as increased income and food security, improved wellbeing, reduced vulnerability, increased local empowerment and control, maintenance of cultural resources, and sustainable use of natural capital are determined by the success of local livelihood strategies. As community assets are prone to the influence of both internal and external environments, the feedback impacts of livelihood outcomes on asset base could help the locals to tackle their poverty and vulnerability.

Figure 3.1: Concept map of Sustainable Livelihood Framework (SLF)



Sources: Adapted from Carney (1998), DFID (1999), Gardon (1999), Ellis (2000), Adato & Meinzen-Dick (2002), Markey (2003), Start & Johnson (2004)
Legends: H = human capital, S = social capital, N = natural capital, F = financial capital, P = physical capital, SYS = system

3.2 Research Hypotheses and Approaches

In reference to Chapter 1 (Section 1.4 - Research Objectives and Activities), an attempt of the development to implement ecotourism initiative in BTC and SS core areas brings the author to specific research question for an in-depth investigation. In light of the original rationale and impetus, the core question for this study is: How could ecotourism be developed to contribute to community development and nature conservation in BTC and SS core areas of the Tonle Sap Biosphere Reserve?

To simplify the research approach to pull together different spectrums of information to answer this research question, the author assessed four underlying hypotheses. Each hypothesis entails different fundamental factors and indicators for concrete analysis. This section depicts concise and informative components which are associated with individual hypotheses in the following. The details of indicators and research methods to collect both secondary and primary data to address the research objectives and questions are mentioned in the next sections of this chapter.

Hypothesis 1: Ecotourism can be developed in BTC and SS core areas when it helps the local communities to address their livelihood issues and achieve their livelihood goals.

To assess this hypothesis, different sources of information are needed:

- ❖ Vulnerability context (i.e. livelihood shocks and stresses, trends, and seasonality) of the local communities in the areas considered;
- ❖ Livelihood capital assets (human, social, natural, financial and physical assets) of the local communities in BTC and SS; and
- ❖ Internal and external factors that influence local livelihoods and determine livelihood strategies of the people in the areas.

Hypothesis 2: Ecotourism can be developed in BTC and SS when the areas have the potential and opportunity to do so.

To assess this hypothesis, different sources of information are needed:

- ❖ Potential of the areas for ecotourism development (i.e. attractions, accessibility, amenities, and support policy and institution);
- ❖ Potential of demands for ecotourism development in BTC and SS (demands of tourists and private business sector); and
- ❖ Challenges for ecotourism development in BTC and SS.

Hypothesis 3: Positive ecotourism development in the context of BTC and SS core areas ensue when the local communities and concerned stakeholders are aware of the potential opportunities, challenges and risks and are motivated to collaborate and participate in the development.

To assess this hypothesis, different sources of information are needed:

- ❖ Perceptions and attitudes of the local communities and other concerned stakeholders towards ecotourism development in BTC and SS; and
- ❖ Perceptions of the local communities and other concerned stakeholders of possible ecotourism impacts (economic, socio-cultural and ecological).

Hypothesis 4: Ecotourism development in BTC and SS core areas is positive when it has the potential to contribute to natural resource management and conservation and community development in the areas.

The assessment of this hypothesis requires the synthesis of all necessary information applied to analyze the first three hypotheses. These facts are combined, assessed and discussed in order to find out the potential and limits of ecotourism as an integrated conservation and development tool in BTC and SS.

3.3 Research Design

Both qualitative and quantitative methods were used in the study. Yet, the focus was conferred to the implementation of qualitative inductive analytical approaches with a wide range of key informants, strategies of inquiry, and explicit and systematic steps in analysis. Relevant secondary data about socio-economic, demographic, geographical, hydrological, and natural conditions of TSBR core areas were used to analyze current planning, management policy, and project implementation of concerned government agencies and civil society. The primary data were collected through different methods. The qualitative methods involved group discussions and interviews with local elder people and patrons, semi-structured interviews with local households, in-depth interviews with local authorities and semi-governmental officers, expert interviews with senior government and NGO/development agencies' staffs, and participant observation. Quantitatively, formal interviews with potential tour operators and travel agents and contingent valuation methods (survey-based interviews with domestic and international tourists) were employed during the fieldwork period.

As mentioned earlier in Sections 1.4 and 3.2, this research involved critical investigations and analyses of both supply and demand sides. For the supply side study with regard to ecotourism development, two major steps were considered successively. By using the SLF for concrete analysis (see Section 3.1), the first step encapsulated two main aspects in research plans. These included: (1) vulnerability context of local communities and (2) existing capital assets and interaction between these capitals and their relationships with other external and internal factors which affect local livelihood activities and strategies and the management of natural resources. Based on the results from the analysis of community livelihoods, the second step focused its attention on the potentials of BTC and SS core areas for ecotourism development. Various aspects involved for the analysis were: 1) natural and cultural attractions of the areas; 2) tourism infrastructure and superstructure (services and amenities and facilities; 3) carrying capacity; 4) community's perceptions and stakeholders' attitudes towards ecotourism development in BTC and SS; and 5) other challenges (i.e. management structure, security, stakeholder partnership, etc.) which could hinder ecotourism process.

It is strongly required that the analysis of the demand side is incorporated into the feasibility study for tourism development (Guerrez, Lamoureux, Matus and Sebunya, 2005). Two main portions were encompassed as the heart of the assessment of the demand side. First was the investigation on market trends and demands of domestic and international tourists, comprising their profiles, awareness, perceptions, willingness to visit/ stay / pay, and their possible length of stay and expected tourism products (goods, services and facilities) delivery in TSBR core areas, especially BTC and SS. Second was the analysis on the demand of the private business sector (mainly tour operators and travel agencies) for ecotourism development in BTC and SS core areas. This entailed their motivations to carry out appropriate marketing and promotion strategies, to send tourists to visit BTC and SS, as well as to collaborate with local communities and contribute to ecotourism development at both sites. Their perceptions on benefits and challenges of ecotourism and measures to overcome difficulties for its development were included as well.

To develop ecotourism as a change agent in rural development in BTC and SS core areas in a sustainable manner was noticed as a challenge. Therefore, the possible effects of ecotourism on natural and human environments of the chosen core areas were also investigated. To achieve this critical and supplemental objective, an impact assessment of ecotourism was undertaken by considering different sequential scenarios of development and aspects of sustainability

(social, economic, environmental and institutional). Guiding principles for concerned key players for planning and management of ecotourism development in BTC and SS were done through the analysis of data obtained from the expert interviews and stakeholder analysis.

3.4 Research Tools

To design appropriate procedures for this study, the first nature of diverse methods which were considered as applicable for obtaining sufficient data for the entire research process was taken into account. These methods ranged from data collection to data processing, data analysis and interpretation. This research employed both qualitative and quantitative research methods. Several qualitative approaches were used to collect data from the supply side (communities and relevant developers and planners), while a quantitative approach was applied on the demand side (tourists and travel intermediaries). These approaches involved different human subjects, modes of inquiry, and many methods in analysis. Collins (1984), Decrop (1999), and Neuman (2003) indicated the strength and characteristics of qualitative methods when research was conducted in a natural setting where data were emergent rather than prefigured, and were reflective. From this perspective, both inductive and deductive reasoning processes were employed to understand and investigate the conditions in the study areas with their sensitive socio-economic and cultural contexts (Boas, 1943; Weber, 1978; Flatterman, 1989; Stanley & Wise, 1990; Yin, 1993; Sarantakos 1998; Burn, 2001; Creswell, 2003).

As Yin (1993) pointed out, qualitative data could represent perceptual and attitudinal dimensions, and real life events, and situations could be readily converted to numerical values. In addition, Finn, Elliot-White and Walton (2000) argued that qualitative ethnographic insights could help to comprehend, interpret and measure complex socio-cultural aspects of livelihoods and impacts of development from the host communities' perceptions. After field visits in BTC and SS, it became clear that the community livelihood system and social structure were definitely complicated, while the level of education of the locals was quite low. The majority of villagers were observed as having been suppressed and traumatized by the effects of a nearly three-decade civil war and by the political pressure, social intimidation, and complex power relation. Furthermore, the local rules and institutional influence that those who were seen with or approach to outsiders, especially researchers and journalists, would be spotted by the internal patrons or disallowed to access resources often panicked villagers to provide accurate information. These were considered as possible challenges to the collection of sufficient reliable and valid data to support causal arguments and increase plausibility for the explanation and interpretation of research results. These were also the reasons why qualitative approach was the most favorable tool for the study of the supply side (host communities) in BTC and SS core areas.

Both primary and secondary data were needed for analysis and interpretation. This contributed significantly to the effective use of a variety of data sources (data triangulation) in this study for concrete analysis of related subject matters (Decrop, 1999). Secondary data was used to identify the success and shortcomings of concerned government institutions' and NGOs' plans and implementation with regard to natural resources management and rural development. These data were collected from different sources, such as government documents (national strategies, socio-economic development plans, etc.), I/NGOs' and donors' reports, population census and statistics, research papers and theses, local and provincial authorities' documents and statistics, multi-sectoral documents and plans, materials provided at the workshops / meetings / conferences, and related documents / regulations / laws / master plans of concerned

ministries³⁰. Additionally, they were substantial to understand learned experiences and lessons in similar context to ecotourism development in protected areas. By doing so, effective and efficient development mechanisms of ecotourism were identified, and thus led to systematic approaches for stimulating rural livelihoods of the local communities and economy in BTC and SS.

To compile primary data, many methods were utilized and triangulated as follows:

Methods for Analyzing Vulnerability Context, Capital Assets and Their Interactions

The analysis process of vulnerability context, local livelihoods and strategies, local asset base, and their interactions with internal and external factors involved a combination and a triangulation of qualitative methods (see Section 3.1 for indicators). Decrop (1999, p.159) explained that “Method triangulation entails the use of multiple methods to study a single problem.” Those projective methods were Participatory Rural Appraisal (PRA), semi-structured interviews, and participant observation. The application of this approach was to reduce the limits and biases of each method and help to increase the credibility and dependability of data collected in the field. In addition, it helped to provide rich data and a comprehensive insight for analysis based on scientific rules.

PRA is an approach for a holistic analysis of local conditions and the formulation of problem-based strategies through active participation of local stakeholders (Carlos, 2004). By giving more freedom to local participants to express themselves, the study could make use of a range of visualization methods for group-based and individual-based analyses. These analyses enabled the study to deal with spatial and temporal aspects of social and environmental problems as well as with intensive sensitivity of community livelihood approaches. Frank Ellis, a well-known agro-economist and researcher, had proved the effectiveness of combining tools for PRA process to explore complex livelihoods, diversity and vulnerability and the influence of diverse levels of environment on rural people through his many studies in Africa (Murray, 2001). He clearly stated in his book on “Rural Livelihoods and Diversity in Developing Countries (2000)” about a variety of methods and the interdependency between PRA tools and the SLF analysis in rural context.

Based on a review on current PRA methods advocated by Frank Ellis and other scholars, four techniques were selected to support the analytical framework of community livelihoods in BTC and SS. There were: (1) transect walk or walk-about and cognitive mapping; (2) group meeting and discussion; (3) social mapping; and (4) VENN diagram. The first technique was used to identify socio-economic conditions, patterns of village settlement, community structure, and related geographical backgrounds of BTC and SS core areas. The second technique was run on an informal participatory base (Neuman, 2003) with local participants and discussants who represented different resource users and beneficiary groups. Noticeably, the criteria for selecting focus group discussants were principally based on: (a) variety of age and gender; (b) variety of occupation; (c) variety of length of stay in the village; (d) time availability; and, (e) variety of knowledge and ability in inter-disciplinary fields. It allowed all selected villagers to interact actively in discussing, specifying and reasoning their livelihood stresses, status of their capital assets, the effects of internal (i.e. resource availability and access, social system and norms, etc.) and external (i.e. policies, institutions and processes) environments on their

³⁰ These ministries include: MoE; MAFF; CNMC; Mekong River Commission (MRC); Ministry of Education, Youth and Sport (MoEYS); Ministry of Rural Development (MRD); Ministry of Women Affairs and Veterans (MWAV); and Ministry of Land Management, Urbanization and Construction (MLMUC), etc.

livelihood options and the solutions (Weber and Ison, 1995). The third technique was done with the locals to draw contextual social and historical backgrounds (past and present) and to envisage the possibility of their communities with regard to livelihood problems, social and environmental evolutions, and the management of natural resources in their areas. The last technique was carried out to identify the social complexity of local communities in BTC and SS. It was also useful for portraying the power relation and communication between elements of the local system (villagers and their organizations and local authorities) and the executing civil society, government and development agencies based on different levels of influence and accessibility.

Semi-structured interviews were conducted with local households with a fairly open framework and atmosphere which allowed for focused, conversational, and two-way communication between interviewers and selected household representatives. This tool was used to obtain both general and specific qualitative and quantitative data relevant to specific issues (FAO, 1990; Hesse-Biber, 2006) from local households. On its basis, the main elements of local assets and their interactions, species and habitats, threats and opportunities, community behaviors/attitudes and perceptions and their suggestions for the development and conservation in BTC and SS were discovered through this tool. To accommodate it, a set of questionnaires (see Appendices) consisting of key and sub inquiries, was properly designed to balance between open-ended and focused interviewing. Rather than being structured, the household respondents were allowed to ask questions and discuss sensitive issues with the interviewers in a free environment. While being interviewed, other members of the household (i.e. spouse, children, and relatives, etc.) were also enthusiastic and cooperative to help the respondents answer the questions correctly. This was relatively useful for optimizing the strengths of answers and the reliability of data from household interviews.

As mentioned by Neuman (2003, p.381), a great deal of what researchers should do in the field is to pay attention, watch, and listen carefully apart from their interviewing tasks. Bernard (1995, cited in Minda, 2004) also argued that many social research problems might not be addressed properly and insufficiently unless participation observation was considered. This tool was applied to observe and assess the village characteristics and physical surroundings, daily life, social relationship and structure, modes of resource access and use and competition, and the context in which events occurred in BTC and SS. Being a complementary approach, it was intentionally used to help verify or triangulate the quality of information obtained from PRA and semi-structured interviews.

Methods for Analyzing Potentials and Challenges for Ecotourism and Its Impacts

To develop ecotourism in BTC and SS core areas, both potentials and challenges and other related features need to be discovered properly (see Sections 1.4 and 3.3). Potentials refer to ecotourism resources consisting of natural and cultural assets with different characteristics and other supporting components (accessibility, amenity, facilities and infrastructure) which are important to operate ecotourism and cause it to move and grow. The reviews of previous studies provided evidence that ecotourism resources should consider the followings:

Attractions

- Sites associated with eye-catching geographical landscape and natural features – fauna and flora – preserved within a protected areas or biosphere reserve, and have less built landscape;
- Heritage attractions including landscapes and natural systems (i.e. wetlands, waterfalls and watersheds, waterways or watercourses, coastal zones, coral reefs, wildlife areas, etc.); *and*

- Cultural affinities such as cultural centers, monuments, historic gardens and landscapes, historic villages, festival and cultural events, farm attractions, language, types of local architecture and craftsmanship, local gastronomy, etc.

Accessibility

- Transport means that are environmental friendly to the area of ecotourism development.

Amenities, Facilities and Infrastructure

- Pleasant and adequate services offered by tourism industry in terms of facilitation and local communities on small-scale basis that provide convenience and comfort to tourists to obtain high natural and cultural experience and direct interaction with the locals; *and*
- Supported infrastructure and superstructure which are relevant to the local environment.

Source: Ziffer (1989), Ceballos-Lascurain (1991), Young (1992), Wight (1993), Wallace & Pierce (1996), and Bjök (1995, 2000)

In-depth interviews were used to obtain data from executing DoE-PIU and DoF-PIU staffs and local communities (see Section 3.6) on potentials and challenges for ecotourism development in BTC and SS. A concrete questionnaire with a set of key questions (see Appendices) was designed and pre-tested prior to the actual interviews. However, in some cases, rather than presenting them, questions were committed to the memory by the researcher in order to behave informally with local respondents while digging out factual data from their critical views. This technique was used with sensitive topics of investigation or when respondents felt uncomfortable to answer; also, observation was added to as a triangulated approach to collect data and verify the behavioral change of respondents.

Future Possible Scenario (FPS), through participatory discussion, was used to explore the potentials, inclination or movement and consequences of current development plans and ecotourism initiative. FPS was regarded as a strategy analysis tool of growing complex, uncertain, dynamic possible outcomes of development which creates a form of imagination of various possibilities of the future by incorporating different combinations of facts, trends and assumptions (Carlos, 2004). This was done to investigate communities' perceptions on their resources, the management of BTC and SS, as well as on ecotourism development and its possible impacts on natural resource management / conservation and their livelihoods. Its process was integrated as a part of the group meeting and discussion techniques (see methods for vulnerability and livelihood analysis) as it involved informal debates and participatory interactions between different groups of ideas. The design and construction of FPS were based upon a consideration of SWOT analysis of TSBR core areas. This analysis was employed to analyze the underlying constituents thoroughly and chronologically in order to understand the full context of internality and externality of the areas.

To identify projected ecotourism impacts, four different approaches were used in this study. The first three approaches were considered as an integrated element of the meeting / discussion, semi-structured interview and in-depth interview tools. They were included in those tools in order to get different viewpoints of the effects of ecotourism development from local stakeholders (local folks and authorities and responsible government staffs in charge of BTC and SS management). However, the last approach was Impact Assessment (IA). It was considered as a vital base of strategic consideration upon ecotourism development, was carried out with senior government officers and consultants, advisors and experts of concerned I/NGOs, development and donor agencies. As a part of Environmental Impact Assessment (EIA), this tool did not go as far as planning and development assessment stages and was undertaken to:

- (1) identify potential social, economic and ecological impacts and risks with regard to ecotourism development;
- (2) scrutinize the significance of environmental implication;
- (3) determine preventive and corrective mitigating measures if ecotourism is going to be developed in the two hotspots;
- (4) inform stakeholders of ecotourism in TSBR core areas about these environmental implications; *and*
- (5) suggest whether ecotourism should be developed in the TSBR core areas for the conservation of natural environment and improvement of the quality of life of the locals.

According to Lohani, Evans, Everitt, Ludwig, Carpenter & Tu (1997) and Carlos (2004), the process and scope of EIA encompass eight major standard factors – transparency, certainty, participation, practicability, flexibility, cost-effectiveness, credibility, and accountability. To implement IA correctly, a wide range of reliable information collected from the fieldwork was used in combination with results of documentary reviews (i.e. theories, concepts and impacts of ecotourism) in protected areas (see questionnaires for expert interviews). This was done to define specific indicators of possible ecotourism impacts in BTC and SS core areas for expert interviews.

Methods for Analyzing Demands for Ecotourism Development in BTC and SS

The analysis of demands for ecotourism development for this study is divided into two separate parts: (1) tourist demands and (2) demands of private business sector. Tourist demands focuses on demands of both domestic and international tourists who represent the potential guest community that would affect the types of ecotourism products (goods, services and programs, and facilities) and the trends and success of ecotourism development in BTC and SS. In contrast, the demands of private business sector entails only demands of the travel intermediaries, mainly travel agents and tour operators, whose interests, experience, collaboration, and facilitation would affect the operation of ecotourism services provided by local communities and local industries.

Quantitative research technique, which involved mainly Contingent Valuation (CV), was used to collect data from domestic and international tourists. The CV, a survey-based interview method, was used with distinctive hypothetical stances to deal with tourists. The reason for this application was to enumerate their awareness, perceptions, and willing related to ecotourism business in BTC and SS. However, other substantial indicators were also combined in the questionnaires for measurement in an attempt to reveal a complete dimension of study on tourist demands. Those indicators were: visitor profiles; visitor distribution and travel patterns; information access; tourist trip preference; tourist characteristics and spending patterns; tourists' awareness, experience and interest; tourists' preferred activities; tourists' perceptions and attitudes towards ecotourism development in BTC and SS; tourists' willingness to pay; average length of stay of tourist visitation; expected mode of tourist visit; and, expected service and product delivery. According to Linberg (1991) and Gregersn (1996), CV³¹ is regarded by tourism manager, developers and consumer service administrators as a statistically effective and useful quantitative research tool. It could help them to determine the innate awareness, outlook and judgment of tourists as consumers of tourism products at a particular destination with regard to the entrance fee classification, motivation or willingness to pay, administrative performance and service delivery, probability of return visit, etc.

³¹ This method would be more effective if it was applied with the Client Evaluation method. However, since BTC and SS core areas are emerging ecotourism sites which need to be studied thoroughly in terms of feasibility and tourist visits are very transitional, CE is impossible to be used.

To measure demands of the private business, Cambodian tour operators (TO) and travel agents (TA) were selected for formal or structured interviews based on the size, nature and experience of their businesses. Various parameters were developed to measure the demands of this stakeholder of ecotourism industry. They were: their knowledge and interest in ecotourism; their experience in bringing tourists to TSBR core areas; their perceptions on potentials and challenges for ecotourism development in TSBR core areas; their interest in bringing tourists to BTC and SS in specific context; their perceptions on possible impacts of ecotourism in TSBR core areas; their perceived constraints for package tour arrangement and tourist visitation in TSBR core areas; and their perceived possible economic activities and businesses of local ecotourism industry in TSBR core areas. Other related factors, such as main and subsidiary services, patterns of guiding services, contribution in conservation and impact management, and suggestions for sustainable ecotourism development in TSBR core areas were included in the self-administered questionnaire interviews with selected Cambodian TO and TA as well.

Methods for Measuring Ecotourism Development Opportunity in BTC and SS

There are many factors which affect the development and management of an ecotourism destination where ecotourism is used to address conservation and livelihood issues. These factors are created within the system of ecotourism industry that consists of different stakeholders and attributes for its operation. Based on conceptual approaches, this study employed the Ecotourism Opportunity Spectrum (ECOS) model to analyze related factors that define the readiness or opportunity to develop ecotourism and use it as an integrated conservation and development tool in BTC and SS. The ECOS model was developed to analyze the factors that affect and imply multi-stakeholder collaboration in managing an area as an ecotourism site, and then provide a speculative management approach for that area (Boyd and Bulter, 1996). It was presented and suggested by the UNESCAP at the Seminar on Sustainable Development of Ecotourism in Pacific Island Countries in 2001 as a tool for analysis of ecotourism opportunity prior to its development. Nine important factors to ecotourism were used for the analysis (Boyd and Bulter, 1996; Fagence, 2001), namely:

- *Attraction* types of ecotourism experiences that BTC and SS may offer;
- *Relationship* between ecotourism and other potential uses of the same resources in BTC and SS based on complementary, compatibility, integration and competition;
- *Infrastructure* existence and relevance of existing infrastructure and facility and other support services for ecotourism development in BTC and SS;
- *Accessibility* the level of difficulty in traveling to BTC and SS;
- *User prerequisite* level of skill, knowledge, and experience of local communities and responsible government staffs in BTC and SS;
- *Social interaction* attitudes of local communities in BTC and SS towards ecotourism and tourist arrivals and perceptions of tourists on possible interaction with the host community
- *Tourist demands/impacts* tourist demands for ecotourism development and visits in BTC and SS and possible consequences of their access
- *Private sector interest* interest of travel intermediaries (tour operators and travel agents) in bringing tourists to BTC and SS and in collaborating with local communities
- *Management* Stakeholder partnership, collaboration and participation and decision process

Methods for Identifying Guiding Principles for Concerned Stakeholders for Planning and Management of Ecotourism in BTC and SS

The development of guiding principles for management and sustainable development of ecotourism is a complex process which consists of many interacting factors. To achieve this objective, it is necessary that the participation of all concerned stakeholders is ensured. These stakeholders include all members of society and ecotourism industry, namely government bodies, private sector (private businesses and consumers), and civil society and people. In-depth (expert) interviews were conducted with key informants from various backgrounds. These respondents were believed to have appropriate knowledge about development, planning, agriculture, environment and tourism. Social, economic, and environmental indicators of possible ecotourism impacts in BTC and SS were illustrated as one of the major parts of the questionnaires for expert interviews. The Likert Scale Analysis was used to facilitate expert respondents in selecting and scaling the levels of impact defined for each indicator in the list (see Appendices). The value of measurement was defined by number from “1” to “5”, representing a range from the lowest quantity of impact to the highest quantity of impact.

As a part of the method triangulation, other approaches were also integrated and used with other types of respondents. Some questions related to respondents’ suggestions for sustainable ecotourism development, community livelihood improvement and biodiversity conservation in BTC and SS were also included in semi-structured and in-dept interviews respectively with local households and executing staffs and local authorities. The integration of these inquiries was also done at the end of the group meetings and discussions with selected local residents of BTC and SS core areas. This technique was considered useful in combining different perspectives for identifying multi-dimensional and multi-sectoral guidelines for sustainable ecotourism operation, as well as conservation and development in the areas considered as a whole.

3.5 Tactical Stages in Data Collection

This study embodied different methods for data collection. To reach the objectives, the process was divided into *three major phases*. These sequential phases provided the better chance to have in-depth investigation, holistic views, and logical comparison.

The preliminary phase was conducted as *a pilot phase* in both BTC and SS core areas, where civil society and various international organizations are carrying out some micro and macro projects. These projects include: (a)³² strengthening natural resource management in the TSBR; (b)³³ organizing communities for natural resource management; (c)³⁴ building management capacity of biodiversity conservation; (d) infrastructural and social public services; (e) water quality improvement; and, (f) community empowerment and decentralization. In this step, the research focus was also on some potential touristic areas, such as Siem Reap province and Phnom Penh city, in order to study about the demand side on the ecotourism market in Cambodia, and in the TSBR core areas in particular. With a systematic framework, this pilot step was carried out by applying and testing necessary research tools to work with local communities and other related groups, who were the key informants or respondents of the

³² Component 1 of the TSEMP Projects, comprising of (1) establishment of coordination framework and information dissemination mechanism, (2) map design for the TSBR, and (3) improvement of regulations and management planning.

³³ Component 2 of the TSEMP Projects, comprising of (1) formulation of implementation structure, (2) community empowerment, and (3) technical packages evaluation for sustainable livelihoods.

³⁴ Component 3 of the TSEMP Projects, comprising of (1) capacity building for management of biodiversity in TSBR core areas, (2) systems for monitoring and management of biodiversity resources, and (3) awareness, education and outreach programs.

study. Through this phase of the fieldwork, necessary baseline information was collected over different space and time. Working on the basis of concrete and funneling inductive approach, researcher was able to measure the effectiveness and convenience of research designs and selected instruments in data collection. Furthermore, the fieldwork arrangement and complexity of the site (i.e. social dealings, cultural patterns of communication, field entry protocols, etc.) were clearly projected or discovered. Therefore, appropriate behaviors, procedures and research techniques to apply in the plenary steps were found out. At the end of this initial stage of the fieldwork, representatives of relevant government institutions and I/NGOs, experts and academics were asked to provide their experiences, lessons learned and best practices related to rural development and natural resource management of the TSBR. At the meetings, preliminary results were used for the discussions in order to find out the reliability, validity, relevancy and originality of the research as well as to know what had been done or are going to do in the future. Such meetings also gave constructive feedbacks or critiques to ascertain the research nucleus, and to adjust strategies for next phases of the fieldwork.

All steps and successful methods discovered and readjusted in the pilot phase were pursued in the second phase, which was the explicit research fieldwork. The scope of the study focus on a range of analyses on multi stakeholders of ecotourism development, geography of BTC and SS (flooded areas) the and the time constraint required additional help from other parties to accelerate and finish the fieldwork successfully. This research involved 15 undergraduate students in tourism management, Department of Tourism, Royal University of Phnom Penh, Cambodia. This phase began with field visit and in-depth interviews with local communities and their authorities and executing government staffs in the areas. This process was done only by the researcher³⁵. To collect data from local households, five students were selected and trained as interview assistants and facilitators for group meetings and discussions and household surveys. The selection was based on their commitment, knowledge and experience in social research with other lecturers in the department. During the training, they were informed about the purposes and nature of the research and taught how to observe, select, behave with and interview representatives of local households. After receiving official permission for the fieldwork and being familiarized with the context of study, they were brought to the field to carry out their assigned works. Normally, semi-structured household interviews were conducted in the villages of BTC and SS core areas after groups meetings and discussions. The researcher regularly monitored and evaluated the tasks performed by interview assistants, while at the same time observing other contexts and occurrences of events in the field. The group met two times per day to discuss about all difficulties in getting access to and in interviewing local respondents, as well as to strategize interview techniques to increase the reliability and validity of data. In the evening, the group verified the interview results and recorded extra data from observation and the answers of local respondents which were not included in the questionnaires. This process was carried out from one village to another and from BTC communities to SS communities. After the success of this fieldwork, the researcher and interview assistants discussed and worked on coding, familiarizing, categorizing and processing data into computer programs.

As planned, the formal interviews with Cambodian tour operators / travel agents and the questionnaire surveys with tourists were done after the completion of data collection in BTC and SS. Different to informal interviews, which were done only by the researcher, the surveys were carried out with the assistance of 10 tourism students. These students were explained

³⁵ The author would like to call himself as “researcher” in this context.

about the aim of the work and each structured question in the list. Five of them were assigned to interview domestic tourists, while another five were asked to work with international tourists. Usually, the researcher went to the selected tourist sites with each group in order to help assist and monitor them, while at the same time the researcher was also involved in the interview process. Sooner after returning from the fields, some of them were trained and guided to process data into computer by using a statistical program (SPSS). Expert interviews were conducted by the researcher at the end of the second step of the fieldwork. However, apart from sequential plans for data collection, other tasks and some repeated interviews were also taken place in between depending on time availability and consent from selected key informants upon appointments for interview. Those activities included participation in relevant seminars, conferences and meetings and traveling to BTC and SS core areas from time to time.

The third phase involved profound analysis of the two core areas in comparison to the best practices and experiences of other community-based ecotourism projects in Cambodia and in other countries of similar context. Accordingly, systematic and pragmatic guiding principles for development and management of ecotourism in TSBR core areas were formulated.

3.6 Sample Size and Sampling Frame

As the nature of research was mainly based on modified analytic induction approach with holistic perspectives, the selection of sample size did not concentrate much on number. It stressed the quality of respondents / informants or discussants and their potential know-how to answer the questions and provide rich and relevant information for analysis and interpretation. The selected sampling techniques were *snowball*, *purposive*, *convenience*, and *non-proportionate stratification* samplings.

The first two sampling techniques were used to identify respondents for qualitative interviews and discussions. Flick (1998), Finn (2000) and Neuman (2003) argued that these non-probability sampling techniques are useful to identify the relevance to the focus of study rather than the representativeness of the population. A deep understanding and explanation of social life through the selection of right samples, units, activities or events is the main concern of qualitative researchers (Neuman, 2003; Hesse-Biber, 2006). Researcher decided to select different cases (samples) step by step, with different specific subject matters of cases determining whether respondents (at individual, group and sub-group levels) were correctly chosen. These techniques were considered appropriate for complex situations of BTC and SS core areas. While snowball sampling was used to deal with special inter-connected networks of local communities and organizations involved in the management of the areas through sequential open referrals, purposive sampling worked well in selecting unique and particular cases for in-depth investigation.

These techniques were used to identify 49 participants (7 persons per each village) from 7 selected villages of the two communes for group meetings and interviews. In BTC core area, Peam Bang commune, Stoung district, three villages were chosen for the study: *Peam Bang*, *Daun Sdeung*, and *Pov Veuy*. In SS core area, Phat Sanday commune, Kampong Svay district, researcher selected four villages: *Phat Sanday*, *Kampong Chamlong*, *Neang Sav*, and *Tourl Neang Sav*. The selection of these villages was based on three major criteria: locations, characteristics, and socio-demographic and economic backgrounds of the places. Moreover, snowball and purposive techniques provided researcher a wide range of information to build close rapport with local communities and authorities and to correctly select 120 household (hh) representatives for semi-structured interviews. In the first phase of fieldwork, only 30

households were interviewed, while the remainders were questioned in the second phase (see Section 3.5). With an estimated population of 1123 households in these villages, this number represented 10.68% of the total households in the areas. The sampling frames for household interviews were those representing small-scale (subsistence or family scale) fishermen, medium and large scale (commercial) fishermen, and those directly and indirectly involved community development activities. Other characteristics of households (i.e. male or female-headed) were also considered for the selection. According to CCF (1999) and Seak, Mak, Ham and Rath (2005), the condition of accessibility, duration of operation, fishing grounds and fishing gears of the three types of fishermen are different. Small scale fishermen are allowed to fish everywhere (common access areas) except in the fishing lots and conservation areas all the year round by using small scale fishing gears (i.e. bamboo trap, gill net, scooping net, etc.). The medium scale fishermen are allowed to operate through a license from 1st October to 31st May for the fishing grounds located north of Phnom Penh (i.e. Tonle Sap Lake), and normally they fish in the public fisheries domain, meaning areas outside the fishing lots, fish sanctuaries and protected inundated forests. The large scale fishermen are lot owners who are leased out through an auction for operating from 1st October to 31 May within the designated fishing lot by using barrage, bamboo fence, long bamboo fence arrow shape, pumping fishing ground and other gears and methods for fish harvest.

30 informants were chosen purposively for in-depth interviews (*22 locals with a variety of occupations and length of stay in the village, 4 PIU rangers, 4 fishing lot / fishpond / creek owners*) about potentials and impacts of ecotourism development. Out of the total, 9 of them were village and commune chiefs and 4 were community chiefs (Community Fisheries and Community Protected Areas). In addition, 20 senior representatives of government and semi-governmental bodies, civil society and development agencies (including donors), and academic institutions were selected for expert interviews. These institutions included: Project Implementation Offices of DoE-MoE and DoF-MAFF; Provincial Departments of Environment, Fishery, Education, Tourism, Women Affairs and Veterans; Department of Pedagogical Researcher of MoEYS; TSEMP-ADB; TSCP-UNDP-GEF; UNDP-SGP; FAO; IUCN; WCS; UNESCO; LLEE; SNV; BPAMP-MoE; GTZ-Cambodia; RUPP; and some other local-owned NGOs. Each senior representative was targeted purposively. They were interviewed about their interventions, development best practices, project successes and failures, and their perceptions of SWOT and guiding principles for planning and management of ecotourism in BTC and SS core areas.

To design sound guiding principles, data from content analysis, group meetings and discussions, semi-structured (household) interviews, surveys, formal (with Tour Operators) and expert interviews were combined together. This data triangulation method enabled the study to optimize thoughts of concerned stakeholders in order to set up appropriate guidelines for planning and management of ecotourism in BTC and SS.

Convenience technique was first employed for selecting 10 tourists at 5 nature-based or ecotourism sites in Cambodia (2 at each site) for semi-structured interviews. These interviews were undertaken in order to collect related information about tourist demands, which helped to design effective questionnaires for the tourist survey. Non-proportionate stratification sampling was used to single out 150 domestic tourists and 150 international tourists for the questionnaire survey with domestic and international tourists at two major sites in Siem Reap and Kampong Speu provinces. This survey followed the criteria of the Contingent Valuation methods (*please refer to 3.2*). To assess the potential of demand for ecotourism in TSB core areas, it was also necessary that demands and opinions of the private business sector were considered. Therefore,

researcher conducted formal or structured interviews with 15 representatives of Cambodian tour operators and travel agencies considered as potential intermediaries providing ecotourism package tours to international markets.

3.7 Resources and Research materials

Various resources and materials used for data collection throughout the fieldwork were:

<i>Description:</i>	<i>Types:</i>	<i>Purposes:</i>
Secondary data	Material	Reviewing activities, plans, laws, development policies and frameworks of concerned government, I/NGOs and development and donor agencies; compiling statistics and other relevant information about the characteristics and management of TSBR core areas and previous research findings related to the subject matters of the study
Maps of the areas	Material	Identifying general and specific locations of BTC and SS and the village and commune settlements in the areas; illustrating land use planning and features of the areas; spotting the maps drawn during the field visit and cognitive mapping process with support from local elders in order to characterize the areas of investigation and select appropriate locations and respondents for group discussions and interviews
Name cards	Material	Snowballing local interviewees and identifying relationships between those who suggested the next persons for the interviews and the recommended persons in order to reduce biases
Questionnaires	Material	Directing and supporting the processes of semi-structured, in-depth, informal and expert interviews and quantitative surveys with a range of selected informants
Discussion toolkits	Material	Supporting the process of group meetings and discussions with representatives of local villagers
Voice recorder and notebook	Material	Recording verbal responses of interviewees during the fieldwork (voice recorder was used only with permission of interviewees)
Digital camera and camcorder	Material	Documenting events, pictures, resources and activities during the fieldwork
Local instructors	Resource	Identifying local respondents and participants for the interviews and discussion processes under recommendations of village and commune chiefs and chiefs of community organizations (i.e. CF, CPA)
Local assistants	Resource	Facilitating the communication with local villagers; guiding and rowing/driving (motor) boats for the researcher and his group
Facilitators and Interview assistants	Resource	Facilitating group meetings and discussions and helping to interview local households

3.8 Research Situation

Due to the nature of investigation approaches and geography of the areas (floating communes), researcher and his interview assistants and group discussion facilitators had to stay longer in the villages while working with local respondents. The process of data collection and the amount of time spent in the field varied in accordance with the situation and availability of the respondents. It was necessary that the research group had to present itself to the provincial and local authorities, including village and commune chiefs and responsible government officers, prior to the field entry. In general, conducting sensitive research with rural poor in Cambodia would not be possible without getting approvals from a range of liable institutions. Therefore, the responsible researcher had to show his affiliation and contact concerned governmental and semi-governmental institutions (MoE, MAFF, Provincial DoE and DoF, Provincial Bureau and

District Offices, etc.) to get letters of approval (field entry protocols). With these letters to show to the commune and village chiefs, local organizations and executing PIU staffs, the fieldwork was endorsed to commence in the areas of their administrations. Working with rural people in Cambodian government-controlled protected areas is a big challenge. This is because the data could be skewed and unreliable if the researcher quickly collects them without having good understanding of the feeling, attitude and sensitivity of the locals and their patrons. Therefore, at first, the researcher and his team had to spend time in the villages until good rapport and trust were built before starting the work. They had to be flexible and patient to work with local people.

The interviews were based on prior appointment. Prior appointments were made before the interviews took place with local authorities and responsible government officials in the areas, because sometimes they were busy and often out of their offices and houses. As the interviews were time consuming, the interviewees had to be free and well-informed in advance. Most of the respondents preferred to be interviewed at home, so that they could speak freely on behalf of private and public interests. Appointments with government and NGO staffs had to be made two to three weeks before the interviews started. Sometimes, they had to be interviewed at the meetings, conferences, workshops or public forums, regardless of place and time. Convenient interviews (access respondents in any manner that is suitable) were done with local communities (villagers and representatives of community organizations), so that they could not prepare or compare their answers with previous respondents. It was common that family members of the respondents or close neighbors were present at the time of the interviews.

The interviews with representatives of local communities and authorities were conducted at respondents' houses and floating schools, shops, offices, and the pagoda (only Pov Veuy pagoda in Peam Bang commune). Sometimes, they were done in the fishing lots (with representatives or owners of the lots) and in the flooded forests with local villagers (when they were fishing, hunting or collecting NTFPs). Each interview took about 60 to 90 minutes. Some interviews took about two hours because respondents were interrupted by their family and business affairs. However, the researcher and his group could deal with this problem properly since he tried to make all the interviews with the locals informal and relaxed in order to make them comfortable and talk freely. Helping them with or participating in their usual activities was noticed as one of the most effective strategies to approach the right persons and to build trust with local respondents. This social relation approach was applied with each new respondent or member of the local society until a stable relationship developed to gain access, develop trust, obtain information and reduce hostile reactions from local communities. The researcher adapted existing role strategy (Neuman, 2003) to deal with different types and sexes of respondents (elder people, deviant groups or elites, young adults, etc.). This strategy enabled the researcher to access respondents and move freely to observe and interact with them. The researcher retained two attitudes in the field to gain reliable data and understand the contexts and occurrences of events and information through friendly social interaction with local folks. These were: (1) avoid showing that he and his research team were active information seekers who would obstruct the locals to reveal sensitive information (i.e. corruption, intimidation, illegal fishing, etc.) and (2) try to value respondents' knowledge, experience and ideas and be a good listener.

The interviews with local communities were done only in the morning and at noon. Since most of the key respondents had to prepare their fish traps at night and came back in early in the morning, interviews had to adapt this timeframe. Generally, interviews were conducted from 9:00 AM to 11:00 or 12:00 AM. Only until local respondents got up from their naps after lunch,

researcher could continue his work until 5:00 PM. Before doing interviews, the researcher explained respondents the purposes of the interviews and his status as a research student. Besides, other interview ethics were also followed. For instance, the information that was sensitive or likely to be harmful to respondents was kept confidentially. The respondents were treated as coworkers or partners of the researcher.

A number of seasonal in-migrants (SIM) in BTC and SS and the authorities (village and commune chiefs) of the regions from where the migrants come (i.e. village and commune chiefs of Chamnar Leu and Chamnar Krom, Chhikreang District, etc.) were also interviewed in this study. The SIM were interviewed and observed in their potential settlements in BTC and SS core areas, some of which were in the inundated forests. Normally, the SIM were afraid of local authorities, project implementation staffs and strangers because most of them undertook illegal activities, either with their teams or with fishing lot / fishpond / creek owners. This made them hesitate to provide correct information at first. Therefore, the presence of the researcher was avoided to be formal, and researcher had to spend time to create friendly atmosphere with them until he could become a *passive observer*³⁶ in the field. To understand the backgrounds and livelihoods of the SIM, which triggered an increasing trend of migration into BTC and SS core areas, the researcher had to interview some SIM's families left behind and their local authorities. The distance between the migration home regions and BTC and SS core areas are 40 to 70 km. Informal interviews with these informants were done at their houses.

3.9 Research Constraints

Despite well-planned research process, the researcher encountered a number of constraints during his fieldwork. First, the geographical location of BTC and SS core areas which are located in the only floating communes of Kampong Thom province, Peam Bang and Phat Sanday, hindered the researcher from getting access to local respondents easily. Means of access inside or between villages was done with rowing boat or motorized boat transport. This difficulty disallowed the researcher to carry out and finish his interview plans quickly and build close rapport with community members promptly over a short period of time. In addition, it was also difficult for him to identify right persons for the interviews and group discussions. Therefore, the researcher had to stay in the field longer in order to deal with these problems. Noticeably, the physical landscape and settlement pattern are varied in accordance with the season and volume of the water (seasonally fluctuating). In water recession season, it is possible to walk on dry lands in some parts of each village. It was the time that interviews and discussions could do easily because villagers came from everywhere (in high flooded season local houses are scattered all around the lake and tied with tall flooded trees to protect villagers against storms) to settle on a plot of land. Yet, it was also a time when the researcher team was prone to seasonal fever, waterborne diseases, malaria and dengue fever. In high flood or rainy season, the working atmosphere and living environment were much better, but it was difficult to approach local interviewees and gather them for group discussions. Most of local inhabitants were living close to deep flooded forests, scattering disorderly everywhere on the lake to prevent themselves from heavy rainstorms, current and whirlpool. It was known as the most difficult period to map out village settlement in BTC and SS core areas. However, the researcher had to conduct interviews and observation in both seasons since the context of vulnerability, socio-economic activities of local fishing communities and natural resource access and consumption were seasonally diverse.

³⁶ A 'passive observer' refers to an observer who does not need to ask what respondents or people mention since s/he could identify sensitive activities by forming appropriate interaction in the field to reveal specific information (Neuman, 2003:373).

The second obstacle was related to political pressure. The fieldwork was done before the commune election took place. It is the second largest democratic election which is normally done in every four years prior to the national election. Due to the political menace and chronic psychological trauma amongst the locals after decades of civil war, the researcher found it difficult to approach key respondents and encourage them to speak and discuss freely. In the beginning, the researcher had been regarded by local authorities as a political activist of the opposition party, a journalist or an NGO partisan who came to investigate the real living situation of the people in order to defame the government. Rather than being accepted as a scientific investigator, the researcher had been inspected by local patrons, military polices, armed government officers in charge of the management of the areas, and local authorities for several times. At first, these groups emphatically impeded local key respondents, including their teams, to have free contact with the researcher and to provide correct information. Many respondents, especially village and commune chiefs and representatives of the executing agencies, tried to escape when they were informed that the researcher was coming into the areas. The message about his trip was dispatched by provincial departments and district offices, where the researcher asked to authorize his work, or by Vietnamese fishermen and fish traders at the boat ports from where he had to take a speed boat to the field. This happened for several weeks until the researcher could gain trust from these groups. However, this situation still debilitated the strength of research plans, public meetings (i.e. group discussions and interviews), and free expression of the locals in some way.

Third, the security was a constraint for collecting reliable data because the research team did not feel safe to explore the far-flung part of the communities for ideal cognitive mapping and free interviews. Some informants felt uncomfortable to meet the researcher or to join the group discussions for they were busy with their daily fishing activities. Some others were afraid that their families and businesses would face problems after meeting the researcher, particularly after he had left the places. Even though some local respondents were encouraged to talk with the promise of a confidential report, they were still reluctant and did not dare to manifest what they knew. This frequently occurred when they were asked about sensitive topics related to illegal activities, destruction of natural resources, and management of the government sector, local authorities and elite groups. As a matter of fact, the management of BTC and SS core areas resembled a leadership of close system communities dominated by different groups of power. It was generally observed that if people did not follow the dogmatic informal rules of the patrons (i.e. fishing/fishpond/creek owners, authorities and military police) and government officers, they would be kicked out of the group. Accordingly, their fishing activities (either legal or illegal), access to resources, freedoms and rights would be restricted as sometimes they were accused as supporters of the opposition party.

Fourth, the researcher had to pay much attention to the problem of exaggeration. This issue was the most critical problem that the researcher tried to apply all feasible and flexible solutions to avoid collecting unreliable and invalid data. Obviously, the researcher noticed three points which led to exaggeration. The first point related to the attitudes and culture of some locals in BTC and SS in providing information about their living conditions to outside interviewers. These respondents could be divided into two groups. One group consisted of those who did not want to reveal the truth for they were afraid of losing benefits from fishing. Another group included poor people who tried to complain about their vulnerabilities, social intimidation and inequality to the researcher in an attempt to make outsiders know about their problems. This group expected that the researcher could give some contribution or could find potential benefactors to help them. The second point related to the recriminations of one institution

against others. This often happened between responsible government agencies which only attempted to vaunt their achievements and good performances, while at the same time casted aspersions on other institutions. The third point was a problem with the identification of respondents. Initially, local key respondents were chosen, except those selected purposively, through observation. Then, the chosen respondents and village / commune chiefs were required to identify further informants through snowball sampling technique. Yet, this technique did not work well until the problem of selection was founded out. The reason was that most of the previous respondents only identified their friends, relatives, and members of their teams, who had similar socio-economic interests.

Nonetheless, since the fieldwork was divided into different stages (see Section 3.5), effective coping strategies to avoid biased and falsified information were developed, for example, the application of name cards (see Section 3.7). It was required that the researcher had to spend more time observing and mapping the social complexity, as well as exposing himself to the real local context of the sites. The researcher had to apply a range of adaptable and fair frames of mind and behavior to make diverse informants have faith in him and his team.

3.10 Data Analysis Methods

This section pays careful attention to the methods of analysis of both qualitative and quantitative data since they affect the quality of results and findings of the study. The nature of research which involved mixed methods for collecting data from different sources required different methods of data preparation and analysis based on scientific principles (Decrop, 1999). The differences in terms of quality and reliability of methods between quantitative and qualitative analyses had been discussed to shape appropriate analytical approaches for this study. The information which supported the selection is described in the following.

According to Creswell (1994), Burn (2000), Neuman (2003), and Hesse-Biber (2006), there are four reasons that make qualitative data analysis different from quantitative approach. First, the methods of qualitative analysis are less standardized, involving different inductive approaches to analysis. Second, qualitative research could start the analysis from the beginning or over the process of data collection by looking for patterns and relationships of social reality and complexity. Third, rather than testing hypotheses via standardized statistical methods or applied math, qualitative analysis intents to generate new concepts or theories by combining empirical facts and conceptual data. By doing so, the analyst could show if a theory, assumption, or abstract explanation is reasonable based on reality and principal context of investigation. Fourth, instead of categorizing data into statistical figures based on predefined hypotheses, variables, parameters and mathematical calculation, qualitative researcher applies many approaches to analysis to provide details of social life. However, since qualitative analysis is generally based upon words, texts or contextualized forms, researcher has to be capable of illustrating complex processes or systems of social life and phenomenon based on own skills, experience, vision and integrity (Pop, Ziebland and Mays, 2000). This needs to be done through sequential fundamental steps of analysis in order to avoid writing imprecise explanation or interpretation (Ritchie and Spencer, 1994; Neuman, 2003).

In this study, two core methods were used for qualitative data analysis. First is the “content analysis” method. This method has originally been used since the middle of the 1900s when it was conventionally referred to the quantitative examination of communication theoretical foundation through its occurrence based on written text (Mayring, 2000; Hesse-Biber, 2006). Throughout its application and evolution, different qualitative critics had been raised against its

trivial analysis and misrepresenting quantification which ran without incorporating and respecting underlying contents and qualitative contexts (Merten, 1993; Krippendorff, 1980; Mayring 1994 cited in Mayring, 2000; Hesse-Biber, 2006). Since then, it has become a hybrid analysis approach which focuses more on qualitative aspects to strengthen the advantages of the quantitative procedure in interpreting the formal aspects of the materials (Kolbe and Burnett, 1991; Burn, 2000; Myring, 2000; Neuman, 2003). These materials include texts, books, articles, documents, messages, reports, records or protocols of discourses, interviews, etc. As mentioned by Myring (2000), the quality of this method lies with its gradual procedural analysis of materials by revising, fitting and categorizing them into different content analytical units or aspects based on their nature and relevancy. Based on these principles, the researcher used this technique to compare, analyze and interpret the contents of information obtained from documents, policy papers, reports, and develop plans of concerned governmental and non-governmental organizations and development agencies working on TSBR projects. This method helped the researcher to document and analyze those written messages and themes related to the policy and institutional interventions which influence community development and natural resource management / conservation in TSBR core areas. Moreover, it enables the researcher to have better understanding of best practices and drawbacks of the management of the TSBR and other biosphere reserves that have similar contexts to the areas considered.

The second qualitative analysis approach used in this study is the “Framework Analysis” method. This method was originally invented by the Social and Community Planning Research in London, Britain, in the late 1980s to provide versatile analytical approach for qualitative data analysis, while at the same time improve the reliability and validity of analysis (Ritchie and Spencer, 1994; Pope, Ziebland, and Mays, 2000; Brunt, 2002). The conventional qualitative methods, such as grounded theory³⁷, commonly use analytical categories or themes, which are obtained inductively from the field through ongoing process, to describe, interpret and explain social events and facts (Pope, Ziebland, and Mays, 2000). Different to conventional analytical approaches, this generic framework analysis method adapts deductive approach by following different rules of procedure and defining the specific purposes of investigation or types of needed information before the fieldwork takes place (Pop, Ziebland, and Mays, 2000; Brunt, 2002). The quality of this procedural, and structured, method lies with its advantages that allow researcher to organize the bunch of data and intuitions obtained from the field through different record techniques in a systematic way for analysis (Ritchie and Spencer, 1994; Brunt, 2002; Neuman, 2003). In addition, the researcher could deal with many approaches of data collection (i.e. mixed qualitative methods or method triangulation) based on explicit research objectives in order to make the analytical process becomes more accurate and well-represented (Pope, Ziebland, and Mays, 2000; Brunts, 2002; Ritchie and Spencer, 1994).

As reported by Ritchie and Spencer (1994), this technique involves a systematic process of five major stages: (1) familiarization; (2) identification of a thematic framework; (3) indexing; (4) charting; and (5) mapping and interpretation. The first stage focuses on attentive engagement of the researcher in verifying and selecting data obtained from the field (via tap recording, note taking, etc.) in order to list the key points and recurrence themes. The second stage involves the identification and classification of all the key issues, concepts, and themes by which the data can be assessed and referenced. This stage allows the researcher to identify and combine the issues and questions derived from the research objectives with those raised by the informants as well as views or experiences that reappear in the data set. In addition, it enables the researcher to generate a detailed index of data and label them into different convenient forms for later

³⁷ A method which involves multi-stage process in developing hypotheses from the ground or research field upwards rather than defining them as priori (Pope, Ziebland, and Mays, 2000).

retrieval and searching. By using the thematic structure, the third stage is to index the data in textual form through coding techniques (by number, color or sign to form the headings). The fourth stage is to review and reorganize the data in accordance with the pre-design thematic forms in order to design charting which could illustrate the relation between each data set and heading. The last stage concentrates on defining key concepts for the analysis and forming typologies or categories and looking for the connection of patterns within and across categories and themes in order to interpret the results which address individual objectives of the study.

This second method was used to analyze the data from group meetings and discussions, in-depth interviews, semi-structured interviews, expert interviews. Even though this deductive method was followed throughout the whole research process, the researcher also adapted an inductive approach in the process of data collection in order to increase the amount and value of data needed for the analysis. This adaptation allowed the researcher to collect a wide range of related information through different time and space as well as to assess the contradiction within and across data in order to ensure the reliability and validity for his structured framework analysis. In addition, it helped the researcher to record data in a more flexible way and recall what had been missed in his records after coming back from the interviews with each respondent. For any contradiction, unreliability or invalidity of data emerged during the fieldwork time, more investigations were adapted immediately by the researcher to get the right and complete sense for the study.

Concerning quantitative analysis, descriptive and frequency statistics were carried out to analyze the quantitative data collected from the questionnaires survey with domestic and international tourists as well as from the formal interviews with Cambodian tour operators and travel agencies. This was done through Statistical Programs for Social Sciences (SPSS), while Excel program was only used for graph designs.

CHAPTER 4: CONTEXTS OF LIVELIHOODS IN BTC AND SS CORE AREAS

This chapter describes livelihood situations (challenges and capabilities), livelihood components (assets, activities, access and consumption of resources), and other internal and external factors which affect livelihoods of the local fishing communities in BTC and SS. At the beginning of this chapter, a brief description of BTC and SS core areas and current living environment of the people is presented. Following this section, the vulnerability context, livelihood problems and existing approaches of the local livelihoods are depicted and assessed. It consists of three fundamental parts, namely livelihood shocks, trends and seasonality. Subsequently, the livelihood capital assets, which comprise human, social, natural, financial and physical capitals, of the local communities as well as the interaction between each element of these capitals are emphasized. The last section of this chapter indicates and discusses the livelihood scenarios and required or potential additional local livelihood options that lead to the improvement of the livelihood strategies and quality of life of the people in the areas.

The methods involved in collecting relevant data with regard to these issues were group meetings and discussions and semi-structured interviews (see Chapter 3). The group meeting and discussion technique was mainly used to compile data about the vulnerability context, while semi-structured interviews was principally applied with the selected local household respondents to obtain information about the livelihood capital assets of the people. However, as mentioned in Chapter 3, this study adapted method triangulation, meaning many approaches to data collection, in order to pick out, verify and improve the reliability and validity of information for concrete analysis. Therefore, some necessary responses from individual methods which complement to the description and explanation in each section were fastened together in order to provide better understanding of the local livelihood issues in the areas. Besides, participant observation and some secondary sources were also employed to complete the focus of this study, while some quantitative information derived from the semi-structured interviews with the local households were used to substantiate the results. The research results concerning the contexts of local livelihoods in BTC and SS core areas are described in the following sections.

4.1 Description of Boeung Tonle Chhmar and Stung Sen Core Areas

Due to their unique ecosystems and rich biodiversity resources of regionally and globally environmental significance, BTC (14,560 ha) and SS (6,355 ha) were designated by the RGC under the approval of the UNESCO in 1997 as two of the three core areas of the TSBR (UNDP-GEF, 2001a). They are known as high productive fishing regions of the Tonle Sap Great Lake with panoramic inundated habitats which are home to a large variety of fauna and flora species (UNDP-GEF, 2001b). Since 1999, based on its exceptional conservation value, BTC has been chosen as a Ramsar site (see Chapter 1) under the Ramsar Convention signed by the RGC. Being a globally environmental conservation wetland, the surrounding associated creek systems and swamp forestlands are included in the protected territory of this site and have made it become the biggest Ramsar Site in Cambodia with a total area of 28,000 ha (Mam and Sok, 2001; BPAMP, 2005). According to UNDP-GEF (2001b), BTC is covered by unique ecosystem with immaculate habitats, including a complex stream network, unique creek system, deep permanent ponds, muddy fields, and grassland and forestland areas. Apart from its aesthetic natural landscapes, it is considered as important feeding grounds for large endangered waterbirds species and home to many common and rare fish, reptile, and mammal species (UNDP-GEF, 2001; Mam and Sok, 2001; UNDP-GEF, 2001; WCS, 2006). SS core area is famous for its regionally distinctive ecosystem, unique gallery forests, lowland evergreen forests

and other tall flooded forest species, wildlife habitats and high value and endangered fish populations (UNDP-GEF, 2001; WCS, 2005, 2006)

BTC is in the northern part of Cambodia, located just about in the nucleus of the TSBR. It lies on the multitude 12°44' - 12°53' to the north and 104°22'30" to the east (MoE and MAFF, 2002). Located in Peam Bang commune, Stoung district, Kampong Thom province, this core area consists of five floating villages, namely Peam Bang, Pov Veuy, Daun Sdeung and Anlong Ton, Pich Chakrey, and Balort which are in different parts of the lake (Mam and Sok, 2001). Peam Bang commune consists of 484 families with 619 households. The total population in this area reached 2,929 (284 ethnic Vietnamese) in March 2006, according the communal statistics of Peam Bang (2006) and the Ministry of Interior, 1,494 of whom were female. Those over 18 years of age accounted for 52% (1,509 males and 786 females). BTC lies 10 meters below the sea level, and has two main hydrological systems (Mam and Sok, 2001). First, water flows out from Stung (stream) Chi Kreng in northern Cambodia and Stung Stoung in the northeastern part. The total fishing grounds of these streams are 1,920 km² and 1.895 km² respectively (MoE, MAFF and Wetland International - WI, 2002). Second, the water drenches out of the Mekong River descending to BTC through the Tonle Sap River in rainy season from July to November. The maximum deepness of BTC in dry season is between 1 to 2 meters, but in rainy season it could swell up to at least 5 – 7 meters (Mam and Sok, 2001; MoE, MAFF and WI, 2002).

SS core area is located in Phat Sanday commune, Kampong Svay district, Kampong Thom province. Relative to BTC, there are more villagers living within and along the Stung Sen river, SS core area. This river flows directly to the Tonle Sap River which forms a hydrological connection between Tonle Sap Lake and the Mekong River (Mam and Sok, 2001). According to the communal statistics of Phat Sanday (2006), the total population living in 854 households reached 4,542 in 2006, 2,265 of whom were female. SS comprises five villages found along the river/lakeshore, excluding Phat Sanday and Koh Tapov which are floating villages in close proximity to Chnokm Tru port. The other three villages are Neang Sav, Kampong Chamlong and Toul Neang Sav.

Due to geographical characteristics of the areas, local communities in BTC and SS are strongly dependent on natural resources inside and outside the core areas as main sources of livelihoods (Mam and Sok, 2001). The major occupation of the people is fishing followed by other fish-related economic activities, such as fish raising, fish processing and fish trading, while a minority is involved in grocery selling and crop farming (ibid). The majority of the people in the areas are small scale fishermen with limited or no agricultural land (UNDP-GEF, 2001b). Because these core areas are regarded as highly productive fish regions, most of the fishing grounds have been privatized as commercial fishing lots under the concession laws of the RGC. These lots are being operated on lease through an auction (Seak *et al.*, 2005). In BTC, there are three lots (number 4, 5 and 6), while SS has been allocated for the operation of fishing lot number 3 (Mam and Sok, 2001). As the populations in BTC and SS are increasing, while the influx of seasonal migrant fishers from the nearby regions and provinces coming into the areas is getting larger, the local people's access to natural resources (mainly fisheries) becomes limited especially when many parts of the fishing grounds are allowed only for the lot concessions (Mam and Sok, 2001; UNDP-GEF, 2001b; Seak *et al.*, 2005). Since the natural resources in BTC and SS core areas have been exploited heavily and declined significantly, a number of considerable environmental conservation projects have been established in order to prevent the remaining resources from further loss caused by daily activities of the local fisherfolk and outsiders (TSEMP, 2005; TSCP, 2005). The increasing decline in natural resources and rising environmental interventions in the areas have skewed the livelihood

opportunities of the local permanent fishermen. To response to this dilemma of development, a couple of sustainable livelihood options, such as ecotourism, have been recommended by concerned development and funding agencies to introduce to the areas (Neou, 2003; TSCP, MoE and MAFF, 2007).

4.2 Analysis of the Vulnerability Context

4.2.1 Shock

There are five major shocks that affect livelihoods of the local fishermen in BTC and SS core areas, as mentioned by the representatives of local communities during the group meetings and discussions. These shocks are analyzed and described in the following:

- First is the decline in fishery resources (these respondents measured it by fish catch, size and type of fish) which affect local basic food, main livelihoods, and source of income. According to the local participants, this decline is caused by problems of access to fishery resources in the released fishing grounds, change of water regime and hydrology, over-fishing and illegal fishing, destruction of flooded forests, and increasing population pressure in the areas. Lack of support from the local government (authorities such as commune and village chiefs) and the national government (through its executing agencies and responsible ministries) is considered as a political shock distressing the people's livelihoods in BTC and SS. These governments have low level of trust among local communities due to their mismanagement, corruption and intimidation. They are perceived by the local fishermen in BTC and SS as institutions which have been mistreating the people and misusing local natural resources and are obstacle for community-based development in the areas.

Besides the struggle to get some spaces for fishing, local participants reported that they are living under pressures of the fishing lot owners and other armed groups. This was considered by these respondents as a threat to their livelihoods as these groups invade fishing spaces and use their powers to intimidate the people, especially the small scale fishermen. The presence of the DoF-MAFF and DoE-MoE officials and their management were also mentioned by these respondents as a new form of threat to their livelihoods. According to group meetings and discussions, the conditions of people living under pressure in BTC and SS are different. In BTC core area, even though the police and militia are said to use much power to safeguard fishing lot businesses and prevent local people from marching into fishery resources, these groups are not even as dangerous as the executing agencies' staffs, especially DoF's staffs. However, this case is different in SS core area. Totally, there are nine major groups working to control the area, all of which show up with diverse responsibilities for the sake of their revenue earnings. These are the Military Police (PM Bo6), the Provincial Direction Police, the District Information Police, the DoE, the DoF, the Traffic Police, the Station Police, and the Navy Group (the former Military Division N° 15). Of total, the first three groups are defamed as the most intimidating agents. Nevertheless, the DoF's officials usually claim money from local people for fishing permit (illegal) in both close and open fishing seasons. The payment could also allow local fishermen to apply all wanted fishing gears in the region despite illegality against the fishery laws. The local participants also reported that the use of fishing gears and access to the fishing grounds depend on money. Therefore, they are unable to stop the rich and powerful fisher folks, including medium and large-scale fishermen, from invading the fishing grounds and using illegal gears and techniques in their fishing businesses. The fishing lots are reported to be the most potential illegal actors shadowed under the government-approved fishing concession laws. They normally pay the line ministerial officers and the local authorities to

do whatever they prefer, even in the form of providing some fishing spaces and shares to make them silent and support their activities.

The change of water regime and hydrology of the lake in association with the flow of the Mekong River was mentioned by local participants as a factor to the decline in fishery resources. They explained that the building of electric power dams and irrigation systems in the upper parts of the river and lake have caused changes to the natural waterway, the level of water as well as the related ecosystem and biodiversity living within and adjacent to TSGL. When the rainy season approaches, the fish species (which move in search of fitting habitats and spawning grounds) find it difficult to access usual forestlands and flooded areas in TSBR core areas because the water is not high enough to shelter. The local participants mentioned it as the upshot of the closing and opening of the electronic power dams' gates. They also considered this threat as a cause of changes of the fishing period, farming season, and some cultural activities, such as NTFP collecting and ritual ceremony (sometimes the locals have to delay their rituals until the water recedes). The change of water regime and irregular water flow has brought other problems to the areas such as soil erosion and landslide and make the lake befalls relatively shallower. This was noticed by the local fishermen as a cause to the decline in fish number and species and some big fishes become extinct.

The decrease of fishery production is also associated with the practices of illegal activities, such as illegal fishing (i.e. illegal methods such as electro fishing, fishpond pumping, fish poisoning, and use of illegal gears) and forest cutting in large amount in the areas. Despite the fishery laws are disseminated to the three types (small, medium and large) of local fishermen, the local respondents reported that more sophisticated fishing gears which are illegitimate are being used by different groups of the people. Illegal fishing is not only practiced by those who have money to bribe the local authorities and executing agencies, but are also common among small scale fishermen and seasonal in-migrants from the nearby regions. In addition, these local participants related the decline in fish catch to the constant loss of flooded forests in the areas caused by daily household consumption for energy need and other purposes (i.e. making fishing gears), forest fire, and the conversion of flooded forestland into agricultural land. Without any energy substitutes, as mentioned by the local participants, fuel wood is increasingly collected by every household in the areas for daily cooking, while a number of households, especially in SS, are involved in forest cutting and wood selling as additional sources of their income. Forest fire is usually made by local wandering hunters and NTFP collectors and seasonal in-migrants who use fire to harvest natural resources (i.e. tortoises, snakes, monkeys, wild honey, etc.). Forestland annihilation was reported by the local participants as one of the new trends of some local households who clear the grounds to grow crops in the water recession season. However, the destruction of flood forests, which are the natural habitats and breeding grounds of fish and other wildlife, was reported to be in great amount in the buffer zones of the TSBR that surround BTC and SS core areas. This threat is caused by the people in the buffer and transition zones who want to clear forestlands in the dry season and claim access and ownership over those lands for dry rice cultivation or for selling to private owners / companies. This activity was not considered by the respondents as dangerous as land speculation and encroachment committed by the powerful, and rich, investors who get permission from the local and provincial authorities and the government (usually via concession programs) to invest in crop fields and fish raising in those areas.

The increasing population growth is also harmful to natural environment and biodiversity resources in BTC and SS. According to the group participants, adding to the constant increase in local people, the influx of the in-migrants has made the available settlement areas (especially on dry land in the water recession season) become more densely populated. As the number of fishermen increases, the fishery resources become scarce and more problems, such as competition and conflict of interest and deterioration of other natural resources, emerge in the areas. The local respondents explained that there are two kinds of in-migrants: (1) permanent in-migrants and (2) seasonal in-migrants. Permanent in-migrants usually come from the mainland (everywhere) to seek new economic activities in BTC and SS after facing their livelihood problems (i.e. no land for agriculture, debt and selling off their properties, etc.). Seasonal in-migrants come from Chamnar Leu and Chamnar Krom, Chi Kreng, Oh Kanthor, Stoung and some other areas of the nearby regions or provinces. Some migrants reside in some villages with the local people, but most of them live in environmentally significant parts³⁸ of BTC and SS, where are full of forestlands, wildlife, spawning grounds of fishes, fishponds, waterbirds and other natural resources. They usually come in early February after the rice harvesting season, and start to return in mid or the end of June before the closing fishing season. They regularly come to live in the areas without asking the local authorities or the executing agencies for the permit of stay. Their common activities in BTC and SS are dry rice farming, fishing, hunting, NTFP harvesting, fish processing, livestock rearing and feeding, lotus planting, and eel and snake trapping. According to the group meetings and discussions, they are usually involved in illegal fishing with the fishing lot/creek/fishpond owners and other illegal activities with support from some corrupt soldiers.

- The second major shock affecting the livelihoods of the people in BTC and SS is the health condition which is prone to waterborne diseases. The local participants and discussants reported that each household in BTC and SS spend about one third of their household income to meet the health care needs. During the group interviews, the participants mentioned three major obstacles in getting health care services: (1) high cost of treatment; (2) long distance between village settlements and health care centers; and, (3) the qualification of the medical doctors in the areas. According to commune chief of Peam Bang and the first assistant of commune chief of Phat Sanday, the average infant mortality rate in these areas is 9%, while the average women mortality rate during and after birth delivery is 5%. The fertility rate is 5.2 live births per woman.

A number of waterborne and other diseases have caused the areas become riskier for the settlement of new dwellers. The local participants reported that illness has caused the people's livelihoods more vulnerable. Some diseases make them lose their properties and other substantial livelihood assets, and even sometimes the loss is also counted on lives of their children and relatives. Serious illnesses are related to the debility of labor productivity in the region. They mentioned that human health distress can make them more dependent on and inferior to the well-off people and local patrons in terms of mortgage, work, right and decision. The results of semi-structured interviews with the selected local households and the information provided by two local private medical practitioners show that people tend to suffer from diseases in two different times per year. In dry season, especially from April to late June, they are prone to typhoid, diarrhea and dysentery, stomachache, abdominal pain and fever. Besides, they tend to be infected by perilous intestinal worms and tapeworms as well. In rainy season (June to October), the locals are often affected by dengue fever and

³⁸ Preh Konlorng, Boeung Smao, Boeung Cheu Chorb, Boeung Palhal, Boeung Paong, Antong Chorngkor, Phnom Chimos, Chan Chikeng, Kansaom Chab, Tvea Boeung, Psaot, Ak Katong, Dorn Tong, and Mat Tonle.

fluenza. According to the group meetings and discussions, four major causes (direct and indirect) of diseases were pointed out by the local participants. These include: (1) the level of education of the villagers is low, and this makes them vulnerable since their traditional livelihood approaches and coping strategies for health problems are limited; (2) the absence of health care centers and services in BTC and SS core areas; (3) the environment of living and water quality, especially in the water recession season when the water is shallow and is polluted by household wastes; and (4) the communication barrier between these isolated core areas and the mainland.

- The third livelihood shock of the people in BTC and SS is caused by lack of opportunity to increase other livelihood activities in the areas, such as rice cultivation, cropping, vegetation planting and livestock rearing. The environment/forestry/land laws, geography of the areas, natural hydrology of the lake, lack of physical space and feeds for animals, and the financial capital of individual household have prevented local people, especially small scale fishermen, from having other economic opportunities to increase their income. Almost all villages are floating on the river, except some in SS core area where the structure of village settlement is changed to be on the dry foreshore along the Stung Sen River in dry season. Although a minority of people in these areas can live on land when the water recedes, the local respondents reported that most of the dry land spots are densely populated by flooded forestlands which are part of the ecosystem. They said that some households, especially in SS core area, try to adapt seasonal crop farming (i.e. corn, pumpkin, bean, watermelon, cucumber, etc.) to accumulate their income, but there are still many problems involved in this activity. Concerning environment and forestry laws, this activity is totally forbidden, and only those whose relatives are members of the local authorities could do it occasionally. The group participants also reported that some others also tried to grow crops behind their dwellings, but they did not gain much profit from it or even unable to harvest the crops. They explained that it is because the soil is porous and the fields are inclined to short growing season and pests (i.e. infestation of rats and insects). Adjacent to these problems, the group discussants mentioned four other problems in practicing field crops and rice cultivation. These include: (1) no formal recognition of land title from local authorities; (2) lack of technology to irrigate the crops; (3) lack of knowledge and technology to maintain or increase the dry rice and flooded rice production; and (4) the seasonal change of the quality of water and land.

The group respondents in some villages in SS core areas, Neang Sav and Tourl Neang Sav, stressed that because some areas in their localities could be used for seasonal crop farming, there are frequent disputes over the use of land. However, there is no land demarcation for the expansion of land area in the core zone. They said people have no right to claim land for crop cultivation in TSBR core areas or they might be accused of destroying the natural environment and prosecuted to the court. However, crop cultivation is perceived as a traditional activity practiced in some parts of the SS core areas, where are densely covered by reeds, shrubs and bushes and are seasonally used by the seasonal in-migrants (SIMs). The group participants in SS mentioned that compared to SIMs from Stoung, Veal Sbov, Oh Kathor, Chikreng and other nearby areas, local fishing communities in the areas have less access to land use for agriculture since they do not want to violate the laws.

Although the people in BTC and SS are involved in livestock and crocodile rearing as a means of additional livelihoods, the number of raisers represents as minority as it is. From the group meetings and interviews, the locals prefer raising high value fishes (i.e. snakehead fish, river catfish, etc.) to rearing livestock (i.e. chickens, pigs, and geese) or crocodiles.

According to village and commune chiefs, fish raising households are accounted for 40% and 30% of the total population respectively in BTC and SS core areas³⁹. As mentioned by local group participants, even though local fishermen raise high value fish, they cannot sell fishes on high price. They explained that this is a chancy business as the price of raised fishes fluctuates and sometimes is dependent on the decision of fish dealers or fishing lot owners. Usually, the small scale fishermen are obliged to sell fishes on cheap price to loan providers from whom they borrow the money (this is a common contract between borrowers and lenders). Fish raisers, except medium and large scale fishermen, often have problems with the fishery officials and lot owners in terms of paying for permits to raise some particular fishes. Sometimes they are forced to sell their fish stocks to the lot owners on cheap price. Two other reasons were mentioned by the group participants with regard to fish raising shock. First, the local fishermen, particularly the small scale ones, do not have enough ability (good boat and money) to transport their fish products to the markets, and thus make them decide to sell them to fish dealers or lot owners. Second, they have to bribe the executing agencies before raising fish (from USD 150 to USD 200 per cage depending on the size of cage) and transporting fish to the mainland (from USD 30 to USD 50 per boat). The money has to be sent through the local authorities, so that both fishery officers and local patrons will support and defend their business despite its illegitimacy.

Although it is easier to make more income from livestock and fish rearing, the local respondents articulated that there are some livelihood shocks caused by the problems with their raised animals. They explained that their raised livestock are susceptible to diseases, such as cholera and fowl cholera, at any time of the year. Without proper tending and good medicine, raised fishes can be sick two times per year due to the change of reverse water flow from and to the Mekong River. For the small scale fishermen, the money for fish or livestock rearing is lent by the local lenders or micro credit providers with interest in between 5% to 30% per month. The local respondents reported that when the raised animals are sick or die, their living conditions become more vulnerable since they have to put more effort and energy in fishing, either legal or illegal, in order to pay debts or have to sell some of their fish catch on cheap price to the lenders on daily basis.

- The fourth factor that makes the communities in BTC and SS vulnerable is the low level of education of the people and lack of access to schooling and other necessary educational programs in the areas. Education remains one of the major current distresses for the people in BTC and SS. According to the group meetings and discussions, local fishermen, including children, do not have much access to education in the areas. This is due to poverty and lack of schools and teachers. The group participants and discussants reported that education was not considered as important for local livelihoods in the past. In addition, the locals were more concerned with the political infightings for decades that they had to flee from time to time. They reported that they realize that their children are required to go to school in order to improve their knowledge and understanding which could make them able to earn their livings. However, it is still impossible for them since the opportunity for villagers, especially children, to access to schooling is rare. According to the information provided by commune chiefs, there are only two primary schools in Peam Bang, one of which is donated by the UNICEF to provide basic education from grade 1 to 3. As to Phat Sanday commune, there are two primary schools in Tourl Neang Sav and Prek Ksach villages and one lower secondary school (only until grade 7) provided by the UNICEF. However, only a minority of children could go to school because of the school location, lack of teachers and irregular

³⁹ There is no official statistics since most of them raise only snakehead fish with support from corrupt DoF-MAFF officials, and this activity is illegitimate since this species eat only fish fry.

teaching, inadequate classrooms, and worry of parents that their children could have accidents when they boat alone.

- The last shock for the communities in BTC and SS is related to the national and global economic influences on local livelihoods. This was mentioned by the local respondents as the influence of change in free market economy and the price inflation of rice and other necessary living commodities on their daily expenses and savings. In the areas, except fishery production and some vegetables grown in the floating garden by some local households, all products and living commodities are imported from outside. According to group meetings and discussions, the living conditions of the people, especially small scale fishermen, are strongly hit by the rising prices of foodstuffs (rice and other basic foods), petrol, clothes, medicine, fishing gears, and other living materials. The price inflation of all products and the weak local currency against dollar and Thai Baht have made livelihoods of the people, especially the majority subsistence fishermen, more vulnerable since it is beyond their abilities to control the prices.

4.2.2 Trends

The declining fishery resources and other natural resources in BTC and SS core areas have made the people suffer constant livelihood loss. The amount of fish catch has dramatically decreased, and big and high value fishes are rarely caught by the local fishermen, except few medium scale fishermen and fishing lot/creek/fishpond owners. According to the semi-structured interviews with representatives of the local households in BTC and SS (n = 120), the average amount of fish catch is varying in accordance with the season (see Table 4.1). In the close fishing season, 61% of the households interviewed mentioned that they could catch from one to ten kilograms of fish per day, while 24% receive the average daily fish catch in between 10 to 20 kilograms of fish. During this season, only few local households questioned reported that their daily fish catch could range between 20 to 30 kilograms of fish (7%). However, 8% of the total interviewed households revealed that they could catch up to or more than 100 kilograms of fish everyday. In the open fishing season, 27% of the local households interviewed mentioned that their daily fish catch are between 30 to 100 kilograms or more depending on the fishing gears they use as well as the areas of fishing they are allowed to access. Of total, 40% could obtain their daily fish catch up to 10 kilograms, while 17% and 16% respectively receive from 10 to 20 kilograms and 20 to 30 kilograms of fish in this season. According to the group participants, compared to the price of small fish which ranges from 300 riel (USD 0.07) to 500 riel (USD 0.12) per kilogram, the big or high value fish costs from 1500 riel (USD 0.36 for dead fish) to 2500 riel (USD 0.6 for live fish). These prices are set by local fish dealers and fishing lot/creek/fishpond owners. However, local fishermen could benefit much more if they have ability to pay off the responsible officers in the areas and transport their catch to the mainland markets.

Table 4.1: Average daily fish catch of interviewed local households in BTC and SS (in %, n = 120)

Amount of Daily Fish Catch	Close Fishing Season	Open Fishing Season
1 - 10 kilograms of fish	61%	40%
> 10 - >20 kilograms of fish	24%	17%
>20 - > 30 kilograms of fish	7%	16%
> 30 - >= 100 kilograms of fish	8%	27%

Source: Own survey (semi-structured interviews)

The difference between those who catch a lot and those who catch only a little was found during the observation when the informal talks/discussions were also applied by the author with different types of fishermen. The small scale fishermen would find it lucky enough to catch 3 to 5 kilograms of fish per day in the close fishing season or 5 – 10 kg in the open season, even though they are allowed to fish everywhere in the common access areas without any restriction except that they have to use only traditional fishing gears. Even though they could fish all the year round, the released fishing grounds for this group in the areas are not enough and are considered as less fish populated areas. In addition, the open access areas outside the villages where the local fishermen have to boat across the fishing lot boundaries are being invaded by the lot owners with support from the executing agencies' staffs and local militia/police, whereas the common access areas are being competed by both local people and SIMs. However, the commercial and medium scale fishermen could catch a lot of fish (some said to have caught from 30 – 100 kg or up to 1 tone per day in the close season and from 200 – 300 kg or up to 3 tones per day in the open season). Compared to other two groups (small and medium), the fish catch harvested by the fishing lot operators in the BTC and SS core areas were not officially revealed but was said by their workers to obtain approximately hundred thousands of tones per season.

Three major trends were found to be possible resolutions among local fishermen in BTC and SS core areas with an attempt to reduce their livelihood loss. The first trend is to enhance their current livelihood activities in order to increase their fish catch to accumulate their income from other additional fish-related activities by resorting to the system of control (locals and patrons) and course of action which better-off fishermen have applied. According to the semi-structured household interviews in BTC and SS, only 46% of the total respondents mentioned that their catch are enough for daily household consumption and sell to the markets, 32% perceived that their catch are just enough for own consumption, whereas 22% said it is insufficient for them to eat and exchange for necessary goods (Table 4.2).

Table 4.2: Perceptions of the interviewed local households on fish catch for daily livelihood needs

Perceptions on Fish Catch for Daily Consumption and Goods Exchange	Percentage (n = 120)
Not sufficient	22%
Just adequate	32%
More than enough for own consumption and have surplus to sell or lend out	46%

Source: Own survey (semi-structured interviews)

When asked about their opinions on how to improve their fish catch, a majority of the local households interviewed (52%) mentioned that they would choose to improve their fishing methods by purchasing and applying more sophisticated gears, including the illegal ones (see Table 4.3). This number is followed by a share of 16% of the total interviewed households that wish to promote their current fishing activities by upgrading them to the level of medium or/and large size. Only 5% of the household respondents questioned opt for public appealing to the government to stop the fishing lot concessions in the core areas, whereas the same share of households (5%) want illegal fishing committed by different groups of insiders and outsiders and corruption among responsible officers, militia and local authorities to be banned or stopped. 4% of the total expressed that they would consider to carry on or run fish raising businesses in order to secure their fish stocks for household consumption and sale in exchange of goods, and 3% would choose to request the local government to control the population growth and prevent the influx of outsiders to fish in the areas.

The observation done by the author to find out why a large amount of local communities interviewed want to resort to illegal activities in their areas of chronic poverty discovered that the reason behind this decision was because those respondents did not believe that the situation in BTC and SS would be changed in the years to come. Their experiences from living under different dominant groups of patrons and corruption and nepotism among these groups have shaped their minds that unless they resort to them and common practices in the areas their lives would never be better-off. In addition, they do not trust that those who tell them to avoid illegal activity but do it themselves would care about the constantly declining livelihood options of the local communities in BTC and SS. To reassure this interpretation, one question was put to triangulate the results. When asked what to do if they had enough money, either from their businesses or donations, still a majority (62%) of the local households interviewed in BTC and SS core areas preferred using the money to buy more sophisticated gears, including the outlawed ones, to other purposes. Although they dislike the operations of commercial fishing lots/creeks/fishponds that have led to a decrease in daily catch and local fishery production, 15% of the total interviewed households wished that they could run this business, followed by 11% who desired to raise high value fish in the core areas.

Table 4.3: Perceived methods to improve fish production by the interviewed local households

Opinions of locals on how to improve fish catch for their families	Percentage (n = 120)
One of the other (because of no money and resources)	15%
Improve business activities to medium or large scale fishing	16%
Improve fishing methods by purchasing and applying illegal fishing gears	52%
Stop illegal fishing and corruption among responsible officers in the areas	5%
Fish culture / raising	4%
Stop fishing lot operation	5%
Control rapid population growth rate and prevent the influx of seasonal in-migrants	3%
If you had enough money, what would you do or buy?	Percentage (n = 120)
Buy more sophisticated gears, including outlawed ones	62%
Raise high commercial fish species	11%
Run fishing lot or creek/fishpond business	15%
Buy agricultural for rice cultivation	5%
Do not want any thing	7%

Source: Own survey (semi-structured interviews)

The second major trend found in BTC and SS core areas is out-migration and adaptation of alternative livelihood strategies in order to cope with rapid livelihood loss as a result of a decline in fishery resources and a vast deterioration of other natural resources. In BTC and SS core areas, there are two patterns of population movement and migration - in-migration and a potential tendency of current local people towards out-migration. The in-migration of the rural poor from the nearby regions also have contributed significantly to the fast population growth and the decrease of natural resources and environmental quality of BTC and SS core areas. Hundreds of in-migrants' households were observed by the author and his research team in BTC and SS. There are four patterns of stay of the SIMs in these core areas: 1) short-term stay (4-5 months); 2) long-term stay (more than six months); 3) semi-permanent stay (moved to live and do fishing and other fish-related activities until they have new opportunities in the mainland; and 4) permanent stay (decided to live in the areas after migration).

According to the interviews with SIMs, local authorities, and in-migrants' families left behind in Chamnar Leu and Chamnar Krom communes, Chikreng, and Psa Krong, there are seven major reasons of in-migration. These are: (1) lack of economic and employment opportunities in the

areas of living; (2) earn additional income for the family during off-farm season⁴⁰; (3) own agricultural land is insufficient for rice production; (4) do not have rice fields for agriculture; (5) coming in the early water recession season or open fishing season to make *Prahok*⁴¹, *Pa Ork*⁴², smoked fish and dried fish to reserve food for the rainy season; (6) inadequacy of green grass for cattle in dry season and ; (7) migration into the TSGL is one of the cultural activities of the areas. According to the informal interviews⁴³ with the chiefs of communes where the migrants come from, approximately 65% (out of 10.471 people) and 45% (out of 10.742 people) of the total population migrate respectively from Chamnar Krom and Chamnar Leu to the TSGL, especially to some fishponds and ditches⁴⁴ of BTC and SS core areas.

There are two patterns of out-migration of local communities in BTC and SS. The first pattern involves the migration to or relocation in other nearby regions, including in the buffer zones or in other open access areas around the TSGL in order to do fishing temporarily. The second pattern involves long-term migration to find other economic opportunities in the mainland or in urban areas as well as in the neighboring Thailand. These patterns were observed by the author and his team as a new trend among local villagers in the areas. According to the group meetings and discussions, the local people admitted that they are strongly concerned with the living situations in their localities, whether it is social or resource scarcity problems, and finding alternative approaches is important for them. When asked during the semi-structured household interviews (n = 120), 30% of the household respondents questioned reported that they do not plan to live longer in the areas (see Table 4.4). This group explained that they have already bought or had lands in Kampong Thom or other nearby provinces in order to cope with livelihood loss in the areas. For those who do not possess any lands (around 40%), they would leave the areas if other places are better for their lives. But, this group also expressed a worry about how to deal with new lives without land ownership and skills. 63% of the interviewed households prefer to live in BTC and SS evermore, while other 7% responded that they do not know how to decide. Unlike the seasonal in-migrants, a majority of the local fishing communities in BTC and SS do not have lands in the mainland. Their daily economic activity is dependent on the primary resources, mainly fish production, in the areas. However, most of them are able to do minor rice farming works and field cropping since they were forced to learn it during the Khmer Rouge regime (1975 – 1979).

Table 4.4: Perceptions of the interviewed local households on out-migration

Do you plan to stay here longer?	Percentage (n = 120)
Yes	63%
No	30%
Not sure	7%

Source: Own survey (semi-structured interviews)

⁴⁰ Noticeably, most of farmers in Cambodia can grow rice crop only one time per year in the rainy season due to the facts that they are strongly dependent on nature, the farming methods are traditional, and there is lack of irrigation system in the countryside.

⁴¹ “Prahok” is the paste of fermented fish, and is one of the Cambodian staple foods. *Prahok* making activity is very common among rural Cambodians who migrate from their home regions once a year to settle temporarily in the areas close to the river or lake. Most Cambodians use *Prahok* for cooking (instead of using salt) and eating with rice.

⁴² “Pa Ork” is fish paste made with chopped fish, salt, sugar, yeast and sweet rice placed in large airlight jars and allowed to ferment.

⁴³ There are no official statistics available at commune, district and provincial levels concerning the migration of the people into BTC and SS as well to the TSBR as a whole. Therefore, the interviews were done with commune chiefs of these two potential regions of out-migration in order to know about the reasons and modes of people’s migration, the potential host regions where people migrate to and the temporary (unofficial) record of number of out-migrants in these areas.

⁴⁴ For example, in Boeung ChoEr, Chamat, Kansom Chab, Ak Antong, Cheu Chob, Pal Hal, Boeung Smao, Boeung Kok, Boeung Paung, etc.

Another factor that also makes local people's livelihoods in BTC and SS vulnerable is the trend of increasing market demands on freshwater fish production from the local and global markets (i.e. Thailand and Vietnam). The group participants explained this trend as a problem causing strong competition in fishing and fish business between different groups and levels of power in the areas. This could make the local fishermen and outsiders to apply different types of fishing gears (including illegal ones) to increase their fish catch at optimal level. However, as mentioned in the discussions, only better-off fishermen (medium and large scale) and the SIMs could benefit much from this competition since they are willing to bribe local authorities and executing agencies to support their activities.

However, despite being hopeless with the management and implementation of concerned government agencies and previous NGOs working in the areas, the group discussants in BTC and SS reported a new form of assistance which is being provided by the new project contractors and subcontractors of the TSEMP and TSCP (see Chapter 5, Section 5.1.1). The enormous supports of these projects (such as sustainable livelihood and community-based natural resource management and development projects) have made a trend of increasing motivation of the people to participate in the project activities when they are fully implemented. They mentioned that local fishermen are happy about these plans, yet cautious. They explained that if the projects are running with right directions and strong support and commitment of the project implementers under regular evaluation of the donor agencies, people would be able to undertake other economic activities as a new source of alternative livelihoods in order to secure their food and income in the areas.

4.2.3 Seasonality

The seasonal changes of climate and water hydrology have a big influence on livelihoods, food security, and health condition of local communities as well as on the selection of their livelihood strategies in BTC and SS core areas. The fluctuation of flood varies according to the season splitting the year into a dry and a rainy season, and makes the people suffer, especially those who do not have enough income opportunities to cope with different contexts of the living environment in the areas. The change of climate and water hydrology also determines and divides fishing and other fish-related activities into two seasons – the close fishing season and the open fishing season. According to the group participants, dry season or water recession season is considered as the most active fishing season in the areas. However, the people are prone to waterborne and other diseases as the water quality is low due to the water of the lake becomes shallow (0.5 m – 1 m) and the living space on dry land is small and polluted by daily household wastes. It was also considered by the participants as the period which local fishermen find it difficult to travel to other nearby communes, districts or provinces. In the rainy season or high flood season, almost all income possibilities are limited (close fishing season), especially for the small scale fishermen who use only traditional gears although they are allowed to fish everywhere in the common access areas all the year round. Therefore, their major sources of income and labor productivity in the areas are impeded. Moreover, local fishermen (mainly subsistence fishermen) tend to suffer from storms and other natural disasters as well as from food shortage in this season.

Food security and major livelihood activities in BTC and SS are significantly dependent on the daily average fish catch per household in exchange of rice and other necessary foodstuffs for basic livelihood needs. Food shortage is common in the areas. According to the semi-structured interviews, 66% of the total households questioned (n = 120) revealed that they have experienced in having no rice or food to eat (see Table 4.5). When asked about the period of

food shortage and food hungry days, 43% of the household respondents said they neither have problems with food shortage nor face food hungry days (see Table 4.6). The observation done by the author found that these households normally use up-to-date or more sophisticated fishing instruments, and have strong network with local patrons. However, 3% of the interviewed households reported that they used to suffer food insecurity, but have settled the problems well at present because they know how to deal with the management structure in the core areas. Furthermore, 17% announced that they usually experience food hungry days, between 15 to 20 days per year, and this always happens in the rainy season, whereas 27% elucidated that they normally undergo this tough period in the close season (from the 1st of July to the end of September). Quite noticeably, 10% of the total mentioned that facing food shortage or food hungry day is their common livelihood constraint in the whole rainy season which lasts for six months in general. For those who confront with food insecurity, their routine coping strategies are to borrow the money from their relatives, their neighbors, or from the well-off families and local patrons.

Table 4.5: Experience in food insecurity

Experience in Having No Rice / Food to Eat (n = 120)	
Yes	No
66%	34%

Source: Own survey (semi-structured interviews)

Table 4.6: Period of food shortage by local respondents

Food Shortage and Food Hungry Days	Percentage (n = 120)
No experience	43%
15 to 20 days per year in rainy season	17%
2 to 3 months per year in close season	27%
Many times before but well settled now	3%
Every year in rainy season	10%

Source: Own survey (semi-structured interviews)

4.3 Analysis of Livelihood Capital Assets

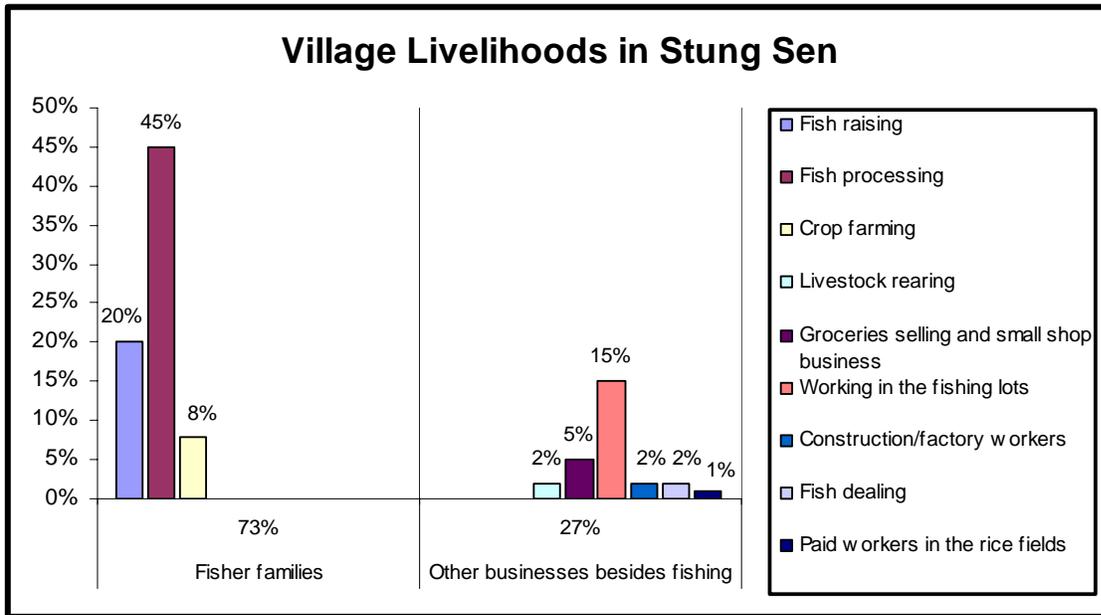
4.3.1 Human Capital

Understanding human capital provides a comprehensive analysis of livelihood assets of people surviving in BTC and SS core areas of the TSGL. This section exposes fundamental factors influencing the social and personal life of individual fishing communities in the floating villages. It also portrays such influences on the people's abilities to take part in diverse approaches in order to cope with current pressing livelihoods and to accomplish their livelihood goals in a sustainable manner.

Village Livelihoods and Environment

In the Stung Sen core area, according to Figure 4.1, 90% of the total households are involved in fishing and fish-related activities, but they also have other businesses to support on-going overhead of the families (Statistics of Phat Sanday Commune, 2006). These extra occupations can add value to family's savings, ranging from fish rearing at 20%, fish processing at 45%, to crop farming at 8%. Besides fishing as a main village occupation, 27% of the total population in SS is engaged in other income generation activities. These jobs include livestock rearing, groceries selling, working in the fishing lots, working in construction companies and textile factories in urban areas, fish dealing or trading, and working in the crop fields (mainly rice farm) during the harvesting season.

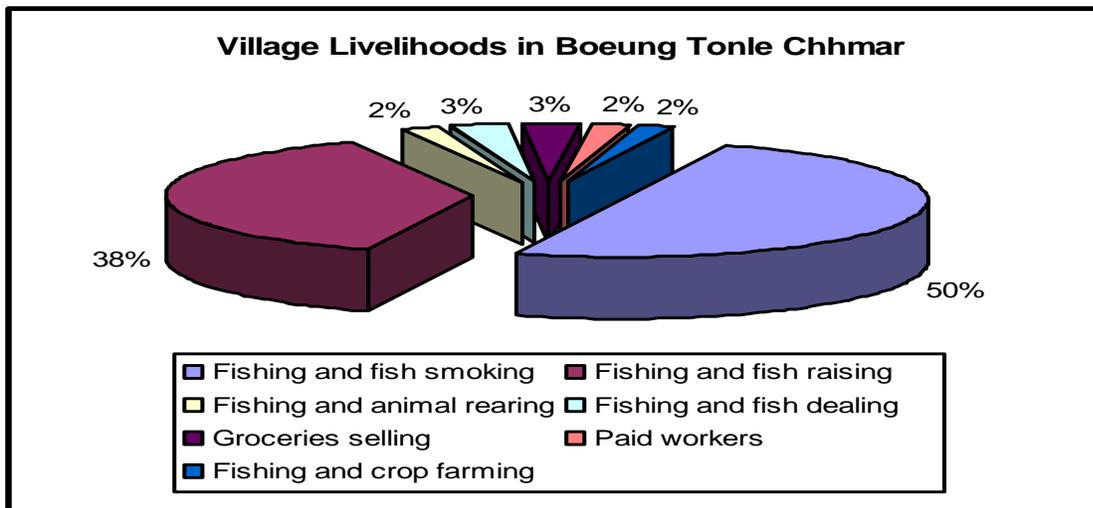
Figure 4.1: Village livelihood activities in Stung Sen core area



Source: Statistics of Phat Sanday Commune (2006).

Similar to Stung Sen core area, Figure 4.2 shows that 95% of the total households are engaged in fishing (Statistics of Peam Bang Commune, 2006). Apart from having fishing as the main occupation, people undertake other livelihood activities, such as fish processing, animal rearing, crop farming, fish culture and fish dealing. Only a few households do fishing and farming at the same time (2%) in the water recession season, whereas the other few families participate in paid labour and groceries selling, both at the same share of 2%. Engaging in fish dealing in addition to fishing activities is less popular (3%) compared to fishing and fish raising at the same time (38%). However, combined fishing and fish smoking is the most interesting occupation for the majority of rural dwellers in the SS core area. Even though it is not incorporated in the job categorization list, the observation done by the author found that several families in BTC and SS are also able to earn extra income from crafting fishing gears and fishing pens/fences for the lot concessionaires and local fishermen. This activity is normally done in early of the fishing and fish harvesting seasons.

Figure 4.2: Village livelihood activities in Boeung Tonle Chhmar core area



Source: Statistics of Peam Bang Commune (2006)

The life in the floating villages in BTC and SS is challenging. According to the group participants, most potential impediments are associated with the fishery law, the fishery reform, and the released fishing grounds divided and controlled by the fishery officers in collaboration with the local authorities. Most group participants in BTC and SS perceived the zoning system or distribution of released fishing grounds and common open access areas by the fishery department very disproportionate. There is a strongly disapproving division of the boundaries for the community fishing areas, the commercial fishing areas and the lot zones. It was reported in the group meetings and discussions that most of the public fishing areas, which are cut for serving fishing communities' needs are the former open access. The local fishermen could have access to fishing in few remote lakes and creek systems in the flooded forestlands or along the waterways nearby their settlements.

The group participants complained that some parts of their fishing areas, including the open access outside their villages, are being invaded by the lot owners with support from the executing government's officers and local police. They reported that they find it difficult to fish in far remote open access or in the middle of the great lake since they are not accustomed to fishing in high flooded areas and their fishing equipments are not sophisticated. As mentioned by these respondents, the given fishing grounds for their communities are located far from the community centers, and thus they have to travel across the fishing lot zones. However, the by-pass trip has often been restricted by the lots' armed workers because they accuse villagers for wandering off their fishes. This also happens with the creek owners, who sometimes disallow local fishermen to travel by engine-boats along their areas, especially in the harvesting season and in the night, and thus they have to row the boats until the permitted areas.

Economic Ability and Health Issue

According to the semi-structured interviews, a majority of the household respondents interviewed (84%, n = 120) claimed that they like their present occupation as fishermen in the floating villages (see Table 4.7). 12% of the total admitted that they find it tedious because it is difficult for them to carry on fishing in the areas where are full of inequality, corruption, and nepotism. 4% of the rest households questioned expressed no idea about their lives. This is because they could hardly find the difference between their past and present lives in these floating communes. In addition, another reason was explained by this group is related to a decline in fish catch from employing unsophisticated fishing gears despite putting more effort to work.

Table 4.7: Local opinion on current occupations

Perceived Current Job Interest	Percentage (n = 120)
Yes	84%
No	12%
No idea	4%

Source: Own survey (semi-structured interviews)

However, the observation done by the author and his team found out that the majority that is interested in present work as fishermen might not like the management situation of the local government, but would choose to persist as it is the only livelihood option in the area. Furthermore, this occupation has been descended from one generation to another to cope with life in floating villages. This conceptual proposition was made clear when people were asked to compare their present works to the past experiences. The results of the semi-structured

interviews portray that 36% of the total households interviewed reported that their lives are worse than before since there are more people in the areas. Most of them are increasingly interested in using medium and commercial or illegal fishing gears to improve their catches, which eventually contribute to a rapid decline in fishery resources. Besides, 20% accepted that the released fishing areas for local fishing communities are seemingly constricted by the invasion of the fishing lot concessionaires supported by the fishery officers. On the contrary, other households questioned (17%) announced that their lives have been improved compared to the past because they could easily catch more fishes for basic foods and sale. The observation done by the author during fieldwork examined this group, and finally found out that most of them have obtained typical skills in fishing. This group is likely to apply medium or large-scale fishing gears, including some prohibited ones, to grab more fishes from the lake. Normally, this process is done through some standard payment to the fishery officers and through negotiation with the lot owners conditioned upon mutual benefit sharing. In opposite to 7% of the interviewed households who reported that living on the lake is easy to find food except some difficult physical movement and transport, 20% of the total (mostly small-scale fishermen) attested that there is no change in life. Thus, it makes them become more pessimistic that livelihood improvement in BTC and SS core areas is impossible.

Generally, getting access to and flourishing deployment of all related livelihood resources can be supported by the improvement of human capital of BTC and SS core areas. Therefore, the combination of all elements of human capital can be seen as substantial to stimulate local economy and livelihood expansion for local communities in the two areas. Within its composition, economic condition of every household in BTC and SS is worth considering. According to the semi-structured interviews, 32% of the total households interviewed (n = 120) reported their earning from 5.000 riel (USD 1.2) to 10.000 riel (USD 2.43) per day, but the expense per se is as comparable as the income in this same amount (see Table 4.8). 56% of the total expressed that they spend 5.000 riel or less for food and other basic requirements of their families. The rate of those who earned less than 5.000 riel daily reached 31%, representing the second highest earning group based on the interviews. Households which could make daily income in between 10.000 and 20.000 riel (USD 4.87) and over are categorized respectively as 19% and 18% in the highest income rate obtained by individual households questioned.

Table 4.8: Average income and expense of the local households interviewed in BTC and SS

Income and Expense of Local Fishing Households	Income (in %, n = 120)	Expense (in %, n = 120)
<= 5000 riel	31%	56%
5000 riel – 10000 riel	32%	30%
10000 riel – 20000 riel	19%	10%
> 20000 riel	18%	4%

Source: Own survey (semi-structured interviews)

The income-expense comparison across specified categories in Table 4.8 more likely shows that a big share of the local households interviewed spend less than their earning per day, including the vulnerable and the better-off. It also depicts that out of the expense, people at all levels (excluding the commercial fishermen) could save a piece of income in order to improve their living conditions. However, the group discussion technique was applied to particularize reasons behind these answers as well as to triangulate the reliability of data. It conveys that livelihood shocks and loss are more potentially happened to small-scale fishermen, who could generally earn less than 5.000 riel or up to 10.000 riel on blessed days compared with medium scale fishing families. This is because the poor are more susceptible to diseases and have more

children to feed. If they have to pay for the use of fishing gears, petrol and fishing access, this amount will be insufficient for them to cope with their livelihood problems. Therefore, freedom from hunger would come to minds of the medium-scale and big-scale fishermen, who represent the minority in the areas, rather to the minds of the vulnerable poor.

Freedom from diseases is another questionable answer for people in BTC and SS, especially the poor who could not access much health treatment by local medical practitioners or by the district or provincial health care centers outside their areas. According to the group participants, all villagers are prone to waterborne and other curable diseases. Though the context of disease is seasonal, the local government could not solve it properly, claiming to have insufficient budget and less power to urge the central government for support. The absence of public health services and reliable private health treatment becomes a challenging issue of human health problem that normally affects the quality of human capital in the areas. They reported that seasonal health issues often cause more problems to women and children. According to their explanation, the number of infant mortality and women death before and after child delivery has been noticeably increased from year to year. During the group interviews and discussions, all members, regardless of gender, age, and villages have raised the seasonal health issue as one of the most urgent concerns to be addressed promptly.

Education Issue

According to Table 4.9, education statistics of BTC and SS communities show a low level of human development ability of the region. The communal statistics of Peam Bang and Phat Sanday (2006) depict that the education level of the villagers is basically low with 39% in Peam Bang and 35% in Phat Sanday have received no education. The locals accounted for 40% in Peam Bang and 39% in Phat Sanday had attended primary school education, and only 4% and 8% of the total population respectively in these communes have finished primary school education. Those who have gone through lower secondary and higher secondary educations are a minority, and only 5.9% in Peam Bang and 9% in Phat Sanday have finished the lower level. Those over 45 years old (mainly men), having the same share (5%) in between these two communes, have received functional literacy (ability to read and write) at very basic level. Informal education at local pagodas has also played important role in these rural societies, where 6% in Peam Bang and 3.96% in Phat Sanday have received this education (mainly Buddhist philosophy, Pali and Sanskrit languages and some basic arithmetic).

Table 4.9: Level of education of local villagers in BTC and SS core areas

Level of Education of Local Villagers In BTC and SS Core Areas	Peam Bang Commune (in %)	Phat Sanday Commune (in %)
No education	39%	35%
Primary school not finished	40%	39%
Primary school finished	4%	8%
Secondary school	5.9%	9%
University	0.01%	0.04%
Receive education at pagoda	6%	3.96%
Receive functional literacy	5%	5%

Source: Statistics of Peam Bang and Phat Sanday communes (2006).

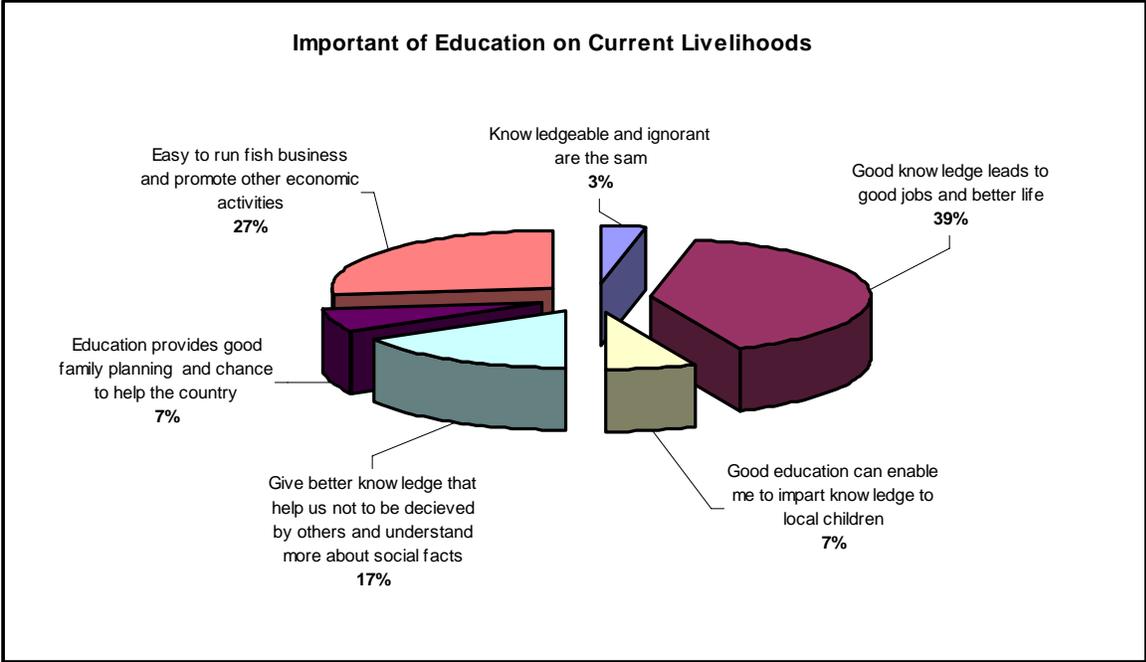
Total population in Peam Bang and Phat Sanday is 11,534, 33% of which are female.

The literacy rate is approximately 40% for men and 25% for women.

According to the semi-structured interviews, almost all representatives (heads) of the local households questioned (n = 120) realized that education could not only help them to escape

from ignorance, but could also help them to access and understand more information about how to improve their food security. This shows that information access has a strong relation with the human capital construction in BTC and SS. Moreover, it can help them to grasp other social developments concerning human right, advocacy, and means of access to the outside environment in case of finding social conflict resolutions in their localities. This also represents the significance of information access for the building of bridging and linking social capitals of the BTC and SS local fishing communities. Figure 4.3 below displays perceptions of the local households interviewed in BTC and SS on the importance of education for their present lives. The predominant responses focus on how they can benefit from education with regard to their knowledge upgrading about the social reality and the problem solving approaches. It is also related to the promotion of their economic activities and future living standards. 39% of the total believes that education could provide them and their families good knowledge, which enables them to find better jobs to improve their quality of life. 27% of the total household respondents accepted that it would help them to enhance their current businesses by understanding more about market demands and effective fish supply to local, regional, and international markets. This group explained that education could enable them to create more economic activities related to fish catch or other income possibilities. Similarly, 17% of the interviewed households articulated that possessing better knowledge from education access would reduce the level of their vulnerabilities through better understanding of social facts and trends. Obtaining such knowledge or information would not make them misinformed by the local patrons in the areas. At the same share (7%), other interesting information was collected from other two sorted households. These groups expressed that education is worthy for building up good family planning and better chances to contribute to the development of local administration and country, as well as to pass on knowledge to local children who are in need of better education for a better life.

Figure 4.3: Perceptions of the interviewed local households on the importance of education for livelihood strategies



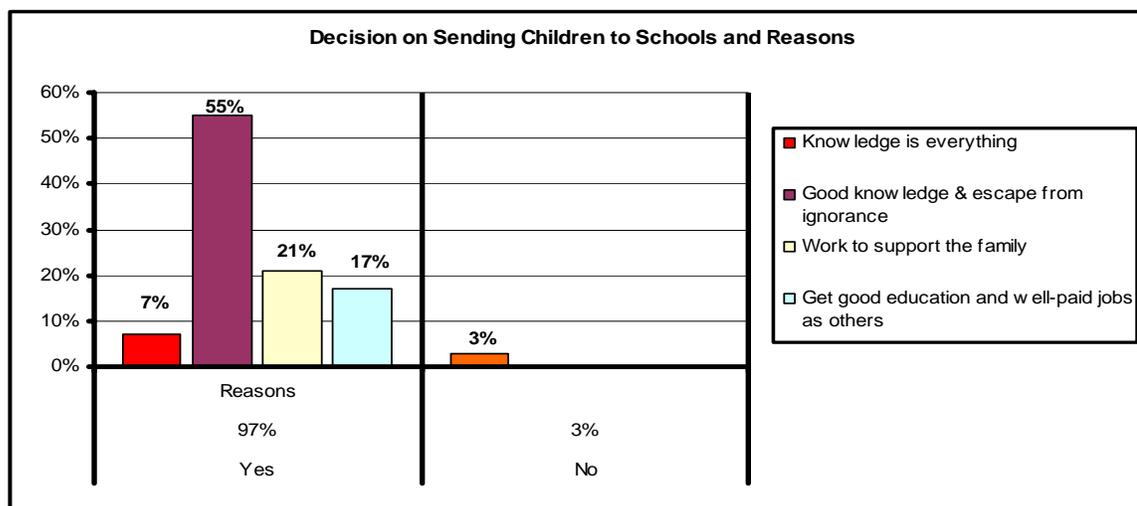
Source: Own survey (semi-structured interviews)

All selected household respondents also perceived the importance of education for their children. According to the semi-structured interviews, having many children in the family is common for local households in BTC and SS. About 34% of the total households interviewed

reported having one to three children, while 29% said to have four to six children. Households that have more than seven children are accounted for 36%. The education interest among household heads in the areas might provide positive sign to reduce a drop in basic education levels despite the insufficient number of schools and the unavailability of general education facilities in the areas. Flooded land hardship and poor transport facilities make it difficult for children to reach nearest local school education facilities. Nevertheless, 73% of children of the interviewed households have been sent to receive education within or in the nearby villages. The results of the household interviews depict that children’s performance and grade at schools and reasons for dropping out of schools depend on financial means of their families, number of time involved in fishing and household activities, means of transport, distance of schools from their villages, and availability of schools and teachers in the areas.

Almost all household heads (97%) interviewed (n = 120) expressed their will to send their children to school (see Figure 4.4). However, they mentioned that it is better if children could access basic education first in their communes before continuing to other levels in the nearby regions. According to Table 4.10, 45% confirmed that, if possible, they would support their children until they finish their studies at university level. Of total, 25% wanted their children to receive higher secondary school. Yet, although another share of 20% expressed the same ambition, they revealed that they could only support their children until lower secondary school education due to poverty and gender importance. They explained that children are needed to help them in fishing and other fish-related businesses. The government’s intervention and subsidy to an acceptable extent in education sector in BTC and SS was prioritized by all household respondents.

Figure 4.4: Perceptions of the interviewed household heads on the reasons for sending children to school



Source: Own survey (semi-structured interviews)

Table 4.10: Level of education of children attempted by parents

Level of Education	Percentage (n = 120)
Primary school	17.8 %
Lower secondary school	4.4 %
Higher secondary school	27.8 %
University	50%

Source: Own survey (semi-structured interviews)

Information Access

Information sharing and access was approved by most of the interviewed household respondents in BTC and SS as significant for improving their quality of life and for responding effectively to current and future livelihood requirements. Generally, aspiration on information obtaining is classified into two main trends: (1) information access and distribution between people, local authority and responsible line departments; (2) knowledge widening through information access about new policy, development plans, project frameworks, and inventions of government and civil society for the betterment of life and natural resources management in BTC and SS core areas. At the moment, local fishermen are somewhat affected by the quick change of natural environment, depletion of natural resources such as flooded forests and fish resources, convoluted social management structure, and corruption. A majority of respondents attested that all management-related teams working in the areas come from other places, and these groups do not try to understand much about people's livelihood loss, but rather to control and benefit from the areas forcefully. Besides, since they are more profit-oriented and politically influenced, the exchange and sharing of information in relation to basic livelihood requirements and improvement for local people have been subdued, except some information on fishermen's right to fishing and punishment in general.

According to the group discussions and some explanations provided by the respondents during the semi-structured interviews, the locals want to access information about situation of fishery production in TSGL, destruction of flooded forests and forestlands and its impacts on their livelihoods, ownership right over the use of and access to fishing grounds and gears. In addition, they want to know how to improve fish catch with appropriate instruments which are not harmful to the natural environment and fishery resources in the areas. The people are also fond of listening to or getting information about increasing illegal fishing gears use, the consequences of illegal activities, government's policies and mechanisms, and immediate resolution to promote fishery law enforcement against such illegal businesses. Close collaboration between government agencies and NGOs and local authority to improve environmental performance and alleviate poverty in the areas is of equal interest to them. Most importantly, all villagers, especially small-scale fishermen, are interested in knowing about local, national, and international market demands on fish catches and the prices of fishes on sale in the localities, nearby villages or communes, and in the markets. They also wish to learn how to improve their livelihoods through creation of possible SMEs in the areas, such as effective and efficient fish processing (i.e. smoked fishes, dried fishes, fish sauce, etc.), as well as to enhance their health conditions through some prevention or mitigation methods.

Access to information sharing is also subject to current management system and social organization at grassroots level in BTC and SS core areas. According to the semi-structured interviews, 67% of the total households questioned reported that they used to participate in meetings, discussions, and decision-making and planning for the development of their communities (see Table 4.11). These households said to have been informed in some ways by the government officers and concerned NGO staffs about these activities in case they are absent. This would be done through their village network, not always from the main interventionists or extensionists. Only 39% of the total ever initiated or were allowed to initiate some ideas for the overall development, leaving a majority (61%) as conjectural followers. When asked whether they are satisfied with government's, NGOs' and other sub-developers' plans and works in the areas, people's negative and positive responses were just about equal share (48% and 52% respectively). Contradictory to this result, the observation done by the author during his stay in the villages proved interestingly in another way. Because this question was sensitive in terms of

right of expression and impending results over their public reaction, local household respondents were reluctant to decide and proclaim that their authorities, responsible government agencies and working NGOs are flimsy.

Table 4.11: Local participation and satisfaction with the performances of external developers and planners perceived by the interviewed local household respondents (n = 120)

Experience in Information Access and Satisfaction	Yes	No
Have you ever been invited to participate in or informed about the meetings, discussions, decision-making, planning and implementation for the development of your community?	67%	33%
Have you ever initiated or been allowed to initiate any ideas for the overall development of your community?	39%	61%
Are you satisfied with government's, NGOs', and other sub developers' plans and works?	48%	52%

Source: Own survey (semi-structured interviews)

Difficult access to further information about new development plans and procedures of the government is not only happened to ordinary fishing communities, but also to some local management teams and local organizations (CFs and CPAs) whose operations are still new. In BTC and SS core areas, there are many observable problems related to misunderstanding and overlap of task assignments defined by each responsible ministry with approval from the government. This confusion has led to strong disagreement and less commitment to allocate information, justification, and entitlement to specific groups or local administrations in charge. Similar to commune and village development councils, the CFs and CPAs in the areas always wonder about their performance as they have never given enough power to implement their action plans within their designated community boundaries.

4.3.2 Social Capital

Network and Social Norms

The group participants revealed that in the past the local fishing communities in BTC and SS were well-off and they were not dependent much on the local patronage network for they were able to address their livelihood requirements properly. They agreed that they would not have relied on local patrons, outside developers, and most importantly on NGOs' interventions if they could solve their livelihood shocks on their own like in the past. For them, everything is under pressure and they are not much capable to manage their lives and predict their future unless a wide range of pressing situations is settled down. Reportedly, they were informed that local patrons and political leaders have contributed money to build necessary infrastructure, such as school (a primary school in BTC was built by the FUNCINPEC Party) and pagoda, and to help some poor villagers in the areas. These contributions have shown their kindness and active participation in alleviating poverty in the areas. However, these activities are confusing to the mind of local residents since these patrons would not perform unless they get benefits and spiritual support from the poor in return. In addition, it is doubtful to think how such leaders and benefactors could raise a lot of money from their low-salary works.

The participants reported that they are aware of the decline of moral and political order in Cambodia since party-driven patrons, political leaders and their partisans muddle up their management behaviors and social development mechanisms, especially in the countryside, by exposing themselves to help the poor via a variety of political financial endowments. In view of the local fishermen in BTC and SS, these patrons have committed corruption, land encroachment, illegal businesses and other harmful activities to the society for the benefits of their groups. Despite this understanding, people reported that they have no choice. For them,

leaving this political system and vertical network to underplay and buttress the communities is better than nothing. This does not mean they do not want to spread out their voice to wider institutions. The issues mentioned by the participants are how to escape from the well-knotted patronage intermediary to the right persons in the government or in what ways could the party-blocked government help improve their livelihood options and the decreasing natural resources in the areas in a timely and sustainable manner. It was found throughout informal meetings and discussions that the local fishermen in BTC and SS would more or less regard the horizontal groups, such as village and commune development councils, as important for immediate backup. However, it is also unclear to what level could these horizontal institutions be one of the most potential coordinating focal points for village development and information distribution about different possible sources of livelihoods in order to address people's livelihood loss more directly.

Another alternative of social capital invested for the local community development in BTC and SS, when the horizontal groups are lack of village-wide integrating force, is to extent wider access to international development agencies and NGOs (i.e. ADB, UNDP, UNV, FAO, etc.). The group participants mentioned that these institutions could provide more direct social networking and better chance for people to participate in identifying and tackling their own problems related to livelihood requirements and natural resources management. Good examples of these horizontal civic nets are the establishment of community-based natural resources management (CBNRM), community fisheries, community protected areas, women voice's association, and the like. Yet, people also illuminated that the barriers for this intervention are the dependency on available projects' supporting budget, lack of in-depth study of these institutions on people's livelihoods and needs, unclear identification and access to the real vulnerable and poor people, communication with and level of empowerment from local authorities and dominant government agencies for the project entry.

Trust and Relationship of Trust

When talked about trust and relationship of trust, most group participants in BTC and SS referred it to moral order and cultural value which are important for building up their community harmony and stability. This is not only associated with the psychological norm and behavioral structure between one villager to another in the same communities, but also with the spiritual communication between local villagers (clients) and local patrons and authorities, and between people and outside developers and government agencies.

The participants perceived that building and sustaining trust among their group members is very important for their lifestyle and stereotype since they were young. It would be practical to say that people are born with this strong social cohesion, and their level of trust with their neighbors and other permanent residents have always considered as a courage or stamina to the culture of self-help system, spreading all over BTC and SS regions. They mentioned that trust is built when people are exposed to social communication and activities, getting to know what other people think and want for their daily and prospected livelihood needs. In addition, they have to be approachable, benevolent, and sincere, and be willing to share with others regardless of contentment, sorrow, information, and service. The relationship of trust in BTC and SS is easily built and fostered among individual family kinship as every kin is nurtured to be responsible, accessible, and supportive to their relatives, parents, siblings and the entire family structure. This typical family-driven view is spiritually powerful. Then, trust can be built with other members in the neighborhood through stable contact and mutual understanding, and degree of shared acknowledgement. In this respect, the group participants referred to a family

tree as another important factor to channel the contact of their kin to other people in the villages. Most importantly, as mentioned by the group discussants, the common interest and compatible family's socio-economic activity and status are major contributing factors to trust linkage as well.

In contrast, trust and relationship of trust between ordinary local fishermen and the well-off medium scale and commercial lot owners are not observed as pronounced as between the plain local folks. This might link to the fact that these two groups are busily engaged in different forms of fishing activities and their times and efforts spent in fishing and other economic activities are widely divergent, and thus often bring about different contactual time and space for relationship. Another influential factor to this way of trust between these two groups is a belief that the well-off families normally use their money, power, and support from the fishery officers and local patrons to use sophisticated fishing gears to increase their fish catch without caring about the sustainability of fishery resources for others. However, this relationship of trust can sometimes built and reinforced, especially when the small-scale fishermen need to ask for immediate help from this group (i.e. for loan) or when this group demands productive workers for helping them with their businesses (demand for workers in fish harvesting season or in building fish bamboo vast scoop fence). The interviewed participants claimed that this kind of trust needs longer time and more understanding to accept. At least, a sense of trust on the basis of exchange of money, sentiment, and services was found through observation done by the author.

Trust between people and local patrons and authorities is usually happened on the basis of patronage structure. As mentioned by the participants, even though the people, especially small scale fishermen, realize that this group is unwilling in terms decision-making and raising public advocacy and statement from the areas to the government or other wider institutions for the benefit of the entire communities and resource management, it remains to some extent the trust between these two groups. They explained that a sound vindication could be made to protect people from being intruded by the lot owners and outside government agencies' staffs when people are on their side, meaning to support the overall management and political desire of the patrons.

There is not as much of trust or no trust built between local communities and outside developers (i.e. fishery officers, rangers, navy forces and ground army, etc.). This might link very much to the conflict of interest and ill responsibility of the management-related teams for the betterment of community development and natural resources conservation. On the contrary, more faith is given to local and international NGOs and communities as the people would like to have more interventions from these groups in constructing a better local structure and in fighting against the loss / lack of their livelihood assets and approaches. However, as emphasized by the group participants, local fishermen need these organizations to expose more directly and work more closely with the people in order to understanding their needs, to solve livelihood problems more effectively, and to help them become auto-developers and planners for their own areas.

Reciprocity and Exchange of Services

Reciprocity and exchange of services were recognized by the group participants and discussants as the interchange of privileges and unified characteristics that can work to everyone's benefit in the village. These qualities are more observable in a particular neighborhood environment or community in which people are able to contact each other easily in their daily lives. Besides depending on their relatives, people in BTC and SS also approach their kindhearted neighbors

to borrow money or basic foodstuffs in order to deal with their immediate livelihood needs. Sometimes this support is offered gratis as the givers believe that they will approach and be assisted by them back one day, or they will be helped by other benefactors from their goodness (a religious belief in Buddhism). In case the access to their neighbors is not viable, as reported in the informal meetings, another solution is to approach the better-off families in the areas. Approaching these wealthier households in the locality, especially outside their community, might be hazardous sometimes, but this case was reportedly mentioned as uncommon occurrence in SS core area. In terms of time loan, poor villagers have to pay on time including the interest rate or they have to sell some of their livelihood assets such as fishing gears, boats and some draft livestock to pay the debts. However, the group participants explained that the common means of shelling out the debts are to give some of their daily fish catch to the loaners until the recompense is finished, to sell their raised animals (especially fishes) when they are fully-grown, or to offer working services to them.

In spite of the above-mentioned livelihood approaches, the group participants and some interviewed elder people expressed that approaching outreach support from their community members to combat their urgent livelihood needs is easier than to prevent encroachment of the lot owners and seasonal in-migrants over their natural resources or to convince government agencies to prevent illegal fishing for reducing their livelihood shocks. They reported that it is a pride for them to help each other, and this self-help system is regarded as a strong village symbol in which they want it to survive within their communities.

4.3.3 Natural Capital

All the group participants and semi-structured interviewees agreed that the existing natural resources and all ecological conditions in BTC and SS core areas are essential for the socio-economic development of their families and communities. These massive assets are natural settings, wildlife (mammal and reptile), flooded forests, waterbirds and other bird species, and especially fish and other aquatic resources. They mentioned that these resources supply stable jobs, staple and continual food security and protein, and are vital for enhancing their quality of life both at present and in the future. As mentioned in the informal group meetings and discussions, a dramatic or complete decline in these resources will make the local fishermen suffer from a catch catastrophe, unknowing how to survive in the areas with absolute livelihood loss, what to settle on and where to move for new livelihood strategies. They explained that this is because the people do not have enough capabilities and other necessary skills. Moreover, the people claimed that they could benefit more directly and indirectly from other ecological units, such as flooded forests, in a way that it gives primary source of energy and prevents them from storms, floods and landslides, etc. Noticeably, most of the group participants as well as semi-structured interviewees vindicated that they prefer living with fresh air and beautiful natural sceneries in BTC and SS to living in urban areas, where are gradually affected by pollution. However, the livelihood resolution for them would be to get more access to safe drinking water and other social and public services (i.e. school, health care centers, etc.) in order to cope with livelihood shocks effectively.

Apart from these implications, natural resources in BTC and SS are advantageous for all communities living in the floating villages. Most of the interviewed household respondents emphasized that fishing and struggling to live in nature in the core areas are the unique cultural ways of life and stereotype of their communities dated back hundred years ago. Their sense of pride is emotionally involved in the sustainable use of these resources. Therefore, retaining natural resources, biodiversity and ecosystem in the areas could offer to the entire fishing

communities in BTC and SS the perpetual image and distinguished natural heritages to their young generation to know, love, and learn to protect them.

Another interesting perception of the local communities concerning biodiversity significances of BTC and SS core areas is the benefits for the government and country. Different to some commercial fishermen and seasonal in-migrants, the permanent local residents in these core areas pointed out that natural resources in BTC and SS could help the government to improving economic condition of the country. This can be done through initiation of responsible businesses such as reliable lot concessions, fish processing investment, and tourism. Consequently, the government would be more able to generate economic revenue and employment opportunities for the people in order to reduce the poverty rate in the regions and other remote areas in the provinces around TSGL. This perception reveals that the majority of the local fishermen in BTC and SS pay much attention to and are most willing to safeguard the natural environment, ecosystem and biodiversity resources of the BTC and SS. Their motivations are not only to fulfill their main economic interest, but also to achieve communities' sustainable livelihoods and use of natural capital in the areas to benefit the nation as a whole.

Access to Natural Resources

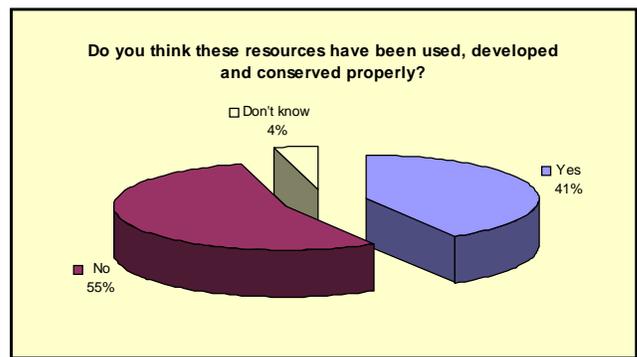
Community access to natural resources presents one of the most complex problems affecting livelihoods of the local fishermen in BTC and SS core areas. According to the semi-structured interviews, 77% of the total household respondents questioned said that they have abilities to get access to and use natural resources, while 23% does not have enough abilities to use all kinds of allowed common property resources (see Table 4.12). This is because they do not have sophisticated equipments to support their activities, and their affordability to pay the government officers and local authorities to use the areas is limited. The people's opinion regarding the effectiveness of resources and consumption in their areas is made clear in Figure 4.5. Over 50% of the interviewed local households confirmed that natural resources (e.g. flooded forests, fish, NTFPs, waterbirds, mammals, reptiles, amphibians, mollusk and bivalve) have been used and conserved improperly in the areas. 41% rejected the opinion of the first group. However, through participant observation, these answers are derived from two different groups of people: (1) those who are allowed to access and use by all means of methods depending on their social relation and the level of payments; and (2) those whose ownership and access rights are restricted.

Table 4.12: Experience and equality in resource access

	People Access to Common Property Resources (CPR) (n = 120)	Perception of Locals on Equal Means of Access and Level of Access to CPR (n = 120)
Yes	77%	57%
No	23%	43%

Source: Own survey (semi-structured interviews)

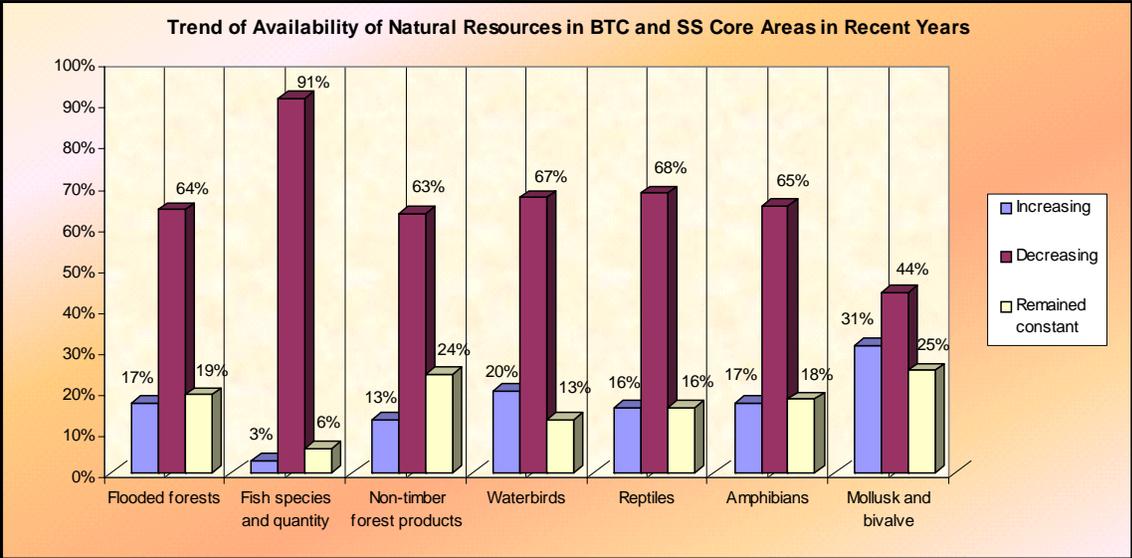
Figure 4.5: Opinion on natural resource management



Source: Own survey (semi-structured interviews)

The group participants in BTC and SS core areas realize that natural resources being used by them and outsiders are declining dramatically. When asked to forecast the trend of availability of natural resources in BTC and SS core areas compared to the past, they agreed that all kinds of available resources have been depleted severely. Considerably, amongst all kinds of resources, fishery resources is the most depleted one. This indicates that the most important livelihood asset of BTC and SS communities is dying out and serious social and environmental problems would be occurred if effective measures are not taken place immediately. To verify the opinions of the group participants, semi-structured interviews were applied with the selected representatives (heads) of the local households in the areas. Similar to what were reported in the informal group meetings and discussions, all types of natural resources in BTC and SS have been decreased and are continuing to decrease (see Figure 4.6). Among all types of natural resources, fishery resources are the most severe one that has been swiftly declined in number, size and species. The second most destroyed natural resources in the areas is reptile, such as watersnakes and other snake species, tortoises, and crocodiles, followed by waterbirds, amphibians and flooded forests. A decline in these resources has limited the ability of the local fishermen in BTC and SS core areas to improve their livelihoods as well as to increase their access and use over available local resources. However, the group participants mentioned that there are many reasons leading to limited access to natural resources among local communities, especially small scale fishermen, in BTC and SS. Among these, three reasons were considered as the most influential ones, such as: (1) the invasion in and the forbiddance of fishing lot owners for people to access to public fishing grounds; (2) the allowance for illegal fishing gears consumption by fishery officials with its local patrons; and (3) the encroachment from seasonal in-migrants.

Figure 4.6: Status of natural resources in BTC and SS core areas



Source: Own survey (semi-structured interviews)

4.3.4 Financial Capital

The main source of income for the local communities in BTC and SS core areas is fishing followed by other additional livelihood activities, such as fish culture, fish processing, livestock rearing and others. However, to secure their livelihoods in these areas, other means of financial sources are needed and these are normally done through potential groups which can provide loans for common collateral, local saving patterns and other coping strategies.

Micro Credit and Outreach Programs

To borrow money from formal micro-credit or big financial service organizations is not a favorite strategy to cope with livelihood shock and loss in BTC and SS. This is only common among commercial fishermen (medium and large scale) who need to borrow a large amount of money from the private rural credit providers to carry out or increase their investments in the areas. In general, local people are afraid of the commercial lien of loan providers, which might cause further threats to them. They have more preference to borrow money from other people within their communities, many of whom have built a good social network and faith in them. These local credit lenders can be their relatives or kin, their neighbors, local fish traders, fishing lot owners or creek and fishpond operators, local development communities, and other well-off families (mostly Chinese Cambodians) in the areas. The interest rates range from 3% to 30% per month. Of total, the community development organization was reported as the highest demanding interest rate lender. The group participants explained that it is financially poor and instable, and the money is contributed by a number of Samaritans and benign local residents for the purposes of local development and religious rituals. Therefore, the community always demands high interest rate and provides only loans for a short period of time to the most needed villagers.

The gap between the above interest rate is dependent on the level of trust, relationship of trust, and the value that each party (lender and borrower) can exchange in terms of services and support. According to most household respondents interviewed, the money borrowing-lending transaction is very informal, and the providers do not need any collateral as long as they have faith in each other. Even though the installment has to be added with the interest rate, some moneylenders also accept the payment in-kind, meaning to provide them work services to pay the debt. On the other hand, the borrowers can sell fish catch to the lenders in order to reduce the debt. This process is the most common one among rural poor and vulnerable fishermen in BTC and SS for they afford it much better than to pay in cash.

Social value is the most important feature for the local fishermen to survive in their communities. Some male household heads interviewed stated that sometimes they are afraid that trust and reciprocity can be broken down when a person cannot favor other people's expectations and needs. Therefore, it would be ideal if there is an easy access to loan providers which would not make them become highly dependent on local social relationship and network. These respondents reported that sometimes they borrow money from the gold-smith shops or jewelry shops in nearby districts (i.e. Stoung Market, Stoung district) by pawning their properties. Usually, the credit lenders expect them to pay 10% interest rate per month, but do not attempt to grab hold of their livelihood assets like the formal creditors do (i.e. ACLEDA Bank). In this case, it is important to understand different perceptions of local fishing communities in BTC and SS core areas on their livelihood mitigation strategies and value judgment. Also, it reflects the interlaced cohesion between the financial and the social capitals in way that social relationship should not be broken down from the financial shock.

Saving Patterns

Besides fishing to secure the daily food supply and exchange for other living necessities, local fishermen also attempt to increase their fish catch, so that they can sell for money to increase their saving capacity. Since the price of every product in the market has been dramatically increased, the villagers in BTC and SS need to earn and save more money to escape from common livelihood problems and poverty. The most effective saving pattern many people mentioned during the interviews is to have sufficient budget to raise fishes in the rectangular cages or pens plunged into the river. Fish raising is sometimes risky for most local residents

when the amount of dead fishes increase in the cages. Yet, as mentioned by most local respondents, to find regular feeds for the raised fishes is not difficult for them as they could buy bran from the nearby districts to mix with small fishes and chopped freshwater algae which they could easily find in the river.

Another practical way to save money is to rear draft animals such as pigs, chickens, geese, ducks, and cows (only available in some villages of Phat Sanday commune in SS core area). Most of the interviewed local villagers explained that they feel more comfortable and happy if they have livelihood assets such as draft animal husbandry to improve their food security and economic status. For them, rearing livestock is like saving money indirectly if compared to the upland people. This would advantage them a lot to address their immediate livelihood requirements, and even provides foods for them during special occasions, such as religious rituals and wedding ceremony.

In recent years, some people have been interested in raising crocodiles in the wooden fences because this animal is highly demanded by the international markets. However, only few families in Peam Bang village (BTC) and Phat Sanday village (SS) could manage to raise such expensive animal. Raisers have to buy small crocodiles from the farms (i.e. from Kampong Thom and Kampong Chhnang or Siem Reap provinces) at fairly high price. This emerging livelihood has been adapted from the Prek Toal core area of the TSBR in Battambang province. They reported that this activity is dangerous and the crocodiles' feed is higher compared to fish raising. However, they need not care much as this animal is very unassailable to all the hard conditions of the river.

Furthermore, receiving remittances from relatives working in the city or other countries is another way to accumulate the financial capital of the fishing households in BTC and SS. Few families in Kampong Chamlong village in Phat Sanday reported that they usually receive some money from their children working in the garment factories and construction firms, whereas some families in Peam Bang obtain some infrequent remittances from abroad. However, even though it could help them to solve their livelihood problems, it is not a sustainable livelihood approach that local fishermen would rely on.

4.3.5 Physical Capital

Most of the basic public and social infrastructural services (i.e. schools, hospitals, waste treatment, clean water supply, etc.) in Peam Bang and Phat Sanday communes are missing. People, especially school age children, do not have much access to both formal and informal educations to enhance their knowledge and to be able to cope with their livelihood problems. Also, most of them are susceptible to many kinds of curable diseases because of no health care center and proper medical service in their areas. The far-off distance between the communal/district/provincial hospitals and BTC and SS is the main obstacle for the local fishermen.

Local people do not possess permanent houses since they have to build and maintain them every year to response to the geographical condition of the places. Different households use different qualities of materials to build their houses depending on their economic conditions. It is easy to identify the socio-economic status and the level of poverty of local communities through the type and size of the house, housing materials (including fishing gears), and the size of individual households' fish-raising businesses. The elite and rich villagers live in big floating houses on water made of wood and tin roof with fish and crocodile cages below. The medium class families live in floating houses made of cane or bamboo and palm leave roof with fish

cages below. The poor or poorest people live in big floating houses on boats (junks) made of wood and tin roof and small floating houses on boats made of cane or bamboo and palm leaves respectively. According to the semi-structured interviews (n = 120), the amount spent for building or rebuilding a house for the interviewed households varies from USD 300 to USD 3000. However, houses of rich fishermen could cost up to USD 20,000. Every house is maintained annually after the rainy season since some (or most) parts could be broken by heavy rains or storms. In common, the average maintenance costs the interviewed household respondents mentioned ranges from USD 30 to USD 300, while some materials might cost more. The maintenance costs could make the small scale fishermen poorer and more vulnerable.

Concerning the physical space of the house, 67% of the local households interviewed replied that the size of the house is adequate for their families, while 33% mentioned that they need more space for their families, but could do nothing to make them better (see Table 4.13). The electricity supply is missing in BTC and SS core areas. However, 90% of the interviewees said that the energy consumption could be obtained from the generator (20%), electric spawn (77%) or from the local suppliers (3%) who have generators. Kerosene lamps were observed as the common source of energy used by every household.

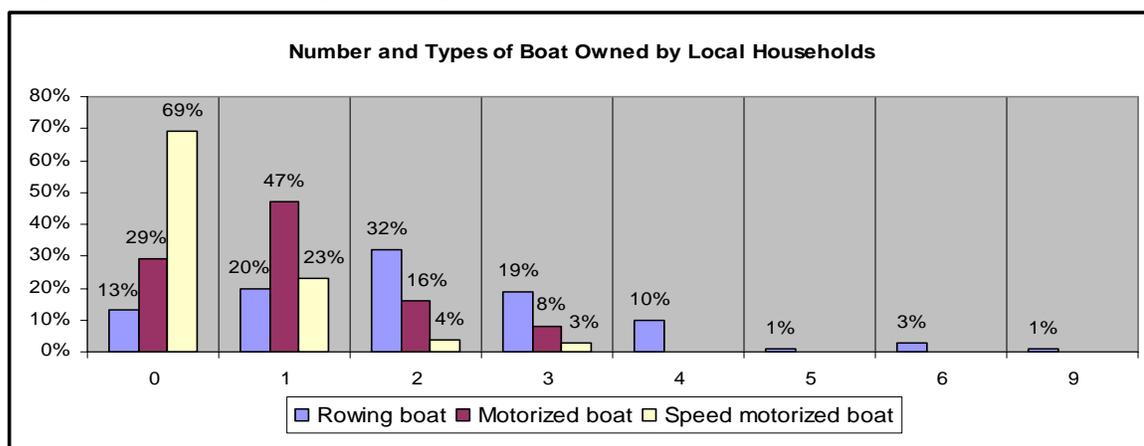
Table 4.13: Opinion on physical space and modes of energy consumption

	Adequate Space of Houses	Access to Electricity Consumption	Sources of Electricity	
Yes	67%	90%	Generator	20%
			Supplied by private electricity generating firm	3%
			Electric spawn	77%
No	33%	10%		

Source: Own survey (semi-structured interviews)

The only transport facility that has been used by local communities in BTC and SS is boat. The movement and activity of the people are connected with boat. There are different types of boat depending on the size and materials used to make it. These include rowing boat, motorized boat and speed motorized boat. The motorized speed boat is the most convenient and sophisticated boat for transport, fishing, and fish trading and transportation. However, only few local fishermen could afford it, whereas many poor locals use only normal boats for their daily intra transports and subsistence fishing activities. (Figure 4.7)

Figure 4.7: Number and type of transport facilities



Source: Own survey (semi-structured interviews)

Local and public buildings are also indicators of the physical infrastructure development of an area. Desolately, the villagers' shelters are built to cope with the seasonal context of living on the river. Even though some floating houses have been newly built and renovated, a majority of them is in a dilapidated condition. Observationally, there are only few floating fishery and environment (for the DoE-PIU and the DoF-PIU staffs) posts in the areas, and the communal offices are usually operated in the floating houses of the Commune Chiefs.

4.4 Scenarios of Primary Resources, Consequences, and Needs for Alternative Livelihood Options in BTC and SS Core Areas

This section summarizes and analyzes the major results of Chapter 4 by stressing an immediate need to improve the livelihoods of the local fishermen in BTC and SS, while at the same time promote nature conservation in the areas. The increasing livelihood requirements, the convoluted context of the management structure and the adequate capacity to administer and preserve natural resources, and the global climate change are potential implications of the environmental change in BTC and SS core areas. The future possible scenario for scarcity of fishery resources and other natural resources can be spawned from an assortment of reasons (see Figure 4.8).

In the context of BTC and SS, there is a gloomy sign of constant illegal fishing and hunting. Besides, more flooded forests will be increasingly destroyed by the people as forests are the only source of energy consumption and other basic livelihood needs. The continuation of illegal fishing activities and unsound fuel wood collection in great amount would also damage the natural ecosystem and habitats of fishes and other wildlife species. These issues are basically caused by five major aspects. These include: (1) fast local population growth rate in the floating villages; (2) ongoing arrival and incursion of the seasonal in-migrants from all the nearby regions and provinces; (3) poor fishery and environmental performance and management; (4) poor law enforcement and legal framework; and, (5) corruption. The more likely these issues are going to increase in BTC and SS core zones, the more increase in the unequal access to natural resources and the more decrease in quality and quantity of fishery resources, biodiversity and natural environment in these respective hotspots.

However, the decline of quality and quantity of primary resources and ecosystem in BTC and SS is not only the results of human actions, which consume and reap natural assets at a rate faster than they can be rehabilitated in the areas, but is also affected indirectly by some external factors. This milieu of externality comprises the change of water hydrology of the TSGL and the economic effort to increase agricultural development in the buffer and transition zones within and along the lake itself. The hydrological phenomenon and economic attainment from agricultural sector always set off growing demand for improving irrigation system in the five provinces around the TSGL. This attempt is to enhance the rice productivity in the region and country in order to ensure food security for the rural poor and to increase the supply to national and international markets. When this attempt occurs, a set amount of arable land and water is required to be divided increasingly among more rural farmers and interested agricultural investors. Normally, they struggle to get sufficient amount of water available for irrigating their rice paddies and field crops. As mentioned earlier in this chapter, the construction of electric power dams and irrigation system, both small and big scales, accordingly have caused water shortage and change of waterway system in BTC and SS core areas. These would eventually result in water pollution especially in dry and early rainy seasons. Some interviewed environmentalists spelled out that these chain-incidents can lead to decrease of fishery

resources, biodiversity and ecosystem in BTC and SS both in quality and quantity. The result of these chain-incidents could also to some extent be seen through the occurrence of unequal access to natural resources by different ethnic groups and beneficiaries.

The conflict of interest is often taken place between different groups of people in BTC and SS core areas. Even though the conflict is not shown through violent behaviors of the family-scale and some medium scale fisher folks towards the commercial lot concessionaires, fishpond and creek owners, local authorities, and somehow to the seasonal in-migrants, the rages can be observed through their perceptions and attitudes. In contrast, the rich and powerful fisher folks usually show more visible struggle and fracas to protect their personal benefits and grab hold of opportunities in order to enlarge their businesses in the areas. As a matter of fact, the conflict of interest is relatively produced by unequal access to and unequal use and control over natural resources and other scarce resources, especially fishery resources which is the main source of livelihoods in the areas. Unequal access possibly will cause a dramatic change to the livelihood situations and approaches of the rural poor in BTC and SS. It might be a result of fishery and environmental laws and implementation which only concentrate on the supply in hands of relatively few people (i.e. lot operators and those who can pay off well), leaving the majority of the people face unfair access right to resource consumption and scarcity. The increasing scarcity of livelihood resources is a cause of the conflict of interest in the areas as well. This issue indicates that all types of people, regardless of their socio-economic statuses and backgrounds, desire to increase their fish catches by using more sophisticated fishing gears and techniques without respecting the rights of and benefits for others. Therefore, they rarely understand each other, and thus befalling more difficult for them to follow the fishery and environmental laws defined by the MAFF and the MoE for the management and conservation of the core areas.

The worse environmental conditions and the decrease of fishery resources might make the local people conceive other feasible sources of income in order to cope with their livelihood needs and shocks. In this way, the alternative livelihood income can be generated for them through two substantial approaches: (1) village-based livelihood approach, and (2) non-village-based livelihood approach. At present, the demand for land for dry rice farming, vegetation, and other field cropping has been dramatically increased in these two core areas, particularly in SS along the lakeshore in dry season. In this respect, local villagers and seasonal in-migrants try to clear the flooded forests, evergreen forests and shrubs when the water recedes, so as to claim ownership for agricultural lands despite the absence of land demarcation and land titling in the areas. The forest clearance in the core zones and the illegal deforestation in the buffer zones of the TSBR constantly degrade the environmental quality and the primary resource abundance of BTC and SS core areas.

The idea of disproportionate ownership over fishery and other natural resources along with low awareness and knowledge of local residents and all beneficiary groups about their essential casual roles might lead to more environmental change and livelihood complexity. In general, the study reveals that the more causes to environmental degradation, the more likely biodiversity and people's livelihoods are going to lose. Therefore, it might cause poor and vulnerable people to migrate or to be excluded from the regions since they do not have effective solutions or abilities to cope with the loss of their livelihood assets. Additionally, it might relate to their limited capacity to vie with large scale fish business proprietors whose right, power, and capitals are comparatively much higher than the plain local folks.

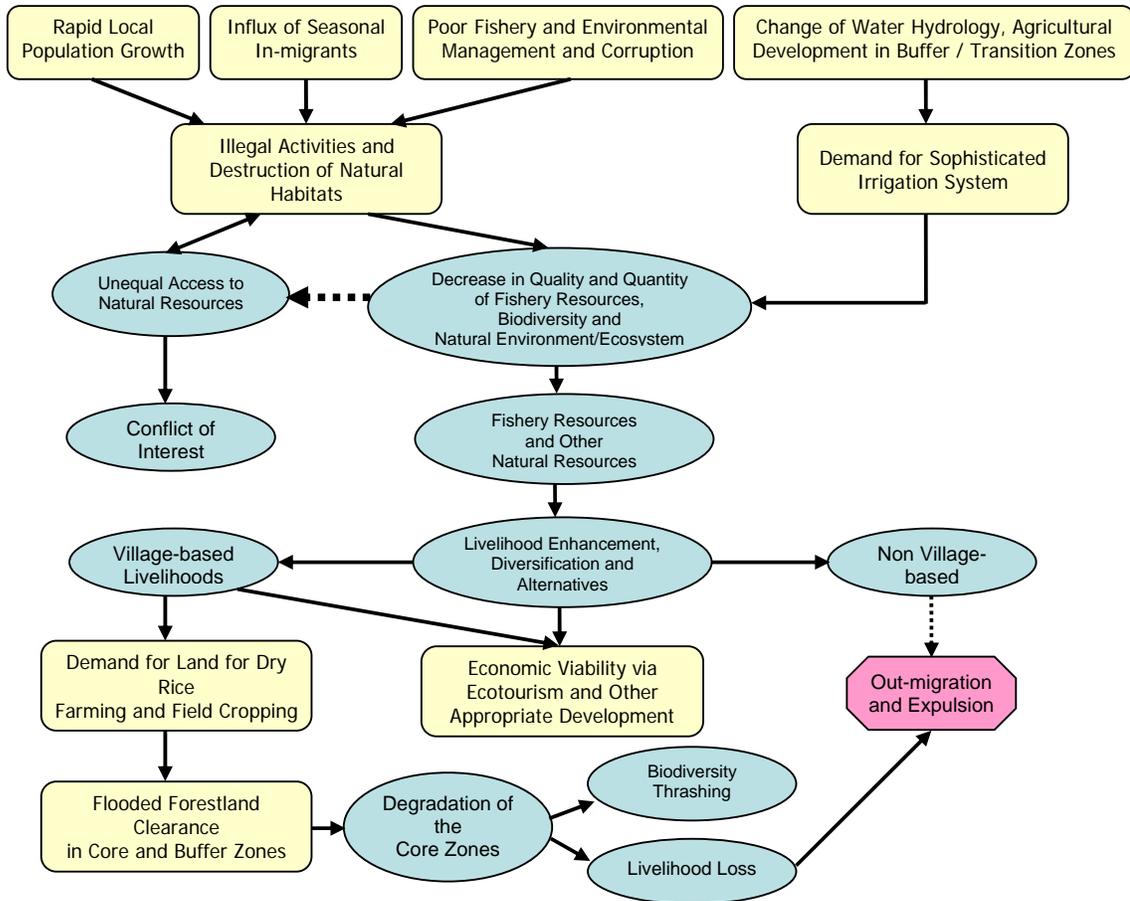
Local communities in BTC and SS would think of out-migration as a part of their livelihood approaches. The phenomenon of people's out-migration and expulsion might be caused by

other underlying factors as well. Besides resource scarcity and biodiversity and livelihood shortfall, the relationship between livelihood change and migration can be spawned by other factors. These include high population growth, poverty, unfair political systems and social distress, inequitable resource consumption and benefit sharing, and most specifically the shortage of diversified economic opportunities in the areas. On condition that local fishing communities face more poverty and livelihood shocks, they will be more vulnerable and prone to environmental problems in the areas. This could make them seek other possible livelihood strategies outside their localities in order to cope with environmental and social changes. It is noteworthy to consider that if the current socio-economic and ecological problems in BTC and SS core areas are going to remain and mushroom at uncontrollable rate, most of the local villagers will consider adapting non village-based livelihoods. This means they will struggle to find possible economic activities in urban areas and neighboring countries. In this case, out-migration and expulsion are strongly dependent on the livelihood conditions and the availability of better jobs outside these floating villages.

Other non-fishing livelihood activities can be simply introduced to BTC and SS in order to solve pressing resource allocation conflicts and preserve natural resources and ecological environment, while improving local communities' livelihoods. The possible economic activities are still foreseeable within a domain of village-based livelihood methods. The effort to conserve and improve natural capital, biodiversity and ecosystem and to alleviating poverty rate of the people all at once are a common challenge to developers and environmentalists in BTC and SS. Yet, some alternative livelihoods could be identified at optimal level. To reduce the increasing fishing efforts, illegal hunting and flooded forests clearance in these core areas, alternative revenue generation activities are needed in a timely manner in combination with other local economic viabilities. The development of these economic alternatives might be based upon environmental friendly principles. Therefore, the quality of life and the awareness of local villagers could be improved, thus encouraging active local participation in conservation and development in the areas.

With respect to geographical, environmental and social conditions of BTC and SS communities, ecotourism could be one of the alternative options. By nature, ecotourism is originally developed from the concepts of ecological and sustainable prudence which integrates with remarkable economic viability to enhance local livelihoods. This would be beneficial for the management and the conservation of natural resources in BTC and SS, while at the same time stimulating the local economy through the creation of jobs and sustainable businesses. However, there is a need to further investigate the feasibility of the places for ecotourism development, the demand of the market (tourists and private intermediaries), as well as to assess ecotourism impacts on human and natural environments. The answers to these questions will be elucidated in Chapters 5, 6 and 7.

Figure 4.8: Scenarios of Primary Resources, Consequences, and Needs for Alternative Livelihood Options



CHAPTER 5: POTENTIAL OF SUPPLY SIDE (HOST COMMUNITIES)

This chapter analyzes the potentials of BTC and SS core areas as the supply side of an ecotourism destination development in the TSBR. To present the results of different spectrums of this subject matter, it is divided into three major sections. The first section presents about interventions, policies, regulations, action plans and project activities of the government and its ministry members, development counterparts, local and international NGOs, and financial institutions with regard to the management and conservation of BTC and SS core areas. Since the foci and scopes of works of these institutions are varying and wide-ranging, only their necessary development plans and frameworks, project implementations and future prospects which are supportive of or complement to ecotourism process in BTC and SS are considered. The second section introduces substantial and viable resources for ecotourism development and potential tourist activities in the areas. It seizes upon a range of requisite natural attractions (i.e. landscapes and scenic views, fauna and flora, etc.) and cultural resources (both tangible and intangible) which are available at present in the localities. The last section concentrates on the challenges for ecotourism development by incorporating four main parts for comprehensive analysis. The first two parts focus on the issues of carrying capacity of the sites and local communities' perceptions and other stakeholders' attitudes and supports towards ecotourism development in BTC and SS core areas. The third part illustrates general experiences and opinions of local communities about current plans and implementations of concerned executing agencies, NGOs and government and its development partners in order to assess how community trust could affect the operation of ecotourism developers. Besides, this part highlights the extent of governance, accountability, transparency and collaboration of executing agencies and their member agencies perceived by the expert group from different related expertise. The last part demonstrates common issues and challenges for ecotourism initiative in BTC and SS core areas in detail, following the analysis of internal (strengths and weaknesses) and external (opportunities and threats) factors of its development prospect.

To come up to these results, different methods were used to collect reliable data from diverse sources (see Chapter 3). Based on their contents and relevance, secondary data (i.e. documents, reports, previous studies' results, etc.) were collected and analyzed for the understanding of policies, plans and development frameworks of the government and other concerned stakeholders whose projects are related to the management and conservation of BTC and SS. During the collection of secondary data, some informal interviews were also conducted with document providers or responsible persons to get more information which are not included in the documents. In addition, more supporting information about institutional involvement and infrastructural development were given by executing staffs (DoE-PIU and DoF-PIU) and local authorities in the in-depth interviews. The results of potential tourist attractions in these core areas were obtained mainly from the in-depth interviews with executing agencies' staffs (i.e. rangers and patrollers, etc.), local communities (i.e. only members of CFs and CPAs, elder people, and commercial fishermen, etc.) and local authorities (i.e. commune and village chiefs, etc.). However, some documents and studies of well-known organizations (i.e. IUCN, WCS, ADB, UNDP, etc.) were also used to provide more concrete information about natural resources, while the information on local cultural resources were only accessible through interviews. The assessment of the carrying capacity was based on the results of Chapter 4 in which all related financial, human, physical, and infrastructural aspects of the sites and communities were discussed in detail. The perceptions of local authorities and villagers (the three groups of fishermen) towards ecotourism development were collected respectively from the in-depth interviews and semi-structured household interviews (were done to support the results from group discussions). Other stakeholders' attitudes and supports (senior members /

officers of government, NGO, development and donor agencies) were found out through the expert interviews. Apart from providing data on their perceptions of ecotourism, these groups were also asked to reflect the governance, accountability, transparency and collaboration of concerned executing agencies and developers and undertake SWOT for ecotourism development in BTC and SS. Data on potential challenges for ecotourism process in the areas were gathered from all related stakeholders using individual methods mentioned above. The results of this chapter are described in full-length in the following.

5.1 Government Initiatives and Policies

The government of a country will ultimately be mirrored in the manner and magnitude involvement in its development. As Cambodia is keenly dependent on tourism for its economic survival and the conservation of its valuable primary resources, the government has paid more attention to the selection of proper types of tourism to develop in protected areas rather than to become more involved in fast industry sector (MoE, 2002; Cambodian National Tourism Development Plans 2001-2005; Socio-Economic Development Plans 2006-2010). This section will highlight a variety of government initiatives and mechanisms related to the issues of accommodating feasibilities for the development of environmental friendly economic sectors in BTC and SS core areas, particularly stressing ecotourism as a sustainable approach.

According to the Draft National Report on Protected Areas and Development prepared by the Ministry of Environment (MoE) in 2002, the nature-based tourism or its subset (i.e. ecotourism) is principally considered as one of the valuable and effective approaches to generate revenue for protected areas and for improving the livelihoods of people living in or in close proximity to them. Two major government institutions, MoE and Ministry of Tourism (MoT), are appointed to be collaborative partners for a number of issues concerning tourism development in protected areas. A review by Sharee Bauld (2005) states that these institutions have a range of joint task assignments including: producing strategies for developing and implementing a national plan for tourism development associated with protected areas; evaluating the current arrangement for changes and the strengthening of positive relationship between tourism and protected areas; developing and conducting tourism training courses for protected area developers and managers, tour guides and local community leaders; and establishing close partnerships or networks between government, NGOs, and the private enterprises. In addition, the government commitment and supportive policies have also been publicly disclosed as the government has declared to be willing to reserve between 10% and 30% of the territory in protected areas for co-management with local communities, which depend on natural resources in the areas as the main source of livelihood. From a critical standpoint, this incentive is substantial for the local communities to grab opportunities to expression on community-based ecotourism activities in order to benefit from its development process. While supporting conservation activities and environment research, ecotourism is being used in protected areas to benefit community development and awareness programs by empowering local people to manage their own resources (Neou, 2003; TSCP, 2006; Men, 2007).

Since the early 2000s, the RGC has shown great efforts to identify feasible conditions of the protected areas and Biosphere Reserves for implementing sustainable tourism as a crucial channel for attaining economic development and poverty alleviation in rural and peripheral areas (Bauld, 2005). These exertions have been included in the First and Second Socio-Economic Development Plans, from 1996 – 2000 and from 2001 – 2005. Many current development frameworks of NGOs and government agencies (i.e. MoE) in Cambodia usually

categorize ecotourism as one of the most fundamental additional revenue generation approaches for the natural resource rich but impoverished rural areas (Men, 2007). The eight protected areas around TSGL, particularly in the three designated hotspots (Prek Toal, Boeung Tonle Chhmar, and Stung Sen) are also considered as potential sites to implement this growing service sector. This development mechanism supports the initiation of ecotourism or other kinds of community-based tourism as a poverty reduction strategy and as an effective means for the conservation and sustainable use of natural resources, biodiversity and natural ecosystem in the areas (Neou, 2003). However, most of the planned developments are subject to fund availability and ecotourism assessment for implementation.

According to the Director of Institute of Khmer Habitats – MoE (1997), and the Chairman of CCBEN in 2006, even though ecotourism has been initiated in some natural areas which are believed to face environmental degradation and high poverty peril, it is not yet well-known in the country except for those who are working closely with ecotourism projects. Yet, efforts to establish more ecotourism sites are in progress (Khanal and Barba, 2007). The concerned government agencies and their development partners have accepted ecotourism as a potential tool to be developed in the TSBR core areas (Neou, 2003; TSCP, 2006; Dowley, 2007). It may be then an option to adopt and develop further in support of present dynamic cultural tourism which has already available services and facilities in exploitation (Lopez *et al.*, 2003).

The Tonle Sap Basin and Biosphere Reserves (including BTC, SS, and Prek Toal core areas) are rich in unique natural environment and cultural assets (UNDP-GEF, 2001; TSEMP, 2005). Some of its core zones could be developed as fascinating eco-touristic destinations with an attempt to help improve the quality of life of rural communities and promote responsible environmental services and management (TSCP, 2006; TSCP, MoE and MAFF, 2007). According to MoT (2005), approximately one million tourists visited Angkor World Heritage Sites in Siem Reap province, and up to 30% of them also visit the Tonle Sap Great Lake (Chu *et al.*, 2006 cited in Dowley, 2007). Therefore, the potential for tourism development along or within TSGL, especially its core areas, is significantly recognized not only in Siem Reap province, but also in other provinces around the lake system such as Kampong Thom in particular due to its present natural and cultural heritage sites. By following the example of Prek Toal CBET, ecotourism will be developed fully in BTC and SS as an integrated groundwork of local agricultural and cultural activities which is parallel, compatible, and contributive to nature conservation and poverty alleviation in the areas (TSCP, 2006; TSCP, MoE and MAFF, 2007).

5.1.1 Results of Documentary Analysis of Institutional Involvement and Support Programs in BTC and SS⁴⁵

There are two direct executing agencies, four indirect ministries, five donor and financial institutions, and three international organizations being involved in infrastructure development, management and conservation of natural resources, and other social and economic advancement of BTC and SS (TSEMP, 2005; TSCP, 2005; TSBR-ED⁴⁶, 2006). They also have played most potential roles in providing support (technically, spiritually, and financially) to planning and development of the areas with view to alleviate poverty rate among rural poor. Some of these institutions have also developed some innovative outlooks to generate alternative livelihood options, including ecotourism development, for BTC and SS core areas.

⁴⁵ This section only shows the results of analysis of relevant documents, reports, development plans and policies of concerned governmental and non-governmental organizations by referring to the potential of these stakeholders' work which could contribute to ecotourism development in BTC and SS core areas, both directly and indirectly.

⁴⁶ TSBR-ED is the abbreviation of the Tonle Sap Biosphere Reserve Environmental Information Database.

The direct executing agencies involved in development and improvement of natural resources management and people's livelihoods are Department of Nature Conservation or Environment of the Ministry of Environment (DoE-MoE) and Department of Fisheries of the Ministry of Agriculture, Forestry and Fisheries (DoF-MAFF). The four indirect ministries are: Provincial Department of Education (PDE) in association with Department of Pedagogical Research (DPR) of the Ministry of Education, Youth and Sport (MoEYS); Provincial Department of Rural Development (PDRD) of the Ministry of Rural Development (MRD); Ministry of Women Affairs and Veterans (MWAV); and Ministry of Interior which is assisted by the SEILA (the foundation stone) program to promote decentralization and deconcentration through village and commune development programs. The donor and financial institutions include Asian Development Bank (ADB), United Nations Development Programs-Global Environmental Facilities (UNDP-GEF), World Conservation Society (WCS), Capacity 2015, and the Royal Government of Cambodia (RGC). The four international organizations working on different projects as contractors and sub-contractors of the TSEMP and TSCP-funded projects are WCS (responsible for the management and expenditure of its own contribution), United Nations Volunteer (UNV), International Union for the Conservation of Nature and Natural Resources (IUCN), and Live and Learn Environmental Education (LLEE).

The RGC and its executing agencies (DoE-MoE and DoF-MAFF) are entitled to: (1) work collaboratively to reduce the level of deterioration of TSBR ecosystem and biodiversity; (2) enhance the quality of life of the local communities through appropriate poverty intervention strategies; and (3) raise all the beneficiary groups' awareness of the significance of the natural assets in the TSBR core areas (TSEMP, 2005a, 2005b). Under a USD 19.4 million seven years TSEMP project (2002-2008), DoE-MoE and DoF-MAFF are appointed to be major government agencies with separate and some coincided management responsibilities to carry out environmental protection, poverty alleviation and community development plans with other associated agencies (ADB, 2002; TSEMP, 2005). The TSEMP project, which is co-funded by ADB, GEF, and UNDP Capacity 21, has three components: 1) strengthening natural resource management in the TSBR; 2) organizing communities for natural resource management; and 3) building management capacity for biodiversity conservation (TSCP, 2005, p.1).

According to UNDP-GEF (2001), ADB and FAO (2004), TSEMP (2005), and TSBR-ED (2006), DoF-MAFF is responsible for managing fisheries resources and fishery-related activities in TSBR core areas, including BTC and SS core areas. This institution is assigned to launch its primary management process on inspection and enforcement of the fishery laws and entire fishing system in these core zones. Moreover, it has to develop and execute fishery production and harvesting plans and controlling measures over legal and illegal instruments for fisheries with clearly defined tax system and punishment. Through expected good transparency and accountability, DoF has to put effort to preparing and enhancing the management of fishery areas. It is often supposed to undertake reliable and effective scientific study on fishery production and issues related to the success and failure of the management team, and to expand fishery-related information and data for dissemination at provincial and national levels. For the monitoring process, DoF is responsible for investigating abuse of fishery system in order to regularly help MAFF and government to enforce laws and to determine flexible and effective conflict resolution strategies for specific and overall fishing activities in BTC and SS. Besides engaging in the management duties related to fishing and fish distribution networks, DoF concentrates on capacity building for its fishery officials by providing trainings to them on regular basis.

DoE-MoE is responsible for the management and protection of biodiversity resources and natural environment in TSBR core areas (Prek Toal, BTC and SS) in accordance with the international convention on wetlands and biodiversity (TSEMP, 2005). According to the Provincial Inter-Ministries Meeting in 2005 in Kampong Thom province, the DoE – MoE is nominated to implement management and conservation action plans in highly protected zones in TSBR, including BTC and SS as a priority. Apart from managing and retaining flooded forests, fish and wildlife habitats, and biodiversity and natural ecosystem of BTC and SS, DoE pays attention to the development and diversification of services and products for ecotourism initiative in protected areas and biosphere reserves. This new strategic plan is to improve the quality of life of the local fishing communities in BTC and SS, to alleviate poverty through the creation of alternative livelihoods, and to encourage sustainable use of natural resources in the areas (Neou, 2003; TSCP, MoE and MAFF, 2007).

Since 2004, the Tonle Sap Conservation Project (TSCP) has undertaken a continuing project integrated within the TSEMP aiming to develop the management capacity for biodiversity conservation in the TSBR (TSCP, 2005). This seven years (2004-2011) project receives USD 3,596,420 support budget from its primary funding agency (UNDP-GEF) and other co-funding agencies, such as: ADB (USD 240,000 for the construction and renovation of Protected Areas and Core Area Management Centers in Prek Toal and BTC), Capacity 2015 (USD 164,130 for capacity training programs), WCS (USD 200,000 for biodiversity survey in TSBR core areas to support the TSBR database), and in-kind support of the RGC (USD 496,000 for necessary staffing, training and equipment) (TSCP, 2005). Four major institutions have been involved in the implementation of this project, namely the TSBR Secretariat, MoE, MAFF and MoEYS, and their task assignments are administered directly by the Cambodian National Mekong Committee - CNMC (TSBR-ED, 2006; TSCP, 2005, 2006). However, as the mission of this project is to achieve the third component of the TSEMP, which deals with TSBR core areas, only the DoE-PIO and DoE-PIU of MoE are considered as direct implementing agencies, while others are counterpart institutions or contractors for other related matters (TSCP, 2005). Out of its wide range of plans⁴⁷, five current and future activities are considered as potential supplements to ecotourism development in BTC and SS core areas besides their expected inclusive impacts on sustainable environmental governance and core area management. These include:

- Develop core area management plans for BTC and SS by working with concerned stakeholders, such as UNESCO, IUCN and other organizations to incorporate different principles and guidelines to ensure the plans are nationally and internationally accepted and appropriately address the contexts of the areas. This helps to improve the management and land use planning which will not bring any difficulties to ecotourism operation in the areas.
- Establish an office or center (fixed structure) in BTC for the management of BTC and SS core areas by equipping necessary facilities for working, training, patrolling and monitoring, as well as for observing flooded forests and waterbirds. This center will also function as a tourist information center and a meeting point for tourists to watch waterbirds from its tower.

⁴⁷ (A) Enhance Capacity for management of biodiversity in TSBR core areas: 1) establish and equip Protected Areas and Core Area Management Centers, 2) develop core area management plans, 3) develop and implement a strategy to enforce laws and regulations in and around the core areas, 4) identify income generation activities that directly threaten biodiversity in the core areas and develop alternative livelihoods to modify them, 5) develop and implement staff training in protected area management, and 6) develop and implement standardized procedures for the designation of protected sites within the TSBR; (B) develop systems for monitoring and management of biodiversity in TSBR core areas: 1) design and implement biodiversity monitoring programs for the TSBR, 2) establish a rapid response mechanism for seasonal protection of biodiversity, and 3) develop a strategy for the control of exotic species and implement management trails; (C) promote awareness, education and outreach programs on biodiversity conservation for the TSBR: 1) develop and implement environmental awareness, education and outreach training programs (EAEOP), 2) provide environmental education centers, and 3) integrate EAEOP into selected schools around the TSBR (TSCP, 2005, p.7).

- Conduct an inventory of biodiversity resources (waterbirds and other birds, mammals, reptiles, amphibians, insects, and bivalves), including mapping of the areas, with WCS and other counterparts. This plan will work as a foundation for providing information and promoting interpretation of local resources for tourists, facilitating tourist activities, and managing visitor use of the areas.
- Through UNV and other subcontractors, identify and introduce more environmental friendly livelihood activities to local communities to improve their living standards and reduce threats (caused by their illegal activities) to biodiversity resources and natural system in BTC and SS core areas. The success of this plan will not only benefit the local communities to generate more income, but it will also help them to promote local small and medium scale enterprises which are needed to support the operation of ecotourism in the areas.
- Provide necessary environmental education (with LLEE) and other capacity training programs for the locals and executing agencies' staffs in BTC and SS core areas. Apart from improving awareness and skills of the locals, this plan will help to improve sanitation in the areas and upgrading knowledge and capabilities of local communities and responsible developers to facilitate and accommodate tourist visits in the future.

5.1.2 Results of Interviews with Representatives of the Executing Agencies and Local Authorities about the Intervention of Concerned Institutions

After the fishery reform and release of 56% (500,000 ha) of the country's fishing lot areas to the public fishing communities in 2000 (ADB and FAO, 2004; TSEMP, 2005), the chiefs of the community organizations interviewed mentioned that some strategies were adapted to improve the management system and preserve natural resources and environment in BTC and SS. Following this fishery policy reform, the CFs and other CBNRM teams were established throughout these core areas by DoF-MAFF and international NGOs, most especially focusing on BTC core area. A ranger of DoE-PIU reported that in early 2006, two CPAs were founded by DoE-MoE in Balort village (BTC) and Tourl Neang Sav village (SS). However, he said that the works of this new environmental lineup is still in its infancy stage as DoE-MoE craves to run this community as a pilot project in order to build firm networks with the local communities and investigate the feasibility and effectiveness of its initiative scheme. The Head of DoE-PIU in SS explained that unlike CPAs' works, the CF's functions are much more recognized, but the prevailing problem of this institution remains in its unclear and feeble authority to implement its mission. The chiefs of CFs in Peam Bang interviewed revealed that the limited capacity of CF members is a challenge to the success of CF establishment in BTC core area. The CF management structure and functions were not developed in Peam Bang until late 2003, meaning three years after the fishery policy reform and the sub-decree for the CF establishment in Cambodia. They stressed that even most of local fisher folks and the core members of CFs do not understand much about CF power and contribution to sustainable use of fishery resources, let alone the DoF-MAFF to dominate the whole areas.

According to the Deputy Director of Department of Fishery of Kampong Thom province, DoF-MAFF has a perspective to collaborate with CFs in Peam Bang and Phat Sanday to create reserving fishery zones, so that fishery resources will be enhanced and conserved more effectively via effective resource management mechanisms. The Director of Provincial Department of Rural Development⁴⁸ interviewed pointed out that DoF and its corresponding partner, Department of Agriculture (DoA) of MAFF, owe further allegiances to: (1) promote the living standards of local fishing communities in BTC and SS by encouraging them to involve subsistence rice production and crop farming; and (2) encourage local people to foster and improve their fish processing activities to stimulate the local economy. However, it is still

⁴⁸ PDRD is the substantial institution working with almost all government agencies in Kampong Thom province.

questionable among all chiefs of community organizations interviewed concerning the scope and success of government policy interventions in promoting community-based management and development in the areas. These respondents perceived the value and strength of such interventions as something different in practice. They articulated that if based on the description of articles in the sub-decree, the executing agencies are assigned to work to provide technical and financial support (funding is channeled through local and international NGOs and donors) to the communities whose status and roles are to control their designated areas. In contrast to the frameworks that promote community empowerment, involvement and initiatives, the CF works are still under strong supervision and pressure of DoF-MAFF. The case of SS core areas presents a more controversial issue than BTC in terms of CF establishment. According to the commune and village chiefs, there is no CF in SS due to the mismanagement of the area and the conflicts of interest that some influential locals and responsible agencies do not want to face when this local organization established and become powerful. This has made the local people, especially small scale fishermen, in SS core area become discouraged and have less trust in the implementation of other community-based projects.

At present, the government intervention in BTC and SS is done more through DoE-PIU of MoE. According to interviews with Director of DoE-PIU of Kampong Thom province and rangers, this department employs 20 staffs (10 rangers in each core area) to carry out administration, inspection, environmental impact assessment and environmental protection works. Under regular support from ADB and UNDP-GEF, DoE-PIU Kampong Thom is working to: (1) undertake capacity building training programs for core staffs in BTC and SS via a variety of training methods, visual aids and field visits; (2) disseminate information on natural resource management and its significance to local fishing communities in order to get their support and involvement; (3) establish Community Environment or Community Protected Areas; (4) patrol, control, and monitor people's daily activities to ensure no harms to the ecological environment, biodiversity, and natural habitats; and (5) develop agro-tourism, nature-based tourism or ecotourism in the two core areas. The interviews denote that ecotourism has already been introduced at uncertain and small-scale level in the areas, especially in BTC, since late 2005 after DoE-PIU received some recommendations from potential NGOs and donors. The idea for establishing this new development plan is seen to come along the increasing interest of NGOs and research in studying about the feasibility of the areas for ecotourism.

A ranger in BTC core area said that while these core areas could easily support ecotourism or agro-tourism development, there are no concrete initiatives and development plans yet. This institution does not have enough (qualified) human or resource capacity to comprehensively plan, set standards, and manage ecotourism development in BTC and SS. The Director of DoE-PIU interviewed explained that DoE has not yet studied about the potentials for ecotourism development and its consequences, and the knowledge and capability of its core staffs about ecotourism services still remain a challenge. In addition, the tourism amalgamations (attractions, accessibility, amenities, marketing and promotion, etc.) have not yet identified for the development and management process. There are no formal or informal tourism training programs available through government institutions (i.e. DoE, Department of Tourism), NGOs, and educational institutions in Kampong Thom province to help build tourism understanding of DoE-PIU staffs yet. The commune chiefs said that ecotourism is chosen for the benefits of local economic services/activities promotion and local rangers' knowledge enhancement, but its operation is still undersized. All commune chiefs and DoF-PIU staffs mentioned that DoE-PIU has never collaborated with the local communities, CFs and CPAs, and other government agencies to participate in and help improve ecotourism operation. The problem behind this new development plan is the release of tourist statistics from DoE-PIU. One of the interviewed

rangers in Peam Bang reported that even the environmental staffs in the core areas do not have this information for every visit is arranged by the high officers of DoE in the province. Usually, tourist activities organized by DoE is a one-day trip visit which tourists can take a boat trip to see flooded forests, waterbirds, fishing activities of the locals, and floating villages on the river.

5.2 Attractions for Ecotourism Development

The engine that powers nature-based destination attractions for ecotourists and other cultural or experience-based travelers is composed of potential natural and cultural resources of the area. The natural attractions consist of biological and scenic values of the destination, including undisturbed or unspoiled habitats, richness in biodiversity and ecosystem, unique ecological and geological formations, remote natural landscapes, and hydrology of the rivers or lakes (Ceballos-Lascurain, 1991; Wallace and Pierce, 1996). The cultural attractions comprise material and non-material characteristics, values and uniqueness of appreciation and conduct that distinguish a destination on any scale. These are geographic places rooted in cultural and historic assets that have been expurgated and developed to provide satisfaction and good experiences for tourist activities. These cultural and historic magnetisms can be monuments, historical hillocks, historic landscapes, cultural ways of life, traditions, and cultural events and activities of the local communities (Hall & McArthur, 1996; Swarbrooke, 1999). These tangible and intangible resources serve two main functions for ecotourism – sensitizing people to the destination area and fulfilling their expectations from their visits.

Therefore, identifying the main and sub attractions at the destination can help developers, planners, and decision-makers to ascertain the types of tourism to be developed, the potential charismas of and demand for the area, and how attractions can be weighted to address conservation and social development goals.

5.2.1 Natural Resources

5.2.1.1 Documented Attractions

This section presents the results of documentary analysis on natural resources and attractions which are potential to support ecotourism development in BTC and SS. According to Neou (2002, 2003), the core areas (PT, BTC and SS) have a mixture of appealing attractions that are considered as potential features to symbolize as a landmark and development indicator for ecotourism. BTC and SS destinations are geographically located in close proximity along the northern part of TSGL. When the water of TSGL swells to its peak in the rainy season due to the inflow of the Mekong's outlet, the connected navigation system between BTC and SS become more accessible via boat transportation.

BTC and SS core areas are rich in natural resources, encompassing endemic and illustrious fauna and flora species, some of which are environmentally globally significant and rare (Meas, 1997; UNDP-GEF, 2001a, 2001b; Neou, 2002; WCS, 2006). The matchlessness and ecological value of these areas can be further connoted through the presence of lavish fish and other marine life, mammal, reptile, and amphibious species. The natural settings, distinctive ecosystem and loaded biodiversity, rare freshwater natural habitats, and reversed hydrological fluctuation of BTC and SS core areas are also of great interest for visitation (Neou, 2002, 2003).

According to previous study of the Wetland International and UNDP Tonle Sap Conservation Project (2001), BTC and SS (mostly in BTC) are unique due to their diversity of endangered and vulnerable wildlife, which are being concerned by many countries in the region and the world.

These two areas host a significant multiplicity and variety of waterbirds, reptile, mammal, and other amphibious reptile and bird life. They are rich in highly productive and commercial fishes, and the natural inundated habitats in these areas are in relatively good condition with high biodiversity of both national and global environmental significances (UNDP-GEF, 2001a). With its complex wetland and river system, BTC is known as an important feeding ground for migratory and non-migratory waterbirds and other bird species and its flooded areas function as a spawning ground for plenty of high-value fish and home to several endangered fish species (UNDP-GEF, 2001b; Seng, 2003; WCS, 2006). SS is famous for its rich high value fish species (i.e. *Cirrhinus Microlepis*) and unique gallery forest and tall / large forest (i.e. *Hydnocarpus Anthelminthica*, *Elaeocarpus*, etc.) which are home to several globally threatened bird, mammal and reptile species (read more in McDonal *et al.*, 1997; WCS, 2006). Out of 122 bird species in BTC, four species are considered as globally near threatened⁴⁹, five species are globally threatened⁵⁰, and nine species are regionally threatened⁵¹ (Mundkur *et al.*, 1995; Edwards, 1996; Parr *et al.*, 1996; and Goes *et al.*, 1998 cited in Mam *et al.*, 2001). Dorosshenko (1998), cited in Wetland International and UNDP (2001), mentioned that in BTC and SS there are 23 snake species⁵², and nine turtle species⁵³.

As BTC and SS share integral fish habitats with TSGL, many fish species, especially high commercial value and global significant ones, are roving and inhabiting in these flooded forest and open access compounds. Some fish species are believed to be more than 100 kg and have the life-size equal to a young teen (i.e. *Mekong Giant Catfish* and *Giant Barb* or *Catlacarpio Siamensis*), whereas some others are uncommon and have high value (i.e. *Finescale Tigerfish* and *Smallscale Croaker*). Apart from having specific reptiles like *Hydrosaura Salvator* and *Water Siamese Lizard* and nice-looking insects (i.e. fireflies and butterflies, etc.), the areas are also home to different kinds of mammals, such as monkeys, elephants, river otters, civet cats, weasel squirrels, deers, boars and some other rare cat families, and other varieties of mollusk and bivalve.

From unique physiognomy and scenic value of vast natural landscape, the tributaries of BTC and SS are surrounded by attractive flooded forests and are considered appealing attractions for tourists and visitors (TCU, 2000; Neou, 2003; TSCP, MoE and MAFF, 2007). The typical natural resources, wildlife and daily community livelihoods existed in these tributaries are of big interest to ecotourists and adventurers. These areas are observed as locations for the settlement of villages either on stilt or floating within or along the river/lakeshores (Mam *et al.*, 2001). In addition, the tributaries are attractive to tourists, explorers and researchers from their unique physical environment and spatial distribution for fishing villages located far-off from the mainland (TCU, 2000).

5.2.1.2 Results of In-depth Interviews about Natural Attractions in BTC and SS Core Areas

This section shows the results of in-depth interviews with executing agencies' staffs, local leaders of CFs and CPAs, commune and village chiefs, and elder villagers about potential

⁴⁹ Grey-headed Fish Eagle, Painted Stork, Asian Openbill, and Black-headed Ibis.

⁵⁰ White-wing Duck, Greater Adjutant, Lesser Adjutant, Masked Finfoot, and Spot-billed Pelican.

⁵¹ Brahminy Kite, Pied Kingfisher, Grey Heron, Purple Heron, Black-necked Stork, Great Cormorant, Little Cormorant, Indian Shag, Baya Weaver, and Glossy Ibis.

⁵² They are Reticulated Python, Blood Python, Rock Python, Red-tailed Pipe Snake, Iridescent Earth Snake, Elephant's Trunk Snake, File Snake, Painted Bronzeback, Elegant Bronzeback, Chequered Keelback, Paradise Tree Snake, Oriental Whip Snake, Puff-faced Water Snake, Dog-faced Water Snake, Bocourt's Water Snake, Plumbeous Water Snake, Rainbow Water Snake, Tentacled Snake, Dog-toothed Cat Snake, Monocled Cobra, King Cobra, and Popes' Pit Viper.

⁵³ Emydidate, Cuora Ambionensis, Damonia Subtrijugata, Heosemys Grandis, Hieremys Annandalei, Siebenrockiella Crassicolis, Trionychidae, Pelochelys Bibroni, and Trionyx cartilaginous.

natural attractions for ecotourism development in BTC and SS core areas (see Table 5.1). According to the interviews with the commune chief of Peam Bang and some fishery officers, BTC core zone was famous for its high fish productivity and highest amount of wild elephants in the past. However, this elephant species are extinct due to war and destructive hunting. The DoE-PIU rangers interviewed mentioned that these core areas, especially in BTC, have abundant waterbirds and other bird species, and some of which are globally preserved. These waterbirds are moving around the localities and stop over in Daun Sdeung, Pov Veuy and Balort villages (in BTC core area) and around the fishponds along SS lakeshore as their habitats (normally in the flooded forests). They said even though the amount of waterbirds in SS is comparatively lower than in BTC, this core area is covered by densely populated flooded swamp forests, gallery forests and other types of tall trees which are home to many types of common and rare wildlife species. The DoF-PIU staffs interviewed stressed that besides being a natural cover, flooded forests in BTC and SS are considered as important habitats for spawning grounds of fish and waterbirds.

In contrast to executing agencies' staffs who have more knowledge about the unique natural landscapes and importance of endangered animal species, the commune / village chiefs and elder people focused more on the richness of their localities and value of their resources. They mentioned that BTC and SS are well-known as one of the highly fishery resource rich areas in TSGL. Besides these core areas have diverse forest and wildlife species and other biodiversity resources. These resources are not only important for proving the existence of BTC and SS as protected areas, but also for the main livelihoods of the local people in the areas. Elder people interviewed responded that these resources provide foods (i.e. fish and NTFPs), shelters, medicines and sources of energy (i.e. fuel woods) and income for them and other local fishermen who are dependent on their availabilities.

Concerning the use of natural attractions and resources to generate potential tourist activities in the areas, the in-depth interviewees reported that tourists could observe the panoramic scenery of the freshwater lake and flooded forests. Besides, they could have more opportunities to learn about the names and histories of the forest species and the importance of these protected areas' ecosystem and resources for the livelihood options of the local fishermen. The leaders of CFs and CPAs and rangers said that tourists and specialized niche markets of visitors (i.e. those interested in bird/wildlife/flora groups) can also take boat trip around the tributaries, bird sanctuaries, and floating villages to see local craftsmanship (mainly fishing gear crafting), sunrise and sunset. Additionally, they can also voyage or trek into the forests to see local NTFP collecting activities, or to see family-based organic farms along the shallow pass (between Chnouk Tru and SS core area). In this way, local livelihood activities are also interesting for tourists as an attraction. These activities incorporate traditional and modern fishing activities, wildlife hunting, fish processing activities, fish separation and transportation to the markets, livestock rearing on the river, NTFP collecting, and the like. Elder people thought that this would be interesting for tourists to participate in these activities with local people, adding to their experiences and understanding of community livelihood approaches. The DoE-PIU rangers mentioned that as a part of their visits and recreational activities, tourists could watch waterbirds (from November to late April in SS and from early January to late April in BTC) and enjoy doing sightseeing and other activities (i.e. swimming, boat rowing, etc.) in the areas.

Table 5.1: Potential natural resources and attractions of BTC and SS perceived by the local respondents

Types of Natural Attractions	Description	Roles and Functions	Potentials for Tourist Activities
Natural landscapes	Unique lake, river, stream, fishpond, creek, and flooded forest and semi-	Local natural uniqueness; core areas of the largest and	Cruise tours along the lake, river and its creek

	evergreen forest landscapes; natural habitats; floating village sceneries; wetland areas (Boeung Tonle Chhmar Ramsar Site)	freshwater lake in Southeast Asia; freshwater sea of Cambodia; protected areas of national and global environmental significance	system; relaxing in a fresh natural environment in rural flooded areas; watching sunrise and sunset; swimming, sightseeing
Animals	Waterbirds and other migratory and non-migratory birds; wildlife (Siamese crocodiles, otters, monkeys, civets, mongooses, cats, watersnakes and other types of snakes, tortoises, Hydrosaurus Salvators, wild oxen, etc.), many types of fishes and endangered fishes (i.e. giant catfish, etc.) and other aquatic resources	Some animals are nationally and globally protected since they are endangered; unique biodiversity of the areas; important features of local livelihoods	Bird watching; wildlife watching
Flora	Flooded forests and gallery forests, evergreen and semi-evergreen forests, shrubs and grasslands, herbal trees	Natural habitats; spawning grounds; provision of non timber forest products for local people; sources of energy and fishing gears (e.g. fish bamboo traps, etc.); herbal medicines; feeding grounds for raised animals	Boat tours in the flooded forests; trekking in or along the forests in water recession season; learning about the names and histories of the trees

5.2.2 Historic and Cultural Attractions

Because there are no specific government documents and NGOs' reports on different types of cultural resources in BTC and SS communities which are potential for ecotourism development, this section will only show the results of the in-depth interviews. These interviews were done with local authorities and some plain villagers. As mentioned early in other sections, local authorities consisted of commune chiefs, village chiefs, and leaders of community fisheries and community protected areas. The plain villagers were mainly elder people and some religious people, such as monk, nun and *Achar* (layman who arranges a ceremony in a Buddhist monastery). Since the description of each cultural asset (objects, activities and events) is lengthy, this section will present only the main results of the interviews in brief in the following.

According to the interviews, BTC and SS core areas have an amalgam resource base of historic and cultural attractions that can be perceived as distinctive by tourism developers, tourism industry sector and tourists or visitors. This sense of uniqueness is considered by the local folks as a pull factor as tourist motivation is concerned. Different cultural-historic resources have evolved in different parts of BTC and SS core areas as a result of local population's diverse settlements, surviving livelihoods, varied social organizations and unique adaptive strategies of people to their physical environment, different histories and styles of political and economic development (see Table 5.2). Each village in BTC and SS produces distinct patterns of cultural and historical development, providing rich resources for the development of ecotourism and fulfillment of tourist satisfaction.

Places associated with significant historical, religious or fabulous events are also regarded as historic resources even though the place may have physically changed out of all recognition or have less architectural evidences of past events. The elder people and religious respondents interviewed mentioned that historic resources of BTC and SS core areas are connected with the physical remainders of historic episodes from past civilizations and regimes – pre Angkorean and post Angkorean periods until the present day. They consist of architectural and archaeological features, historical landscapes, and historical remnants and day-to-day objects that have survived from the past. All of these historic resources are mainly characterized by legends and stories of each village along and within the lakeshores. According to the interviewed elder people, these historic remnants and landscapes have been physically altered

due to natural phenomena. However, some figurative objects and places have remained until present day, all of which can be interpreted through long and engrossing stories related to historical events. In addition, the stimulation of the past prevalent values is deeply rooted in the histories and names of each village of BTC and SS and other surrounding areas.⁵⁴ Besides allegorical words for a specific place or village (i.e. Prey Damrey or elephant forests in Peam Bang, Prey Kror or Forests of the Poor, etc.), Pov Veuy Pagoda is considered as the most significant religious attraction in the areas which covers historical mystery about the past event and legend related to ancient Khmer Empire. Moreover, this Buddhist monastery was built on the historical high-ground and is regarded as the most vital affinity for tourists to learn about the past history and sole religious practices of the people in BTC and SS in relation to this sacred place.

Concerning cultural resources, elder people and religious people interviewed mentioned that BTC and SS have diverse forms of cultural resources. The first form is related to cultural events and religious rituals in the areas which present a combination of Animism, Brahmanism and Buddhism practices. According to these respondents, these prevailing traditional cultural events and religious celebrations are known in the region and have been arranged and practiced throughout the year in relation to daily lifestyle of BTC and SS communities. Besides practicing other similar events done by all Cambodians, local communities in BTC and SS have six special folklore celebrations which simply symbolize local cultural identity, traditional beliefs and cultural diversity of the areas. These include: 1) Bonn Phum or Bonn Sen Neakta (praying ceremony to the guardian spirits or genies); 2) Bonn Chlornng Chol Chnam (post new year celebration); 3) Bonn Pdach Proleung Kmauch or Bonn Banchoin Arak (spirit possession rite); 4) Bonn Dal Phum or Dal Lean (harvesting festival); 5) Bonn Reab Srok or Banchoun Neakta (religious procession); and 6) Bonn Bochea Sob (waterborne funeral festivals).

The second form is related to local craftsmanship in BTC and SS. According to village and commune chiefs and community leaders around these core areas, there are four to five skillful families in each village that produce handmade craft objects, whereas many others could make minor things to address their fishing activities' needs. Some interviewed skillful and competent craftsmen in Pov Veuy, Peam Bang, and Neang Sav villages reported that they have been traditionally engaged in this respective profession since long time ago. The Commune Chief of Peam Bang and Deputy Chief of Tourl Neang Sav village articulated that the people handcraft uniform products made of wood, bamboo, nylon, water hyacinth, iron, rattan, and vine. However, these respondents said this handicraft production does not present unique production methods and models and is still considered as small scale as people usually produce for family consumption in fishing exclusive of few families which involve large scale production for selling to the lot and creek owners. However, this activity could provide additional income for the craft-makers, mostly female villagers, to help improve their families' living conditions. Besides, the local authorities interviewed said that the practice of craftsmanship in BTC and SS could support and preserve the value of Khmer traditional handicrafts in the areas.

The third form of cultural asset is related to local cultural and traditional art performances. These consist of both local cultural music and dance. From the interviews with elder people, some elements of Khmer traditional performing arts existed in BTC and SS core areas.

⁵⁴ Peam Bang (River-mouth of the tycoon named Bang), Pov Veuy (My Dear POV, the word calling by the feudal lord's family and solders to lady *Pov* when she was abducted), Daun Sdeung (Slim Grandma), Anlong Toan (Pit or Deep Water Hollow of Abundant Fishes), Tourl Neang Sav (High-ground of Lady Sav), Kampong Chamlong (Boat Port), Phat Sanday (Scattered Fish), Koh Tapov (Island of Mr. Pov), Neang Sav (Lady Sav) Kampong Lourng (Wharf of the King), etc.

However, they said these elements (music and dance) are still well-preserved only by local old villagers, while local teenagers are messing up these practices by following the modern ones. As described by some local elder people interviewed, the remaining local music are Pin Peat music, Mohory music and Khmer music and other Khmer traditional music. The village and commune chiefs of BTC core areas mentioned that there are collective musical groups in few villages around BTC, mainly in Peam Bang village. For the collective Khmer musical groups, the players sometimes are normal local folks, including Village and Commune Chiefs, and they often participate in Khmer musical performances during the celebration of religious rituals in their village or community. These groups are occasionally formed and they play especially during big cultural events, under the initiation of the Commune Chief or VDC/CDC. Normally, this performance is taken place from musical players' in-kind support. There are two kinds of cultural dances in BTC and SS, namely religious dances and folk or popular dances. The elder people and religious respondents revealed that cultural dance is performed during religious ceremonies, whereas folk dance is seen during happy occasions such as Happy New Year.

The fourth form of cultural assets in BTC and SS is the Khmer cultural amusement activities. According to elder people questioned these activities are illustrated through the functioning of traditional games played during special events of the year. They said Khmer ancestors created lots of traditional games within Khmer cultural frame for their inheritors to enjoy and maintain their identity. It is assumed that traditional games were developed to create pleasant atmosphere for special occasions and to make people joyful, so that they will love and be able to strengthen solidarity, harmony and peace with one another throughout the play. Traditional games in BTC and SS core areas are not much different from those in the mainland (see Table 5.2). However, the local folks can take part in these cultural plays only during the water recession season.

The last form of cultural assets in these core areas is the local gastronomy. In specific context, local fishing communities in BTC and SS core areas are creative and specialized in preparing foods with local fish products. The way of preparing local gastronomy is very typical, and the food cooked with local ingredients is considered healthy and luscious. The local authorities reported that in all floating villages in BTC and SS, all types of fishes can be cooked and eaten, each of which gives different taste to local cuisines. An elder in Pov Veuy village explained that local foods are delicious and nutritious due to a mixture of fresh organic vegetables grown in the areas and high protein meats (fishes). Besides, products from local food processing activities (i.e. dried and smoked fishes, etc.) are also of characteristic quality and high flavor.

When asked about possible tourist activities in BTC and SS, the representatives of local authorities were optimistic that a range of services could be developed with support from executing agencies and concerned NGOs to entertain tourists. These include: guided tours at local historic places (only potential in BTC core area); tourist visit and participation in local religious practices; interpretation and training of local craftsmanship for tourists; cultural art performances for tourists to watch and participate (i.e. in folk dances); training of local gastronomy for tourists; provision and facilitation of traditional amusement games for tourists (only on special occasions or celebrations); guided boat tours for tourists to observe daily local livelihoods in the floating villages; and provision of on-visit teaching programs for tourists to join or practice local village-based activities, such as fishing, boat rowing, etc.

Table 5.2: Potential cultural resources and attractions of BTC and SS perceived by the local respondents

Types of Cultural Attractions	Description	Roles and Functions	Potentials for Tourist Activities
Historic and religious assets	1) names and histories of each village, commune and fishpond; 2) historic high-grounds; 3) religious temples (i.e. Pov Veuy) and play grounds (for religious practices such as spirit possession rituals; 3) histories of the lake and its legends related to ancient Khmer empire	Unique heritage places; local fairy tale values ; local historic significance and identity; strong sense of religious practices and cultural birthright	Interpretation and familiarization of the places for tourists; guided tours at local historic places
Cultural events and religious rituals	Religious rituals and festivals related to Animism, Hinduism and Buddhism – <i>Bonn Phum</i> or <i>Bonn Sen Neakta</i> (praying ceremony to guardian genies), <i>Bonn Chlornng Chol Chnam</i> (post new year celebration), <i>Bonn Pdach Proleung Kmauch</i> or <i>Bonn Banchoin Arak</i> (spirit possession rite), <i>Bonn Dal Phum</i> or <i>Dal Lean</i> (harvesting festival), <i>Bonn Reab Srok</i> or <i>Banchoun Neakta</i> (religious procession), and <i>Bonn Bochea Sob</i> (waterborne funeral festival)	Traditional beliefs; cultural value and integrity of local culture; cultural continuity, cultural value & identity, local sense and coherence; support for tourism in the community; cultural motives for tourism development	Tourist visit and participation in local religious practices
Local craftsmanship	Handicrafts made of wood, bamboo, nylon, water hyacinth, iron, rattan and vine.	Cultural/traditional practices & community interest/identity reinforcement; socio-economic and cultural significance	Teaching or training of local craftsmanship for interested tourists; purchase of local craft objects for souvenirs
Cultural and traditional art performances	1. cultural music (Pin Peat music, Mohory music, and other khmer traditional music); 2. cultural dances (religious dances and folk / popular dances)	Local integrity; local identity	Performance for tourists; tourist participation in local traditions and performance
Special local foods	Fresh and healthy fish-made foods	Strong sense of local lifestyle; cultural significance & flavor	Provision or catering of food service to tourists; training of local cooking for tourists
Traditional and cultural games	Khmer cultural amusement activities – Chaul Chhoung , Boss Angkunh, Teanh Prot, etc.	Cultural games motives; pleasure/recreation; local traditional cultural identity and practices	Entertainment activities for tourists
Local lifestyle	Typical fishing practices, fish processing techniques, rearing of fish and other animals in floating villages, floating houses and other ways of life of the local fishing communities	Local sense and coherence; cultural practice continuity; local cultural value & identity	Interpretation of local lifestyle and cultural activities for tourists; participation of tourists in local village-based activities; boat tour along local settlements

5.3 Challenges for Ecotourism Development

5.3.1 Carrying Capacity Assessment

By its nature, tourism is regarded as a multi-faceted sector of development which requires broaden interdisciplinary skills, labor intensive focus, and appropriate skilled, knowledgeable and proficient manpower or workforce for its continued sustainable growth. To develop ecotourism successfully as a potential alternative livelihood to reduce current primary resource extractive activities, to improve the wellbeing of local fishing communities, and to contribute to sustainable use of natural resources in BTC and SS, strategic carrying capacity assessment needs to be addressed prior to development. This section will determine four major capacities of the areas to receive tourists to participate in prospected ecotourism activities. These capacities are infrastructure capacity, human resources capacity, physical capacity, and financial capacity. Unlike other sections which present exact responses of individual informants collected through different methods, this section uses the data already presented and discussed in Chapter 4 to

support its scrutiny as a part of concrete investigation of challenges to ecotourism development in BTC and SS core areas.

There are a number of stakeholders in development and conservation of these protected areas. Yet, available funding and qualified human resources to support and foster the planned processes of each institution have not yet been clearly identified. Infrastructure projects around and within these core areas are also being measured by some potential donors and international development agencies as to what it might provoke imbalance and controversy between rural development and conservation principles. The lack of services, infrastructure, and superstructure necessary for facilitating ecotourism involve clean water supply, waste management system, accommodation and food services, zoning and hardening system within protected areas, health care centers and other social emergency services, waterbirds observing towers, small trekking roads along the flooded forests and semi-evergreen forests, tourist information center and services, landings and platforms, and the like. Therefore, the construction and establishment of tourism infrastructure and superstructure are vital for ecotourism development and its unremitting services during the planning process of ecotourism.

Deliberative information about the current human resource capacity is detailed in Section 4.3.1 (human capital) of Chapter 4. However, concerning mainly on ecotourism development, current foremost obstacles related to strategic human resource planning, capacity building, and institutional strengthening need to be prioritized and tackled straight off. The study shows that most of the local fishing communities in BTC and SS core areas have very low education which is challenging for them to cope with their livelihood shocks properly. Thus, from day to day they become more dependent on outside developers and experts to help find them possible livelihood strategies when the natural resources in the areas continue to decline. To find the way out of this chronic poverty and illiteracy, they anticipate active involvement and support from civil society, international communities and donors, and especially from line ministries and local and provincial administrations. Likewise, the representatives and support staffs of the line ministries in charge of BTC and SS development and management also have limited capability. This hinders their abilities to strengthen and achieve their missions on the subjects of environmental governance and conservation and local livelihood recuperation and improvement. This does not include their limited human and resource capacity in providing needed social and public services to the areas. Therefore, the primary approach in finding out human resource capacity needs is focused on what skills and knowledge are necessary for a choice of ecotourism arrangement in BTC and SS core areas. Building up knowledge, understanding, and know-how of local residents and concerned government officials is not only worthy for the facilitation of ecotourism process, but also for the local development in general. When they have adequate capability, they could access to or be able to create more employment opportunities in their localities throughout ecotourism operation. The supply of basic education and specific and specialized skills training programs are strongly required to make people in the areas ready to receive tourists. These knowledge and skills could be language skills (including functional literacy in their mother-tongue), local resources interpretation skills, information on ecological environment and a wide range of biodiversity, hospitality and customer services, basic business skills (business planning, financing and book keeping, marketing and development), skills in tourist product diversification, food safety and hygiene, craftsmanship skills, decoration and liaison skills, cross-cultural or intercultural communication skills, food and beverage preparation and display skills, and other necessary skills related to small-scale ecotourism industry. However, skills and knowledge development for all responsible

government officials will need to be more precise, interdisciplinary, and problem-based solving specific.

Physical capacity refers mainly to the ability of BTC and SS core areas in receiving the number of tourists or visitors when ecotourism is fully developed. Ecotourism can address a plethora of issues and is regarded as a promising spur to the local economy of the resource-poor communities. However, besides affected by many potential socio-cultural and environmental impacts of tourist activities, ecotourism can also be influenced by the natural resource base of the host community and used natural areas. Therefore, the sustainability and suitability issues are needed to ensure that the natural base of BTC and SS core areas are well preserved if ecotourism is going to be developed there, both for specialized niche markets and standard tourists or explorers. By doing so, ecotourism will provide alternative livelihood and new adaptive strategy for local fishing communities of the areas. This means the major constraint for ecotourism developers, planners, and local communities is to understand profoundly the explicit connection and combined strength or frailty between ecotourism and the physical environment. The analysis in Section 4.3.5 of Chapter 4 indicates that developments of additional stimuli which contribute to the protection of BTC and SS natural resources from further destruction are needed. These developments are required to consider twin interests, meaning improving local livelihood approaches on one hand and securing nature base in the areas on the other. This is because the main livelihood of local communities in BTC and SS is subsistence fishing and NTFP collecting. The analysis also shows that local communities do not have enough human and resource capacity to manage and conserve their natural resources, and thus need external technical supports and interventions. The main problem is how to keep in good condition the ecological integrity and quality of natural resource base of BTC and SS so that it remains appealing to tourists and supportive of the local development. Also, this requires strategies to provide high satisfaction to tourists who are enticed by quality of the local natural environment and are willing to interact with other groups of users (such as local residents and lot concessionaires).

As the analysis of carrying capacity supports the management process, it is objective rather than subjective of the development framework design and implementation. In contrast to objective concepts of the carrying capacity of other kinds of tourism, the efficient approaches or managing conditions of ecotourism within functional carrying capacity is considered upon use levels to minimize the negative impacts on the resources, society, economy and culture. However, it is a contentious notion if the carrying capacity for ecotourism is seen as a definite subjectivity, especially when aiming to use local resources at maximum level to stimulate local economy and to increase the satisfaction of tourists. This reflects a danger for BTC and SS core areas if ecotourism is developed at fast speed without paying much attention to figure out the current pressing issues and to design effective development and management frameworks for resource use prior to development stage. One of the most challenging anxieties in BTC and SS is the shortage of financial support to carry out action plans for sustaining ecological environment and biodiversity resources of the areas at local level. The financial capacity for NGOs and local/provincial government working in BTC and SS core areas is dependent on external forces and restricted upon donors' and government's policies and interests, and thus decelerating or obstructing the management and conservation process of natural resources. In addition, if ecotourism is going to be developed on community-based level, it would be more intricate to local communities because their capacities and capitals are limited.

5.3.2 Community Attitudes towards Ecotourism Development in BTC and SS

In BTC and SS core areas, there is weak understanding of the connection between protecting natural resources, ecotourism development and ecotourism benefits distribution to the local fishing communities. However, the DoE-MOE and donor agencies expect ecotourism to provide additional sources of revenue to these communities. A majority of community members interviewed wants a sound protection over their released fishing grounds and fisheries and other natural resources. Community participation in local organizations and development is very limited. The rights, ideas and common property resources of local communities are not respected and well-preserved through governmental intervention. Lack of education, local empowerment and livelihood alternatives unquestionably affect the work ethic of the locals. Accordingly, these destroy the locals' social trust, self-help system as well as their self-sufficiency view.

To develop ecotourism successfully as a tool to improve conservation and local community livelihoods in the areas, it is necessary to understand different attitudes of community members towards its development as their motivations and reactions can affect the ecotourism process. This section shows the results of interviews with community members with regard to this issue. The community members in BTC and SS consist mainly of local authorities (i.e. commune and village chiefs and leaders of CFs and CPAs) and the three types of local fishermen (small, medium and large scale fishermen). In-depth interviews were conducted with local authorities and large scale fishermen (only four fishing lot owners in the areas) to understand their attitudes. The information about the standpoints of other community members (small and medium scale fisher folks) was collected from semi-structured household interviews. Since these last two groups provided almost similar responses towards ecotourism development, some results from informal group meetings and discussions were used to discover the differences of their attitudes. The results obtained from these different groups of communities in BTC and SS are described in the following.

5.3.2.1 Results of Interviews with Local Authorities

The contribution of ecotourism development to poverty alleviation and local development attracts the interest of these respondents. The local authorities of Peam Bang (BTC) and Phat Sanday (SS) communes perceived that the involvement of civil society can bring more advantages to the community economic development. This framework would help to diversify local economic activities and to intensify local forces and participation in development and conservation. People will have more chance for job employment, capacity building, as well as the improvement of their agricultural practices and other SMEs to support ecotourism process. Most specifically, the local authorities stated that it is beneficial for the local communities to improve their living environment and livelihood approach and to learn about the significance of appropriate development plans. However, they stood firm on the issue that such a development mechanism is deniable when it follows the top-down management principles which disregard the involvement and consent of local government and communities. Examples of some unsuccessful projects in the areas were given by this group to bear out why participatory approach is necessary for commune development from a concept of decentralization and deconcentration. They explained that the intervention of local authorities as key players and coordinators in development framework and security strengthening is a substantial support for the ecotourism project in BTC and SS. Being representatives of the local government, which

were selected from the commune election⁵⁵, the commune and village chiefs of Peam Bang and Phat Sanday mentioned that they want their contribution to be acknowledged in the development and improvement of project effectiveness and joint cross-sectoral collaboration. It was also revealed through the in-depth interviews that these authorities are interested to know how they could benefit from ecotourism for the betterment of their work performance.

5.3.2.2 Results of Interviews with Large Scale Fishermen

These respondents represent the most powerful group of local fishermen in BTC and SS core areas. Ecotourism development is not interesting to the large scale fishermen. This group showed that they realize the benefits that ecotourism could bring to the areas, but they want to make more efforts to their large scale fish harvesting, fish raising and fish processing businesses. During the interviews, they expressed no care about ecotourism benefits, but stressed several negative impacts which they are afraid that ecotourism would bring to their operations, for example, the cut of their fishing lot territories to serve environmental protection and ecotourism activities. They explained that the division and structure of fishing areas in BTC and SS is complex, and most of beautiful natural attractions (i.e. natural landscapes of flooded forests) are located in the boundaries of fishing lot concessions. If tourists want to enjoy them, they have to be transported through or across their areas. Owing to this reason, the representatives of the fishing lots interviewed were deeply concerned about the conflict of use of the areas and the interruption that ecotourism activities could bring to their businesses.

5.3.2.3 Results of Interviews with Small and Medium Scale Fishermen

There is a common agreement among these groups interviewed on the development of ecotourism in BTC and SS core areas so as to benefit the local communities. They were much interested in their involvements and benefit sharing. They mentioned that it is much better if they are allowed to participate in planning, decision-making and development in order that they could influence the growth and change of ecotourism for the benefit of their lives and communities. Despite strong natural appreciation and the conservation interest, a majority of these respondents expressed low awareness of what and how they could do, particularly who should be in charge of managing and imposing plans and laws. However, in general, they are interested in and strongly support the initiative for ecotourism development in their areas. The results of the semi-structured interviews with representatives of the selected local households show that a majority of BTC and SS villagers (86.7%; n = 120) welcomes tourists to visit the areas. When asked to choose specific types of tourists they prefer, their main interest was given to nature-based tourists followed by ecotourists and adventure tourists. Between domestic and international tourists, each type was appreciated almost equally (59:61) by these respondents. Yet, they expected to have those who are knowledgeable, environmental friendly and are willing to help their communities in terms of biodiversity conservation and purchasing of local products and services. The reassured statements concerning the locals' ecotourism preference was obtained from another response. More than half of the respondents (60%; n = 120) said "they will choose ecotourism as one of the livelihood alternatives if they are allowed to prioritize development plans and strategies for their localities." Only 22% of the total was irresolute as they had no ideas whether ecotourism could affect their daily fishing activities and rights.

⁵⁵ In Cambodia, there are two major kinds of election – the national election and the commune election. The commune election is taken once in every four years, normally one year prior to the national election (for five-year mandate government), in order to choose members or representatives of the commune council. The village chiefs are selected from the votes of the members of the commune council.

The small and medium scale fishermen interviewed welcome the ecotourism project not only because of its economic alternative, but they want to see more developments and improved conservation activities in their areas. In addition, they showed their interest to see tourists and have a harmonious contact and interactive exchange of cultures and knowledge with them. Most of these respondents have a strong sense of pride about the attractions in their areas and would like tourists to see these unique cultural and natural features. Apart from showing their interests to welcome tourists, they mentioned that they are willing to advise their children to learn foreign languages and to partake in ecotourism businesses (accommodation, food business, local guide services, etc.). Nonetheless, due to lack of experience, skill and capacity, they expressed their needs for concerned civil society organizations and TSEMP-ADB / TSCP-UNDP-GEF staffs to provide them with necessary training programs on ecotourism-related business activities in which they could take part as well as with other supports.

5.3.2.4 Different Attitudes between Small and Medium Scale Fishermen

Between these two groups, small scale fishermen are more vulnerable to livelihood change and loss as well as to new development policies. Since they lack both financial resources and human capital, they depend strongly on available natural resources to support their daily livelihoods in the areas (see Chapter 4). The increasing decline in natural resources, especially fish catch which provides the main source of their livelihoods, has made their wellbeing become worse. Their positive attitudes towards ecotourism development in BTC and SS are derived mainly from their interests to see the benefits of current and future development, including local livelihood improvement, conservation of their basic livelihood resources and provision of necessary social and infrastructural services, in their areas. This group pays more attention to the positive (practical) interventions that governmental and non-governmental organizations could bring to their areas rather than the number of development projects.

On the contrary, besides fishing, medium scale fishermen are involved in other economic activities in the areas to generate more income for their families. Financial loan or micro-credit programs are one of the main concerns of this group. They mentioned that the amount of their fish catch might be increased if they have more financial supports to purchase more sophisticated fishing gears or to increase the size of their businesses. The decreasing fish catch in BTC and SS was perceived by this group as one of the reasons that turn their interests to other economic activities inside or outside their areas, including rice and crop cultivation. Compared to small scale fishermen, these villagers are more business-oriented. Their positive attitudes towards ecotourism development is derived mainly from their interests to obtain more business opportunities through the provision of necessary tourism products (goods and services), such as motorized boat, accommodation, food and other entertainment services.

5.3.3 Other Stakeholders' Attitudes and Supports for Ecotourism Development

The study shows that among responsible government institutions, the DoE-MoE provides the strongest support to ecotourism development in BTC and SS. The initiative of the DoE-MoE with strong technical and financial support from TSEMP-ADB and TSCP-UNDP-GEF are more central upon current needs of biodiversity conservation and livelihood improvement. The DoF-MAFF has been involved more in the establishment of community fisheries, fishery production and sustainable use of fishery and other aquatic resources.

Another key player of the tourism development in Kampong Thom province is the provincial Department of Tourism (DoT). The DoT is working under the assistance of the Netherlands

Development Agency (SNV), which works to help the Ministry of Tourism to prepare ecotourism development policies for Cambodia's touristic destinations. Even though there was a broad study, which was conducted by the SNV on ecotourism potentials in and around the Tonle Sap Great Lake, BTC and SS core areas were beyond the scope of the study. A dissemination workshop held in Battambang province on 6-9 October 2006 evinced that the MoT and its SNV counterpart did not launch any concrete study on such an issue. They just involved relevant officers of the DoT and the DoE of all provinces around the TSGL to do product inventory, SWOT and show possible strategies for ecotourism development in each province. In general, according to observation, most of the research participants have limited knowledge in ecotourism, assessment study and strategic planning. Therefore, this baseline study only covers different pieces of deficient information inappropriate for ecotourism initiative in TSGL region. This makes the DoT of Kampong Thom province unable to play crucial roles in ecotourism development in all potential destinations including BTC and SS core areas.

Concerning ecotourism initiative in the TSBR, 95% of total respondents (n = 20 experts) reported they are aware of this plan. Only the provincial DoT revealed no awareness of the project albeit it is one of its main responsibilities in the areas. A replicable answer was given by 80% of the interviewees that the DoE-MoE is consented to develop ecotourism in BTC and SS, while 10% of them perceived development agencies (ADB, WB and UNDP) as responsible coordinators. Interestingly, out of total, 90% agreed that ecotourism is an appropriate or a very appropriate rural development tool in BTC and SS, leaving 10% as a minority that had faith in this sector, many of whom are fishery-related specialists.

A range of key stakeholders of development projects interviewed declared that they have strong commitments for and are willing to support ecotourism operation in BTC and SS. Yet, the commitment of the DoF-MAFF is still uncertain given that it has so far rarely been involved in any environmental governance and community-based development projects. A representative of DoF-MAFF expressed his worry over the reduction of DoF-MAFF authority in BTC and SS core areas when ecotourism is fully developed there. Being the first ecotourism initiating agency in Cambodia, either through its own effort or its backup for environmental organizations, the constant participation and development roles of the DoE-MoE in TSGL protected areas are so-called the main intervener. Yet, the proactive participation from multi-sectoral stakeholders is needed to join force to develop ecotourism together with other current and prospective community-driven projects in BTC and SS core areas. Among all players, according to almost all experts interviewed, local communities should be regarded as the most important motives for sustainable ecotourism process. This reflects a theory that ecotourism entails two concepts by its nature – rural development and community participation.

Multi-stakeholder participation in the community-based ecotourism development means differently to different people. According to the DoT, preparation and development of tourism facilities, marketing and promotion strategies, and coordination between private sector and community ecotourism developers could be assisted by the DoT by all means. Besides, the SNV works are also conducive to ecotourism development in BTC and SS since it also focuses on research and capacity building projects to help national and provincial tourism officers to be able to manage touristic destinations in their areas. It is hoped that the continuous progress of SNV training programs would enable these officers to recognize the importance of tourism issues in a variety of ways. For example, they could understand destination marketing, tourism product development, marketing product positioning strategies, hospitality and customer services, visitor management and other relevant tourism issues. These are important for them

to impart to and help local communities to develop ecotourism in a sustainable manner. However, it is subject to the SNV capacity, project timeframe and fund availability. Another promising work of the SNV for ecotourism initiative in the TSGL region, as mentioned by its International Advisor, is to bridge the connection between the MoT and the MoE in order to work together in Cambodian rural protected areas on different ecotourism aspects. Hence, it is optimistic that unrelated institutions' authorities and missions will be reduced. However, to stimulate more benefit generation activities through ecotourism to local fishing communities in BTC and SS, more issues besides technical and financial supports are needed. Specifically, power and right to participation, decision-making, planning and development are vital for local communities to benefit more from the participatory development. Anyhow, it is still questionable whether responsible government agencies, particularly the DoE-MoE, are willing to work as advisors and delegate power to the community organizations to manage ecotourism in the areas.

5.3.4 Communities' Perceptions towards Government / NGO Plans and Implementation

Rhetorically, the term "communities" refers to both local fishing communities and local authorities in BTC and SS core areas. Local fishing communities are divided into three groups having different socio-economic statuses and applying different gears and methods in fishing activities. These are: (1) small scale or subsistence fishermen; (2) medium scale fishermen; and (3) large scale or commercial fishermen. Local authorities are the most powerful political leaders or mediators. They are working for CDC and VDC, and are responsible for building and improving social security nets in the areas. Through their experiences, communications and participations, these two groups of communities have perceived government's and NGOs' plans and performances differently. The perceptions of these communities are also dependent on their interests, awareness or knowledge, and access to information. Followings are the results of semi-structured interviews with local households and in-depth interviews with relevant local authorities.

5.3.4.1 Local Authorities' Perceptions

Though they appear to have more privilege and power than the common folks, the local authorities still complain that they do not have adequate right and control over the resources they are managing and the development they are involved in. They revealed that normally everything was done via the top-down process; the upper authorities quickly sent their experts to seek out potential spots and thereafter determine developmental plans and impose on the lower level to implement. Discussion was rarely done, and local initiatives were seldom regarded. Local authorities are not regarded as one of the key players in development, but simply a needed coordinator, disseminator or negotiator between local communities, government and I/NGOs. Both the local authority and the local community knew the development plans only when the higher authority informed them. Therefore, sometimes it was difficult for them to carry out the plans because they did not understand much and the plans did not address local needs well.

5.3.4.2 Local Communities' Perceptions

The local communities were very dissatisfied with most of the plans and development strategies raised by the government. They were also critic of the attitudes of the local authorities and their accountabilities. This population explained that the approaches initiated by the government

were not sensitive to the local communities. The government was reported to be economic-driven and pro businesspersons, and often they had no mercy on rural poor in the areas. Since the 56% fishing lot territory cut-off policy in 2000, the expectation of the local fishing communities in BTC and SS to have more freedom and access to the released fishing grounds has never been attainable. With power from the top-management and constant protection of government officers, local authorities and other armed organizations, the fishing lot owners and commercial scale illegal fishermen always march into fish flock areas with much more sophisticated, and destructive, gears and methods. Their activities are seen in both close and open fishing seasons. Despite having some community-based and sustainable livelihood projects (most of which are pioneered by I/LNGOs), almost all plans are not implemented yet. Nothing has been easy for the real local poor; they have no suitable places to fish and are noticed as mobile fishermen and NTFP collectors in far fishing grounds, including in the nearby floodplains in the buffer zones.

Local people's criticism was put more on government institutions (i.e. DoE, DoF, C/VDCs, Police Superintendents, FA, Traffic Police) than on civil society organizations. Local interviewees criticized that the local authorities and responsible government officers in Peam Bang and Phat Sanday communes only threaten them to pay for fishing permit, fishing grounds access and for the use of fishing gears, regardless of size and exploit. To be responsible for their works and local livelihood improvement are a faraway vision. These institutions are not committed, and thus repeatedly impeding the dedication and task force of civil society and development agencies. According to the semi-structured and group interviews with local respondents, there are no effective directions and measures to address illegal fishing, destruction of natural resources, social inequality and people's livelihood loss.

It seems that the local authorities and the executing agencies cogitate that only the locals who have to be responsible for and preserve all resources, while seasonal in-migrants and violators (both from inside and outside) are still emancipated. There are very few campaigns to raise the awareness of and improve the enforcement on dominant medium and large scale fishermen or seasonal migrants to abide by the environmental laws. The local communities interviewed, especially small scale fishermen, revealed that government plans are inconvenient and create economic polarization and disparity between communities in different places. Corruption, nepotism and bad management of government officers and local authorities increasingly break up trust between local groups and sub-groups and cause conflict over resource access and utilization.

As the locals anticipate no direct benefits from development plans, including current ecotourism project, they expressed their doubts and grumbles doggedly on the goals and beneficiaries of development in their areas. They suspected how current and prospective community-based development / conservation plans become successful when they receive very little support from the locals. Then who will implement them if the implementers (the locals) have very little or no knowledge about the stressing issues. Yet, when the development strategies are jeopardized by local ignorance and misunderstanding, there are no enforcement or measures to monitor the efficiency of the projects at all. Most of the plans are transitional and the implementations have been vague. The local fishing communities in BTC and SS core areas denounced that there are too many authorities in charge of development plans, but none of them represents the symbiosis among those authorities, meaning lack of integrated management strategies. On the other hand, some plans are even overlapped. In this sense, it shows a process to share benefits, but not to work together to help the poor and biodiversity conservation in the areas.

5.3.5 Perceived Governance, Accountability, Transparency and Collaboration of Concerned Executing Agencies and Developers

This part emphasizes the perceptions of concerned developers and planners raised during the expert interviews. The results of interviews with 20 experts are classified in accordance with its subject matters and are summarized as follows:

The TSBR issues are so complicated. It is required that an active involvement from a wide range of institutions at micro and macro levels is to help address current pressing problems in a timely manner. Reportedly, even though the communication among each stakeholder has been somewhat improved, there is lack of specific and incorporated missions, visions and strategies for natural resources management and development. In addition, conflict of interest usually happens among key players, particularly among ADB- and UNDP-supported staffs and government agencies. The conflict between the DoE-PIU and the DoF-PIU staffs is a major challenge to the effective management of the areas. Different from the policy papers and the Royal Decree, the DoF-MAFF seems to have control over the whole areas. The DoF-MAFF staffs often write and run projects better than the DoE-PIU/MoE staffs. This institution has more human resources to work for the projects and more power to lobby the government and donor agencies to support its implementation at local and provincial levels. However, its work effectiveness and efficiency for community development and conservation are still limited. The results of the interviews show that government staffs, especially the DoF-MAFF officers, do not want to participate much in the implementation of conservation plans.

The expert respondents interviewed revealed that the governance, accountability, transparency and collaboration of responsible government agencies are limited or weak. The top management authorizes the bottom-line management staffs to implement work plans, but never provides enough right and effective guidance to them to improve their task assignments. Besides the shortage of clear work definition or legal framework and coordination, corruption, nepotism and political pressure are other constraints to the TSBR management. They mentioned that what have been improved in the areas are mostly the results of the interventions of concerned local and international NGOs and development agencies, for example, the building of floating primary schools by UNICEF. The civil society groups produce more effective works compared to the government sector. However, it is debatable that the projects of civil society organizations are more structural and systematic, their staffs are qualified (high salary promotes better staff recruitment) and their works (including contract/sub-contract works) are monitored and evaluated regularly. These factors differentiate the performance of civil society from the bureaucratic system of government works.

The involvement and subsidy of the government and its responsible institutions in project planning and implementation with I/NGOs, which are committed to help save the environment and rural poor in the TSGL region, are limited. On the one hand, the government does not have enough budgets to support any biodiversity conservation and local livelihood improvement projects. This is because over half of its total GDP is obtained from international aids and loans annually. A senior expert from FAO-Cambodia interviewed explained that there is no strong political will from the government as its economy is partially dependent on heavy exploitation of existing primary resources. Some anonymous respondents, who have been participating with various Tonle Sap projects, reported that the current government is working for the sake of the winning party. Most often, benefits from illegal businesses in TSGL protected areas are used for

the election campaign either through bribery to high ranking officers for business permits or through the payment for retaining positions in the areas.

The lack of political will in conservation and sustainable rural development in BTC and SS is not only derived from an economic perspective of the government representatives, but also from an angst that people will not vote for their parties, either in commune or national election. For example, according to an expert of an international environmental organization, it is easy to attract members of the CDCs and VDCs to support and participate in dissemination and enforcement of conservation principles in the TSBR only in the beginning. Yet, when they realize that conservation activities affect local people's benefits, they try to avoid the problems or to trouble the whole. On the one hand, they do not want to upset people because they will turn unwilling to vote for their parties. This means none of political representatives selected as CDC and VDC members wants to shake off political gains. The observation suggests that they think it would be better to be quiet and play roles as mediators in the areas as long as they can get benefits from both sides (local fishermen including large-scale ones and responsible government agencies).

Trust and the level of trust is an indicator of good governance, accountability, participation and collaboration of every developing and planning agencies working on TSBR projects. There are three kinds of trust that need to be strengthened – trust between implementing agencies, trust between donor agencies and implementing agencies, and trust between implementing agencies and local authority/communities. A GTZ environmental specialist mentioned that under donors' initiatives, all executing agencies are encouraged to collaborate with other public partners (i.e. CNMC, DPR, and DWA) and I/NGOs in order to improve the environmental governance and local economic development in the areas. He clarified that despite trying to work together, their works and efforts are hindered by their lack of trust, limited capacity, and communication. This might also due to the absence of co-management mechanisms and integrated development frameworks, management system and structure and communication/coordination approaches between each responsible ministry and its executing staffs in BTC and SS core areas.

5.3.6 Strengths, Weaknesses, Opportunities and Threats for Ecotourism Development: SWOT Analysis

One of the main activities of this research is to identify internal (strengths and weaknesses) and external (opportunities and threats) aspects that are considered as influential attributes for ecotourism development in BTC and SS core areas. Understanding such attributes is also important to note the prospective impacts which ecotourism may have on these core areas. Therefore, a SWOT analysis of internal and external dimensions was done with individual expert respondent during the expert interviews (n = 20). This analysis provides facts in support of potential impacts assessment and appropriate strategies building which are described in full length in Chapter 7. Table 5.3 summarizes and categorizes the results of SWOT analysis pointed out by the expert group into different subject matters.

The results of the SWOT analysis done with the expert respondents show a number of points that contribute positively to ecotourism development in BTC and SS. These attributes can be utilized and enhanced to achieve development plans of ecotourism in these two environmental hotspots of chronic poverty. These attributes are unique attractiveness, increased natural and cultural appreciation among locals and developers and conservationists, local people's interest and support, participatory management approaches created through TSEMP and TSCP projects

and other counterparts, community will, potential eco-enterprise option, and other internal and external endowments. However, some critical factors can hinder the potential of ecotourism to contribute to a more appropriate use of natural resources and a more secured livelihood approach of the people. These issues of sustainable development and management of ecotourism are: infrastructure and superstructure, capacities and awareness of local communities and responsible developers and planners, regulation and institutional reform, capitals investment and construction, stakeholder participation especially participation of the locals, linkages between formal and informal sectors, appropriate community-driven planning, conflict resolution over resources access and use, gender equity and women empowerment, government support, safety and security strengthening, local product development and sound marketing strategies. The weaknesses/threats for ecotourism development in BTC and SS as well as the strategies to success by manipulating strengths/opportunities will be described in detail in the following parts. These issues are discussed based on the three-dimensional perspectives of sustainability context.

Table 5.3: Strengths, weaknesses, opportunities and threats for ecotourism development in BTC and SS

STRENGTHS	
INTERNAL FACTORS	<ul style="list-style-type: none"> ▪ Beautiful natural landscape and unique geographical places and hydrological system ▪ Rich natural resources, biodiversity and significant ecosystem ▪ Close proximity to other famous touristic destinations ▪ Increased natural and cultural appreciation ▪ Involvement of multi stakeholders in TSEMP and TSCP ▪ Support and participation from established local communities ▪ Unique cultural and historic resources, both tangible and intangible ▪ Increased awareness at local level ▪ Friendly people with special traditional ways of life ▪ Legitimacy (Royal Decree on Biosphere Reserve)
	WEAKNESSES
	<ul style="list-style-type: none"> ▪ Unclear definition of boundaries and conflict over natural resources use for livelihood, conservation and development purposes ▪ Increasing illegal activities and constant deterioration of natural attractions ▪ Time consuming and financial constraint for ecotourism development consuming ▪ Lack of capacity among local communities, government staffs, and authorities ▪ Low income generation from ecotourism for development and livelihood improvement if compared to other development sectors ▪ Individual institutions think only about their projects and these projects often are not integrated and multi-sectoral focused ▪ Overlapped definition and responsibilities and weak legal framework ▪ Poor hospitality and customer services and poor quality service delivery ▪ Lack of infrastructure and superstructure to support ecotourism process, including necessary tourism facilities ▪ Water quality, sanitation and diseases ▪ BTC and SS are very isolated and is not accessible by appropriate means of transports and lack of connecting roads ▪ Lack of skill trainings and creation of local SMEs for local fishing communities in BTC and SS and other nearby regions ▪ Community organizations (i.e. community forestry and community protected area) are not officially recognized and empowered ▪ High cost of transportation ▪ Seasonal context of flood / hydrology, waterbirds and wildlife movement and tourist arrivals
EXTERNAL FACTORS	OPPORTUNITIES
	<ul style="list-style-type: none"> ▪ Government and many NGOs are supporting and to increase the scope of their works to help people understand the significance of self-help system and sustainable community development through the creation of more livelihood approaches and participatory NRM activities ▪ Government pro-NRM and pro-tourism policies and donor interests ▪ New emerging interest of other development agencies to work in the areas ▪ Core areas management plans have been developed already, only need to follow and implement ▪ Increased environmental awareness and capacity of local people that donor agencies and NGOs only need to support them ▪ Implementation of decentralization and deconcentration strategies ▪ More involvement from local and foreign experts to produce more information about the sites ▪ Increased number of tourists and increased need to diversify tourism products and identify new touristic destinations in natural sites ▪ Increasing political will and new laws being developed, for example, protected area laws, core area management plans, etc.

THREATS
<ul style="list-style-type: none"> ▪ Social, economic & demographic factors, management, payment to MoEF, competition, and political pressure ▪ Ineffective law enforcement ▪ Deterioration of habitats and biodiversity due to increased economic development activities ▪ Influx of tourists that can disturb local communities and their lifestyles (change of local culture and value) as well as natural resources ▪ Land grabbing and encroachment done by outsiders and SIM and destruction of flooded forests ▪ Illegal and over-fishing, natural habitat destruction and unsustainable use of NR ▪ Conflict among government agencies and conflict of interest ▪ Political pressure to convert ecotourism to mass tourism for more revenue generation ▪ Lack of cooperation when ecotourism benefits come, and this might cause responsible agencies to be more economic or business driven ▪ Influence of political parties, both opposition and winning parties ▪ Conflict between local communities and fishing lot owners ▪ Corruption, nepotism and neo-feudalism (patronage system) ▪ NR will be sooner or latter depleted and waterbirds will migrate to other places ▪ Afraid of privatization when these areas are well developed and visited ▪ Since the country is poor and government system is very corrupted, government is more interested in macro-economic development rather than in conservation and community well-being ▪ Population growth and influx of seasonal in-migrants ▪ Tendency of local communities, authorities and government bodies toward big scale ecotourism development

5.3.7 Analysis of General Issues and Challenges for Ecotourism Development

This section highlights different issues and challenges which could obstruct the process of ecotourism development from being successful as an integrated tool for conservation and community development in BTC and SS core areas. Rather than listing individual aspects of challenges, it demonstrates and analyzes the interaction between all concerned elements of management, development and local living environments through which critical challenges emerge along the way and impede ecotourism operation. This analysis is based principally on the results collected from the in-depth interviews with local authorities and representatives of executing agencies as well as from the expert interviews with a range of senior staffs and experts from different related fields. However, the observation technique applied in the field also contributes to the identification of another challenge in the areas (see Section 5.3.7.3). The challenges, as sophisticatedly indicated by these groups, for ecotourism development in BTC and SS core areas are mentioned in the following.

5.3.7.1 Results from the In-depth Interviews

Their first concern on this issue is the lack of infrastructure and superstructure to support ecotourism process, although the areas have plenty of diverse attractions. The rangers interviewed mentioned that BTC and SS core areas have inadequate social, public and infrastructural services (i.e. health centers, safe drinking water, communication services, etc) to support immediate demands of ecotourists. The commune and villages chiefs explained that in general there is lack of investment of both local and national governments in social infrastructure development in rural areas of Kampong Thom province, including its flooded communes (Peam Bang and Phat Sanday) and the buffer and transition areas of TSGL. These respondents perceived that the roads from the National Road and the connection roads to the boat docks and other nearby villages are still in bad conditions, especially in the water recession season (muddy). Concerning visitor management system in the areas, the rangers interviewed mentioned that tourist trails with appropriate facilities and zoning and hardening systems have not been constructed yet. As these rangers (DOE-PIU staffs) has some experiences in accommodating some types of tourists (i.e. students, scientists, expert groups, etc.) in the areas, they considered local-owned accommodation for home-stay, local food enterprises, transport service and other substantial tourism amenities and facilities are insufficient and do not reach

the standard yet. They said this could thwart tourist traffic and stay in these core areas. In addition, sanitation and hygiene systems (i.e. toilets) and waste management are completely missing in all villages. This group revealed that every village in BTC and SS faces water pollution, especially in the water recession or dry season, because of no toilet, waste disposal, waste transportation and sewage systems to control household waste in these floating communes. These problems also cause difficulties in developing other tourism facilities in the areas as well.

The second challenge is the lack of abilities among local villagers in the areas. Both executing agencies and local authorities admitted that the level of education of local fishermen, including themselves, is low. They said the training programs provided by responsible ministries and concerned local and international NGOs to the locals usually focus on environmental awareness raising, dissemination of fishery and environment laws, and some participatory conservation activities. The absence of skill and language training programs in the areas have prevented local people from understanding what services and how they could undertake to receive tourist visits as well as to promote their economic activities to benefit from ecotourism. According to the rangers interviewed, the operation of ecotourism service provided by the DoE-PIU in these core areas, especially in BTC, is spontaneous as it is done through the request of tourists rather than on what they have to offer. The leaders of CFs and CPAs referred to poverty as a sign of lack of financial ability among local villagers, especially small scale fishermen, to cater necessary ecotourism products (goods and services) to tourists.

The third challenge is the unclear demarcation of boundaries and the operation of fishing lots in the areas. The DoE-PIU staffs interviewed mentioned similarly that unlike Prek Toal core areas, the mapping and division of BTC and SS from the nearby buffer zones are unclear. This has caused the management of the areas difficult to achieve its goals. They mentioned that seasonal in-migrants and some local poor usually break the environmental laws to do illegal fishing, hunting, and clear flooded forestlands for rice and crop cultivation in potential environmental hotspots of these core areas. Because they do not have enough forces and facilities to patrol the whole areas as well as information on clear location to support their authority, these poachers increasingly destroy natural resources, which are also the main attractions for ecotourism (i.e. flooded forests and natural habitats, etc.). Except DoF-PIU, DoE-PIU and local authorities agreed that the presence of fishing lot concessions in BTC and SS would cause some problems to ecotourism operation and services in the areas especially in terms of tourist transport within the sites or to some natural places where have pristine attractions.

5.3.7.2 Results from the Expert Interviews

This group produces a range of critical answers related to both internal and external factors which are considered as potential challenges for ecotourism development in BTC and SS core areas. The results of interviews with selected expert respondents are shown as follows:

- **Lack of Stakeholder Participation**

Some NGO respondents and development agencies' experts perceived that community members and stakeholders of conservation and development in BTC and SS core areas have unequal opportunities and access rights to participation, decision-making and planning. How resources are used and conserved and what kinds of regulations imposed are unclear. On account of inequality and lack of participatory approach, these respondents viewed that trust is declining among local villagers and executing agencies. For example, such trust is being collapsed between responsible government institutions (DoE-MoE and DoF-MAFF),

between government institutions and civil society organizations, between local communities and responsible management-related teams and other implementing agencies, and between locals in different classes. They referred to this situation as one of the reasons that local fishermen break fishing laws and many other stakeholders break rules and regulations designed to conserve biodiversity and either bribe their way out if intercepted or they avoid interception. These respondents perceived that multi-stakeholder participation plans for the management and conservation of BTC and SS are not achieved yet due to the aforementioned problems.

The question of how effective the plans and implementations were in general was also related to the issue of how much integration local, provincial, national and civil society stakeholders do with each other. The representatives of MoE and MAFF counterparts stated that this is a main feature for securing funding and success for development requisites. They clarified that there are plenty of plans and visions given by the government officers. Yet, none of their responses stresses participatory or integrated characteristics, though the site is to be co-managed/developed by inter-ministries as an integral part of cooperation. According to these respondents, each ministry has own expertise and sets up individual development action plans for their works and responsibilities, but the integration of their plans with other institutions' is not well-matched.

Two respondents from FAO and UNDP projects expressed the achievement of decentralization policy in BTC and SS as another challenge. This is a new concept that has just been introduced to involve the grassroots people, represented by the Commune Development Councils, to participate in development and natural resources management. However, no existence on such implementation of this development mechanism is found yet; in contrast, they use centralization instead. They explained that responsible ministries and executing agencies in the areas just impose their plans for local people to follow. Since the locals do not know much about these plans and their impacts on their livelihoods and nature conservation, they could not benefit much from the development.

- **Lack of Awareness about Biosphere Reserves and Participatory Natural Resource Management**

According to a consultant of TSEMP and an environmental education specialist, there have been various training and awareness-raising programs provided by the TSEMP and TSCP Projects with supports from ADB and UNDP-GEF to executing agencies' staffs, other responsible government officers, and local communities. However, most knowledge receivers have not obtained much knowledge from those short intensive training courses which often lack field practices. This limitation discourages them to precisely understand the choices of and approaches to development, normally it leads to unproductive task performances. These respondents mentioned that apart from the shortage of awareness and training programs, the target group of participants is also considered as a drawback to promote awareness among key stakeholders. A challenge of current developers and planners is to increase and improve awareness programs to other beneficiary and related groups such as teachers, local authorities, parents, children and monks etc. According to a UNESCO expert, the integration of conservation, environmental education, ecotourism, poverty reduction programs with the improvement of livelihoods of the poorest families through skill trainings and awareness raising in BTC and SS is needed.

A TSEMP representative and a WCS specialist mentioned that local fishing communities, including members of CFs and CPAs, and seasonal in-migrants from nearby mainland regions do not have enough knowledge and understanding about BR and PNRM/C. They do not fully understand what, how and why to preserve natural resources. This makes them exploit available resources at optimal level in order to earn their livings. However, they explained that the medium and large scale fishermen make the most use of natural resources in the areas for their businesses. The intervention of international development agencies for biodiversity conservation in Biosphere Reserves is to make these users participate more and accept changes in accordance with environmental laws. Yet, these expert respondents said that these target groups still do not understand how they could take part in conservation and what should they need. This is a grave problem because it leads to inappropriate development and annihilation of natural resources.

- **Law Enforcement and Poor Legal and Institutional Frameworks**

An expert of FAO raised a concern on the environmental governance of the TSBR, especially the division of the lake into core, buffer and transition zones. He mentioned that it is necessary to have a holistic integrated NRM within the TSGL basin. The presence of different stakeholders and members of the steering committee or the national task force often leads to difficult coordination and overlapped mandate and responsibilities. As a result of weak legal framework, there are increasing problems in the areas, such as lack of appropriate land use planning, lack of clear definition of boundaries administered by executing government agencies, unclear authorization and coordination for multi-sectoral development in core and buffer zones. This respondent perceived that the lack of law enforcement and no core area management plans in BTC and SS usually confuse and make the provincial authority and MLMUC disapprove upon the existing maps of the areas despite the official designation stated in the Royal Decree.

Most interviewed experts expressed the same view that there is lack of collaboration and coordination among executing agencies, NGOs, donors, and other member institutions working on BTC and SS projects. A fishery expert gave an example that DoE-PIU staffs usually claim their authority over the whole TSBR core areas, so that the power and accountability of the fishery officers can be downsized or even cut off. However, he reported that the number of PIU-DoE staffs to patrol and safeguard the whole environmental hotspots, including daily business activities of local fishermen, is relatively insufficient (only 10 rangers in each area). This has made DoF-PIU unmotivated to participate in the conservation process on one hand, and the environmental protection tasks in the areas become difficult to achieve on the other.

As there is no assessment on local and ministry-represented officers' performances and their behavioral impacts on NRM and local livelihoods, it was reported by some experts that there are many negative cases in BTC and SS core areas. These include illegal fishing/hunting, forest cutting, over fishing, nepotism, corruption, repression and many other anarchies. However, these respondents referred to these problems as results of lack of law enforcement. Some NGO experts reported that officers in charge of implementing rules and regulations do not undertake their responsibilities seriously; therefore, many pitfalls occur accordingly. They explained that because there are no firm preventive measures, illegal fishermen and poachers continue to violate the laws.

Some environmental specialists articulated that the government incentive to issue fishing lot concessions in BTC and SS core areas and the support of DoF-PIU staffs allow the fishing lot owners to have more power to control the fishing areas. This could make them restrict the transport of local boats in their boundaries where have the most attractive natural features for ecotourism. Their restriction to boating across their boundaries to other nearby regions, especially at night and along fish flock passages, was also reported by the ADB-supported project staffs. A TSCP representative mentioned that the most severe barrier to the development of ecotourism products and services involves trafficking across fishing lots and their invasions over natural resource rich areas in BTC and SS core areas.

- **Lack of Human, Financial and Social Capitals**

Most interviewed experts stated that local villagers in Peam Bang and Phat Sanday communes, except a few working or having close relation with the PIU-DoE, do not know much about ecotourism and what tourists might need or expect. In addition, they do not know what tourism services or products they could provide to tourists to benefit from ecotourism. However, a DoF-MAFF representative explained that not only their little education that holds back their participation in ecotourism businesses, but also the opportunities that are rarely given by DoE-PIU rangers to local villagers to interact with or to serve tourists. Apart from this an NGO respondent reported that local people's knowledge about hospitality, customer service and hygiene and sanitation in these local fishing communities is low.

According to some respondents, all development projects which are being undertaken in the areas have been initiated by outsiders using external funds. However, they said that these funds is mainly used at technical and logistic levels and only some project activities have been implemented at local level, but are running behind the set timeframe mentioned in the project plans (i.e. TSEMP and TSCP timeframes). The fund deficiency thwarts the meaningful implementation of project plans, let alone some outcomes to be achieved through government's and donors' initiatives. These respondents mentioned that because these projects depend on external funding, some plans are being implemented in stages (e.g. sustainable livelihood projects), while others might not be able to be implemented. If some of the plans could not be undertaken, impacts would occur automatically because the problems have already been arising at the sites even in this transitional stage.

Community Fisheries and Community Protected Areas and other local cooperative organizations have been established in BTC and SS core areas. However, some NGO experts stressed that almost all of these local organizations are not given enough authority and power in decision-making, planning, participation and development. In addition, their capacities for planning, coordinating or negotiating with multi-stakeholder institutions are limited. Only a minority of local organizations' members take on the concerns of all interest groups, including the three types of local fishing communities (family, medium and large scale). Many existing organizations are influenced by nepotism, corruption and political parties. This appears to be underlying conflict between different groups in most of the villages in the areas.

- **Conflict over Resource Access and Consumption**

The competition for declining fishery resources in BTC and SS core areas means that intra- and inter-conflict between various stakeholders is increasing. The intra-conflict refers

mainly to the conflict caused by access disparities of traditional (family scale) and resourceful or mechanized (medium and large scale) fishermen, regardless of gender, household size and extent of residency. The inter-conflict refers to the conflict between permanent local fishing communities and seasonal in-migrants from nearby districts or provinces over fishing areas, natural resource exploitation, places of resettlement and environmental responsibilities. Due to administrative challenges (the management of boundaries and the in/outflow of the people), resource persons' capacities and support funding and materials of the responsible agencies and rapid population growth, fishery resources and some specific types of wildlife are increasingly declining and becoming extinct. However, environmental and social situations in BTC and SS are influenced by many factors, including deficient food security in the areas. The constant destruction of natural resources would lead to biodiversity damage and frail ecosystem of Biosphere Reserves and change of natural food chain system of animals (i.e. fishpond and creek pumping and electro fishing to catch fishes). Some NGO respondents said that even between executing line departments in BTC and SS, the conflict normally subsists on who should have ultimate control of the areas. They explained that conflict between these institutions is considered as the most critical problem for the management of the area, as well as for the development and benefit sharing of ecotourism.

- **Lack of Appropriate Community-driven Planning and Benefit Expansion**

The study shows that local fishing communities in BTC and SS neither understand ecotourism nor realize the importance of ecotourism because tourism development is not fully established in the areas. What they care is the possible economic prospects of ecotourism for their livelihood improvement as they intend to welcome new developments to change grave socio-economic conditions of their villages. Without realizing the nature and possible negatives of ecotourism, they and their bona fide communities would be victims when the ecotourism process is fully-operationalized. In addition, access rights to natural resources use and opportunities to invest in ecotourism-related enterprises would be obliterated by future project developers and implementers. The roots of such hindrances are usually caused by non-participatory project demonstration and implementation, centralized system, less advocacy or inept democratic space of development planning, lack of local empowerment, and systematized corruption and favoritism.

According to two experts from agriculture and environment fields, few development frameworks, which are made in locals and other stakeholders' absence, are divulged transparently to the locals, keep aside helping them to understand how important the plans are. According to their experiences, they found out that the local communities do not participate much in former and present projects even though they are being carried out on participatory basis. Neither have they understood how to properly participate in it as dynamically as possible. This is a main barrier to successful and sustainable ecotourism development in BTC and SS core areas. As a matter of course, ecotourism relies heavily upon the goodwill of local residents; their support is essential for its development, successful operation, and sustainability. If the locals have less interest and offer less backing for its development, tourism will fall through because their anger, apathy, or mistrust could ultimately be conveyed to ecotourists. This would lead to tourists' reluctance to visit places where they feel unwelcome.

- **Lack of Government Support and Political Will**

All expert respondents except MAFF representatives expressed their similar concern on this issue. They said even though the government has policies to encourage local involvement in ecotourism and other community-based development projects, everything appears only on policy papers or project funding proposals to donor agencies. The government regulations and official procedures create blockades for the rural poor (mostly subsistence fishermen) in BTC and SS to participate and benefit from development in their areas. Some community fisheries, community protected areas and other local organizations have been established, particularly after the pronouncement of the government. The establishment is often done through speeches or remarks of Cambodian leaders or through policy papers in government-donor agencies follow-up meetings; e.g. the establishment of CFs after the fishery reform. Nevertheless, such established community organizations are powerless and dysfunctional. Their frailties are seen in their capacity, budget, authority and responsibility, connection and network, initiation and trust among local villagers. It is obvious that these communities need good facilitation, technical and financial support from government and civil society organizations and funding agencies to set up clear directions and activities. Apparently, the lack of political will from political parties and government agencies triggers no respect in local governance, local knowledge and practices and local NRM-relevant teams.

Some of these respondents explained that lack of government support and political will also cause three other major setbacks. First, it causes conflict of interest and conflict over natural resources and boundary control between implementing government agencies. Second, it relegates collaboration and facilitation of government agencies and officers with civil society organizations to achieve their plans. Third, it fuels political pressure, social intimidation by local authorities, armed forces and powerful patrons and political activists over ordinary fishing folks in BTC and SS. At present, it is difficult to encourage and activate local permanent residents and SIMs to engage in NRM process since they have less faith in these groups. In contrast, these interviewees mentioned now the activities of the locals and SIMs, some of which are destructive to the environment (i.e. mobile fishing, fuel wood cutting, hunting, dry rice farming etc.) are beyond the control of the executing agencies. In this sense, they overlook bonding and linking social capitals of local communities which are associated with their works throughout trust building process.

The intervention of the government sector in social infrastructure development, finding of appropriate markets for local products and in environmental governance in BTC and SS core areas is especially limited. Most of the time, the government depends on foreign aids, NGOs and INGOs and international development agencies. However, the government has fulfilled or is trying to comply with its previous and on-going promises. According to the interviews with a FAO expert and an environmentalist, there is a number of concerns that require the government to address when playing fewer roles in development and conservation. A primary concern is related to the roles and work effectiveness of donor agencies. Widely accepted upon its crucial existence in the world, these respondents perceived that ADB, WB and some other funding agencies in Cambodia are a good tool in physical infrastructure development. Yet, most often they are not a good motive in terms of poverty alleviation and conflict resolution as long as they deal with the locals without having good understanding about traditional knowledge and practices. As to local and international NGOs working in relation to Tonle Sap projects, they are considered as the most important change agent to help provide direct benefits to rural poor in the areas. In spite of this, as reported by these respondents, sometimes some of these organizations are semi-political depending on their politics and politics of donors. Besides working to help save the environment and stimulate

the living conditions of rural poor in TSBR core areas, some of them try to find something to embarrass or flay the government.

Political problems, which are interrelated with the environmental governance and livelihood improvement of the poor, are another challenge to the development of ecotourism in BTC and SS. In reference to the Inception Report of the Tonle Sap Conservation Project (2005), the Ministry of Environment is responsible solely for the core area management of the TSBR. However, since most of the biggest fishing lot concessionaires are permitted to operate in the core areas, the Department of Fisheries which was promoted to Fishery Administration in 2006, is also involved in the management of the places. Since the MoE-DoE was assigned to administer the management and conservation of the core areas, it has been defamed and disparaged as a young, non-experienced agency. A senior staff of MoE stated that to obtain strong support from the government and political leaders to succeed DoE-MoE's plans is a complex task as it is unable to excel economic benefits for them, exclusive of their daily conservation activities. Receiving less support from the government together with insufficient funding at operational level make the MoE-DoE desperate, and from time to time its responsible environmental rangers in the areas become involved in corruption just to survive and adjust to the situation.

The same FAO expert mentioned that besides problems of trust building, solidarity, conflict of interest and participation between different stakeholders, there are some other concerns which need to be overcome through proactive government support and right political will. These include: (1) a need to address different and effective land use patterns and preservation of land boundaries, land use and conservation of biodiversity by incorporating traditional knowledge and practices of the locals; and (2) a need to improve the classification of public state lands and private state lands, especially focusing on concession laws for investors to utilize state lands.

- **Unsuitability with Traditional and Existing Livelihood Strategies**

According to Report on the Capacity Building of Inland Fisheries Research and Development Institute (2006), DoF-MAFF, households around the TSBR, including those in BTC and SS, are differentiated by their occupational pluralism. This means that the livelihood consideration entails the dependency of people on fishery resources and the entire aquatic ecosystem. One of the major challenges in improving and sustaining livelihood strategies of the locals, particularly those with little livelihood alternatives, is the access to and consumption of common property resources in the areas. Therefore, the diversification of income generating and subsistence activities is an important livelihood strategy for the majority of them living in or around the areas, regardless of primary occupation, gender, age, education, location and length of stay.

It is obvious that ecological, socio-economic and governance aspects are the key arguments in sustaining livelihood approaches of local fishing communities in BTC and SS core areas. As long as initial improvement in food security may not be sustained successfully due to high competitions and decline in and over-exploitation of fishery and other natural resources, alternative livelihoods need to be urgently introduced to BTC and SS. In doing so, it could reduce pressure on the use of natural resources in the areas. In this case, according to a tourism expert interviewed, ecotourism which is a non-traditional export sector focusing on economic diversification and biodiversity conservation could be an ideal resolution mechanism. Nonetheless, he mentioned that there are three cruxes which could

make ecotourism development unsuitable for these hotspots. First is the seasonal context of ecotourism. During the close fishing season, ecotourism activities could not be developed in both size and quantity as it might be a low season for leisure programs due to heavy rain and storms. Second, working in ecotourism industry in the tourism high season might run down existing traditional livelihoods and household workforce in fishing, fish culture and fish processing of the fishery-dependent communities in BTC and SS. The question on this issue is how to secure and maintain both fishing and ecotourism activities at the same time as the locals are busy. Third is the balance between economic development and conservation activities in the areas. A DoF-MAFF representative said that because the DoE-MoE, with support from TSEMP-ADB and TSCP-UNDP-GEF projects, is empowered to develop ecotourism, this institution would give more attention to biodiversity conservation and environmental governance of the whole region. In that case, it would bring a clash with current fishing communities (permanent residents and seasonal in-migrants) who are dependent on fishery, aquatic and other natural resources.

5.3.7.3 Results from the Observation

The results from observation also reveal that lack of safety and security could be another challenge for ecotourism development, especially for tourists who would like to visit BTC and SS core areas. In the context of BTC and SS core areas, a strong relationship between safety/security and ecotourism should be pondered watchfully, particularly about food and health safety, travel safety and security for tourists when holidaying in these floating communes. This is important for strengthening the social security in Cambodian rural areas, and to increase tourist satisfaction and tourist revisitation in the areas as long as ecotourism is developed as an economic alternative to help the locals and the environment.

Sanitation and hygiene are major concern to challenge with. The local fishing communities in BTC and SS do not pay much attention to food safety given that the majority is poor and facing constant livelihood shock and loss to ensure their food security for both open and close fishing seasons. With low education and absence of health care centers and awareness programs in BTC and SS, the health condition and food quality of the people are considerably at a low level. If BTC and SS are going to receive both domestic and international tourists, these concerns need to be well addressed. Otherwise tourists will be susceptible to waterborne and food-borne diseases and their perceptions of destination choice will be much more negative than expected by current developers and planners. The concern on food safety, including safe water for drinking and cooking, is much higher in the water recession season than in the high flooded season. However, dry season is a good period for tourists to observe waterbirds that migrate in huge flocks from Prek Toal and other areas, Battambang province, to hunt for feeds and nest in the areas. Also, it is a good period to observe and participate in socio-cultural and economic activities of the people.

Boating accidents from the main ports (from Kampong Lournng to BTC and Chhnok Trou to SS) were reported by local interviewees in the study. Travel safety is a problematic issue for tourists when traveling to these core areas, especially to BTC, in rainy season. This due to common rainstorms, tornados and some hurricanes which normally happen in the middle of the lake at noon which can make the boats capsized, according to old-timers and fish dealers. To reach these destinations safely, tourists or visitors are recommended to take high-speed motorized boats which are more unswerving. Only rich fishermen like fishing lot or creek owners, fish dealers and few medium fisher folks could afford such high-priced boats. This can be one of the worries that only better-off villagers could benefit from ecotourism for they can invest their

capitals to run ecotourism-related businesses in the areas. However, none of the boats of both poor and rich fishermen is equipped with lifebelts, life jackets or life-buoys as local villagers are not afraid of or have never thought of such preventive measures. This would cause more serious problems to domestic tourists who are not good at swimming in common. Even though the majority of foreign tourists are considered as string swimmers, they would also face difficulty while swimming in currents and tides.

Another challenge for tourists is the stay safety and security in the villages. According to observation, social security in BTC and SS core areas is low and everything is managed through different power relations. The use of armed forces (i.e. by fishing lot owners, former-militia fishermen, local and provincial authorities and by government institutions) is seen as a common practice to acquire power and reverence, to invade the territory of the fishing grounds, as well as to protect individual benefits. Some non-governmental experts mentioned that without proper management plans and fair play in development and benefit sharing, ecotourism process could be hampered by marginalized villagers, armed fishing lots and other local and government management-related teams.

CHAPTER 6: DEMAND ANALYSIS

As ecotourism is a market-driven activity (Cespedes, 1996), tourists' views, needs or expectations, behaviors and satisfaction can directly influence the shift of destination that might be intended or not. Normally, tourists desire a change from their everyday mundane environment and wish to acquire special experiences that are available at special places for specific type of tourism.

Development and management of ecotourism services in BTC and SS core areas cannot embark on the basis of potential attractions of the site without in-depth understanding about prospective demand of individual tourists or common groups of visitors. If local ecotourism planners and operators have less information or knowledge about local tourist demands, they would not be able to attract tourists, to set up effective marketing and promotion strategies, and to increase tourist satisfaction. This is because the nature of ecotourism is different from other types of tourism or mass tourism. Generally, the host communities and local industry related people cannot be dependent on sporadic or occasional visitation of tourists who just come to the site and leave a wide range of impacts to the hosts. Instead, they should have more access to information about tourist demand. This will make them understand and incorporate it into their planning and implementation process to effectively develop ecotourism as a real profitable local industry. Therefore, the first section of this chapter focuses on local tourist demand or the potential market of ecotourism in BTC and SS core areas.

6.1 Cambodia's Tourism Industry and Trend

According to MoT (2007), Cambodia's tourism industry continued to grow dramatically in 2006 with international tourist arrivals reaching at 1,700,041, an increase of 19.6% if compared to 2005 figure. Table 6.1 shows that the peak months of international tourist visitation was from November to March, which accounted for 9.6% (163,068), 12.63% (214,665), 9.59% (163,047), 8.93% (151,821) and 8.38% (142,437) of total arrivals respectively. Earning from tourism increased to USD 1,049 million, a growth of 26.08% over 2005.

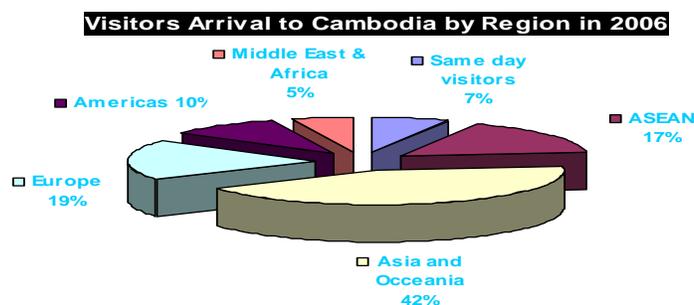
Based on the arrival volumes, Asia and Oceania was the major source market for Cambodia, providing 42% of the total market segments in 2006. The next most important source markets came from Europe (19%), ASEAN (17%), Americas (10%), same day visitors (7%) and Middle East and Africa (5%). (Figure 6.1)

Table 6.1: Visitor arrivals to Cambodia by year

Months	Visitor Arrivals							Change (%)	
	2001	2001	2002	2003	2004	2005	2006	05/04	06/05
January	36,999	52,787	58,470	76,255	106,200	138,718	163,047	30.62%	17.54%
February	42,236	51,728	74,756	72,162	87,795	125,326	151,821	42.75%	21.14%
March	40,541	63,334	77,488	60,415	80,765	124,626	142,437	54.31%	14.29%
April	40,150	47,014	65,733	37,154	77,105	116,219	143,069	50.73%	23.10%
May	32,752	42,845	49,564	30,485	71,486	90,314	107,720	26.34%	19.27%
June	30,536	39,875	49,338	35,477	69,595	87,228	105,298	25.34%	20.72%
July	39,441	49,035	58,286	47,555	81,223	112,116	123,047	38.03%	9.75%
August	40,237	49,798	65,455	58,263	86,450	117,943	132,792	36.43%	12.59%
September	31,433	40,586	50,079	52,600	71,209	93,158	114,781	30.82%	23.21%
October	36,051	44,237	58,370	54,020	86,121	116,382	138,296	35.14%	18.83%
November	47,236	53,350	81,528	78,387	113,195	138,293	163,068	22.17%	17.91%
December	48,753	70,330	97,457	98,241	124,058	161,292	214,665	30.01%	33.09%
Total	466,365	604,919	786,524	701,014	1,055,202	1,421,615	1,700,041	34.72%	19.59%

Source: Ministry of Tourism (2006), Tourism Statistics - Annual Report.

Figure 6.1: Visitor arrivals to Cambodia by region



Source: Ministry of Tourism (2006), Tourism Statistics - Annual Report.

The same statistics from MoT (2007) reveals that the number of domestic tourists in 2006 was estimated at 7.76 million which showed an increase of 47% compared over 2005. Besides their common visits in Siem Reap, Phnom Penh and its surroundings, and Sihanouk Ville, there is a new trend of domestic tourists to visit ecotourism sites all over newly developed destinations in the country.

6.1.1 Tourist Preference to Visit Cambodian Protected Areas

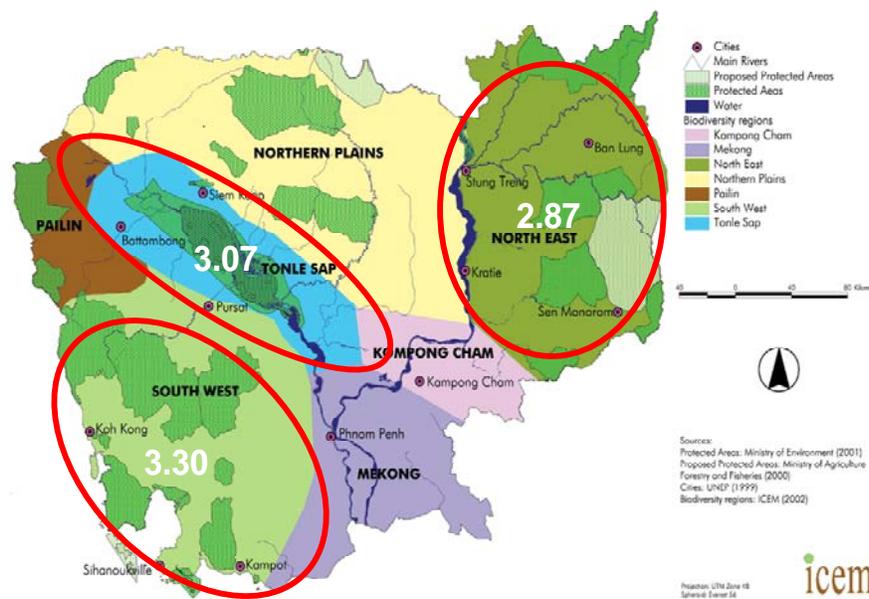
According to the MoT and SNV Survey with member travel agencies of CATA in 2006, the northeastern part of Cambodia, comprising of Stung Treng, Ratanakiri, Mondulakiri and Kratiei provinces, is considered the most potential zone for ecotourism development, followed by Tonle Sap Multiple Use Area and coastal area as shown in Figure 6.2. The findings from this survey indicated that types of tourist activities varied from one place to another and Tonle Sap Great Lake is one of the most preferable destinations for visit after international tourists visiting Angkor Wat complex and other cultural and heritage sites in Siem Reap province.

Besides visiting Siem Reap Angkor, 40% to 60% of international tourists reported that they preferred to visit nature-based areas as their second choice, whereas 20% to 40% of the total mentioned straightforward that wildlife tourism is of their second preference (MoT, 2006). According to Chu's study in 2006, cited in Amy Dowley (2007), local and foreign owned tour operators and travel agencies in Cambodia reported that approximately 30% of international tourists visiting cultural and heritage sites in Siem Reap also want to visit Tonle Sap Great Lake, especially Chong Kneas, Kampong Plok and Prek Toal which have already been developed to receive tourists. However, the scope of development is targeted at small scale level since these areas are priority areas for sustainable biodiversity conservation which represent integrated natural resources management of Tonle Sap Biosphere Reserve.

Dowley (2007) highlighted that the Tonle Sap Biosphere Reserve, which consists of three environmental hotspots (Prek Toal, Boeung Tonle Chhmar and Stung Sen) are hopeful sites for ecotourism development in Cambodia's protected areas based on their distinctive natural ecosystem and supporting biodiversity. However, only Prek Toal core area has been studied and developed to be a fully-operationalized ecotourism destination with assistance of OSMOSE and Ministry of Environment (MoE). This site alone received 900 visitors in 2006, and it is expected that tourist arrivals will reach 10,000 at maximum which most likely can contribute two million dollar to local development, according to the Core Area Management Center of MoE (2006).

From these facts, it is promising that ecotourism development can be expanded to other remaining core areas, BTC and SS, provided an in-depth study about ecotourism potential has already undertaken. As potential and challenges for ecotourism development in BTC and SS core areas have already been described in full length in chapter 5, the first section of this chapter only pays attention to tourist demand, both domestic and international, in terms of visitor profile, trip characteristics, travel pattern, information access, tourist motivation, tourist spending pattern, tourist experience, tourist perceptions and attitudes, tourist willingness to pay, tourist activities and preferences, tourist length of stay etc.

Figure 6.2: Rank of potential ecotourism zones in Cambodia



Source: Ministry of Environment (2001) and Ministry of Tourism (2006).

6.2 Tourist Demand

6.2.1 Visitor Age and Education

The age range of domestic and international tourists interviewed in Siem Reap and other nature-based touristic sites was determined from an age scale in the survey instrument. According to Table 6.2, the majority of domestic and international tourists questioned age between 18 and 25, leaving alone young tourists as the most potential visitors to nature-based areas. Meanwhile, the second most common age group are those between 26 and 35 years of age, and the amount of those who are more than 46 years of age just shows up the less frequent domestic visitors (14.4%). However, the lowest amount of international tourists (3.3%) wanting to visit nature-based areas are those age between 36 and 45.

Table 6.2: Average age of tourist respondents

Year of Age	Domestic Tourists (n = 153)	International Tourists (n = 150)
18 – 25	42.5%	46.7%
26 – 35	28.1%	41.3%
36 – 45	15%	3.3%
45 and over	14.4%	8.7%

Source: Own questionnaire survey

The educational level varies depending on the country of origin (for international tourists) and destination generating locations (for domestic tourists). For the foreigners, 32% had pursued graduate study and 18% finished undergraduate level, followed by 17.3% had post-graduate degree and another 17.3% got degree from high school. Comparatively, the level of education of domestic tourists is different from that of foreign ones. This figure revealed that the majority of domestic tourists (26.2%) interviewed received bachelor education, whereas the second and third highest populations had completed high school (24.2%) and secondary school (20.9%) in that order. Despite attaining only primary school at 17%, domestic tourists with primary school education also wanted to participate in nature-based tourism. Noticeably, interests, activities, and awareness of the significances of the natural resources might differ between domestic and international tourists with different education levels. (Table 6.3)

Table 6.3: Level of education of tourist respondents

Level of Education	Domestic Tourists (n = 153)	International Tourists (n = 150)
Primary school	17%	0%
Secondary school	20.9%	2.7%
High school	24.2%	17.3%
Vocational/technical college	3.9%	12.7%
Undergraduate	26.2%	18%
Graduate	5.9%	32%
Post-graduate	2%	17.3%

Source: Own questionnaire survey

6.2.2 Visitor Distribution and Travel Patterns

The spatial patterns of domestic tourist origin are measured and presented here. Most of the interviewed international visitors were from UK and Germany, followed by USA, Japan, Holland, Australia and Sweden. This result strongly supports the study of MoT (2006) that most of international tourists interested in nature-based tourism are from these countries, counting out Japanese who tend to participate more in cultural tourism. In terms of means of transport, interviewed British and Swedish tourists preferred to come to Cambodia to visit cultural and natural sites by car or bus across Cambodia' cross border checkpoints. However, the majority of international visitors questioned traveled to Siem Reap by plane, mostly with direct flights from Bangkok.

A high percentage of total interviewed domestic tourists came from Phnom Penh and nearby provinces around Tonle Sap Great Lake, such as Battambang, Banteay Meanchey and Siem Reap. Bus and owned car are the most preferable modes of transport to Siem Reap before taking boats to Tonle Sap core areas. Moreover, taxi was also reported as a transport mode for the majority of low and medium class tourists.

Table 6.4: Generating places / regions of interviewed domestic tourists

Place of Origin	Means of Transport						Total
	Plan	Bus	Own car	Taxi	Motor	Others	
Phnom Penh	5	39	25	3	0	0	72
Banteay Meanchey	0	1	5	3	6	0	15
Siem Reap	0	0	0	2	7	1	10
KG-Thom	0	3	1	1	1	0	6
KG-Cham	0	0	1	1	2	0	4
Battambang	1	13	3	7	4	0	28

Sihanouk Ville	0	3	0	0	0	0	3
KG-Chhnang	0	1	0	0	1	0	2
Prey Veng	0	1	0	1	0	0	2
Svay Reang	0	1	0	1	1	0	3
Kom Pot	0	2	0	0	0	0	2
Kandal	0	2	1	0	0	0	3
Takeo	0	0	0	1	0	0	1
Posat	0	1	0	0	1	0	2
Total	6	67	36	20	23	1	153

Source: Own questionnaire survey

40.7% of the interviewed international tourists preferred traveling to Cambodia's natural destinations with friends, schoolmates or colleagues, whereas traveling with partner or spouse (24.7%) is the second common mode of their travel. Of the total, 17.3% traveled alone as independent travelers or backpackers to the sites. Few of the Cambodian tourists questioned in the study liked to travel with organized tours or alone, while 53.5% traveled with family or relatives and 28.1% with friends/schoolmates/colleagues.

Table 6.5: Types of companion for tourist visitation

With whom do you come with?	International Tourists		Domestic Tourists	
	Number	Percent	Number	Percent
Alone	26	17.3	12	7.8
With family or relatives	14	9.3	82	53.6
With friends/school mates/colleagues	61	40.7	43	28.1
With an organized tour	12	8.0	3	2.0
With partner/spouse	37	24.7	13	8.5
Total	150	100.0	153	100.0

Source: Own questionnaire survey

6.2.3 Information Access

Concerning the access to information about Cambodia's nature-based or ecotourism sites, the most frequent source of information in which international tourists get was from tourist guide books. In sequence of importance, internet and friends and relatives (word-of-mouth recommendation) were the other common sources for them. Contrary to international tourists, domestic visitors interviewed received more information from friends and relatives and television. The uses of internet and tourist guide books were not pronounced for domestic tourists. Travel agency and newsletter or magazine were less popular sources of trip information for both types of tourists. Both domestic and international tourists questioned tended to place their focus on using less formal information channels such as friends and relatives rather than the formal ones.

Table 6.6: Sources of information about tourist sites

Sources of Information	International Tourists (n = 150)		Domestic Tourists (n = 153)	
	Yes	No	Yes	No
Internet	62	88	11	142
Newspaper	3	147	20	133
Newsletter/magazine	7	143	20	133
Television	18	132	50	103
Friends and relatives	56	94	117	36
Travel agencies	19	131	4	149
Self-explored/by chance	25	125	27	126
Tourist guide books	110	40	16	137

Source: Own questionnaire survey

6.2.4 Tourist Trip Preference

A vast majority of them opted for cultural and historical areas distantly followed by nature-based sites and recreational places. However, the level of interest in nature-based and ecotourism sites among Cambodian tourists is higher than international ones. For this reason, one can consider that even though Cambodia is home to abundant cultural heritages / patrimonies and historical monuments all over the country, especially Angkor Wat, domestic tourists are inclined to other alternatives that can be found in natural areas. On the contrary, international tourists interviewed came to Cambodia mainly for cultural-historical sites, especially the abundance of monuments in Siem Reap province, which is the heart of Cambodia’s tourism industry. Predictably, most of the interviewed domestic tourists do not know what is called “ecotourism” and what activities are encompassed with this type of responsible tourism, even though they have heard often about this emerging responsible tourism in their countries. This often makes them indicate that they are tourists or just nature-based tourists but not ecotourists albeit they are involved in ecotourism activities at local ecotourism sites in Cambodian protected areas. Furthermore, although some places (adventure and wildlife habitat places) are subsumed under nature-based places where a number of nature-based tourism (i.e. passive scenery viewers, adventure tourists, ecotourists, sea/sand/sun tourists, captive tourists, consumptive tourists, health tourists, etc.), a small amount of domestic and international tourists questioned chose to respond to these places differently.

Figure 6.3: Types of tourist sites interested by tourist respondents



Source: Own questionnaire survey

6.2.5 Tourist Trip Characteristics and Spending Patterns

Generally, tourist spending patterns influence the social impacts and economic development of a rural protected area and the planning of ecotourism or nature-based tourism development activities. The amount visitors spent during their visits or the amount visitors are going to spend each day significantly relies on their incomes which vary according to their occupations. Thus, this pattern is considered as an element of trip characteristics and it was explored in this study. Tourist income data are presented in Table 6.7.

There is a gap between average monthly incomes earned by domestic and international tourists. Of the total, the majority of domestic tourists questioned (25.5%) could earn from US\$ 50 to US\$ 100, while the second highest amount of them had the capacity to make US\$ 100 to US\$ 200 (21.6%). The amount of 26.8% of the surveyed domestic tourists who had a monthly

income of less than US\$ 50 is linked to the reason that most of them are students and are strongly dependent on their parents' support. However, a minority could earn a small amount of income out of different jobs in parallel to their studies. Through different job categories, the income of the majority of respondents was not much different. Income generation per head strongly reveals the socio-economic status of every Cambodian and the situation of political and economic development of the country. A small share of domestic tourists questioned (14.4%) reported earning from US\$ 300 to US\$ 500 monthly whereas a 5.2% earned from US\$ 500 to US\$ 1000 per month. Respectively, they are companies' employees and government officers who are responsible for running the projects within their institutions' development framework. Almost 7% of domestic tourists interviewed earn up to US\$ 2000 or over per month. Those who reported earning such amount were mainly high ranking government officers, senior project consultants and businesspersons.

In contrast, as shown in Table 6.7, 38% of the foreign tourists interviewed had a monthly income from US\$ 1000 to US\$ 2000, whereas 16.7% earned between US\$ 600 to US\$ 1000. This can be related to a high percentage of young age group of foreign tourists, most of them being students. 21.3% of the foreign tourists had an average monthly income between US\$ 3000 to US\$ 5000. This group consisted mainly of middle age tourists.

Table 6.7: Average monthly income of tourist respondents

Average Monthly Income	International Tourists		Average Monthly Income	Domestic Tourists	
	Number	Percent		Number	Percent
USD 50-100	6	4.0	USD 10 – 25	14	9.2
USD 100-200	5	3.3	USD 25 – 50	27	17.6
USD 300-500	16	10.7	USD 50 – 100	39	25.5
USD 600-1000	25	16.7	USD 100 – 200	33	21.6
USD 1000-2000	57	38.0	USD 300 – 500	22	14.4
USD 3000-5000	32	21.3	USD 500 – 1000	8	5.2
USD 5000-7000	6	4.0	USD 1000 – 2000	3	2.0
Over 7000	3	2.0	Over USD 2000	7	4.6
Total	150	100.0	Total	153	100.0

Source: Own questionnaire survey

According to expenditure data shown in Table 6.8, it was determined that domestic visitors (22.2%) spent less than US\$ 100 during their visits in nature-based areas. On the other hand, a considerable share of domestic travelers (19.6%) spent over US\$ 200, while a similar share (20.3%) only spent up to US\$ 20 during their last visits. This occurred because trip characteristics (i.e. earning, trips on the basis of shared expense) and travel patterns (travel in small or big group or alone with different means of transport) were different, and so were their family status (family head or common family members) and their economic situation. It was found that most domestic tourists planned to spend between US\$ 20 and US\$ 200. Yet, it would depend on the plethora of tourist services and products at the sites as well as service quality to increase their satisfaction. From these reasons, one could conclude that domestic tourist expenditure in Cambodian nature-based areas is strongly connected with tourist income and interest.

Even though foreign tourists on average earn much higher income than domestic ones, a majority of them (57.3%) decided to spend only from US\$ 200 to US\$ 500 during their last trips. 17.3% and 13.3% of the interviewed foreign visitors spent in between US\$ 500 to US\$ 1000 and US\$ 50 to US\$ 100 respectively. This was because they intended to save as much as they could to visit more places in the country or in the region (i.e. Southeast Asian region).

Table 6.8: Average expense of tourist respondents per time

Average Expense Per Visit	International Tourists		Average Expense Per Visit	Domestic Tourists	
	Number	Percent		Number	Percent
USD 50-100	20	13.3	USD 10 – 20	31	20.3
USD 200 – 500	86	57.3	USD 20 - 30	11	7.2
USD 500 – 1000	26	17.3	USD 30 – 50	26	17.0
USD 1000 – 2000	3	2.0	USD 50 – 100	34	22.2
USD 2000 – 3000	3	2.0	USD 100 – 200	21	13.7
USD 3000-5000	3	2.0	Over USD 200	30	19.6
Total	150	100.0	Total	153	100.0

Source: Own questionnaire survey

6.2.6 Tourist Experiences in Visiting Nature-Based and Eco-tourism Sites

Domestic and international visitors were also asked to state their experiences in Cambodian nature-based tourism and ecotourism sites. Particular experience of tourists can affect the level of tourist knowledge and understanding about ecotourism development in rural protected areas. Thus, it could lead to different perceptions and attitudes towards destination management, risk assessment and management, and product development. It also determines appropriate use of ecotourism as a means for local economic development, conservation of natural resources, and poverty reduction from tourists' points of view.

Domestic tourists reported that they used to visit a number of natural areas where ecotourism or nature-based tourism is developed. Among these areas, O Cheuteal/Koh Rong/O Tres coastal zone received the most visited number, closely followed by Kirirom National Park and Ream National Park (see Table 6.9). Subsequent to these most popular places, Prek Toal CBET and sites around TSGL also received high consideration and usually hosted a substantial amount of domestic tourists interviewed. Koh Kong (Safari world), Kratei (Dolphin watch), Mondolkiri and Ratanakiri (Yeak Loam volcanic lake, waterfalls, and tribal communities) are of similar interest but are difficult in terms of accessibility and expensive expenditure. This does not mean that domestic tourists do not want to visit these attractive sites, but income, time availability, information access to shape out their expectation, and other factors remain unmatched for them to consider.

Table 6.9: Experience of visit of domestic tourist respondents at nature-based and ecotourism sites

Experience of Domestic Tourists in Visiting Nature-based and Ecotourism Sites in Cambodia	Domestic Tourists (n = 153)	
	Yes	No
Cardamom mountain	3	150
Baray and Kulen mountain	9	144
Kampot and Kep	12	141
Ecotourism and Ramsar sites in Stung Treng	24	129
Dophin watching in Kratei	24	129
Waterfall and mountain sightseeing and indigenous villages in Mondulkiri	24	129
Koh Kong beach and the safari world	26	127
O Cheuteal / Koh Rong / O Tres	95	58
Vireak Chey Nacional Park	12	141
Ream Nacional Park	50	103
Yeak Lom and its surroundings	21	132
Prek Toal CBET and around Tonle Sap	34	119
Chambok CBET	21	132
Kirirom National Park	74	79

Source: Own questionnaire survey

Despite the fact that environmental hotspots of Tonle Sap Biosphere Reserve are potential of visit and are located nearer to Siem Reap Angkor than other nature-based or ecotourism sites, almost all international tourists interviewed did not know much about these places (see Table 6.10). This might relate to the lack of information access and the use of electronic media which is low in terms of marketing and publicizing these sites. Out of all natural areas put in the questionnaires, only few were known by international tourists, including nature-based tour and trekking in Sihanouk Ville, Koh Kong province and Chambok CBET (Community-based Ecotourism). All these sites have been developed and supported by foreigners or foreign-supported local NGOs. Therefore, information distribution about these attractive destinations is more obtainable for foreign tourists, especially through word-of-mouth recommendation of foreign experts working in Cambodia or through specific websites.

Table 6.10: Awareness of international tourists about Cambodia’s nature-based and ecotourism sites

Number of Nature-based and Ecotourism Places in Cambodia Known by International Tourists	International Tourists (n = 150)	
	Yes	No
OSMOSE Community-based ecotourism in Prek Toal	3	147
Preah Vihear ecotourism center	5	145
Koh Kong province	12	138
Nature-based tour and trekking in Sihanouk Ville	22	128
Ecotourism site in Stung Treng province	6	144
Yeak Lom community-based ecotourism	4	146
Chambok community-based ecotourism	12	138

Source: Own questionnaire survey

6.2.7 Tourist Satisfaction with Features and Products of Nature-based Destinations

This section outlines tourists’ overall satisfaction levels with specific features and tourism services/products in Cambodia’s natural areas, especially the environmental hotspots of TSGL located next to Siem Reap Angkor. Their answers in this way possibly will characterize critical catalysts that affect tourist motivations to visit other two hotspots, BTC and SS core areas, as a new travel destination. The levels of satisfaction are firstly reported, and then they are compared with the scales of importance and satisfaction shown in Table 6.11. Using different factors to identify tourist satisfaction was also considered useful in ratifying tourists’ awareness about the site management and service delivery.

Level of tourist satisfaction based on general factors of satisfaction ranged considerably. International tourists mentioned that they were satisfied with almost all factors of satisfaction listed in Table 6.11. Hospitality (friendly and hospitable people and service providers) was perceived as the most important factor contributing to high satisfaction of international tourists. Similarly, domestic tourists reported their satisfaction with a wide range of factors, such as accommodation, accessibility, travel cost, site management, etc. However, the majority of them was “unsure or no ideas” when asked about tourist guide services and interpretation, leisure program and entrance fee. This might be due to the fact that they rarely purchased or received such services at destination regions. This might be something beyond their familiarity and understanding, too. Most of them expressed that they particularly had no ideas about these current activities. This revealed different reactions and attitudes between foreign and domestic visitors. Domestic tourists seemed to have less opportunity to learn and experience various touristic destination features, new and different possible tourist activities (mainly provided by

the site developers or communities). Besides, they did not take part much in more remote outdoor activities and know clearly about other important local natural and cultural assets provided at nature-based or ecotourism sites.

Table 6.11: Factors of tourist satisfaction at nature-based / ecotourism sites responded by interviewees

Factors of Satisfaction	Very Satisfied		Satisfied		On the Fence		Dissatisfied		Very Dissatisfied		No Ideas	
	DT	IT	DT	IT	DT	IT	DT	IT	DT	IT	DT	IT
Accommodation	35	59	45	74	30	14	6	N/A	N/A	N/A	26	N/A
Accessibility	28	34	59	68	29	23	15	18	2	5	9	1
Food and beverage	35	40	56	75	35	23	4	6	2	N/A	11	3
Sanitation	28	10	46	69	36	49	17	10	5	5	11	2
Guide service and interpretation	22	31	26	71	10	21	6	7	N/A	2	77	13
Leisure programs	18	16	12	51	19	24	3	7	N/A	N/A	86	36
Shopping	35	14	27	47	28	35	10	12	3	1	35	30
Hospitality	38	58	46	53	31	20	8	3	1	1	16	11
Security	50	18	48	68	26	37	5	9	2	1	12	11
Price of the ticket to the site	12	13	23	50	30	47	13	22	4	14	59	1
Travel cost	18	21	44	76	47	31	11	13	3	4	19	4
Facilities & site management	32	16	53	79	31	29	10	4	3	1	14	13
Information about the site	30	14	39	64	40	44	8	17	4	3	21	4
Interaction with local people	34	37	50	73	32	25	5	4	1	5	17	1
The match between information distributed & the real experience at the site	35	17	56	61	27	37	3	6	1	1	18	14

Source: Own questionnaire survey

Notes: DT = domestic tourists (n = 153), IT = international tourists (n = 150), and N/A= not available

6.2.8 Time of Visit

Usually, seasonality is one of the most important attributes of tourism. In this sense, the vast majority of nature-based and eco-tourism destinations are characterized by systematic fluctuations in tourism phenomena throughout the year. When reflecting of the natural seasonality, one would imagine that the marketing and promotion, product development and management strategies designed to influence seasonality of tourist visitation at Cambodia's protected areas, including BTC and SS hotspots, are missing. The survey captured the appropriate time of visit a tourist or a group of tourists usually spends at natural sites. 61% of the domestic tourists like to visit natural sites on public holidays, while 33% want to have trips on weekends.

The survey also revealed that most domestic tourists would consider visiting intermediate recreation areas where visitors just spend weekends. As to international tourists interviewed, their preferable times to visit Cambodia's touristic destinations, regardless of types of tourism features, are from January to late March. Even though this survey could not provide enough representativeness for overall foreign tourists' time of visit in Cambodia, but the results in the table below strongly support the previous findings of MoT (2006) that the peak season for Cambodia's tourism industry is from December to March.

Table 6.12: Preferred time of visit

Months of the Year	International Tourists		Occasions Of the Year	Domestic Tourists	
	Number	Percent		Number	Percent
January	12	8.0	On public holidays	93	61.0
February	35	22.3	On weekends	51	33.0

March	53	35.3	On missions	6	4.0
April	23	15.3	Others	3	2.0
May	3	2.0	Total	153	100.0
June	3	2.0			
July	4	2.7			
August	2	1.3			
September	3	2.0			
October	2	1.3			
November	7	4.7			
December	3	2.0			
Total	150	100.0			

Notes: Questions to measure preferred time of visit of domestic and international tourists are different. The time of visit for domestic tourists is defined by occasions, which is not appropriate to measure the time of visit of inbound tourists whose travels are divided by months or seasons.

Source: Own questionnaire survey

6.2.9 Pulling Factors of Visit in Nature-based or Ecotourism Sites

When asked about pulling factors influencing their decisions to visit natural areas, national parks or Biosphere Reserve in Cambodia, domestic and international tourists produced different responses. 59% of the domestic tourists interviewed indicated enjoyment with ecological environment, biodiversity and natural resources to be the most important pulling factor of visit. Other major factors cited to be important were environmental programs and nature-based recreational activities as well as indigenous people and nature of the sites. However, domestic tourists reported the enjoyment through environmental education and interpretation and through their contribution to the conservation of natural resources as less important reasons for their visits. This could be attributed to the fact that most of them are not familiar with nature-based or ecotourism services besides having fun with their relatives/family and friends from a number of recreational activities. In addition, domestic tourists' direct contribution to the conservation of the areas would not be apparent, although usually they contribute more direct benefits to local livelihood activities. In this sense, it can be translated that domestic tourists are potential of providing indirect assistance to conservation through their interest in local livelihood improvement and decreased dependency of local people on natural resources consumption.

Different to domestic tourists, foreign visitors questioned in the survey consider nature-based and ecotourism programs and activities as the most substantial attribute of their visit, placing other factors such as conservation, education and interaction as of sequential interests. This would support to other studies that foreign visitors at natural sites prefer obtaining experiences of a lifetime with local communities and nature through a wide range of sophisticated services and at the same time contributing to sustainable environmental governance to other factors.

Table 6.13: Pulling factors of tourist visitation at natural sites

Factors that Drive Tourists to Visit Natural Areas, National Parks or Biosphere Reserves	Domestic Tourists (in %, n = 153)	International Tourists (in %, n = 150)
Contribute to the conservation of natural resources	13	32
Indigenous people and nature	26	28
Environmental education and interpretation	21	30
Environmental programs and nature-based recreational activities	34	40
Ecological environment, biodiversity and natural resources	59	20

Source: Own questionnaire survey

6.2.10 Tourist Recognition about, Experience and Interest in Visiting TSBR Hotspots

Table 6.14 shows that between these two types of tourist population, only Cambodian tourists had heard often about TSBR and its hotspots and this accounted for 85.6%. Probably because of some factors impinging on the quality of marketing and promotion strategies of Cambodian tourism industry, only 40.7% of foreign tourists questioned had learned about TSBR and its attractive core areas, especially Prek Toal. There was an indication of foreign tourist recognition about TSBR only when they had already arrived in Siem Reap province, particularly when they finished their touring programs in and around Angkor Wat complex. Those who were told about TSBR were those who wanted to stay longer in Cambodia as planned and knew nothing to enjoy more besides visiting cultural and heritage sites.

Only 6% of the foreign visitors used to visit TSBR hotspots, leaving a majority of them (94%) had no experience at the sites. As to Cambodian tourists, 30.7% of the total reported their previous visits at TSBR core areas. Despite low figure concerning tourist experience, almost similar amount of the interviewed domestic (92.8%) and international (80%) tourists expressed their strong interest to visit one of these hotspots one day in their lives. This statistic confirms a promising tourist growth in TSBR in the future, and this support an estimation of the Ministry of Environment who is responsible for the Tonle Sap core areas management.

Table 6.14: Experience and motivation of tourist in visiting TSBR core areas

Have you ever heard about Tonle Sap Biosphere Reserve & Its Hotspots	Domestic Tourists		International Tourists	
	Number	Percent	Number	Percent
Yes	131	85.6	61	40.7
No	22	14.4	89	59.3
Total	153	100.0	150	100.0
Have you ever visited one of these hotspots or core areas?				
Yes	47	30.7	9	6.0
No	106	69.3	141	94.0
Total	153	100.0	150	100.0
Would you like to visit there one day?				
Yes	142	92.8	120	80.0
No	11	7.2	30	20.0
Total	153	100.0	150	100.0

Source: Own questionnaire survey

Domestic and foreign visitors perceived or knew TSBR characteristics from different sources of information they accessed. There was a gap of familiarity between these two groups. However, the results shown in Table 6.15 provides substantive support to the potential of BTC and SS core areas described in chapter 5. For domestic tourists, in chronological order, most important features of TSBR are abundance of fish and aquatic life, waterbirds, flooded forests and wetland (especially Ramsar site in BTC core area), good natural landscape and wildlife and natural habitats of the places. The perception of foreign tourists on TSBR was not that much different compared with domestic tourists'. In spite of this, they valued unique local culture (lifestyle and stereotype) as one of the most unique characteristics of TSBR core areas. This is important to measure the level of understanding of domestic and international tourists about the attractions of ecotourism in such TSBR.

Table 6.15: Opinion on attractions of TSBR core areas

Characteristics of Tonle Sap Biosphere Reserve Known by Tourists	Domestic Tourists (n = 153)	International Tourists (n = 150)
Unique local culture in floating villages	122	23
Biggest freshwater lake in Southeast Asia	94	18
Wildlife and natural habitats	64	19
Biodiversity and great ecosystem	57	21
Good natural landscape	29	15
Flooded forests and wetland	52	15
Waterbirds	5	2
Abundance of fish and aquatic life	32	21

Source: Own questionnaire survey

6.2.11 Tourist Activities and Preferences

Generally, tourist awareness of provided tourism services and their interest to participate are fundamentally correlated. When asked about their acquaintance with service delivery at TSBR sites, a large proportion of domestic tourists were aware of activities related to cruising, trekking and hiking in the forests, waterbirds watching, local livelihoods viewing, fishing, swimming and bathing, and wildlife watching. On a comparative scale, a great majority of them did not know about several tourist activities in TSBR hotspots, such as tasting local foods, buying local handicrafts and other products, doing home-stay with locals, watching wild crocodile farms, participate in local cultural events, learning about local culture and natural resources, and canoeing/boating/diving. This demonstrates that the product development of the local tourism industry in TSBR core areas is limited or is not well publicized to domestic tourists. In addition, some of these entertainment activities could be provided by local communities with special arrangement. In surveying about the awareness of foreign tourists, data from the self-administered questionnaires could not be much obtained since the majority of tourists just visited Cambodia for the first time and information about TSBR core areas is not well distributed to them before. Therefore, it would be impossible to put vague information which only represents a huge number of missing values in this table.

Some tourism services put in the table are available at one site but not at another of TSGL core areas or not available yet, for example, canoeing and diving. This helpful hint was used to identify tourist motivation and insight with regard to new tourism package in the areas. However, such possible activities were generated from the discussion with local communities and park rangers in BTC and SS core areas concerning product development for ecotourism services in the areas. Surprisingly, Table 6.16 proves that even though a huge amount of domestic and international tourists are not aware of (all) the tourism services provided in TSBR core areas, they are fond of these services. Furthermore, they are willing to participate whenever these services are catered. This does not include their preference to the recognized existing services. In addition, the preference data show that tourist interest in new environmental friendly tourism services acts as a new stimulus for the local tourism industry. This would help local communities and ecotourism developers/planners to include other attractions and events or to branch out more appropriate services at TSBR core areas' sites. Realistically, tourism service and product diversification will not only help create more job opportunities for the local poor living in or close to the areas, but will also help increase domestic tourist satisfaction and repeat visitation. However, contradictory to domestic tourists who were interested in almost all possible services of ecotourism in the core areas, foreign tourists disliked a couple of them such as doing home-stay with the locals, observing local economic activities, fishing and participating in agricultural activities, and wildlife viewing. This showed that they do not understand or have

never seen such services available in the tourist guidebooks which they are dependent on when traveling to Cambodia.

Table 6.16: Awareness of and interest in ecotourism services in TSBR core areas

Awareness of and Interest in Ecotourism Services In TSGL Core Areas	Strongly Aware		Aware		Not Aware		Strongly Like		Like		Dislike	
	DT	IT	DT	IT	DT	IT	DT	IT	DT	IT	DT	IT
	Cruise on the river and lake to view the natural landscape, environment, and people's activities	34	N/A	68	N/A	49	N/A	75	43	63	68	11
Trekking and hiking into the forest	24	N/A	63	N/A	63	N/A	58	42	64	58	26	39
Waterbirds watching or observing	26	N/A	80	N/A	44	N/A	85	24	58	68	5	47
Tasting local gastronomy	34	N/A	51	N/A	62	N/A	71	25	62	67	12	45
Buying local handicrafts and other cultural products	21	N/A	63	N/A	64	N/A	50	28	80	56	15	55
Home-stay with people	17	N/A	39	N/A	92	N/A	49	23	71	39	29	78
Observing fishing, fish raising, and fish processing activities	40	N/A	67	N/A	43	N/A	62	19	60	51	24	60
Watching wild crocodile and animal raising on the river / lake and on the shore of the creek system	19	N/A	63	N/A	67	N/A	64	24	58	74	24	43
Participate with local cultural activities in real setting	22	N/A	45	N/A	80	N/A	59	23	71	70	16	48
Learn and experience more about natural resources and local culture	20	N/A	57	N/A	71	N/A	66	42	68	73	11	26
Go fishing and participate in rice and crop cultivation, and non-timber products harvesting	30	N/A	73	N/A	47	N/A	58	24	60	42	30	75
Swimming and bathing	49	N/A	64	N/A	36	N/A	70	28	51	65	28	26
Wildlife viewing	38	N/A	62	N/A	49	N/A	84	18	51	52	12	60
Canoeing, boating, and diving	37	N/A	47	N/A	65	N/A	54	15	51	69	43	55

Source: Own questionnaire survey

Notes: DT = domestic tourists (n = 153), IT = international tourists (n = 150), and N/A = not available

6.2.12 Perceptions and Attitudes towards Ecotourism Development in TSBR Core Areas

Domestic and international tourists were also interviewed to express whether they agreed with a series of statements regarding the benefits of ecotourism for the local community as well as for tourists. Again, an ordinal mean response was also calculated to show the average perceptions and attitudes of tourists.

The majority response of domestic tourists and international tourists were “strongly agree” and “agree” to the benefits which ecotourism can provide to help stimulate development and conservation in TSBR core areas, especially in BTC and SS. However, this relies on how ecotourism is appropriately managed in the areas. This is because ecotourism needs special care and the natural resources need sound protection if used by tourists. The benefits of ecotourism were also perceived by domestic and international tourists in other ways. These include: the positive contribution of ecotourism for the strengthening and preservation of natural environment and its values and services; increase of local community’s responsiveness and accountability; improvement of local livelihood through alternative economic activity but not at the expense of the local community; enhancement of local labor productivity and participation through empowerment and decentralization; increase of gender equity and roles of women in development; increase of volunteerism and social capital for natural resources management and community development, etc. Only a smaller proportion of international tourists questioned was unsure or had no idea on how ecotourism could promote gender equity. However, this amount did not show any significant difference for the comprehensive analysis as long as tourists were more focused on eco-centrism when referred to local and regional development of the community’s wellbeing.

According to the survey, domestic and international tourists responded significantly differently depending on their ages, occupations, educations, and experiences involved in ecotourism development process or ecotourism industry services. The perception data in Table 6.17 portrays that 100% of interviewed visitors agreed and strongly agreed that ecotourism does provide a wide range of benefits to themselves and other Cambodian travelers despite concentrating more on community's profits. According to their supposition, ecotourism benefits tourists by providing opportunities for them to participate, learn about and interact with the host community within unique cultural and natural environment. Moreover, their expectation and satisfaction will be matched and enhanced. Specifically it does not make them satisfied only from receiving quality and unforgettable tourism services and products, but also from contributing to local development during their visits.

Table 6.17: Perception of tourist respondents on benefits of ecotourism

Agreed Positive Benefits of Ecotourism for the Local Community and Tourists	Strongly agree		Agree		Don't Know		Disagree		Strongly disagree	
	DT	IT	DT	IT	DT	IT	DT	IT	DT	IT
Increase local economic activities	97	62	44	65	10	11		1	N/A	
Improve local people's awareness about the significances and values of natural resources and their culture	90	67	47	65	12	9	2	1	N/A	1
Strengthen and enhance the management and conservation of natural resources in the area	83	48	50	73	18	22	1	2	N/A	N/A
Prevent people's out-migration by creating jobs for people	72	44	57	67	14	30	6	4	3	N/A
Empower people to have control over resources in their locality	69	37	58	61	20	39	4	6	N/A	1
Encourage people's active participation in development	76	44	56	75	17	17	2	6	1	N/A
Improve gender equity	62	32	61	39	14	53	2	18	1	N/A
Generate sustainable livelihood alternative for local community	63	35	60	72	24	30	1	6	N/A	N/A
Increase people's sense of pride	64	44	56	65	22	29	8	5	N/A	1
Preserve local culture and natural and built landscapes	75	54	46	61	28	17	1	10	N/A	1
Encourage and light up local small and medium scale enterprises or businesses	63	33	56	79	28	27	2	4	N/A	1
Increase market for local products and services	76	42	57	76	13	20	3	6	N/A	1
Use of local labor and expertise	64	40	60	74	20	27	5	2	N/A	
Increase more voluntary works among local residents	50	31	65	62	29	42	5	5	N/A	4
Attract volunteers and fund to support the development and conservation of natural resources in the area	65	36	50	71	26	29	5	4	N/A	2
Provide tourist opportunities to participate and learn about unspoiled natural area and its unique resources	63	53	62	65	22	20	1	4	N/A	N/A
Increase or diversify tourism products and services for long satisfactory stay of tourists in the host country	60	37	57	73	29	30	1	2	2	N/A
Improve tourists' awareness and knowledge about natural resources and local culture	77	60	49	68	21	12	2	3	N/A	N/A
Facilitate tourists to interact actively with local community in natural and rural setting	73	34	50	73	25	29		7	1	1
Help tourists to contribute their valuable expense for the improvement of quality of life of people in rural and remote areas and the conservation of natural environment	73	37	44	75	29	27	2	5	1	N/A
Assist tourists to visit and experience a real taste of nature, wildlife, and local culture	72	26	53	69	20	38	2	10	1	N/A

Source: Own questionnaire survey

Notes: DT = domestic tourists (n = 153), IT = international tourists (n = 150), and N/A = not available

6.2.13 Willingness to Pay for Ecotourism Services in BTC and SS Core Areas

Table 6.18 shows that a large number of domestic and international tourists surveyed expressed their strong will and general will respectively to pay to the management team, local authorities and local communities. However, it could only be possible when it benefits the conservation of

natural resources and preservation of natural and built landscape of BTC and SS core areas. Furthermore, all of them are willing to pay (more) money during their visits if the tourism revenue can help (directly and indirectly) strengthen and revitalize local culture, stimulate local economy, and improve people's living standard and quality of life. In addition, they want to spend money to help secure local livelihoods, preserve natural and built landscape, empower local communities to have more control over used and unspoiled resources and development for the betterment of their areas, and help promote local sense of pride. Yet, the level of tourist willingness to pay is not only subjective to tourist interest, but also to the income and education levels of tourists.

Apart from these interests, due to data from the informal interviews, especially after finishing the questionnaires, domestic tourists from a variety of age group supported the hiring of local employees to work in ecotourism services, and are willing to pay more for the benefits of the local communities in TSBR core areas, BTC and SS. However, they had to be assured that local folks are paid a fair wage and are involved fairly in tourism development. Last but not least, they were keen on paying more for the access to information about the cultural, social, and environmental aspects of BTC and SS ecotourism development schemes.

Table 6.18: Tourist willingness to pay for ecotourism services in TSBR core areas

Tourist Willingness to Pay for ...	Strongly willing		Willing		No opinion		Not willing		Strongly not willing	
	DT	IT	DT	IT	DT	IT	DT	IT	DT	IT
Conservation of natural resources	79	53	61	69	11	15	2	3	N/A	N/A
Strengthening and revitalization of local culture	76	44	58	68	16	24	1	5	1	N/A
Stimulation of local economy	74	30	64	83	14	26	1	2	N/A	N/A
Improvement of people's living standard	79	47	58	74	12	17	1	2	N/A	N/A
Securing local livelihood approach	73	33	51	77	22	29	3	2	N/A	N/A
Preservation of natural and built landscape	83	55	50	68	15	17	1	3	N/A	N/A
Local empowerment and control over resources and development in the area	72	33	52	79	22	25	6	4	N/A	N/A

Source: Own questionnaire survey

Notes: DT = domestic tourists (n = 153), IT = international tourists (n = 150), and N/A = not available

Overall, when asked about the payable amount for ecotourism in BTC and SS core areas within their means of income, a majority of domestic tourists (34%) surveyed reported that they are willing to pay from US\$ 50 to US\$ 100, while 32.7% pay up to US\$ 50. Only 10.5% and 2.6% respectively are willing to pay in between US\$ 200 to US\$ 300 and from US\$ 300 to US\$ 400 in that order. In spite of this, they reiterated their standpoints that this could only happen when they are sure that ecotourism or nature-based tourism is developed for the sake of communities and conservation. As to interviewed foreign tourists, a majority of them (45.3%) would like to pay up to US\$ 100 for their visits in BTC and SS. A similar share (43.3%) of foreign tourists would spend from US\$ 200 to US\$ 500, followed by 8.7% whose willingness to pay is up to US\$ 1000.

Table 6.19: Level of payment of tourists per visit at ecotourism sites in TSBR core areas

Expected Amount of Payment	Domestic Tourists		Expected Amount of Payment	International Tourists	
	Number	Percent		Number	Percent
USD 10 – 50	50	32.7%	USD 50 – 100	68	45.3%
USD 50 – 100	52	34%	USD 200 – 500	65	43.3%
USD 100 – 200	22	14.4%	USD 500 – 1000	13	8.7%
USD 200 – 300	16	10.5%	USD 1000 – 2000	3	2%
USD 300 – 400	4	2.6%	USD 3000 – 5000	1	.7%
USD 400 – 500	1	.7%			
Over USD 500	8	5.2			

Source: Own questionnaire survey

6.2.14 Possible Tourist Length of Stay in BTC and SS Core Areas

Due to the geographical condition, travel distance, time availability, income, and limited service delivery, the majority of domestic tourists interviewed (34%) responded that they would spend two days for their trips and visits in BTC and SS core areas (see Table 6.20). 41.3% of the international tourists would like to have three- to five-day trips at the sites. This expected length of stay was counted only 22% for domestic tourists. Of the total, 25% and 6% of the domestic and foreign tourists in that order indicated their feelings to have approximately more than five days for their trips at BTC and SS ecotourism sites. Domestic tourists want to have at least an overnight stay in the area, either doing home-stay with local communities or staying in local guesthouses, so that they would have more enjoyable activities at an ecotourism site. Nevertheless, the number of foreign tourists surpasses the amount of domestic visitors in terms of planning to stay longer in BTC and SS. Therefore, an idea to extend tourist length of stay in the areas is viable. Yet, this depends on the quality and diversity of ecotourism services provided at the sites or it would rely on the package tours organized by local or private tour operators. Moreover, this new trend is subject to change depending on other determinants of tourism demand, including attractions, events, and service responsiveness and quality.

Table 6.20: Possible average length of stay in TSBR core areas

Expected Length of Stay at TSBR Core Areas' Ecotourism Sites	Domestic Tourists (n = 153)	International Tourists (n = 150)
Just one day trip	15%	9.3%
Two-day trip	34%	32%
Three to five days trip	22%	41.3%
More than five days trip	25%	6%
Depend on the organized package tour	4%	11.3%

Source: Own questionnaire survey

6.2.15 Expected Mode of Tourist Visits in BTC and SS Core Areas

The context of mode of tourist visits in BTC and SS core areas varies in accordance with types of tourists who are influenced by their intrinsic culture and ways of life. The results in Table 6.21 present different modes of visit interested by domestic and international tourists focusing mainly on whom they would go with to visit ecotourism sites in TSBR core areas. 67.3% of the international tourists questioned indicated that family or relatives (is the most preferable companion when visiting TSBR, whereas 40.7% of the domestic tourists chose partner or spouse as their best travel companion. In a similar base, the second most important persons to travel with for both domestic and foreign tourists while visiting TSBR are friends, schoolmates or colleagues.

Table 6.21: Companion of tourist visits to ecotourism sites in TSBR core areas

Companion of Tourist Visits to Ecotourism Sites in TSBR	International Tourists		Domestic Tourists	
	Number	Percent	Number	Percent
Alone	5	3.3	23	15.3
With family or relatives*	103	67.3	9	6.0
With friends/school mates/colleagues	36	23.5	45	30.0
With an organized tour	7	4.6	11	7.3
With partner/spouse**	2	1.3	61	40.7
Total	153	100.0	150	100.0

Source: Own questionnaire survey

Note: * more members of the family such as children and relatives; ** only boy/girlfriend or husband/wife

6.2.16 Expected Service Delivery

Both domestic and foreign tourists were asked to provide opinions concerning their expected ecotourism service delivery in BTC and SS core areas, especially focusing on the level of importance of service attributes. As seen in Table 6.22, almost all tourists interviewed indicated that the three tourism attributes – accessibility, attractions and amenities – are very important for them to choose BTC and SS as one of their preferable ecotourism sites for visit. Tourism amenities in this way mean basic and general tourism services, such as accommodation, food and beverage, means of transport within the sites, tourist (information) center, guide service and interpretation, local products/souvenirs, and the like. On the other hand, it would be difficult for them to visit if tourism developers and planners in BTC and SS do not provide sufficient tourism facilities to accommodate their visits, while at the same time improve safety or security in the areas. In addition, hospitality and good customer services delivered by local communities and industry-related people were considered as important as the management of the site over all kinds of environmental impacts.

Table 6.22: Expectation of service delivery and tourist facilitation at ecotourism sites in TSBR core areas

Important Factors Influencing on Tourist Motivation	Very Important		Important		On the fence		Not important		Not important at all	
	DT	IT	DT	IT	DT	IT	DT	IT	DT	IT
Accommodation & toilet	113	90	22	35	12	17	5	5	1	3
Accessibility	81	89	47	41	22	16	3	4	N/A	N/A
Safety & security	113	138	24	7	13	3	2	2	N/A	N/A
Hospitality	70	112	57	20	21	10	1	3	3	5
Sanitation	100	120	34	17	14	9	3	4	N/A	N/A
Information	71	82	61	46	19	14	2	6	N/A	2
Facility & site management	83	63	39	71	26	8	2	8	N/A	N/A
Food & local products / souvenirs	75	55	47	48	24	37	4	10	3	N/A
Guide service & interpretation	59	129	42	17	31	4	4	N/A	17	N/A
Range of tourism activities	65	43	44	62	35	28	5	10	4	7
Environment of visit	86	71	49	66	17	5	1	6	N/A	2
Interaction with local communities	75	54	49	60	24	23	5	20	N/A	3
New knowledge / experience about nature & culture	81	90	47	48	21	6	4	6	N/A	N/A
Service quality & customer services	78	84	53	49	19	9	2	7	N/A	1
Health, life-safeguard & emergency services	112	121	26	22	10	5	2	2	N/A	N/A
Safe drinking water	116	96	26	43	9	6		5	N/A	N/A
Pollution including noise pollution	92	87	30	46	18	11	6	6	6	N/A
Real setting of natural environment and resources	85	77	38	62	23	7	5	4	1	N/A

Source: Own questionnaire survey

Notes: DT = domestic tourists (n = 153), IT = international tourists (n = 150), and N/A = not available

6.3 Demand of Potential Tour Operators and Travel Agencies

Tourism has become the fastest growing service industry in Cambodia. It is considered as one of the most promising sectors for economic development. Tourism revenue contributes around 23% to the national gross domestic products, while at the same time generating diversified jobs in tourism industry to more than 355,000 Cambodians in 2006 (MoT, 2006). While its

development process is increasingly stepping forward in many dynamic touristic destinations in the country, many more tourism enterprises have been established in huge amount to serve the increasing needs of inbound tourism. Among all components of Cambodia's tourism industry, tour operators and travel agencies are the most vital proponent in arranging and facilitating tourist trips and activities. From 2001 to 2006, the number of tour operators and travel agencies (TO/TA) in Cambodia has increased approximately 62%, reaching the number of 382, including 105 branch offices in major touristic regions. However, of the total, only 20 TO/TA in Cambodia have expanded their services to nature-based and ecotourism since it is an emerging tourism phenomenon appeared firstly in the late 1990s (CATA, 2006; MoT, 2006).

In order to get a complete picture of demand analysis for the feasibility of ecotourism development in BTC and SS core areas, this study also targeted Cambodia's TO/TA, which is an important service provider and mediator. 15 TO/TA were interviewed to give information about their companies' main and subsidiary services, staff recruitment approaches, education backgrounds and experience of tour leaders, patterns of guiding services, perceived understanding about ecotourism, will to participate in environmental conservation in nature-based or ecotourism sites, interests in dealing with ecotourism business opportunities, experience in bringing tourists to Tonle Sap Biosphere Reserve (TSBR) and interest in bringing tourists to BTC and SS core areas. In addition, the key representatives of these agencies were asked to provide trustworthy information with regard to their main customers or markets and their interests in visiting nature-based and ecotourism sites in Cambodia. Their answers are used to help support the results on tourist demand in visiting other two environmental hotspots of the Tonle Sap Great Lake. Finally, their perceptions on obstacles for package tour arrangement and tourist visits in TSBR, possible positive and negative impacts of ecotourism development in TSBR, as well as their suggestions for sustainable ecotourism in BTC and SS core areas were thoroughly inquired.

6.3.1 Main and Subsidiary Services

The results from the formal interviews show that most of Cambodia's TO/TA provide uniform services to their customers from different markets of the world. The extent and quality of services significantly depend on the size of business, investment capital, size and number of potential market segments, individual company's experience, company's partnership building with other firms of tourism industry, mode of business dealing, and customers' needs.

In general, there are two types of services being catered by each TO/TA, main and subsidiary services. Main services include package tour arrangement for inbound and outbound tourism, ticketing, booking and reservation. Subsidiary services involve additional activities with visa and passport arrangements, rental of transport service, guide service, document express and shipping or cargo consignment, immigration consultation, travelers' insurance and cruise ship handling. In order to run tourism business successfully, every TO/TA has to build close partnership with other related companies which are also involved in catering direct and indirect tourism services to domestic and international travelers or visitors. Major partner firms which TO/TA cooperate are transport carriers, hotels and restaurants, guide associations, etc. This partnership is built and strengthened with local partners as well as with overseas firms, especially with those in Europe as the majority of ecotourists or nature-based tourists coming to visit Cambodia are from this continent. However, to secure a partnership, different modes of business dealing have to be set up and agreed precisely by the two parties. Usually, the most common mode is long-term contract basis (over five years), followed by seasonal contract basis

and fee basis. Per item dealing contract and short-term contract basis also have been applied between TO/TA and other business partners in the form of market sharing and commission.

6.3.2 Staff Recruitment and Education Background of Tour Leaders

There is a strong relation between the quality of tourists, quality and diversity of service and education background and experience of tour leaders or organizers. According to the interviews, 29% of TO/TA questioned preferred to recruit mainly persons with bachelor degree in tourism field and with less than two years experience to work in their companies. This is not surprising for every TO/TA wants to reduce the overhead cost especially with staff salary. Therefore, 17% of the total also highlighted that sometimes it is financially better for them to employ those with high school degree and less than two years experience in tourism. This staff receives less remuneration as compared to other skilled employees. However, some big companies interviewed indicated that the recruitment of staffs was a serious problem for them to consider. Only those with bachelor degree in tourism and at least two years experience or tourism specialists (i.e. Master's Degree or high tourism skills with more than 10 years experience) were recruited to work in these companies. These shares were counted for 17% and 13% respectively.

36% of the tour leaders for ecotourism package tours chose those with bachelor degree in tourism with more than two years experience and good knowledge about green tourism products, ecotourism and sustainable tourism. Still some TO/TA (27%) reported that they would choose those who have only high school degree with some experience in ecotourism products and tourist preference. This type of staff would demand less salary and be more willing to be trained than others. Through observation and interviews it came out that, most of the TO/TA questioned prefer to recruit more staffs whose background in ecotourism are limited. In order to upgrade the knowledge of their staffs, they tend to employ some tourism specialists to operate their tours and at the same time help guide or train junior employees on the jobs they are responsible for.

6.3.3 Patterns of Guiding Services

According to the interviews, six TO/TAs (n = 15) said that in terms of trip facilitation and guiding services everything is handled by the company's tour leaders who are responsible for specific catering services and touristic sites. Four of them indicated that sometimes their tour leaders or guides have to share their duties with the local guides when bringing tourists to particular ecotourism sites where local communities run with support from NGOs, for instance, Chambok CBET and Kampong Plok CBET sites, etc. Usually, they help local guides in translating difficult words for foreign tourists as local people have limited English proficiency. In contrast, sometimes ecotourism principles or regulations of the site influence their companies' service delivery. Another four of TO/TAs interviewed reported that the company or tour leader has to hire a local guide for the whole guiding process at some ecotouristic sites, especially at TSBR. In this case, their tour leaders would only conduct major guiding activities until they arrive at the site, and then deliver all task assignments to local guides' responsibilities. Another interesting information obtained from the interviews is that one of these TO/TAs allow their tour leaders to perform only major guiding services in central destination points, permitting tourists to choose by chance any interesting activities they want to do at the site. Even so, this could happen only with professional group tourists, researchers or environmental experts.

6.3.4 TO/TA Understanding of the Definition of Ecotourism

The lack of an agreed definition on ecotourism creates considerable problems in quantifying the magnitude of ecotourism among academics, professionals and tourism experts, and also confuses tourism business owners and practitioners in great extent. Six of the 15 TO/TAs interviewed selected one of the meanings given in the questionnaires that “ecotourism is tourism to natural areas.” Three TO/TAs defined ecotourism as “a traveling to relatively undisturbed or uncontaminated areas with the purpose of studying, admiring and enjoying the scenery and their wild plants and animals, as well as any existing cultural manifestation found in these areas”, while two other believed that “ecotourism is activities of visitors to use the natural endowment and features of an area through good practice with the goal and objectives of finding new experiences.” These three responses reveal that there is still confusion over concrete description of ecotourism concept among major Cambodian TO/TAs presently catering nature-based or ecotourism services to foreign tourists. This might also have influenced their perceptions and attitudes towards current ecotourism development in rural protected areas. The lack of knowledge about other main concepts of ecotourism, such as environmental education, conservation and community development does not help Cambodian TO/TAs to understanding much about possible negative impacts of tourist visitations on host communities and their environment. The three definitions chosen by these groups only focus on consumer side without paying attention to local communities’ welfare and environmental governance. However, this might also be due to the fact that ecotourism is still in its infancy stage in Cambodia’s tourism industry’s history.

Some representatives of big, and famous, companies whose experiences were relatively higher in inbound tour operation for both cultural and natural sites in Cambodia, perceived definitions of ecotourism differently from the above groups. One TO/TA considered ecotourism as “responsible touristic activities in natural areas or even in nature-based artificial areas which support the nature conservation efforts and the local people’s welfare”, while other two characterized ecotourism as a special or unique type of tourism different to common nature-based tourism activities. They agreed that *“ecotourism is a major spirit of any sort if touristic activities which is indicated by the best welfare and respect for the local people, environmentally sound, and therefore it should not always hang the first hand tourist experiences on the natural resources and ecological environment.”*

6.3.5 Expected Contribution of TO/TA in Conservation and Impact Management

Since the popularization of the concept of ecotourism in Cambodia in the late 1990s, there has been less focus on the contribution of private sector, especially tour operators and travel agencies, in sustainable development of ecotourism industry at local level. Missing this attention, it is important to recognize that participation from tourism industry related companies can provide a specific range of contribution to help minimize the negative socio-cultural and environmental impacts of ecotourism on the host communities.

When asked about environmental impacts on natural areas caused by tourists who were led by their companies, six TO/TA respondents accepted that the incidence of negatives in CBET or nature-based sites would not only be brought about from poor visitor management in the areas, but is also triggered by their less participation in dispensing information about ecotourism blueprints or in encouraging tourists not to harm the environment prior to their visits. Some common noticeable impacts caused by their tourists are littering or waste dumping and inappropriate cultural behaviors which cause cultural influence on the locals. However, they

pointed out that a strong connection between local industry planners or managers and the private sector, especially in terms of information sharing, is important for reducing negative consequences of tourism. For instance, some nature-based destinations in the northeastern part of Cambodia (i.e. Bosra and indigenous villages, Kratei etc.) were considered as a bad example of site development and network building with private sector. In contrast, Prek Toal core area and other floating villages in TSGL as well as Chambok CBET were regarded as a good example of local-private relationship.

Concerning TO/TA contribution to conservation and impact management, 14 interviewees expressed their strong interest and will to participate in environmental conservation in nature-based and ecotourism sites in Cambodia. Yet, they explained that it was difficult to request TO/TA to provide financial support to the conservation of the sites except to pay for the entrance fee and other local-based products and services for their customers. In spite of this, Cambodian TO/TA said they would consider to help reduce environmental impacts in the destination areas if the government and MoT have fixed policies for them. This is required to come along with good management, transparency and accountability of the local communities in using funding effectively to help save the environment of the places. TO/TA contribution raised by the interviewees can be seen in four respects: (1) inform tourists to assist and promote ecotourism sites; (2) develop appropriate marketing messages to increase tourist awareness about conservation and their possible contribution to rural poverty reduction; (3) collaborate with concerned government agencies and NGOs to improve destination management and conservation of cultural and natural resources; and (4) disseminate information about the need of conservation to potential donors overseas, including individual ecotourists, to help grant conservation and sanitation improvement activities in ecotourism sites.

6.3.6 TO/TA Interest in Ecotourism Business Opportunities for Community Support

To ensure the degree of TO/TA interest and their possible support for community development and biodiversity conservation in ecotourism sites, all chosen TO/TA were asked to circle the scaling items which represent the value of interest and support indicators. Table 6.23 demonstrates that the impetus of their package tour arrangement is to include as many new natural tourism attractions and diversified services in their programs as possible in order to increase the experience of their consumers. Therefore, a majority of them confirmed their strong interest in supporting local communities to develop, conserve and sustain natural and cultural attributes of the site, to support community in waste minimization and management, as well as to learn and understand about ecotourism concepts and its sustainable operation. They were also interested in supporting local communities indirectly. For example, TO/TA indicated strong concern to provide tourists with adequate information about ecotourism and sustainable tourism concepts, to offer and strengthen partnership with local communities in all possible means, and to buy local tourism products and services. Besides, most of the TO/TA interviewed indicated common interests to provide information about tourist demands to local communities to promote their marketing strategies and product development. In addition, they could help to change mass tourism interest to more responsible and environmental friendly activities of tourists by promoting their awareness and providing more value to biodiversity and other local resources. However, concerning the support on energy efficiency use in the sites where locals are greatly dependent on natural resources (i.e. flooded forests in TSBR), most TO/TA did not pay much consideration on since it was beyond their ability to help.

Table 6.23: Interest and possible ways of support by Cambodian TO / TA for ecotourism sites

Components of Interest and Support	1	2	3	4	5
Explore the untouched or unspoiled natural areas and its natural tourism resource	4	6	3	-	2
Develop the new natural tourism resources	6	5	2	2	-
Educate tourists about ecotourism and sustainable tourism concepts	5	4	4	1	1
Educate locals about ecotourism and sustainable tourism concepts	5	6	2	1	1
Support locals in the new ecotourism destination (s) to learn & understand about ecotourism concepts and its sustainable operation and development	6	5	2	-	2
Support locals on conservation and sustainable use of natural resources in their areas	5	5	3	-	2
Support locals on development of ecotourism commercial messages, product development, and marketing and promotion	7	2	5	-	1
Provide information about tourist demand by segments and promote the attractions of the ecotourism sites for locals	4	6	2	2	1
Support the change of mass-tourism activities to responsible, environmental sensitive activities which promote sustainable ecotourism destination management & development	4	6	4	1	-
Support on waster minimization and management	7	2	3	2	1
Support on waste water treatment	4	6	4	-	1
Support on energy efficiency use	3	4	6	1	1
Provide and strengthen partnership support with local community for sustainable ecotourism development	6	6	3	-	-
Support & willing to buy local ecotourism products through partnership building	5	4	5	-	1

Source: Own questionnaire survey

Notes: 1 = very interested, 5 = less interested

6.3.7 Experience in Bringing Tourists to TSBR Core Areas

67% of the TO/TA questioned informed that they also offer a trip to TSBR, especially to Prek Toal and nearby floating villages, in the package tours offered to foreign visitors (see Table 6.24). According to their experiences, they often bring tourists to visit the areas, but most of them take only a one day trip which connects from a visit at Siem Reap Angkor. According to their answers, most tourists (87%) who desire to visit Cambodia's natural areas, protected areas or Biosphere Reserve are from Germany, UK, Sweden, Belgium, France, America, Australia, Singapore, and NGOs and Embassy staffs working in Cambodia. However, this package is usually organized as a complementary service following tourist visits at Angkor Wat complex and other cultural and historical monuments in Siem Reap province.

Table 6.24: Experience and Interest in Bringing Tourists to TSBR Core Areas

	Experience in Organizing Tours to TSBR Core Areas (in %, n = 15)	Interest of Tourists in Visiting TSBR Core Areas Perceived by TO/TA Respondents (in %, n = 15)
Yes	67%	87%
No	33%	13%

Source: Own questionnaire survey

6.3.8 Perceived Characteristics of Natural-Cultural Features of TSBR Core Areas

The extra information gathered from informal interviews with domestic and international tourists, who had experience visiting TSBR, concerning characteristics of TS core areas were categorized and eventually a table of common components was developed. This table was used to ask selected TO/TAs to ratify the characteristics of TS core areas from their best knowledge and experience in tour operation services.

This table shows that the most interesting attractions of TSBR core areas are waterbirds and its colony, flooded forests along the lakeshore and within deep flooded areas, hydrological system (reversion of water flow and its relation with land and soil conditions), and typical local lifestyle and stereotype of local fishing communities in floating villages. Sunrise and sunset on the river were also mentioned by interviewed TO/TA as attractive programs for tourists to enjoy while planning to have an overnight stay at local guesthouses or in the core area management center. Even though TSBR core areas have plenty of things to offer, most TO/TA indicated that some characteristics, such as livelihood activities of local fishing communities and sightseeing and boating or cruising, are comparatively preferred attractions interested by tourists. This does not mean that these tour activities are not interesting, but they depend on how local communities and ecotourism service providers develop and arrange them in the programs incorporated with sound interpretation. Another reason is that many tourists who visited the sites had less time or did not want to stay longer in the areas since there is lack of tourism services/products which are interesting to them, thus reducing their willingness to engage more in cultural and natural recreation. Of total components of TSBR characteristics, doing home-stay with people and tasting local gastronomy were considered as not of tourist interest. Therefore, TO/TAs interviewed avoid them or offer them only on request. The problems related to this decision are poor quality of home-stay facilities and low sanitation in the areas.

Table 6.25: Perception of Cambodia’s TO and TA on touristic characteristics of TSBR core areas

Components of TSBR Characteristics	Attractive	Conventional	Not Attractive
Waterbirds	12	2	1
Flooded forests	10	3	2
Wildlife species and habitat viewing	6	5	4
Hydrological system and unique natural landscapes	9	3	3
Development and livelihood activities of local fishing communities	5	8	2
Home-stay with people and interaction between tourists and locals	4	4	7
Sunrise and Sunset on the river	7	2	6
Local lifestyle and stereotype of local fishermen in floating villages	9	5	1
History of TSGL and its significance for Cambodia’s historical evolution	5	N/A	2
Sightseeing and canoeing / boating / cruising	6	7	2
Geographical connection with other famous destinations (i.e. Siem Reap)	7	1	N/A
Unique local gastronomy, especially Khmer dishes made of fresh fishes	3	6	6

Source: Own questionnaire survey

Note: N/A = not available

6.3.9 TO/TA Interest in Bringing Tourists to BTC and SS Core Areas

93% of the TO/TA interviewed expressed their interest to bring tourists to visit these two core areas of TSBR if ecotourism processes there become fully operationalized and ready to cater substantial tourism products to tourists. Generally, the Royal Government of Cambodia, Ministries of Tourism and Environment consider ecotourism as an alternative approach in natural resources management and poverty reduction in natural resources rich areas. Ecotourism can be used to attract both domestic and international visitors to the areas to open up opportunities for local communities and industry related people to benefit from its process for the betterment of nature conservation and economic development (Neou, 2003; TSCP, 2007). According to MoT (2006), domestic visitors have more potential to generate direct benefits to local people through a variety of purchase manners and donations. However, according to the interviews, only a small share of TO/TA (35%, n = 15) were interested to cater their services to domestic tourists even though the majority of them declared to be fond of ecotourism development in BTC and SS core areas (see Section 6.2.13). This might due to the

fact that domestic customer behaviors are different from those of foreign visitors who often rely on inbound tour operators to prepare them packages to areas they are not familiar with. In addition, since domestic tourists speak the same language as local communities in BTC and SS, it would not be difficult for them to communicate and create more interactive atmosphere with locals to serve their needs.

Table 6.26: Interest of Cambodian TO / TAs in Sending Tourists to TSBR and Preferred Types of Tourists

Interest in Sending Tourists to TSBR Core Areas (in %, n = 15)		Interest of TO/TA in Types of Tourist (in %, n = 15)	
Yes	No	Domestic Tourists	Foreign Tourists
93%	7%	35%	65%

Source: Own questionnaire survey

6.3.10 Obstacles for Package Arrangement and Tourist Visits in TSBR Core Areas

Despite expressing strong interest, the selected TO/TA respondents were also asked to indicate some common obstacles which are difficult for them to organize and extent the length of tourist stay in TSBR core areas. These problems can affect tourist motivations for their repeated visits or motivations of prospective tourists to visit the areas. This section focuses on current critical factors of TSBR core areas and other related issues which were perceived by Cambodia TO/TAs interviewed as major obstacles for arranging ecotourism package tours and accommodating tourist visits in the areas. All chosen TO/TAs were asked to identify and specify these obstacles which they have experienced through their works with foreign tourists (see Table 6.27). After categorizing and indexing patterns of problems, six obstacles were discovered with details of explanation mentioned by the 15 TO/TAs as follows:

- ❖ **High cost:** TO/TA respondents reported that tourists found the cost of transport, cost of entrance fee and payment to police officers, PIU rangers and local communities to visit TSBR core areas was relatively high. Usually, tourists have to travel by bus, taxi or motodop (motor taxi) from the center of the city or town heading off to a dock where they can take a motorized boat (the quality is dependent on how much they are willing to pay) to the floating villages located in or adjacent to TSBR core areas. The boat drivers offer non-standardized prices of services daily to tourists, and thus make TO/TAs difficult in adjusting the price for a complete package. The range of cost of travel to the boat dock is between US\$ 5 to US\$15 whilst the trip to the core areas costs in between US\$50 to US\$ 80 per boat. While arriving at the core area management center, every visitor has to pay US\$ 25 for the entrance fee and other sums to polices, environmental rangers and local communities to permit and facilitate their trips to the waterbirds colonies and within local settlements. These costs do not include accommodation, food and drink and other substantial services to serve tourists' basic needs. The TO/TAs interviewed said that often they were asked by tourists about the use of money collected from such expensive services since they doubted that it was not used properly for conservation and development of the areas. These TO/TAs expressed their angst that tourists would produce bad word-of-mouth recommendations to others which could affect their services and local enterprises.
- ❖ **Site management:** The TO/TAs interviewed reported similarly that the management of TSBR core areas is limited and local tourism services and products to offer to tourists are still inadequate. They informed that concerned executing institutions, which are in charge of the management of the areas, do not collaborate much with each other due to lack of

clear definition of accountabilities and boundaries and conflict of interest over the control of the areas. They noticed that tourism revenue is not used much for conservation and community development purposes. Most local residents were reported by some TO/TAs as being unwilling to participate or follow the rules of conservation in the areas for they think that ecotourism only benefits the few rich and elites. The concept of sustainable ecotourism business does not only focus on economic incentives, but also on other influential factors such as tourist satisfaction. Most TO/TAs interviewed said that besides insufficient support tourism infrastructure and amenities, TSBR core areas lack emergency (i.e. first aid) and other security services for tourists. Pre- and post-risk management strategies as well as appropriate visitor management plans are still missing. In addition, visitor trail and zoning system are also challenging for tourists and TO/TAs to arrange their travels consecutively and effectively. The most exigent factor considered by some TO/TAs is the travel across the fishing lot boundaries to different attractive locations in the core areas.

- ❖ **Accessibility:** This refers to the routes to and from the boat dock and the connection to the TSBR core areas from the mainland. Most TO/TA interviewed stressed that the roads to the speed boat ports are difficult to travel, and along them there are almost no things to show to tourists except miserable life of poor rural Cambodians living in their shabby slums. To reach TSBR core areas, only a travel by boat is a possible means of transport in both flooded and water recession seasons, even though there are some other possibilities to travel on land to the destination areas, for example, to BTC and SS core areas.
- ❖ **Seasonality:** In TSBR core areas, ecotourism process is strongly influenced by the seasonal context of water hydrology and tourist demands. In dry or water recession season, the water level is very shallow and the quality of water is low. These cause a lot of problems for internal and inter-regional transport and safe drinking water for tourists. From February to April, the weather is hot that foreign tourists could not stay longer at the sites. All TO/TAs interviewed explained that tourist demand often fluctuates in accordance with the season – low and peak seasons of visit. The seasonal tourist arrivals provide bad impacts on their package tour arrangements as well as on service delivery, cost control and employment opportunities of local communities.
- ❖ **Eco-friendly concept:** The policy of the Royal Government of Cambodia to issue the operation of fishing lot concessions or to designate TSBR core areas in high commercial natural resources rich regions of the lake present a big challenge to the management. In the core areas, there are three distinctive scales of fishing activities – large scale, medium scale and family scale or subsistence fishing. Besides some intermittent illegal hunting and waterbirds' eggs collecting in the areas, there are also common illegal fishing activities practiced by local patrons and a majority of local inhabitants and heavy collection of fuel wood from the flooded forests for household and fishing purposes. Some TO/TAs interviewed pointed out that sometimes ecotourists who are environmentalists or conservationists complain in their feedback forms that they do not want to see destructive economic activities in the core areas. Some tourists do not believe their payment or contribution will work better for conservation and development purposes of the places as long as illegal activities are not addressed effectively. This is a big challenge for the companies to secure their customer volume provided such tourists are becoming less motivated to buy their packages to visit the areas.
- ❖ **Sanitation and hygiene:** Apart from having an idea that local gastronomy and accommodation are not presented to tourists in appropriate condition (standard and quality service delivery), most TO/TA questioned were also concerned with the sanitation

and hygiene in the areas. They reported that a significant amount of tourists are afraid to taste local foods and drinks or to stay longer in the villages as they think that they would be susceptible to waterborne and other diseases. Especially, in the water recession season, the water quality is bad as this is generally caused by the low water level, rotten things and household waste (both liquid and solid).

Table 6.27: Perceptions of TO/TA respondents of obstacles for package tour arrangement and tourist visits in TSBR core areas

Summary of Obstacles for Package Tour Arrangement and Tourist Visits in TSBR Core Areas Perceived by Selected Cambodian TO/TAs
<ul style="list-style-type: none"> • High cost of entrance fee • Lack of security for tourists, including transport security & insurance • Poor management and lack of services in the areas of visit • Low sanitation and environment impacts / risks management • Routing is not well-organized and are in bad condition • High cost of transport • February to April is so hot for foreign tourists and difficult for them stay longer at the sites • Difficult to transport in water recession season • Ecotourists who are experts and environmentalists do not want to see fishing activities in core areas • Gastronomy (food and beverage) and accommodation are not in appropriate condition (standard and quality service delivery) • Diving in flooded season • Crocodile raising in floating cages • Payment to local community, police and rangers for permission • Lack of products for tourists to buy • Water pollution in dry season • Diseases in which tourists are afraid of • Tourist demand is seasonal • Lack of emergency services for tourists, including health care

Source: Own questionnaire survey

6.3.11 Perceptions of Negatives and Positives of Ecotourism in TSBR Core Areas

All selected TO/TAs were also asked about potential positive and negative impacts of ecotourism development on local communities and natural environment in TSBR core areas, especially in BTC and SS. Their answers were classified into different themes which characterize different aspects of impact viability in the regions. These impacts can be seen in three different dimensions – environmental, socio-cultural and economic. The followings are the summary of ecotourism impacts perceived by Cambodia TO/TAs during the formal interviews.

According to the stated views of Cambodia TO/TAs interviewed, ecotourism could bring a wide range of benefits to the society, environment and economy of local fishing communities in TSBR core areas (see Table 6.28). They mentioned that ecotourism generates profits and supports current conservation activities in the areas by providing economic incentives to executing agencies to maintain the uniqueness and authenticity of natural attractions used for ecotourism development. Using Prek Toal core area as an example, some TO/TAs stressed the increase of awareness and motivation of local people and developers of the significance and value of biodiversity and other natural endowment of the places for their daily livelihoods and businesses with tourists. Following the receipt of tourism revenue, the beneficiary groups would be more encouraged to treasure conservation programs being undertaken by current national and international development agencies in the areas. They also referred to the use of money to enhance proper management and willpower of local communities' organizations and responsible conservation and development agencies to safeguard or manage the use of natural resources in TSBR core areas in a sustainable way.

Other positive impacts mentioned by TO/TA respondents are related to socio-cultural aspects. Besides increasing natural and cultural appreciation of local residents, ecotourism was perceived by few TO/TAs to be able to make people more willing to participate actively in biodiversity conservation and local development. They reported that most villagers in TSBR core areas, especially in Prek Toal, want to see more benefits of ecotourism are given or distributed to them as they belong to the areas where ecotourism is developed. Thus, receiving benefits from ecotourism process could lead the locals to understand more about their ownership rights over resources, especially on how to become owners of their localities' future development. As long as they participate, it would open up a door for them to build up close relation, trust and reciprocal practices with other members of the communities in order to safeguard their resources and tackle their livelihood loss. This would help them to establish a strong self-help system and construct their social capital to improve collective development in the areas.

Other TO/TAs interviewed perceived that social and public services, particularly security system, would be improved to serve the needs of locals and tourists as ecotourism is developed and continue to grow in the areas. They reported that the living conditions and ways of life of some local households have been improved following the development of ecotourism in Prek Toal core area. This means that constant interaction and exchange of culture with tourists help the locals in TSBR core areas to have more knowledge about the outside world. From this, they are able to adapt to new livelihood strategies, which are not beyond their technology and capacity, while improving current livelihood activities to develop themselves and their communities in the long-run. This was perceived by most TO/TAs interviewed as a part of economic impacts of ecotourism. Other possible economic benefits raised by Cambodia TO/TAs are the ability of ecotourism to promote local economic activities or small and medium scale enterprises to cater services to tourists, thus giving opportunities to people to be employed in local tourism industry, either directly or indirectly.

Table 6.28: Perceptions of TO/TA respondents on ecotourism impacts in TSBR core areas

Perceived Positive Impacts	Perceived Negative Impacts
<ul style="list-style-type: none"> ▪ <i>Environmental:</i> <ul style="list-style-type: none"> • Increased natural aesthetics and product authenticity • Increased local, national and international awareness on conservation • Well-preserved natural resources and ecosystem ▪ <i>Socio-cultural:</i> <ul style="list-style-type: none"> • Increased security and safety in the areas • Cultural and social exposure to the outside world • Increased collectivism and social capital of local fishing communities • Increased and improved social and public services in the areas • Increased natural and cultural appreciation among local fishing communities (on significance & value) • People will participate more actively in biodiversity conservation and local development ▪ <i>Economic:</i> <ul style="list-style-type: none"> • Increased local people's living standard • Local economic diversification and job creation 	<ul style="list-style-type: none"> ▪ <i>Environmental:</i> <ul style="list-style-type: none"> • Water and noise pollution • Decreased waterbirds and wildlife populations • Increased cutting of flooded forests for fuel wood collection and other basic needs of locals and tourists • Increased water disposal • Disturb and destroy natural habitats and change of animal behaviors ▪ <i>Socio-cultural:</i> <ul style="list-style-type: none"> • Destruction of local socio-cultural system and features if mass ecotourism is targeted • Increased dependency of locals on tourism jobs • Cultural commoditization and assimilation • Modernization and loss of traditional skills, knowledge and practices • Land encroachment and conflict of interest over business operation and resource use/access ▪ <i>Economic:</i> <ul style="list-style-type: none"> • Economic leakage to outside developers or business proprietors • Destruction of current local economic patterns • Fluctuation and seasonality of income earning

Source: Own questionnaire survey

6.3.12 Perceived Possible Local Economic Activities in Ecotourism Industry

Different ecotourism or ecotourism-related economic activities can be generated out of the ecotourism operation in BTC and SS core areas. According to Table 6.29, the interviewed TO/TAs (n = 15) perceived that local communities in BTS and SS core areas are able to prepare to provide four major services to tourists in order to earn more income. These perceptions are based on their experiences with local communities of Prek Toal CBET site, which is located in one of the three TSBR core areas. These include: (1) food service; (2) accommodation service; (3) intra-transport service; and (4) entertainment service (e.g. teaching tourists to do fishing). Besides, other income activities were also considered moderately possible for them to carry out as the main suppliers of the local ecotourism industry. The TO and TA clarified that the locals in BTC and SS could work as food and souvenir vendors, craft-makers and craft sellers, tourist guides, local cultural performers, or local rangers with the TSCP-UNDP projects in order to benefit from ecotourism. Notwithstanding, the people under support and guidance of local and foreign NGOs and relevant ministries (e.g. MoT and MoE) could start these prospective businesses to improve and diversify their income generating activities as well as the local small and medium enterprises. Most TO/TAs interviewed also suggested that local communities and local developers collaborate closely with the private sector or tourism intermediaries (e.g. TO and TA) in order to know about the common or expected service delivery for ecotourism.

Table 6.29: Perceptions of Cambodia TO/TAs on possible ecotourism-related income activities in BTC and SS core areas (n = 15)

Perceived Possible Sources of Income from Ecotourism	Low	Moderate	High
Paddlers within village settlement and to waterbirds / wildlife areas	1	2	12
Speed boat drivers from main ports or nearby docks	9	4	2
Food services for guests or tourists	3	2	10
Floating food and goods vendors	5	7	3
Handicrafts	4	8	3
Grocery store operators	6	5	4
Floating gardeners	7	2	6
Home-stay accommodation (guesthouse and diner)	3	3	9
Local tourist guides	4	8	2
Snorkeling and diving operators	11	3	1
Scenic cruising operators	9	5	1
Cultural group performers	6	8	1
Boating or canoeing operators	7	5	3
Fishing operators	0	1	14
Local rangers	5	6	4
Local tour arrangers	10	3	2

Source: Own questionnaire survey

6.3.13 Suggestions for Sustainable Ecotourism Development in TSBR Core Areas

At the end of the formal interviews, all selected TO/TA respondents (n = 15) were also asked to provide suggestions for sustainable development of ecotourism in TSBR core areas. These ideas were regarded as an important contribution to the construction of guiding principles for stakeholders for planning and management of ecotourism (see Chapter 8, Section 8.5). Their answers were first summarized, and then sorted out into different themes in order to find the main frames of reference which could be used to support the analysis of this study (see Table 6.30). As a result, four major frameworks with a range of activities were developed in accordance with TO/TA suggestions and are described in the followings.

The first concern of Cambodia TO/TAs interviewed is the formation of appropriate planning and management strategies in TSBR core areas. They suggested that the government and concerned executing agencies responsible for the management of the core areas should meet

and discuss to create clear definitions of responsibilities and boundaries in order to facilitate their current and future performance. In addition, close partnership and collaboration programs should be built for these institutions (MoE, MAFF, MoT, etc.) to promote integrated conservation and development projects with support from I/NGOs and international development communities. With regard to ecotourism, most TO/TAs proposed that more support infrastructure, facilities and services which are appropriate to the context of the areas should be provided to ecotourism operation, both at present and in future. Some necessary programs, such as re-plantation of flooded forests, to maintain and improve the quality of tourist attractions in TSBR core areas should be undertaken with backing and active participation of local people. They perceived that to achieve sustainable development of ecotourism, responsible agencies should work to promote local empowerment and involvement in all areas of conservation and development activities in the areas, as well as to secure mutual benefit sharing and appropriate use of tourism revenue.

The second concern of TO/TAs questioned is related to the promotion of environmental programs in TSBR core areas. They suggested that civil society organizations, particularly environmental NGOs, should provide environmental education programs to help people to improve sanitation and hygiene in the areas they are living. These organizations should work with executing agencies to educate local people about the significance and value of natural resources they are using and depending on, so that they will love to participate in nature conservation. Apart from this, they should provide skill training programs necessary for the locals to promote small and medium scale enterprises to benefit from ecotourism development, but are not at the expense of natural bases of the areas.

Their third suggestion focuses on product development and marketing strategies for ecotourism operation. They mentioned that local ecotourism products (goods and services) are inadequate and need to be diversified and improved in order to attract tourists to visit and stay longer at the sites. This work should be done concurrently with the development of proper marketing and promotion strategies which address ecotourist demands. The fourth concern of TO/TAs interviewees is about the site management and conservation of natural resources in TSBR core areas. They suggested that appropriate strategies for the management of ecotourism sites should be set up and implemented in a timely and effective manner. This might include visitor impact management (i.e. control of tourist number, zoning management, etc.) and other pre and post risk management approaches. Lastly, executing agencies should ensure that illegal activities (i.e. illegal fishing and hunting, collection of waterbirds' eggs, etc.) are reduced in the areas.

Table 6.30: Suggestions of the interviewed TO/TA for sustainable ecotourism development in TSBR core areas

Summary of Suggestions by TO/TA Respondents for Sustainable Ecotourism Development in TSBR Core Areas
<ul style="list-style-type: none"> ▫ Clear definition of community and development plans and mechanisms; ▫ Prevent and protect natural resources and other natural features which are major attractions of ecotourism in the areas; ▫ Avoid developing modern infrastructure and superstructure for tourism in the areas; ▫ Educate local people to know and understand about ecotourism and how to benefit from its process efficiently; ▫ Provide necessary social and public services, including acceptable mode of accessibility; ▫ Improve marketing and promotion strategies at local, commercial and national levels; ▫ Civil society, especially NGOs and INGOs, which are concerned with environmental conservation and natural resources management should help set up appropriate management plans and activities for community development and natural resources conservation by providing good perspectives on proper small and medium enterprises and other eco-friendly livelihood alternatives; ▫ Improve awareness and keenness of locals and responsible government officials on the significance and value of biodiversity in the areas;

- Improve level of education of local communities;
- Launch forestation in core areas and nearby buffer zones;
- Excavate the sediments of TSGL in order not to make the lake become shallower (with appropriate study on the impacts of this project);
- Educate people to improve sanitation and hygiene of the places, as well as to improve the beauty of the core areas including their houses and household materials;
- Diversify ecotourism products and services in the areas to cater them to tourists;
- Develop tourism trails and circuit inside the areas and link these places to other famous sites as a package of visit;
- Determine appropriate visitor management strategies by incorporating both pre and post risk management plans;
- Stop (or reduce) and punish illegal fishing and hunting activities including illegal operation of fishing lot concessionaires;
- Increase collaboration between communities and responsible government agencies to improve the management and conservation processes; and
- Share benefits of ecotourism mutually with local communities, authorities and planners/developers (government agencies and NGOs) in the areas.

Source: Own questionnaire survey

CHAPTER 7: IMPACT ASSESSMENT OF ECOTOURISM DEVELOPMENT

Ecotourism is considered as an economic alternative to be developed in BTC and SS core areas. It is used to respond to the economic and environmental decline in the primary production sectors and to help stimulate the local economy. Therefore, the need for sustainable management and development is necessary, and a comprehensive analysis of its possible impacts is considered as one of the most important steps before the full development takes place. Some scholars suggested that prospective ecotourism impacts are found out from different stakeholders' viewpoints since ecotourism viability as a less destructive form of tourism to society and environment are still questionable (Wheeller, 1991; Wheat, 1994).

In contrast to research spotlights on economic-centric and positive effects of tourism from the 1960s to the late 1970s, a period of optimism on tourism benefits to local and regional development goals (Young, 1973; Turner & Ash, 1975; Finney and Watson, 1977; Smith, 1978; de Kadt, 1979), tourism impact studies need to address three tripartite theoretical domains (Hall, Roberts & Mitchell, 2005). These domains are known as environmental, economic and socio-cultural. They are recognized through different viewpoints of stakeholders, especially through the perceptions of the local communities. According to Pearce (1996), the focus on how local communities and other stakeholders perceive tourism impacts and respond to tourism development helps to generate new theoretical insights into host-guest relationship. It also helps to portray social reality and prospected social well-being of the locals, individual stakeholders' aspirations, and stakeholders' attitudes towards tourism impacts. As Pearce mentioned, stakeholders' attitudes and perceptions are varying depending on their direct and indirect experiences, economic dependency, personal influence on decision-making and planning, knowledge of tourism and their group identities (self-image).

This chapter demonstrates the perceptions of local communities and other key stakeholders – government officials/officers, local and international NGOs (L/INGOs), tourism industry (see Chapter 6), and supporting players (donors, academics and experts) – of possible impacts of ecotourism development in BTC and SS core areas. Additionally, it will point out assorted roles of key stakeholders suggested by the expert group for sustainable ecotourism operation in the areas. Different methods were used to collect data on these stakeholders' perceptions (see Chapter 3). Data from local communities were obtained through semi-structured interviewed and group discussions. Rather than imposing upon local communities a set of answers to choose during the semi-structured interviews, the researcher and his team established an interactive or two-way communication with representatives of the selected households from different types of fishermen. This approach allowed local respondents to acknowledge their awareness of tourism impacts without stinting. In addition, it was used to triangulate the results from group discussions and meetings and help to make data well representative for the analysis. The perceptions of local authorities, large scale fishermen (lot owners) and executing agencies in the areas were collected from in-depth interviews. Data from senior government officials/officers, L/INGOs and supporting players with regard to possible ecotourism impacts in BTC and SS core areas were collected as a part of the expert interviews. Based on scaling items, the expert respondents were asked to select the answers which represented different indicators of socio-cultural, economic and environmental impacts of ecotourism. That approach was undertaken through Likert Scale Analysis. Besides asking the respondents to select the answers, the researcher discussed every point with them in order to comprehend their perceptions for interpretive analysis. Different perceptions of different stakeholders on ecotourism negatives and positives are described in full-length in the following sections.

7.1 Internal Stakeholders' Perceptions of Possible Ecotourism Impacts

Almost all types of stakeholders consider the ecotourism initiative as a substantial change in the management system of BTC and SS core areas. It has been expected by the executing agencies, especially the DoE-MoE, to provide a wide range of benefits to the conservation and development frameworks of the areas. As ecotourism can generate both positive and negative impacts on the host communities, including their core resources and natural environment, it is worthwhile to learn from different schools of thoughts or viewpoints with regard to its possible consequences. This section analyzes perceptions of internal stakeholders of ecotourism in detail by focusing on both positive and negatives aspects of development (see Table 7.1). Internal stakeholders consist mainly of local authorities, responsible government agencies and their management-related teams, and the three types (small, medium and large scales) of fishermen in BTC and SS core areas. These groups project that ecotourism has ability to institute sustainable development and management of BTC and SS core areas, while at the same time promoting people's wellbeing and participation and nature conservation. Yet, they are also cautious about its negative side. They perceived that negative impacts of ecotourism development in BTC and SS vary in size and rate conditioned upon several factors. These include: the work performance; human and financial capacities; management structure; directions and development mechanisms; stakeholder partnership and collaboration; institutional frameworks; and law enforcement and effective implementation of ecotourism plans. If these factors are not taken into serious consideration, they perceived that a number of negative effects would appear, such as: (1) communication breakdown and marginalization of local participation; (2) conflicts of interest, distrust and polarization of wealth; (3) influx and seasonal in-migrants and better-off outsiders that lead to economic leakage and social problems; (4) cultural alienation; and (5) increased dependency of local communities on external assistance and support.

Table 7.1: Perceptions of concerned internal stakeholders of possible ecotourism impacts in BTC and SS

Types of Respondents	Perceived Positive Impacts of Ecotourism by Internal Stakeholders
Local authorities (village and commune chiefs and community organization chiefs)	<ul style="list-style-type: none"> ▪ Increase job opportunities in the areas ▪ Local people could sell their local products (i.e. fish and craft objects, etc.) to tourists and local ecotourism enterprises ▪ Ecotourism revenue could be used to supply local infrastructural development ▪ Attract NGO and funding agencies to come and help promote community development in the areas ▪ Increase knowledge and understanding of local people ▪ People, especially those who cater ecotourism services to tourists, will improve the awareness of sanitation improvement
Executing government agencies (e.g. DoE-PIU and DoF-PIU staffs)	<ul style="list-style-type: none"> ▪ Increase abilities of the locals to generate more income to support their families ▪ Ecotourism helps to create more jobs in the areas ▪ Increase economic incentives for conservation of natural resources ▪ Encourage local people to love their areas and conserve natural resources ▪ Reduce pressure on natural resource consumption ▪ Promote cultural exchange between tourists and the locals ▪ Encourage young people to study more, especially foreign languages
Large scale fishermen / fishing lot owners	<ul style="list-style-type: none"> ▪ Increase opportunities to earn more money from tourism ▪ Foreign exchange earning ▪ Increase national revenue through taxation ▪ Promote Khmer culture and national pride ▪ Reduce pressure on fish catch
Medium scale fishermen	<ul style="list-style-type: none"> ▪ Increase income generation activities for the locals ▪ Tourism revenue could help develop the areas ▪ Promote environmental conservation programs
Small or subsistence scale fishermen	<ul style="list-style-type: none"> ▪ Increase extra income and job opportunities in the areas ▪ Increase markets for local products ▪ Improve local business operations ▪ People will have more rights to participate in planning and development ▪ Increase women roles in income generation and local development ▪ Increase opportunities to receive gifts or donations from tourists ▪ Strengthen security in the areas ▪ Tourists could help improve nature conservation and community development in the

	<ul style="list-style-type: none"> ▪ areas ▪ Reduce energy and effort in fishing since tourism jobs are easier and happier ▪ Reduce degradation of natural resources ▪ Strengthen local network ▪ Learn more about the outside world from tourists ▪ Increase local sense of pride as the owners of the areas and local culture ▪ Income earning to support local development (e.g. building of schools and health centers) ▪ Tourists will tell the outside world about problems that local people are facing in the areas, thus make local authorities and responsible agencies reduce their pressure on people
Types of Respondents	Perceived Negative Impacts of Ecotourism
Local authorities (village and commune chiefs and community organization chiefs)	<ul style="list-style-type: none"> ▪ Local people will be more dependent on external aids ▪ Environmental pollution ▪ Change of village landscape ▪ Children will abandon schools to earn money with tourists ▪ Young people might follow or learn from foreign culture and forget their traditional lifestyles and traditions ▪ There will be more seasonal in-migrants in the areas if ecotourism becomes is seen as a promising revenue generation
Executing government agencies (e.g. DoE-PIU and DoF-PIU staffs)	<ul style="list-style-type: none"> ▪ Ecotourism might disturb waterbirds and wildlife in the areas ▪ Increase pollution and waste disposal ▪ Cultural assimilation and alienation
Large scale fishermen / fishing lot owners	<ul style="list-style-type: none"> ▪ Loss of income if the areas are put under well protection for ecotourism process ▪ Environmental pollution
Medium and small scale fishermen	<ul style="list-style-type: none"> ▪ Unequal benefit sharing ▪ Ecotourism developers might recruit only educated and skilled people to work ▪ Rich people and executing agencies might control and benefit from ecotourism alone ▪ Conflicts of interest among local villagers ▪ More areas will be kept or used only for ecotourism and local people might have less access to fishery resources and other natural resources ▪ Seasonal in-migrants might come more to earn their livings from ecotourism or might not leave the core areas ▪ Young villagers might adapt modern life and abandon local culture ▪ Crowded places to live

Source: Own survey (in-depth interviews with local authorities and large scale fishermen; group discussions and semi-structured interviews with medium and small scale fishermen)

7.1.1 Local Authorities' Perceptions

This group comprises village and commune chiefs and leaders of the community organizations, such as community fisheries (CF) and community protected areas (CPA). They represent local developers in BTC and SS, and their attentions are more focused on the potential of ecotourism to bring more opportunities for the development of community-based projects and infrastructural services in the areas under their administrations. They were optimistic that ecotourism could help to improve the living conditions of villagers by creating more jobs for people as well as opportunities for them to run small businesses or sell their local products such as fishes and handicrafts to tourists. They considered that economic stimulation via ecotourism development would give additional income to local households and generate more community-based economic activities to improve local economy. This would also help their communities to be self-sufficient in terms of economic support. They said that when ecotourism is fully operated, it will provide other incentives, such as service utility endowment and local development and parallel project development frameworks for local economic stimulation and environmental government. This expectation is promising since ecotourism is recommended by concerned NGOs and donor agencies to be developed in BTC and SS. In this case, benefits for community development would be given through ecotourism operation and financial and technical assistances from external stakeholders. Providing necessary facilities and services to support ecotourism process in BTC and SS were considered by these respondents as an equivalent contribution to local infrastructural development which is one of the objectives of current commune councils. In addition, they expected that the increasing intervention of government, donors, NGOs and development agencies to help the locals to benefit from ecotourism will also bring more skill trainings and environmental education programs to the

areas. They explained that the more people receive these training programs, the better knowledge and understanding they will have about their living environments and the improvement of their quality of life (i.e. improved sanitation and health issues).

However, this group also reflected on possible negative effects of ecotourism development on people and the environment of BTC and SS core areas. Some knowledgeable respondents clarified that without care and concern, ecotourism would make community organizations and local villagers become more dependent on fund providers, technical advisors, NGOs, and government officials in charge. They explained that CF and CPA members and local residents have limited knowledge about the benefits of development and involvement of external actors in their areas. Often they feel inferior to these stakeholders. Because of their inferiority, limited capacities and poverty, they become less creative and innovative and from time to time they only want to implore outsiders to help solve their problems. As long as they rely on external assistance, they are often seen as incapable of identifying their needs and appropriate coping strategies for the improvement of their livelihoods and communities. In this respect, these respondents reported that local communities will learn to become self-reliant or sufficient only when human capital and local empowerment are enhanced before and during full development of ecotourism.

The presence of more tourists and new development in BTC and SS core areas would also cause environmental pollution and change of village landscape. Some local authorities revealed that the buying power of tourists would make potential local people create and increase their services to accommodate tourist demands in both size and intensity. This would result in increasing waste dumping (liquid and solid) into the river that could lead to water pollution in the areas of tourist visits. Along with this, the traditional village setting would be changed and replaced by crowded atmosphere and many building equipped with modern facilities. Some other respondents compared the future consequences of ecotourism development in BTC and SS to other sites in Prek Toal and Siem Reap province. They raised economic benefits of ecotourism as a possible reason that children will leave or be forced to abandon their studies in order to help the families earn money. In addition, the close interaction with tourists would make young villagers adapt tourist culture and forget local traditional lifestyle and customs of these fishing areas.

Another possible indirect negative impact of ecotourism on local communities in BTC and SS perceived by the interviewed local authorities is the influx of seasonal in-migrants into the areas. They mentioned that current seasonal in-migrants would consider living longer or permanently, while others would also come to BTC and SS when economic opportunities provided by ecotourism increased. Ecotourism would thereby serve as a pulling factor for tourists and inter-regional rural migrants who would like to benefit from it. As far as they were concerned the influx of this group into these areas of chronic human poverty would produce more challenges to local livelihood improvement and environmental governance.

7.2.2 Executing Government Agencies' Perceptions

Support staffs of two executing agencies, DoE-PIU and DoF-PIU, were selected for in-depth interviews about ecotourism impacts in BTC and SS. Economic Impacts of ecotourism are the first expectation of this group. These respondents expected that ecotourism development would bring more jobs, which are appropriate to local capacities and technologies, to the people in the areas. Besides fishing, local villagers could earn extra income through service and product provision, such as boat service, food and beverage and accommodation services. This means ecotourism could help to enhance their abilities to work in ecotourism industry to support and

improve the well-being of their families. Ecotourism revenue was viewed by the executing staffs interviewed as promising economic incentives to promote people's awareness, natural appreciation and participation in conservation activities. Exclusively, these incentives would help to secure and sustain the performance of responsible agencies, particularly DoE-PIU who is responsible for the management of TSBR core areas, in natural resource conservation. They explained that there are three possible ways to accumulate financial support for the conservation process in BTC and SS. First, they could obtain it from the entrance fee and other services catered to tourists, such as speed boat, waterbirds and wildlife watching services, etc. Second, they could encourage tourists to pay conservation fees or contribution fees for the sustainability of the areas. Third, receiving benefits from ecotourism would help to encourage local rangers to carry out their task assignments successfully, and thus would make concerned NGO and donor agencies to continue to support the management and conservation of BTC and SS core areas.

This group was hopeful that earning with ecotourism would make local beneficiary groups willing to reduce or stop their illegal activities (fishing and hunting) and over-exploitation of natural resources. This means that pressure of over-consumption and destructive harvesting activities on natural environment would be also decreased, while more parts of the areas might be approved to be under the management and control of community-based organizations for the betterment of sustainable local resource use and conservation. In addition, these respondents thought that ecotourism could help to promote cultural exchange, such as knowledge and experience, between tourists and the locals as it is one of the approaches to increase tourist satisfaction in the areas. When local people, especially young villagers, see or receive more ecotourism benefits, they would be willing or be encouraged to study more to improve their knowledge and skills. Similarly, more children would be sent to schools since their parents could afford their expenses, and thus hearten them to learn more from school, including foreign languages for their daily contact with tourists.

These respondents were also apprehensive about negative impacts of ecotourism. Since most of them were environmentalists working as rangers and patrollers in BTC and SS protected core areas, they expressed their worries over biodiversity degradation, loss of natural habitats and environmental pollution which would be brought about by ecotourism. They explained that the presence of tourists in large amount may disturb the natural behaviors and the quantity of waterbirds and wildlife since these animals are not hardened to human activities. They took the case of Prek Toal core area, where is known as one of the largest waterbirds colonies in Southeast Asia, as a live example. At that site, the number of waterbirds had increased constantly over the last 10 years due to official designation of the area as a natural hotspot of global environmental significance and improved conservation in the region. However, the increase in tourist volume and activities to watch waterbirds as one of the main attractions of the site has been exposed as a negative indication of declining amount of waterbirds which can be observed significantly since 2007. In addition, wastes are usually observable, especially on the open water surface, after tourist visits. As there is no sound waste management strategy, the areas will be filled with solid wastes (plastic bags, bottles, cans, etc.) and wastewater accrued with present household wastes, and thus makes the areas polluted and the lake shallows accordingly. Lastly, they projected that some people, especially the youngsters, might leave their traditional jobs and become dependent on income from tourism.

7.2.3 Large Scale Fishermen's Perceptions

This group represents the richest villagers in the areas. Their central motivations and interests are to secure their fishing lot operations and increase their territories to other potential areas

attached with full flocks of fish. Yet, when asked about positive ecotourism impacts, they responded similarly that ecotourism would increase working and earning opportunities for the locals to benefit and improve their livelihoods. It would help to reduce people's dependency on natural resources and reduce pressure on fish catch committed by poor local folks who try to invade and fish illegally in their lots. From their answers, this group did not see economic benefits of ecotourism as important to them, but its operation would benefit them implicitly as they do not have to put much effort to safeguard their areas. Contrary to other respondents' standpoints, this group perceived that ecotourism would also bring foreign exchange earning to the areas and the locals as well as the national government would gain more revenue through different types of tax. In addition, as ecotourism is based on what local people have to offer to tourists, it would help to revitalize local traditional knowledge and culture and promote local sense of pride as the owners of the places as well as national image as a country that is rich in tourism potentials.

Concerning the negative side, this group only stressed their fears that they might lose their incomes and jobs as a result of ecotourism development. They explained that nowadays their fishing lot concessions are operating in the core areas of the biosphere reserve under the authority and liability of the Ministry of Environment. Even though their businesses are leased by the Fishery Administration – MAFF, they are subject to change or termination. Therefore, they perceived that ecotourism development would help to strengthen the power of DoE-MoE in managing the territory of the protected areas, and some parts of their lots would be cut for tourism purposes or even the whole operations will be forbidden in the areas. Besides focusing only on their problems, this group viewed that ecotourism would cause some environmental problems, such as water and noise pollutions in the areas. They assumed that this relies on the number of tourists, number of population growth in the areas, and the management of responsible agencies.

7.2.4 Medium Scale Fishermen's Perceptions

This group is considered to be one of the most potential groups which has strong abilities to benefit a lot from ecotourism development in BTC and SS core areas. They have enough capitals (sophisticated motorized boats, good houses, money, and their children are more educated than the small scale fishermen's) to run businesses in ecotourism and cater better services and products (transport, accommodation and food and beverage) to tourists. They do not depend solely on fishing activities since they apply for leases from the government and lot owners to operate their fish harvesting activities in the fishing lots, such as along or inside the creeks and fishponds. Additional fish-related activities (fish processing, fish raising, and fish trading) and other businesses (i.e. crocodile rearing) were also observed as preferable occupations of this group. According to the commune chiefs of Peam Bang and Phat Sanday, this group represents about 10% of the total population in BTC and SS core areas.

Resembling the answers given by other groups, medium scale fishermen perceived that ecotourism would generate more economic activities for local people in BTC and SS core areas. This would help to strengthen and enhance village-based businesses and employment opportunities from which local communities could benefit to reduce their poverty and improve their quality of life in other aspects, such as education and health. Besides tourism profits could also be used to develop the communes by building more schools, religious places and health centers in the areas. In terms of its environmental impacts, this group is optimistic that following ecotourism development and law enforcement, the conservation of biodiversity resources and natural environment in BTC and SS would be improved. Ecotourism could

provide additional economic returns to support the overall conservation process, while at the same time attracting other government, NGOs, donor and development institutions to increase conservation programs in the areas. Regarding prospective negative impacts of ecotourism, this group perceived almost in the same ways as the small scale fishermen did (see Section 7.2.5).

7.2.5 Small Scale Fishermen's Perceptions

The perceptions of small scale fishermen are regarded as the most critical responses among all interested groups. Being the most vulnerable and inferior group in BTC and SS core areas, this group expressed different concerns on management issues and the future of the development of their communities. These respondents considered themselves as the most potential group that developers should pay attention to when attempting to solve local livelihood problems not at the expense of natural resource base of the areas. Receiving benefits from other development initiatives is central to their notices and choices. They explained that if ecotourism is not going to be developed properly to address human and environmental issues in the areas, they will be the only group that will suffer from its negative impacts. It was found that the interests of local communities in ecotourism is based on their expectations of potential benefits or livelihood interventions that ecotourism will bring to them in the future. This section divides the perceptions of small scale fishermen interviewed into two separate parts, negative and positive impacts, and the results of the interviews and group discussions are presented as follows:

Perceived Positive Impacts of Ecotourism

This group stated that the arrival of tourists in BTC and SS is equal to the presence of additional opportunities to earn money in their areas. They foresaw the ecotourism development as an opportunity to capture economic benefits to enhance and diversify their livelihoods, as well as to improve their and local communities' quality of life. They expected that ecotourism would bring them more jobs (i.e. boat renters, boat drivers, handicraft sellers, local guides, food sellers, etc.) that they could work to build up their capacities and livelihood strategies beside fishing and other village-based activities. If the tourist number increases, they could be able to establish small businesses and sell local products to tourists and other potential markets introduced by tourists and travel business intermediaries, such as tour operators and travel agents. They reported that the living standards of people in Siem Reap province and Prek Toal core area have been improved as a result of tourism development. Therefore, they are more optimistic than other groups that ecotourism could bring some positive changes to their livelihoods, while providing economic incentives together to local development and nature conservation. They said that if there are enough jobs in ecotourism industry, those who used to do illegal activities (i.e. illegal fishing and hunting and illegal cutting of flooded forests for sale) would decide to stop and participate to prevent resource degradation. This means they will reduce both their efforts and energies in fishing and exploiting natural resources illegitimately since tourism jobs are easier and happier. Moreover, they believed that tourists are high educated and they would help them to enhance their skills and knowledge, especially on how to improve their wellbeing. This group wanted tourists to see their living conditions and assist them through donations, gifts and other possibilities such as construction of infrastructural services (i.e. schools and hospitals) or supporting conservation activities in their localities.

A majority of respondents and group discussants also perceived that ecotourism could help safeguard or revitalize sites of cultural and natural significances and improve the recognition of local community on the value and pride of their resources. They presented their optimistic prospect that ecotourism would make the community members and people more aware of its

direct, indirect and induced benefits. People will be more willing to conserve their local culture and the natural resources and environment of BTC and SS core areas. They also mentioned that it is worth struggling to develop ecotourism since it would rally and drive the local community force to consolidate their primary livelihood activities into services and products for ecotourism process. Besides strengthening community pride and identity, they expected that ecotourism could provide a sound encouragement for self-development and improvement among the locals at all types – small, medium and large scale fishermen. Through ecotourism industry, local people expected to have more roles and involvement in community development projects so as to balance the physical, natural and commercial orientation of local development with the needs and goals of local people. In addition it would enable them to enhance broader and more effective community development and participatory planning approaches, which also advocate better community control over natural resources and all community development processes.

Another possible positive impact of ecotourism perceived by small scale fishermen is the ability of ecotourism to help reduce authoritarianism in their communities. The complex socio-political context of BTC and SS floating villages, where internal and external patrons trying growingly to dominate communities, make the local residents (mainly those with low socio-economic status and low social capital) become emotionally and physically vulnerable. These patrons usually aim to control people and the areas as a close system by intercepting or rejecting the information flow, the intervention of civil society and development agencies and local or community-based advocacy and development programs. Their management approaches censure local poor as direct threats to biodiversity and NRM. Thus, as long as these groups are misusing their supreme power, mistreating socially and economically vulnerable fishermen and defending illegal activities, the needs for people's survival and biodiversity conservation have always been neglected. However, as ecotourism is introduced as a form of CBNRM and economic incentive in TSBR core areas, subsistence fishermen interviewed suggested that ecotourism is developed in a timely manner. Rather than stressing only its economic benefits, these respondents referred to people's values and rights, social equity, civic voice and community support as other needed results of ecotourism development. Interestingly, people believed that the more tourists or people in general (students, researchers, journalists, NGO workers, scientists etc.) come to visit, the more outside societies know about the socio-political pressure, environmental governance as well as economic problems in their areas. Even though there is less hope to change the entire structural system of local leadership in their villages, they reflected that it would somehow help to change the behavioral management patterns of current patrons. This would help them to be well-protected and their local network, freedom to speaking, participation in decision-making, planning and local development would be promoted via ecotourism process.

Ecotourism was also believed by this group to provide opportunities for the strengthening of local security. Small scale fishermen perceived that as a protection strategy for domestic and foreign visitors, the security system would be enhanced to make them feel safe and have high satisfaction out of ecotourism activities in the core areas. Not only the security groups who will pay attention to this issue, the locals would also participate in this process through different community group establishment so as to sustain their personal and community benefits. Therefore, local people in BTC and SS could also live safer than before.

Lastly, these respondents, mostly interviewed female household representatives and female group discussants, mentioned that ecotourism could also help to promote women roles, rights and status in the family and community affairs. In addition, it could help to reduce gender discrimination and domestic violence. The diversification of household and village economic

activities or livelihood alternatives can be gone off through more participation of women in ecotourism businesses. They mentioned that in BTC and SS, the access to and the use of natural resources differ between men and women. Normally, the gender-based opportunities in decision-making, family planning and local development are affected by constant differences in livelihood activities, labor division and the social value judgment between men and women. Women have comparatively lower status than men and are regarded as inferior to men. The income earning ability and the cultural pattern allow men to be the head of the family and community and have sole right to decision-making without necessary inputs of women. In spite of the fact that women spend more time doing their dual work system (i.e. household chores / household maintenance / child and elderly care and running of small businesses), often they are considered to have less contribution to family income and are dependent on their husbands or male-headed families. However, they said that different to men's works, which are predominantly involved in fishing, women's works vary from routine reproductive works to minor trade and exchange of labor in their neighborhoods, animal raising and tending, fish processing, gardening, fishing net crafting and other craft-making activities, NTFP collecting and to other small-scale non-fish trade activities in the villages. Therefore, they expressed their optimism that when ecotourism is fully developed in the areas and local communities are allowed to participate in and benefit from its development, a wide range of additional economic works are more suitable for women. These works include craft-making, selling foods / souvenirs / handicrafts, accommodation services, interpreting village-based livelihoods and other works through the village women's associations. In this respect, they could have more chances to earn the income. Women's works could contribute positively to the livelihood improvement and might become a major source of income in the seasonal calendar of village-based livelihood activities. The change of conception over gender inequality would also become to mind if women's involvement in household economy and local development is enhanced.

Perceived Negative Impacts of Ecotourism

The first concern of small scale fishermen interviewed regarding prospective negative consequences of ecotourism development is unequal benefit sharing which could lead to social disparity, distrust and conflict of interest among local villagers. Since different villages of BTC and SS core areas have different natural and cultural qualities, ecotourism development plans would only concentrate on one or some parts of the region. This also depends on the division of the regions for distinctive socio-economic activities of the locals. Thus, people of the less potential or less developed parts would have less advantages and access to ecotourism enterprises. In addition, some vulnerable respondents predicted that the authorities in charge of ecotourism development might appear to disfavor the local poor similar to what they have been doing so far. In contrast, the rich or elite people in the areas might invade the local right and could get access to most of the advantageous ecotourism businesses. This is because they have enough facilities, capital and close social network with government high officials who would turn to be ecotourism developers in the areas. In this way, there would be (at least some) conflicts between benefit receivers and non-receivers and the unequal distribution of ecotourism benefits would lead to the polarization of development and wealth easily. Furthermore, for the non-receivers will continue to survive from exploiting of fishery and other natural resources by all means, they will be potential of accusation as resource destroyers. Hereto, two forms of distrust would appear among community members - distrust in participatory conservation and development through local participation and distrust in partnership building. It is worth indicating that the social capital of the local fishing communities, of which it is thought as a milestone of successful rural community development, would become a subject of change. Parenthetically, this group also mentioned the conflict

between government/implementing agencies over the control of the areas and benefits as one of the possible negatives of ecotourism in BTC and SS.

The second concern of small scale fishermen is on the prohibition over resource access and use in some parts of BTC and SS core areas. While the main livelihood of the locals are subsistence fishing and NTFP collection, a majority of local respondents recognized an urgent need to protect their natural resources and biodiversity in their areas from further destruction. Normally, external technical and financial assistance and support are requested to help sustain the environmental capacity and protect the natural resources which are of national and global environmental significance. Nevertheless, most small scale fishermen interviewed expressed their worry that ecotourism will be used only for conservation purposes without recognizing immediate livelihoods of the locals. They mentioned that ecotourism developers or conservationists (such as DoE-PIU) would consider improving the sustainable conservation and management of natural resources in BTC and SS at the (total) expense of the local communities. If some (or most) parts of the core areas are to be well-preserved for ecotourism activities or even to be developed exclusively as ecotourist enclaves, some of their livelihood activities would be restricted. As a result, their current fragile livelihoods will be further vanished as long as illegal activities or over-exploitation of natural resources remain unsolved. As they have traditionally relied on such economic activities (i.e. mobile fishing, fuel wood collection, forest product collection, etc.), this restriction would bring more hardships to the villagers. Even though ecotourism is introduced as an economic alternative in TSBR core areas, the executing agency (DoE-MoE) would reduce some basic livelihood approaches of the locals which have been practicing for centuries in the areas.

Their third concern is on the use of outsiders to work in ecotourism industry instead of mobilizing local people to participate in its development. This group explained that the communities, including community organizations (i.e. CFs, CPAs), are repeatedly disregarded and not given much power to participate in planning and decision-making. Even though some community members believed that they could help DoF and DoE staffs in some capacity to better monitor activities that could prevent illegal activities of insiders and outsiders, they had never been welcome. Some respondents complained about the use of outsiders to work for environmental programs in their areas as they did not care much or respect the natural resources and traditional knowledge of the local communities. Citing an example, except one who is the son of Peam Bang Commune Chief, all rangers working for the DoE-MOE under the conservation project in BTC and SS core areas are not members of the local communities. Most often, they long for their jobs with UNDP projects because they are offered monthly salary in dollar, not mainly because they love to help improve biodiversity conservation in the areas. An elder interviewed mentioned that these people as well as DoF staffs do not have good knowledge about and rarely respect the cultural and environmental context of the places. They are often seen as starving money seekers, and whatsoever they do are only for the sake of their groups. Often these personnel are trained or sent to be trained on environmental and fishery laws, natural resources management and environmental governance and other substantial issues related to the management of the TSBR. However, they hardly ever put their plans into action and involve local communities in their works, except when ministerial inspectors coming to test out their performances. Communication between local communities and these groups or other authorities only appear as a contact between a controller and a subject. They are more approachable when the locals win over or bribe them. Similar to what they have experienced, most small scale fishermen questioned said that they are afraid that these groups, especially the DoE-MoE, will control and run all necessary services of the ecotourism industry in the areas. Despite this community-based project is run for the benefits of people's livelihoods and

participatory conservation, these authorities might turn their backs on local communities / authorities and grab the benefit solely.

The fourth concern of this group on possible negative impacts of ecotourism is related to the change of behaviors and attitudes among young villagers as a result of their interactions with tourists. The interaction between host (communities) and guest (visitors) communities always lead to cultural and knowledge exchange and the influence of behavioral patterns especially on the host environment. Through the open relationship with tourists, most elder fishermen questioned projected that social behavior and value among young residents would be changed at least to some extent. They reported that the new tendency for young villagers to imitate or adapt modern lifestyle and culture is increasing, for example, ways of dressing, ways of behaving with old people, insolent conduct, and abundance of traditional skills and cultural practices. Though, different opinions about such possible impacts were found in different occupational and age groups. Additionally, it was found in the observation that the level of knowledge and gender of respondents influence individual perceptions of the host-guest relationship. The young villagers appeared to accommodate cultural changes such as modernity, but the old villagers wanted to conserve local culture and tradition as much as they could. Also, it was thought-provoking that most female fishermen interviewed indicated a desire for more changes in traditional family patterns and equal value judgment, but most men were reluctant to accept such changes as they are culturally domineering with a traditional thought.

This group of respondents also produced some projections of negative ecotourism impacts similar to other groups, such as local authorities. These concerns are on noise pollution (to some extent) and the increasing inflow of seasonal in-migrants from other areas to live and compete with the locals in terms of resource access and use and other business activities when ecotourism is fully operated in the areas.

7.3 Developers' and Experts' Perceptions

This section demonstrates how developers, planners, government officers, and national and foreign experts working on TSGL projects envisaged the possible benefits and risks of the ecotourism initiative in BTC and SS core areas. As planned, 20 expert interviews were conducted with key respondents such as: Head of PIO-TSEMP/MAFF; Head of PIO-TSEMP/MoE; Provincial Supervisor and Deputy Director of Community Development Office; Monitoring Officer / Monitoring Team Leader / Project Manager of WCS; Project Director of BPAMP; National Project Manager of TSCP-UNDP-GEF; Director and Programming Executive Director of DPR-MoEYS; NRM Advisor of GTZ-Cambodia; International Team Leader and NRM Specialist of FAO; Environmental and Sustainable Livelihood Specialist; Director of Inland Fisheries Research and Development Institute; Assistant Resident Representative and Environment and Energy Cluster Team Leader of UNDP; National Coordinator of UNDP/SGP-GEF; National Science Focal Point Specialist of UNESCO; Environmental Education Specialist of LLEE; Training Specialist of TSCP-UNDP-GEF; Deputy Director of DNCP-MoE and National Project Director of TSEMP-ADB; SNV Tourism Advisor; and, NRM Specialist of IUCN. A set of answers derived from a review of theories on prospective impacts of ecotourism in protected areas was used to ask individual respondent at the end of the expert interview. Each of them was allowed to choose one of the scaling items for each indicator of impacts. As the Likert Scale Analysis was employed in the study, five scaling items approach was decided as the best measurement at which '1' is equal to 'lowest quantity of impact' and '5' refers to 'highest quantity of impact'. The results of the Likert Scale Analysis on possible impacts of ecotourism from the points of view of developers and experts are interpreted in the following sections:

7.3.1 Perceived Biological and Physical Impacts

Ecotourism initiative in BTC and SS protected areas would give considerable amounts of positive impact on ecology, ecosystem and biodiversity of and natural resources management in the areas (see Table 7.2). According to its principles mentioned in the Prek Toal Core Area Management Plan (2007), ecotourism is to be developed as a responsible mechanism to help safeguard natural resources, natural environment and biodiversity and keep these natural characteristics of TSBR core areas operational and productive. It is optimistic that ecotourism will provide medium biological and physical impacts on the protection of plant and animal species in a wide range of natural habitat forms which are in current jeopardy due to human use. Most expert respondents interviewed explained that when these natural attributes of BTC and SS core areas are properly protected, they would provide socio-economic returns to the locals and all concerned stakeholders better than current rapid destructive natural resources consumptions of reckless fisherfolk and illegal private people.

It is also promising that ecotourism will provide high impacts on the strengthening of conservation status and the increase and improvement of conservation programs and activities committed by concerned agencies and local communities. These respondents expressed that ecotourism could provide a variety of economic incentives to core areas' managers, staffs as well as to the local fishing communities. This would encourage both the environmental NGOs and relevant government-appointed agencies to resort to its economic revenue to improve their works in conserving natural resources and ecological integrity of the areas. Similarly, the economic alternative provided by ecotourism for the stimulation of local economic activities and people's livelihoods would sensitize the locals to understand the value of their resources. As long as they are involved in ecotourism development, understand the purposes of local development through ecotourism and obtain benefits (direct or indirect) from its process, they would love and care about the conservation activities for a sake of local interests. They articulated that ecotourism could make the executing staffs and local villagers understand the substantial ecological features of the areas, and thus would assist much to the implementation and success of current protected areas management plans. As mentioned by this group, one of the reasons that could make these stakeholders more willing to safeguard local resources is because they represent core attractions to pull visitors to visit the areas. If natural resources and other ecological attractions are vanished, they will also lose their profits and tourism-related income generation activities.

The results of the Likert Scale Analysis also show that ecotourism development will trigger high impacts on the increase in conservation awareness among local communities, authorities and all concerned stakeholders. The expert group viewed that this would lead to improved conservation status in BTC and SS core areas as well. This increased awareness and natural appreciation among these groups may support the long-term management and preservation of natural resources as well as the natural and built landscapes in the areas. The premise that the local communities are dependent on the consumption or over-consumption of fishery resources and other natural biodiversity to support their daily lives and economic exchange would thereby be modified accordingly. Through the change of such orthodox rural practice, ecotourism will significantly generate high positive impacts on the increase in fauna and flora species in BTC and SS in both abundance and diversity.

However, some social experts revealed that the temptation to maintain only the biodiversity and ecosystem or to improve the environmental governance of the places for ecotourism without

caring about people's fundamental livelihoods or the ecotourism benefit dispersion would lead to an unremitting failure of ecotourism initiative in BTC and SS. Concurrently, it would make the environmental degradation (resources and wastes) possible in the areas. These experts elucidated that to increase the environmental taboos and efforts (budget and technology) in environmental governance is not the only key strategy to success. Unless there are appropriate resource utilization policy frameworks, skill development training programs, and mutual benefit sharing methods, the multifaceted development plans (NRM and livelihood improvement) via ecotourism would remain as impossibility. Other respondents confirmed that poaching might be committed by individual villagers who have low education and limited access to common property resources as well as to participating in local development. However, when ecotourism is fully developed in the areas, there would be another reason related to poaching of the locals. It might be unquestionable that those who would feel as if their rights to participate in or their chances to receive additional revenue from ecotourism development are not given might be disappointed. Provided they feel or would feel in this way, they would continue to harm the environment in BTC and SS core areas. From a social point of view, some expert respondents did not view this as the only result of local discontentment, but also the results of people's poverty, livelihood shock and loss, and the way ecotourism developers or planners would underplay the problems they encounter.

The existing institutional framework, lacking political will and potential conflict of interest (ecotourism revenue and fishery production revenue) would trigger negative reaction from different stakeholders, particularly from the local communities. According to the discussion with some experts in detail, there are many factors contributing to current lethargy of NRM projects in BTC and SS, and these might also hinder ecotourism success at some point. These are inadequate capacity of the staffs, lack of anti-poaching techniques and sophisticated support equipments, unclear definition of responsibilities, weak legal framework and so on and so forth. Nevertheless, one of the most critical policy drawbacks that has not been painstakingly deemed necessary by government, NGO and donor agencies is the poor remuneration of the project support staffs at local level. Normally, low motivation due to low salaries makes these staffs become reluctant to perform their duties including during their encounters with poachers. The only thing they could do is to threaten poachers to bribe them before or after their activities. Therefore, if ecotourism could generate only undersized benefit to the increase of their salaries or give unfair shares to different groups of authorities (DoE-POU, DoF-PIU, military police, etc.), there would be more problems leading to environmental degradation.

Although the results in Table 7.2 shows that ecotourism will provide negative biological and physical impacts from low to medium levels, most expert interviewed also confirmed that the presence of tourists in large quantity and poor quality (e.g. lacking or no awareness about environmental significance) would accelerate current environmental problems in BTC and SS. This would cause further loss of fauna and flora species, biodiversity, ecological system, natural beauty and environmental quality of the core areas. The environmental and tourism experts justified that if ecotourism is going to be developed at fast speed targeting a plethora of revenue from a large number of tourists, it would bring a lot of problems in the future. Mass tourists with low quality as ecotourists in protected areas would behave rashly or less sensitively to the natural resources / habitats and local environment. Without proper core area management plans and ecotourism principles like what the DoE-MoE is spontaneously doing in Prek Toal CBET site at present would lead to great decrease and destruction of the places. However, they also associated the problems to the carrying capacity of the places as well. Besides a decrease in abundance and diversity of fauna and flora (e.g. change of animal behavior and movement due to close exposure of tourists), destruction of natural habitats (e.g. sensitive trailing or zoning

system) and the quality of the environment, the respondents also reported three other possible risks. These risks are the results of high impacts that ecotourism operation could bring to the areas. They explained that high volume of tourists in the areas would cause noise pollution (e.g. sound of the motorized boats), and traffic jam in densely populated floating villages (especially those close to the boat docks). From an ecological outlook, it would also lead to water contamination or pollution (e.g. dumping of sewage wastes especially in the water recession season). These are due to difficulties in introducing and fostering waste management, waste separation and waste transportation in Peam Bang and Phay Sanday floating communes.

Table 7.2: Perceptions of the interviewed expert respondents of possible biophysical impacts of ecotourism development in BTC and SS core areas

Projected Positive Biological and Physical Impacts of Ecotourism	Scaling Items				
	1	2	3	4	5
Increase in conservation awareness among local communities, authorities, and other concerned stakeholders	-	3	3	10	4
Reduction in environmental efforts	3	6	6	5	-
Conservation status becomes important in Boeung Tonle Chhmar and Stung Sen core areas	-	3	6	8	3
Increased conservation and preservation of natural and cultural resources and natural and built landscape in the areas	2	2	7	6	3
Improved landscape characteristics and quality, both from an environmental and from cultural points of view	-	7	8	5	-
Well-preserved water resources, water bodies, and natural habitats	3	5	9	3	-
Increase in abundance and diversity of flora and fauna	-	7	5	8	-
Increase in the aesthetics of the areas	3	6	6	5	-
Increase in water, air and other environmental qualities	5	5	6	4	-
Total Score	16	44	56	54	10
Projected Negative Biological and Physical Impacts of Ecotourism	Scaling Items				
	1	2	3	4	5
Decrease in abundance and diversity of flora (i.e. flooded forests, semi thick forests, evergreen forests, shrubs and bushes, etc.)	5	4	7	4	-
Decrease in abundance and diversity of fauna (i.e. waterbirds, aquatic life, wildlife, etc.)	4	5	5	6	-
Displacement and change of migration patterns of fauna	3	5	7	5	-
Change in fauna behavior	1	7	6	5	1
Decrease in the aesthetics of the areas	3	8	4	5	-
Decrease in water quality (i.e. increase in water contamination caused by household wastes)	2	4	6	6	2
Decrease in air quality (i.e. aesthetics of the areas decrease)	7	9	4	-	-
Destruction of natural habitats (i.e. fish and aquatic, reptile, mammal, amphibious, and wildlife habitats, etc.)	6	4	4	6	-
Decrease in sensitivity of ecosystems	3	6	7	4	-
Noise pollution	3	6	5	4	2
Soil erosion and landslide	6	7	4	3	-
Loss of nutrient quantity and quality	5	6	9	-	-
Change of hydrological system of the river and its creek system	6	7	4	3	-
Decrease in water resources and water bodies in terms of quality and quantity	6	3	8	3	-
Decrease in landscape characteristics and quality	7	6	3	4	-
Deterioration of archaeological sites, cultural monuments and heritages due to low carrying capacity of the sites	5	6	4	4	-
Traffic jam in the densely populated floating areas	-	7	7	6	-
Total Score	71	100	94	68	4

Source: Own survey (expert interviews)

Notes: The level of impacts varies from “1” which is equal to the “lowest quantity of impact” to “5” which is equal to the “highest quantity of impact”. The total score represents the total amount or level (strong or low) of ecotourism impacts on major aspects of measurement (biological & physical, socio-cultural, and economic).

7.3.2 Perceived Economic Impacts

According to Table 7.3, ecotourism was perceived by a majority of the expert respondents to have ability to generate high positive impacts on almost all economic aspects of BTC and SS core areas. They believed that the development of ecotourism in these core areas would bring

considerable amount of economic returns to help stimulate the local economy and support the process of local and regional development moderately. This could happen when the net ecotourism revenue surpasses all related costs involved in the management and operation of ecotourism businesses as well as exceed the costs of environmental conservation. However, the amount of economic revenue or profitability which exceeds the value of ecotourism products and services that the local communities and developers are going to make really relies on how well the ecotourism enterprises are established and managed on the process and environment of development. Simply, some expert respondents indicated that it is venturesome to know that the possible economic benefits aggressively go beyond the economic costs of development by figuring out every cost value in precise numbers (e.g. environmental cost).

Increase in local economy and conservation budget through high positive economic impacts of ecotourism can be obtained from different sources. These include: the entrance fees; sales of tourism and other necessary products and services (i.e. accommodation, food, transport, guiding and interpreting and handicraft services and services for tourist activities etc.); donations by tourists for conservation and local development; allocation of government budget for biodiversity conservation; allocation of revenues from environmental I/NGOs and donor agencies; concession taxes on tourism-related businesses permit; and, training and consultation services for other local-owned ecotourism sites (only when BTC and SS ecotourism becomes a model of development). Even though there are prospective benefits from ecotourism development in BTC and SS compared with ecotourism process in Prek Toal core area, there is one major problem that needs to be addressed thoroughly. Some experts, especially those from Prek Toal management projects, were concerned with the institutional arrangement and framework for the use of tourism revenue for conservation and local development in the areas. They explained that if the government is not willing to give incentive by not taking or take less ecotourism revenue to consolidate the government budget or if the implementing agency's officials (in case it is not community-based) is going to continue misusing the revenue for their own benefits, ecotourism development in BTC and SS would face difficulties. But, if concerned governmental and non-governmental agencies, including donors, are willing to set different appropriate institutional arrangement strategies to raise funds to support ecotourism in BTC and SS within a principle of participatory approach, the situation would be better off. A tourism expert interviewed related this issue to the complexity or simplicity of ecotourism development which depends on state politics and the politics of donors and civil society organizations working in the areas.

Most of the expert respondents confirmed that ecotourism would help to bring positive benefits (direct, indirect, induced and multiplier or spillover) in many circumstances (even as primary or additional advantage) to local fishing communities in BTC and SS. They explained that although economic opportunities which local communities will get might vary depending on individual characteristics, location and the level of involvement, they will be increased and dispersed if ecotourism is developed properly. Ecotourism was perceived to provide high economic impacts on the increase of employment opportunities which draw to local expertise / skills, capacity and technology and on the increase of markets for local products and labor services (see Table 7.3). Following tourist arrivals (mainly international market segments) and sustainable operation, more small and medium scale enterprises in the areas would be developed to accommodate the ecotourism industry, due to possible medium economic impacts of ecotourism. This would open wider chances for small trade businesses in the localities and sprinkle trade exchange between Peam Bang / Phat Sanday communes with other nearby areas around the TSGL region. Most respondents projected that while receiving more income opportunities, local fishermen would

count up their earnings from the fishery production with tourism earnings to improve their livelihoods.

The results of the analysis also show that ecotourism development in BTC and SS will not only improve local development and community livelihoods, but it will also have high positive impacts on conservation activities through community support and volunteerism. Some expert respondents expected that from realizing ecotourism benefits and value of the natural resources and biodiversity in BTC and SS, either via education or direct participation, the locals would join conservation process. They explained that the locals' contribution could be seen through the increase of their voluntary works and support in conservation as well. An environmental expert gave an example that a former poacher has become a proactive ranger and environmental activist in Prek Toal core area after having been educated on environmental issues and received economic benefits from his participation in conservation programs.

While economic returns would be generated to foster local economy and development and conservation, ecotourism development in BTC and SS will also produce a range of medium economic impacts and a high impact (increase in the cost of living) on local communities. The results of the expert interviews supported that as a result of tourist demands and increased services/products, the living expenses in the areas would be higher. The prices of basic commodities and other goods necessary for the locals but are needed to cater to tourists might be increased, and thus causing BTC and SS core areas to become expensive places to live for the poor or vulnerable fishermen. They explained that when people realize that they are the marginal group of development, they would intent to increase other economic activities which lead to the exploitation of natural resources. However, when there is less fishing or job opportunity, they would have to force to leave for other nearby provinces or cities to seek available jobs. In this case, the out-migration of BTC and SS residents would decrease the labor productivity of the areas. Moreover, it would lead to social problems for these floating communes and the host regions. Most respondents pointed out that as vulnerable fishermen have less capital to invest and are not empowered or welcome to join the development, only a minority rich villagers or outsiders could be able to run businesses in the areas. This would leak the economic benefits to few rich and elites and outsiders. Last but not least, some development experts stressed a concern over ecotourism dynamics which could affect the whole economic system of the areas. They referred to a possible increase of tourism economic dominant activities and conservation activities that reduce the opportunity costs in using BTC and SS core areas for other economic development purposes.

Table 7.3: Perceptions of the interviewed expert respondents of possible economic impacts of ecotourism development in BTC and SS core areas

Projected Positive Economic Impacts of Ecotourism	Scaling Items				
	1	2	3	4	5
Change in employment opportunities (i.e. increase in job availability which draws on expertise of local people)	4	-	6	6	4
Foreign revenue for the local and regional development	2	4	7	5	2
Increase in money in the local economy (i.e. increase in wealth in the local communities)	4	-	6	7	3
Increase in money for local development	3	6	5	3	3
Increase in economic benefits for the livelihood improvement of local households	-	4	8	5	3
Increase in and development of local small, medium, and micro economy enterprises	3	3	6	8	-
Increased markets for local products and services	3	-	7	5	5
Increased volunteers and funds to support the conservation of natural resources and ecological environment and the development of sustainable livelihood strategies in the areas	-	3	8	6	3
Total Score	19	20	53	45	23
	Scaling Items				

Projected Negative Economic Impacts of Ecotourism	1	2	3	4	5
Increase in the cost of living (i.e. increased prices of local products and imported necessities)	3	3	7	7	-
Seasonality of income or employment causing unstable local economy	3	8	5	4	-
Expensive place to live	3	6	8	3	-
High incoming out-migration of local people	3	6	7	4	-
Low productivity of renewable and nonrenewable resources and poor profitability of tourism business	-	10	10	-	-
Economic leakages to outside business owners	3	5	7	5	-
Too tourism economic dominant activities	3	5	4	8	-
Total Score	18	43	48	31	0

Source: Own survey (expert interviews)

Notes: The level of impacts varies from “1” which is equal to the “lowest quantity of impact” to “5” which is equal to the “highest quantity of impact”. The total score represents the total amount or level (strong or low) of ecotourism impacts on major aspects of measurement (biological & physical, socio-cultural, and economic).

7.3.3 Perceived Socio-Cultural Impacts

It is undeniable that ecotourism development would also affect the host culture and social system and quality of the communities in BTC and SS core areas. These effects could be both positive and negative. Positively, the locals (even not all) would be able to receive benefits from ecotourism, either directly or indirectly. According to the results of Likert Scale Analysis, although the impacts vary from medium to high, ecotourism will provide mostly high positive impacts on social features and culture of local communities in BTC and SS core areas (see Table 7.4). Most experts interviewed demonstrated that ecotourism, which is used to boost the local economy, will have high positive impacts on the diversification and improvement of local products, services and labor efficiency to support the ecotourism industry. They were optimistic that earnings received from ecotourism could be used by the communities to complement their sources of income apart from fishing and fish-related businesses and to improve their livelihood strategies to tackle all-season conditions. Besides the use of ecotourism revenue to contribute to people’s livelihoods, most interviewees were also confident that ecotourism benefits will provide high impacts to help strengthen local food security and local livelihood initiatives.

Ecotourism development would also have high positive impacts on the improvement of infrastructural system and other social and public services in the areas. An expressed perception among many questioned experts was that the communities, ecotourism developers (if it is institutionalized) or the established ecotourism committee could use the fees paid by tourists or local business proprietors to support different community development plans. They explained that direct revenue (i.e. entrance fee, donations and conservation fees, taxes, etc.) and communities’ saving funds could be used to construct schools, health centers, pay for medical services, and improve the communication and transportation facilities in the areas. However, it was mentioned by some environmentalists that this depends on how ecotourism revenue is managed and invested by responsible agencies through community-based projects. In this sense, the funding could be also obtained coincidentally from the government, I/NGOs and donor institutions whose policies and interests converge on poverty alleviation and biodiversity conservation in such rural protected areas. This helps to avoid the criticism of local communities or the development teams on the misuse of earnings and the failure to address other urgent needs in the areas. In addition, it is positive in a way that the community access to outside markets as well as the types of local goods and products will be enhanced. Most specifically, a number of communities’ current pressing problems – i.e. health condition, children education, and access to safe drinking water etc. – would be solved either partially or totally. An informant working for the ADB safe water project in Kampong Thom province confirmed that the vulnerability of local fishing communities might relate to water-borne diseases. These are caused by lack of sources of safe drinking water (mainly in water recession

season) and absence of health care centers/services and health awareness programs. He expected that if safe water is going to be provided to tourists for safe drinking and cooking (via any possible treatment including the use of water filter), the locals would also have access to this incentive.

Many expert respondents also considered that ecotourism will have high positive impacts on the improved awareness, capacity and education of the host communities in BTC and SS. They expressed hope that in recognition of community support and willingness to play a crucial part in ecotourism, an engine for conservation and poverty reduction, a variety of education and training programs will be provided to communities. A representative of the LLEE, a sub-contractor of the TSCP-UNDP-GEF, reported that environmental education programs have been designed and provided to BTC and SS communities to increase their awareness about the value of natural resources and environment of the areas. When community members grow to be an environmentally well-informed, natural (also cultural) appreciation would be increased among them, providing healthier chance to manage BTC and SS in a sustainable manner. This idea was in some way supported through the results of analysis that ecotourism will have medium positive impacts on the strengthening of cultural and natural appreciation among local villagers.

Capacity of local communities could be strengthened via formal and informal education or via short-course training programs, according to Capacity Building Specialist of the TSCP-UNDP-GEF. Capacity refers to the ability of the locals to understand and participate (or work) in ecotourism industry as well as conservation activities together with the ability to create and provide major and complementary services and products to tourists. The results of the analysis supports this viewpoint as ecotourism will provide high positive impacts in such a way, but the explanations of some respondents show that this benefit is based on how suitable these services and products are for the local setting and conditions. As said by an Education Specialist of the DPR, the MoEYS is planning to provide two kinds of education programs to TSB core areas. First is the general education program and second is the specific environmental and cultural program for the areas. These will help local fishermen to increase their knowledge about the significance of their environment, biodiversity conservation, sanitation and hygiene improvement and the value of their culture. Through ecotourism and other sustainable livelihood projects of the TSCP, such programs will be prioritized and funded by the government via support and collaboration with other concerned agencies. As a result, local communities, particularly school-age children, would receive more opportunities to study higher. There was the same confidence among interviewed experts that good education and more job opportunities in the areas would enhance better life and prosperity not only for the present communities, but also for the young generation. They mentioned that this is a part of contribution that a high positive impact of ecotourism could provide to improve education which is one of the long-term development objectives of BTC and SS core areas. Even though the results of analysis show that ecotourism will generate only medium positive impacts on the stimulation of local livelihood approaches, most expert respondents interviewed clarified that the locals will have more livelihood alternatives. This would anyhow make them, especially those focus on the non-traditional export system and local resource reinforcement (like ecotourism), not to out-migrate to other areas. Instead, it would help people love what they have and prevent it, including the recognition, revitalization and preservation of their cultural resources (objects, events and activities).

The results of analysis also prove that ecotourism will provide high positive impacts on the improvement of knowledge, experience and vision of the locals through their constant

interaction with tourists. A tourism expert mentioned that as long as their contact with tourists increase, they receive more access to information and communication, either through word-of-mouth or modern (telecom) technology. Most expert respondents agreed that constant communication with educated tourists would help to open up people's minds about the outside world via the exchange and sharing of knowledge and experience. As much lessons and experiences as local communities and authorities could learn from tourists, especially from scientist / research / expert groups, they would use them to build up their quality of life and communities. This also supports the results of analysis that ecotourism development will cause high positive impacts on the increase of local sense of pride and willingness to participate in nature conservation and local development in their areas based on their improved knowledge and livelihood strategies.

Some interviewees mentioned that more benefits to the BTC and SS communities would also come in a form of contribution from the TSEMP-ADB, TSCP-UNDP, and other civil society organizations which support the ecotourism initiative. These institutions have been very instrumental in and concerned with the establishment of sustainable livelihood projects, participatory NRM, and community support groups (Women Association, CFs, CPAs, etc.). Their projects (even some are being run by the sub-contractors such as the LLEE, WCS and UNV) are substantially recognized as a social motive to promote local participation, advocacy and other local interests. They could facilitate negotiation between the fishing communities and the core area management teams through trainings, workshops and small-scale community-based projects. Thus, their supports and contributions would help build trust and network among community members and development teams. In addition, they would help to direct development plans, including ecotourism, to be more participatory and community-driven and help build local ownership and rights over resource access and consumption in the areas. Noticeably, most of the environmental and social experts questioned confirmed that a positive contribution could be forced in the improvement of local social capital, local negotiation skills, capacity of individuals, and conflict management and resolution skills among community members and authorities. An NRM Specialist explained that when local communities are empowered and given more control over natural resources and development benefits, they will participate proactively in development and conservation, regardless of gender, age, level of education and economic status.

In spite of many gains, the results of Likert Scale Analysis show that ecotourism will also create many medium negative impacts and some high negative impacts on local livelihoods and the management of the areas (see Table 7.4). It was mentioned by some experts who have been involved in Prek Toal (one of three TSGL core areas – PT, BTC and SS) ecotourism project that ecotourism would focus on niche markets. Therefore, it would not be able to favor all community members in terms of benefit distribution. According to the results of analysis and the clarification of some experts who have worked with TSEMP-ADB, UNESCO and OSMOSE on the Prek Toal CBET project, ecotourism initiative in BTC and SS might have high positive impacts on income distribution and stakeholder involvement. They indicated that ecotourism might benefit only a small amount of villagers and institutions involved. The benefit recipients would be those who have direct connection with development and usually are compulsory business owners, members of local development councils and community organizations, and implementing staffs. This is because these groups have more capabilities or capitals compared to small scale fishermen who represents the majority of population in the areas. This would lead to conflicts between each type (large/commercial, medium and small scale) of local fishing communities as well as between local authorities, government institutions and community affiliates. Detail reasons from some experts interviewed could be interpreted that the

empowered few would try to marginalize or conceal the rest of the communities in the areas in order to benefit solely from ecotourism-related gains. An anonymous respondent articulated that the same empowered few usually are those entitled to help to mobilize local resources necessary for ecotourism industry and to raise awareness among local communities about biodiversity conservation. This is a threat to successful community-based or participatory ecotourism development because it leads to community discontent and resistance about development plans. He explained that the higher dissatisfaction communities have, the more rejection and tension they will have on tourists and natural resources. This would make rural development mechanisms, which concentrate on collaborative and integrated livelihood approaches, in these core areas fail at the onset. This is due to logistical problem and the way that ecotourism revenue is not channeled properly for the well-being of the locals and all beneficiaries.

All NGO respondents paid more attention to the local empowerment, ownership rights and access rights to natural resources consumption in the areas. They expressed their same worry that the responsible developer of ecotourism (now PIU-DoE/MoE is the transitional leader) is more interested in NRM than in the resolution of local livelihood problems. When BTC and SS grow to be more environmentally concerned and are developed into full ecotourism destinations, some (or most) of the places will not be opened for local fishermen. Thus, the result would be different from a vision that local livelihoods would be improved via ecotourism. Ecotourism (or its developers in principle) would prevent local fishermen from getting access to some potential fishing and NTFP grounds where they used to go. Apart from this concern, a majority of interviewed experts, especially environmental specialists, also projected a conflict over land use pattern and division of water boundary for fishing concession and ecotourism development areas. They deliberated that according to the Royal Decree on the Establishment and Management of Tonle Sap Biosphere Reserve (2001) and the Prek Toal Core Area Management Plans (2007), the core areas of the TSBR are controlled by the MoE and are not allowed to run large scale businesses such as the fishing lot concessionaires. However, still this business is being run in the core areas under a name “Research Fishing Lots” and has to be evaluated in every four years (2009 will be the next evaluation). The presence of fishing lots brings a lot of benefits to individuals but less to the government (no bidding and crammed with corruption and illegitimacy in practices). In addition, it hinders the full operation of NRM. Most considerably, as lot owners control most of the flooded forests and highly potential fish areas, the arrangement of tourist activities and tours would be restrained in terms of transport and access. This viewpoint is also supported by the results of analysis that ecotourism will bring medium negative impacts on conflicts over resource use and the division of boundaries for different use forms.

From cultural perspectives, ecotourism could affect local communities in several ways if integrated management strategies are not taken into account. As shown in Table 7.4, a majority of expert respondents projected that ecotourism could present some high negative demonstration effects to local communities. They explained that when community members interact with and earn money from tourists, they would try to commoditize or commercialize their culture (e.g. traditional cultural performance and other cultural practices) to show to tourists. Maybe the patterns and authenticity of cultural activities, events and objects will be changed in order to respond to tourist interests and tour schedules. The lifestyle, stereotype and living culture of local communities would be disrupted due to constant exposure to tourist culture. A peaceful and modest living environment would become dynamic and hectic; a slow pace of everyday life becomes busy and hasty just for a reason to survive in heavily-competed areas. A culture of modernity (in living and code of conduct) would be increased among the

locals especially young villagers. When the youngsters recognize what or how to satisfy common tourists and the amount of money that they could earn from tourism, they would forget (or do not have time to learn) their traditional skills and knowledge applied before in their daily livelihoods. Another cultural concern was about the attitudes towards or behaviors of tourists in the areas. A tourism expert mentioned that in tourism industry tourists are treated as a king. Tourist satisfaction is the most important thing in tourism business. Therefore, every step of ecotourism development in BTC and SS, compared to the Prek Toal core area, would focus courteously on individuals or groups of tourists. Everything would be tourist-centered and tourist would be the first to serve and gratify but not the locals. Furthermore, since tourists have different qualities (e.g. culture, knowledge, respect etc.), some or most of them would disregard local custom, tradition and religion. This is inevitable and most likely to happen when tourists are not well informed about the purposes / benefits of ecotourism or not well targeted by ecotourism developers in the areas.

The results also show other medium negative impacts of ecotourism on other aspects of local culture and social environment in BTC and SS. These include: overcrowding of the sites; children and youth abandon education in pursuit of tourism-related jobs; education in the areas becomes touristic educational oriented; low sanitation in the areas; and, influx and invasion of seasonal in-migrants into the areas when the sites become fully developed. Distinctively, one negative ecotourism impact is shown as high on the change of community attitudes to be more interested in economic earnings than in development and conservation of the areas.

Table 7.4: Perceptions of the interviewed expert respondents of possible socio-cultural impacts of ecotourism development in BTC and SS core areas

Projected Positive Socio-Cultural Impacts of Ecotourism	Scaling Items				
	1	2	3	4	5
Improvement in infrastructure, both in terms of facilities and services	-	4	4	8	4
Better services (increase in diversification of local services)	-	5	5	7	3
Cultural and natural appreciation (i.e. encourage host communities and ecotourists to value cultural and natural assets)	3	4	7	6	-
Improved environmental education (i.e. a more environmentally informed communities)	-	4	5	7	4
Recognition, strengthening, revitalization and preservation of local culture and cultural-historic resources	-	7	6	4	3
Increase in employment opportunities or job availability and job quality which draw on local cultural knowledge	-	4	6	5	5
Established ecotourism interest in the areas	3	-	7	5	5
Stimulation of local livelihood approaches	5	3	3	6	3
Local empowerment and control over resources and development in the areas	-	3	9	5	3
Prevention of people's out-migration	2	3	6	5	4
Increased people's active participation in local development	-	4	7	6	3
Improve gender equity	2	5	8	3	2
Reduction in domestic violence through equal participation in household earning and development between men and women	3	4	7	6	-
Established sustainable livelihood alternative for local communities	2	4	7	5	2
Use of local labor and expertise	3	-	6	8	3
Increase people's sense of pride	-	5	5	6	4
Increase more voluntary works among local residents	-	9	7	4	-
Knowledge and experience sharing about cultures among local people and between local communities and tourists	3	-	8	5	4
Much lessons learnt from tourists, especially from the scientist and expert visitors	2	3	7	4	4
Open up people's mind about the outside world and development	-	3	5	8	4
Children and students are encouraged to study higher	-	-	10	5	5
Better social or public services in the areas (i.e. health care center, school, etc.)	-	-	11	5	4
Open-minded local authorities and governance	-	5	7	4	4
Well-planned development and conservation process in the areas	-	5	6	5	4
Better opportunities for young generation	2	3	5	5	5
Better information access	2	3	5	5	5
Better access to common natural and public properties for local communities	3	4	8	5	-
Better communication and transportation facilities and infrastructure	-	4	6	6	4
Well-managed core areas	2	5	3	5	5

Increase in collaboration between all the concerned stakeholders, especially between present responsible institutions (i.e. DoE, DoF, MP)	3	7	5	5	-
Total Score	40	110	191	163	96
Projected Negative Socio-Cultural Impacts of Ecotourism	Scaling Items				
	1	2	3	4	5
Overcrowding of site	3	3	9	5	-
Host community and ecotourists are in conflict causing dissatisfaction	3	5	9	3	-
Demonstration effect (i.e. alien ideas and change of cultural behavior and lifestyle)	-	4	9	7	-
Effect on social pathology (i.e. increase in crime and other associated activities)	5	5	7	3	-
Change from a slow to a fast pace of life	-	8	4	8	-
Lack of sufficient infrastructure	3	6	5	6	-
Commodification and commoditization of local culture and loss of traditional knowledge	3	5	4	6	2
Loss of cultural value and heritage	6	4	6	4	-
Diversion, distortion and exploitation of resources for money	3	6	5	6	-
Conflict of fishery and aquatic resources and other natural resources use	5	-	6	6	3
Disturbance of local cultural significant sites	4	6	6	2	2
Degradation of the environment containing the sites (i.e. cultural value and significance)	4	4	8	4	-
Disruption to local people's lifestyle and living culture	-	6	9	5	-
Decrease in local cohesion of local communities	4	5	8	3	-
Local people are more interested in economic perspective than development and conservation in general	-	4	8	8	-
Conflict over land use pattern and division of water territory for fishing concession and ecotourism development zones	3	4	6	3	4
Children and youths abandoned education for economic pursue	-	5	7	4	4
Increase dependency of local communities on outside developers and planners	3	6	7	4	-
Local authorities have less control over development activities	3	6	7	4	-
Corruption and nepotism among local authorities and community members	0	8	5	7	-
Conflict over benefit sharing among authorities and local community members	3	5	5	7	-
Conflict between all the fishing communities (small, medium and large) with regard to ecotourism tourism development plans	-	8	5	7	-
Influx and invasion of seasonal in-migrants into the areas when the sites become developed	-	4	4	9	3
Low sanitation in the areas	-	5	6	6	3
Abandon of traditional knowledge and skills and lifestyle among young people	-	4	7	6	3
Cultural assimilation and alienation	5	2	5	5	3
Rising up the materialism attitude among local people	-	7	5	8	-
Local people and authorities become money-interested by exploiting the tourists	6	4	6	4	-
The tourists first, the local people later	-	4	4	8	4
Tourists ignore local customs, traditions and religions	-	4	11	5	-
Rising the lack of accessibility to the natural resources for locals	-	7	9	4	-
Local people feel like animals living in the zoos	6	6	5	3	-
Deserting fishing and other agricultural activities	3	7	5	5	-
Local people and local guides tend to tell distorted information or to miss interpret the local cultural and natural resources	6	4	6	2	2
Deserting traditional land use patterns	3	7	5	5	-
Decreasing the use of local language	5	5	5	3	2
Decrease in traditional leisure activities	3	7	7	3	-
Young people leave family jobs for touristic jobs	3	6	4	7	-
Education in the areas becomes touristic educational oriented	3	5	8	4	-
Young people tend to learn how to cheat tourists	4	6	4	6	-
Losing the traditional play for kids and youth	3	6	7	4	-
Tourism only benefit business owners	2	3	8	5	2
Development becomes too touristic oriented (i.e. everything is organized just for touristic matters)	3	6	5	6	-
Total Score	110	222	271	220	37

Source: Own survey (expert interviews)

Notes: The level of impacts varies from "1" which is equal to the "lowest quantity of impact" to "5" which is equal to the "highest quantity of impact". The total score represents the total amount or level (strong or low) of ecotourism impacts on major aspects of measurement (biological & physical, socio-cultural, and economic).

7.4 Roles of Stakeholders for Planning and Management of Ecotourism

The contexts of BTC and SS core areas present many challenging issues for implementing management and conservation plans successfully, while at same time assist local communities to upgrade and secure their livelihoods. Ecotourism initiative has been regarded as a means that

has the potential to generate considerable economic incentives for sustaining conservation process and promoting local economy. However, while it is being applied in the areas, there are emerging conflicts among concerned stakeholders, especially executing agencies, concerning who should be controlling its process, who should take part in its development and what roles should be done by which institutions. During the expert interviews, each selected respondent was asked to provide opinions concerning the identification of ecotourism stakeholders and their potential roles for sustainable ecotourism development in BTC and SS core areas, based on their knowledge and work experiences. The responses of each expert were discussed and firmed up during the discussion between the author and the selected experts at the end of the interviews. The involvement of the expert group in identifying such roles of concerned stakeholders is thought to have reduced biases and preconceptions of direct beneficiary groups, and is contributive to the formation of guiding principles of stakeholders for planning and management of ecotourism (see Chapter 8, Section 8.5).

The results from the interviews and discussions with the expert group show that there are seven stakeholders of ecotourism development in BTC and SS, out of which local communities and authorities are the most potential group to have rights to carry out ecotourism process. Most expert respondents expressed their motivations to see ecotourism in these areas developed on a community-based level with support from concerned executing agencies, NGOs and other development agencies which perform their tasks as external advisors to the local group. They mentioned that comprehensive and integrated approaches are necessary for these stakeholders to adapt in order to achieve long-term ecotourism development in BTC and SS, while promoting other sectoral development plans in the areas. They are needed to drive strong ties and allegiances to help smooth ecotourism process and help communities to be involved dynamically in the development starting from an infancy stage. As suggested by the expert respondents, it is also essential that more community support programs are given by these stakeholders to reduce poverty rate and illegal activities that are harmful to the natural environment and resources in the areas along with ecotourism project activities. Concerning planning and management of ecotourism, concerned key players (including community organizations and members) are encouraged to work collaboratively to formulate and decide on appropriate tourism policies, alternative strategies, programs or projects that address environmental, socio-cultural and economic, institutional and financial aspects of the places. How applicably and practically these strategic procedures and activities are carried out will portray the eventual long-term success or failure of the implementing institutions and other potential stakeholders drawn in. Sustainability theories and integrated management frameworks within relevant players of ecotourism industry are necessarily needed for sustainable destination management and progress. The expert group interviewed suggested that the determination of distinctive and joint policies that encompass grave concerns and involvement of all pertinent players from grassroots to top-management level is needed for this purpose. These have to clearly articulate the main and sub responsibilities of those stakeholders that can stimulate close collaboration, information sharing, mutual understanding and equal benefit sharing.

The interviewed experts expressed different priority and subordinate institutions and their related responsibilities as well as collaboration approaches to administer or coordinate ecotourism process in BTC and SS. Even though it seemed unwieldy to them when asked to indicate responsible bodies of and their roles in ecotourism in protected areas which is somehow paradoxical to what the government has been imposing (appointment of ministries as a part of integrated rural development approach), their answers were critically discussed. Some of them mentioned that so far only the government's top decision-makers are in charge of this

affair, and most of them only focus on their individual institutions' liabilities without incorporating possible collaboration schemes with related agencies. However, they found out that most of the developed activities for TSBR core areas do not show clear mandate and legal framework and generally are overlapped and difficult to achieve successful implementation. They pointed out six institutions as key stakeholders of ecotourism development in BTC and SS core areas, while four others are considered as indirect players. The six direct stakeholders are the local communities (together with local authorities), MoE, MoT, MAFF, MRD, and MCFA. The indirect players are the Ministry of Interior (MoI), development NGOs, private business sector (mainly travel agencies and tour operators), and the Ministry of Education, Youth and Sport (MoEYS).

Out of total, MoE, MAFF and MoT were agreed by the interviewed experts to have the most priority roles respectively to help local communities develop their areas and operate ecotourism businesses. The MoE should be responsible for the overall management and conservation of the core areas as designated by the government. With support from the government and its development counterparts (ADB, UNDP and World Bank), this institution should work to develop appropriate core area management plans, strategies and activities for BTC and SS different from the Prek Toal Management Plans which are supposed to impose on these core areas. These plans should focus on both short-term and long-term objectives and be implemented with transparency and law enforcement in collaboration with other partners. Besides, it should provide livelihood coordination, direct advisory service and capacity building programs to local communities and authorities to promote local environmental friendly SMEs to support ecotourism, while promoting sanitation and healthy environment for the locals and tourists. MoE should also build close partnership and collaboration with other executing and concerned stakeholders (i.e. MAFF, MoT, MRD and local authorities, etc.) to set up proper integrated frameworks for ecotourism and decide upon mutual, and effective, benefit sharing strategies. Research and information building should also taken into account by MoE to accommodate tourist experience as well as to regularly assess ecotourism potentials, trends and its impacts on local communities and the environment. Similar to MoE, MAFF should work with other concerned stakeholders to help improve local livelihoods, stimulate local economy and preserve fisheries resources in the areas. Based on its expertise, MAFF should collaborate with MoE, which is the responsible agency in the areas, to divide access modes to and sustain the use of fisheries, aquatic and other natural resources, including wildlife, in BTC and SS. Apart from this, MAFF should define appropriate land use planning with support from MoE and the Ministry of Land Management, Urbanization and Construction for the management of fishing operations and other agricultural activities in the areas as well as in the buffer zones. To support local communities in ecotourism process, this institution should provide technical skill training and extension programs to promote local fishery production and fishery-related businesses and agriculture (i.e. livestock rearing, gardening and small scale farming). The main tasks of MoT are to develop ecotourism laws, policies or guidelines for BTC and SS core areas. Besides it should assist local communities in the marketing and promotion of ecotourism services in the areas. In collaboration with other concerned players, MoT should also provide necessary tourism skill trainings (i.e. hospitality, customer services, guide and interpretation, development and operation of home-stay, food and other services, etc.) to local communities. Other direct and indirect stakeholders should assist local communities by providing technical and financial support, while the private business sector should bridge their business operations with the local ecotourism industry in BTC and SS to attract and manage the inflow of tourists. According to suggestions of the expert respondents interviewed, some concise roles of the six key players for ecotourism development in BTC and SS are as follows:

Ministry of Environment:

- Must cooperate with Ministry of Tourism and local authorities (avoid having connection with MAFF because it should not have any responsibility in BTC and SS core zones)
- Manage and conserve all kinds of natural resources in core areas and ecotourism process
- Improve sanitation and hygiene in core areas, especially stressing on waste management (solid & liquid) and treatment
- Undertake current approved task assignments – biodiversity conservation, livelihood improvement and sustainable development in core areas
- Determine green livelihood approaches for local fishing communities in BTC and SS and plan suitable conservation activities and ecotourism strategy by integrating both concepts of conservation and development
- Help support the communities by providing more information and knowledge about local small and medium enterprises to locals to assist ecotourism process and at the same to sustain their livelihoods in floating villages
- Set up proper work plans with other stakeholders (MAFF, LA, MoT) for ecotourism and decide upon mutual benefit sharing strategies by following win-win strategy
- Provide direct and indirect advices to LA to run ecotourism business
- Responsible for all services and activities related to NRM, interpretation and guide services
- Set up clear directions in conservation and development and should execute current assignments successfully as planned
- Develop ecotourism plans and management plans for BTS and SS core areas with MoT, MAFF and LA
- Assess the potentials of ecotourism and conduct EIA regularly to monitor and minimize negative impacts of ecotourism in BTC and SS core areas
- Conduct regular research on NR and biodiversity in core areas and provide recommendations for conservation and alternative livelihood development for locals
- Work as supporter to local communities
- Define short-term and long-term management plans by giving more priority on NRM and the maintenance of local cultural integrity and diversity

Ministry of Tourism:

- Marketing and promotion
- Provide necessary trainings on tourism, tourism related business and other tourism skills (hospitality, service quality, product development, etc.)
- Develop supporting tourism infrastructure and superstructure
- Set up appropriate tourism laws and ecotourism blueprints for TSGL core areas
- Provide tourism facilitation and information sharing about tourism best practices
- Develop tourism plans, policies and responsible tourism events and activities in BTC and SS
- Train and provide Tourism Police for the protection of core areas with regard to tourist activities
- Work as a bridge to build close connection between relevant tourism industry and ecotourism business in BTC and SS
- Provide technical support and help to design effective tourism information center and distribution
- Set up appropriate taxation system to generate budget from ecotourism for the government
- Set up proper work plans with other stakeholders (MAFF, LA, MoE) for ecotourism and decide upon mutual benefit sharing strategies by following win-win strategy
- Should work as advisor to ecotourism project run by LA in BTC and SS core areas
- Help design appropriate tourist attractions and destination management in a timely and sustainable manner
- Develop ecotourism plans and management plans for BTS and SS core areas with MoE, MAFF and LA
- Evaluate impacts of ecotourism on human society, natural environment and economic development and redefine adaptive management strategies for ecotourism if necessary

Ministry of Agriculture, Forestry and Fisheries:

- Provide better access to land use and determine appropriate land use planning strategies
- Preserve flooded forests and forestlands and wildlife
- Help support the communities by providing more information and knowledge about local small and medium enterprises to locals to assist ecotourism process and at the same to sustain their livelihoods in floating villages
- Set up proper work plans with other stakeholders (MoE, LA, MoT) for ecotourism and decide upon mutual benefit sharing strategies by following win-win strategy
- Develop ecotourism plans and management plans for BTS and SS core areas with MoT, MoE and LA
- Educate people to make use of fisheries resources and other aquatic resources in a sustainable way
- Provide technical skills to people on fishing, farming, gardening and livestock rearing and tending in BTC and SS core areas
- Work as supporter to local communities

Local Communities / Authorities:

- Strengthen and safeguard social security and safety
- Deal with local administration and provide good facilitation for ecotourism process
- Provide basic and general tourism services and products to tourists
- Participate in decision-making, planning and development for the sake of their local development and well-being
- Local communities and authorities should be trained in appropriate requirement
- Collaborate with NGOs, donor agencies and government to implement ecotourism plans

- Work as a role model in (CB-) NRM by being transparent, accountable and community-driven
- Set up proper work plans with other stakeholders (MAFF, MoE, MoT) for ecotourism and decide upon mutual benefit sharing strategies by following win-win strategy
- Work more with NGOs and other development agencies to raise up local advocacy to have more control over NR and ecotourism benefit sharing
- Develop ecotourism plans and management plans for BTS and SS core areas with MoT, MAFF and MoE
- Receive education about the environment and environmental protection and how to develop services needed for ecotourism
- Give more value to conserve NR in their localities in a sustainable way

Ministry of Rural Development:

- Responsible for infrastructure development in transition, buffer and core zones, especially the development of connecting routes to BTC and SS core areas
- Other indirect involvement

Ministry of Culture and Fine Arts:

- Help make inventory of local cultural resources, especially concerning indigenous people and ethnicity, and promote and conserve local culture in TSGL core areas

CHAPTER 8: DISCUSSION AND INTERPRETATION

8.1 Community Livelihoods in BTC and SS Core Areas

8.1.1 The Importance of Local Livelihood Development and Diversification

As it was shown in Chapter 5, BTC and SS core areas are rich in natural resources, biodiversity and quality ecosystem. These attributes contribute to wider local and regional development and food security of local fishing communities living in or adjacent to the areas. These resources include fish and other aquatic creatures, flooded forests and forestlands, wild animals (mammals, reptiles and insects), waterbirds and other migratory and non-migratory bird species, and water hydrology. However, the use of these resources is co-dependent and complex.

Despite being natural resources rich areas, a majority of its population lives with poverty problems due to limited or unequal access to and poor management of these resources. Local communities are strongly dependent on natural resource base for food and employment. Most of them have no access to land for agricultural production and to job opportunities in nearby urban areas. Fishing is the central economic activity and primary occupation in the areas. Local fishing activities in BTC and SS are classified into three categories: small scale or subsistence, medium and large scales (see definition in Section 3.6 of Chapter 3). This division is based on the fishery laws, level of investment in and methods of fishing activities of individual households (Seak, Mak, Ham, and Rath, 2005). Subsistence fishing is generally found as the most common form of fishing in these core areas. This form involves family fishing methods by using simplest gears to fish in the released fishing grounds nearby the villages or in other public fishing areas through mobile passage. Fish catches are used for household consumption and for processing, making fish feed and exchange for living necessity, e.g. food stuffs, clothes, medicine or medical treatment. Subsistence fishermen would keep almost all processed products for daily consumption. Besides fishing the locals also combine fishing and non-fishing trade activities to form systems of mixed livelihood strategies which can provide more economic earnings to support their households. These include fish processing, fish raising, livestock rearing, gardening, working in the fishing lots, grocery selling, providing services for basic commodities, crocodile raising (minority) and crop farming (very few and only possible in SS). However, these additional income generations are subject to the seasonal context of the lake.

As mentioned in the analysis of vulnerability context and livelihoods of local communities in Chapter 4, poverty in BTC and SS core areas is attributable to many critical factors. These are: rapid population growth, inadequate economic opportunities, inadequate social public services and infrastructure, lack of ownership right and access to common property resources, low capabilities, insecurity, social inequality or exclusion, and vulnerability. These factors are contributing to make livelihood conditions of local fishing communities worse, while biodiversity conservation remains a challenging task to overcome due to its close relationship with local livelihood options. Most villagers have low education and incompatible strategies to solve their livelihood problems and vulnerability. However, this cannot be translated into complete incapability or inappropriate knowledge of the locals in finding effective coping strategies for their livelihood vulnerabilities and crises. In fact, the traditional knowledge, practices and technologies are amply suitable for the geographical and environmental contexts of the places even though they live in floating communes. Socio-economic barriers (e.g. political atmosphere, weak legal framework, corruption, nepotism, social system, increased prices of living commodities, poor law enforcement, attitudes towards the rule of law by local / provincial

authorities and government) and frail environmental governance create more inconveniences to their living societies.

The neo-liberal concepts of the government and international development agencies (i.e. ADB, WB, and UNDP) that focus on economic diversification for the maximization of local income and broad-based sustainable economic growth with equity in the TSBR may sound theoretically imposing. Yet, it might be also rhetoric in practice. The case of BTC and SS core areas shows that the main motivation of the rural poor is not often the maximization of income, but rather of their households' chances of survival. The attitudes and perceptions towards livelihood risks among a majority of vulnerable local communities in BTC and SS may conflict with apparently economically justified innovations (Hodder, 2000) of development paradigms of the government which focus starkly on primary production in rural areas (RGC, 2003). Therefore, several programs to increase economic productivity of local livelihoods or to provide sustainable local livelihoods have failed to determine integrated rural development approaches to deal with existing pitfalls. In addition, it also shows lack of success in investing in the construction or expansion of local capitals, for instance, financial capital building through the provision of adequate micro financial credit and economic incentive (short-term goal) and human and social capital construction (long-term goal).

Central to this issue, it is recognized that efforts to minimize vulnerabilities and to reduce socio-economic and institutional obstructions to local fishing communities through livelihood development and diversification is needed for local livelihood improvement. Also, it is important for NRM and rural development planning in general in BTC and SS. This might consider responsible development strategies to reduce or eliminate the roots of the hindrances, which worsen the economic life and local well-being, while preserving the resources in a sustainable manner. However, the political platform of the Royal Government of Cambodia in rural areas is deep-rooted, but its development policy is vague (WB, 2004) and is often dependent on the roles of civil society to intervene in rural areas. Therefore, there has been a tendency of the oversea development aids and international development agencies, including donor agencies, to reduce the government-oriented integrated rural development plans in rural protected areas like the TSGL region. This is because the government aims to increase the productivity and economic growth from the exploitation of primary resources, but is not mainly concerned with the development of social public services and infrastructure in the areas. Standing on this perspective, the role and privilege of civil society in raising sustainability of natural resource use and local livelihood approaches in rural setting have been increasingly widely recognized.

The politics of most civil society (mainly refers to NGOs) and development institutions put more potential for the improved or sustainable use of natural resources (fisheries, forests, etc.) in BTC and SS core areas. Therefore, their long-termed operations would mean somehow many locals will be excluded from common exploitation (Pretty, 2003; Agrawal and Gibson, 1999; Gimmire and Pimberts, 1997). In reality, it would only make sense when local communities could escape from poverty or get more support and opportunities to improve their living conditions (Murray, 2001; Nicol, 2000; Ellis, 2000, Berkes, 2004).

Concerning this matter, as it was shown in Chapter 4, the local fishing communities in BTC and SS do act coherently. They are ready to appeal for the external support to solve their livelihood loss and to respond to economic incentives or alternatives which are appropriate to their interests. So far they have been dissatisfied and complaining about the core area management principles and the performance of government officials, local authorities and military police

working in their areas. In spite of these facts, it could be said that local communities are not inevitably reacting without reasons when they anticipate prevention or rejection over development plans of the government in fishery practices, natural resources use and access, and the management of the areas. In fact, the complex nature of their living environments, uncertainties, the need to meet minimum survival levels of output, and the stiff social institution and structure, make them behave more rationally self-centered in using natural resources. It could also be inferred that they could not compete with elite and rich villagers or outsiders, who have capitals to adapt modern technologies involved in fishing to increase their fish catch.

As local communities in BTC and SS are mainly dependent on natural resources, the improvement of their livelihoods through different appropriate livelihood change strategies is necessary. This would help to foster sustainable management and consumption of biodiversity resources in the areas, which have been severely destroyed and cannot continue to supply to the needs of the increasing population in a sustainable way. There are three possible approaches that would help to provide more supports and opportunities to current and future livelihoods of local communities in BTC and SS: (1) the improvement of existing livelihood patterns and approaches; (2) the diversification of livelihood activities; and (3) the implementation of alternative livelihood options. According to Swift (1998), Reardon and Barrett (2000), Ellis (2000) and Whittingham (2003), these approaches are substantial and useful depending on the context of the area which changes over time and space in different ecosystems. The first approach involves strategies to promote the existing activities which have been done by the locals in their living environment and social system. In this respect, it is necessary that people apply intensive production activities, increase skills and occupations, adapt technological change, invest in more capitals to improve business activities, and implement more sustainable activities. Besides, people have to claim their ownership and access rights over natural resources in their localities in order to survive. The second approach engages a number of potential economic activities and joins these in a range of diverse activities. As explained by Ellis (1998, 2000), Swift (1998), and Reardon and Barrett (2000), different members of a household undertake or are responsible for different areas of work in accordance with their skills, knowledge, experience, gender, age or time. In addition, such household-level economic activities should be reinforced and adjusted to the seasonality and convenience of works in the areas. Different from what have been widely explained and suggested in the third approach – abandon of existing activities to adopt something completely new for livelihoods – it was in the focus of this study that a new solution to the current pressing socio-economic and ecological troubles is to adapt alternative approach. This has to do with the introduction of a livelihood alternative which provides additional economic earnings to local households without having to renounce their traditional economic activities. Thus, it could also help to enhance people's income possibilities within their own region, while increasing their skills, knowledge and labor productivity.

The third approach is expected to reduce livelihood vulnerabilities or increase the well-being of the locals, while at the same time help to improve biodiversity conservation in BTC and SS. It is discussed in full-length in section 8.3. Typically, it is possible that this approach will call upon the development of informal sector or local SMEs to produce more small scale products and services at household level suitable for local capacity and technology. It could be used as a catalyst to support local economic stimulation and participatory NRM, reduce poverty and prevent the damage of local economy and social system in the areas. Before going to that point, it is essential that other issues related to local livelihoods, environmental governance, and the

contexts of internality and externality are revealed thoroughly to grasp the whole picture of the areas before any suggested strategies take place.

8.1.2 Analysis of Factors Affecting Local Livelihoods in BTC and SS

8.1.2.1 Internal Factors

Limited education of the locals

As mentioned in Chapter 4, a majority of local population in these rural protected areas is characterized by low levels of educational attainment, regardless of gender, age and location of living. Even though it does not seem to be a major problem for the income strategies as people require low knowledge and skills of modern society in everyday fishing, it does present a major obstacle to a number of issues. These include the improvement of livelihood approaches / options, livelihood change in fish-related activities, and their well-being (e.g. health condition, sanitation and hygiene in living, family planning and happiness, etc.). Receiving inadequate education is considered a central factor limiting the abilities of BTC and SS communities in acquiring household-scale enterprises and technical knowledge and skills necessary for the enhancement of their existing livelihoods as well as for the livelihood diversification. In these areas, there are some other business opportunities (i.e. fish dealing, grocery, foodstuff, and living commodities). Yet, the business penetration is limited to the few, many of whom have different ethnicities (Vietnamese, Khmer-Chinese). The lack of educated persons does not only limit the benefits of individual households, but also the benefits of communities as a whole, especially in terms of the management of livelihood risks, conflict resolution and biodiversity conservation.

It has become widely accepted that education is one of the most fundamental long-term strategies to help the poor in BTC and SS. However, there are two main barriers that prevent people to access or to send their children to school. The initial barrier is related to the motivation or determination of people to study or to invest in their children's education (Section 4.2.1 of Chapter 4). It was shown that although most of the people in BTC and SS want to send their children to school, they (especially the small scale fishermen) would do if the education system is provided free of charge and would not reduce the productivity of their household labour. They would think that education is not really a contributing factor to the increase of fish catch. This attitude towards the value of education has been changed as most of them realized that livelihood opportunities are increasingly falling off due to the limited access to and the waning of natural resources. Following the people's determination is the fixed policy framework and insufficient support from the government to invest in social public services and infrastructure in rural areas (please refer to the external factors).

Knowledge and skill of the locals

BTC and SS communities possess traditional knowledge and skills that are multifarious and flexible to survive in the fishing environment. These knowledge and skills have been descended from one generation to another through families, relatives, and nearby community members. This is an apparent sign that the spread of informal education plays an important role in knowledge and skill transfer in these floating areas. In general, since most of the locals are poverty-stricken and losing their livelihood assets, it is helpful that additional knowledge and skills are provided to them, either via formal schooling or vocational training programs. Having more access to additional skills to increase their livelihood activities could improve their livelihood conditions since more incomes can be generated to individual households. Acquiring

new skills and techniques that are appropriate to local context and capacity is perceived by the communities as a viable addition to the local household range of activity. This can reduce the level of dependency of the locals on natural resources or can increase the sustainable use of natural resources through the diversification of economic activities. There are a number of civil society organizations (i.e. UNV) working as sub-contractors of the TSCP-UNDP-GEF projects to help improve sustainable livelihoods of the people and biodiversity conservation. They plan to introduce new technical skills for livelihood activities, energy saving, and sanitary living. These include fish culture, eel culture, quail raising, livestock rearing, vermicompost production, mushroom production, composting toilet, water filters, solar filters, solar evaporators, community solar power system, fuel-efficient stoves, solar cookers, water hyacinth briquettes and fiber product, flooded forest re-vegetation, etc. (TSCP, 2006). However, according to people's responses in Chapter 4, most of these project frameworks have not been implemented yet or have been done little to help people directly. The analysis of some of these project documents shows that many project activities are being run behind the set timeframe and are perceived as time-consuming and financially dependent (e.g. the sustainable livelihood projects in TSB core areas).

In addition, BTC and SS communities lack principal business knowledge and skills to set up an efficient business development environment in their areas. These involve knowledge about the market, competitive advantages, pricing strategy and marketing, product development and processing, basic supply and demand analysis, business-related laws and policies, etc. The study finds that the rural fishermen in BTC and SS usually face difficulties of different kinds of regulations and directive messages which are somehow beyond their understandings. This often leads to inappropriate responses of communities to the changes in market conditions and to the increased dependency of the locals on a few rich (outside) merchants or dealers who control the flow of goods and services into and out of the areas (Chapter 4). Concerning education and knowledge, communities (community members and authorities) do not have enough knowledge about decentralization and community-based management approaches, which are introduced to their areas. In principle, these approaches are to improve the democratic process of fair resource allocation (mainly fisheries), local livelihoods and the sustainable management of natural resources. So far, there are many programs have been carried out by the SEILA (through CDCs/VDCs), the TSEMP and the TSCP to address these issues. Despite their notable visions, these institutions have not done enough works to succeed their plans. Local experiences and understanding about decentralization are very limited and very commonly, there has been less transfer of knowledge and power to local communities. The deficient local empowerment in the form of lacking local involvement and accountability leads to the undermining of the established disheartenment of existing and future established local institutions. On the contrary, this process initiates a constant favor of rich and elite groups and the marginalization of people in benefit sharing and development by gender, ethnicity and socio-economic status.

Health condition of the locals

As health is one of the most influential attributes of human capital, it can reduce the labor productivity (both patient and caretaker) and financial resources of individual households and communities. In addition, it can trap them into indebtedness and loss of household properties and fishing materials. This often leads to changes in living condition, economic patterns, current and future livelihood activities as well as attitudes towards NRM in the areas. As shown through the vulnerability context of the communities in Chapter 4, BTC and SS fishermen are prone to waterborne and other curable diseases. The absence of health care services, mobile

medical attendances, convenient transport facilities and the high cost of medical treatment contribute more negatively to livelihood shortfalls and the depletion of local financial resources.

Informal rules (social capital)

The social relation in BTC and SS has been practiced within communities, groups, individuals in different forms. It provides easy access to necessary resources and activities (social and economic) in daily circumstances. Both formal and informal social structures and relations formed in these areas are substantial in terms of providing social safety net, trust building, livelihood facilitation, conflict resolution and management, and reducing transaction costs of economic activities. Nowadays, there is increasing attention to establish community-based organizations (i.e. CFs, CPAs), Community Development Committees (similar to self-help groups), and Women Development Groups in Peam Bang and Phat Sanday communes. This social approach is being adapted by the TSEMP and TSCP projects and civil society organization as a channel to increase community collaboration, power and services in the development of local well-being. Noticeably, the study hits upon the structure and operation of such local groups as a catalyst to generate and support livelihood options and changes in BTC and SS. Intra- and inter-social networks between individual households, communities, family bonds and relatives, neighbors, and between community members and local patrons are found in strong position. Due to these central social linking, bonding and bridging mechanisms, either generated by communities conventionally or by outside developers in principle, it is promising that the existing relationship of trust and reciprocity can be further enhanced. These help to improve communities' ownership and access rights to natural resources as well as their capabilities. The use of social capital and the effective management of local knowledge and force could be used to support biodiversity conservation and local economic promotion in the context of BTC and SS.

Besides its inputs in local development, it was indicated in Chapter 4 that the complex structure of social relations in BTC and SS also brings some negative impacts on local livelihoods. The strapping connections of rich and powerful fishermen with local authorities, military polices, responsible government officials and outside developers or leaders characteristically leave out the poor and vulnerable or weaker communities from becoming involved in decision-making and getting access to released fishing grounds, fishing gear application and natural resource consumption. Yet, the study also stumbles on another fact. It was shown that because poor and vulnerable villagers in the areas do not have enough ability to pay off the patrons and do not participate much in social meetings, they could not gain much social recognition from their groups. Moreover, they are less able to understand the structural system of works and livelihood changes in their areas for they do not participate or are rejected to participate in community groups.

Spatial complication to increase opportunities to improve local livelihoods

The geographical condition that detaches Peam Bang (BTC core area) and Phat Sanday (SS core area) communes from the mainland is considered as a spatial constraint of the areas to receive enough infrastructural and social public services development (Chapter 4). Due to less or no access to land, local fishermen do not have permanent houses and could not benefit from the agricultural development in Kampong Thom province⁵⁶. In addition, as BTC and SS have been designated as state properties under protected area laws, land demarcation could not be given

⁵⁶ Kampong Thom is one of the biggest rice producing provinces in Cambodia.

to the locals though they are residents of the places (UNDP-GEF, 2001). This development attempts to provide more opportunities to increase livelihood options of the poor. Infrastructural services are developed simultaneously in order to reduce the costs of living and business transaction of the locals and to improve their access to markets. The absence of a combined economic force (fishing and farming) as a means to local economic growth and diversification reduces great opportunities of the locals to improve their livelihoods through the expansion of agricultural production. It was indicated that the fish catches of local households are fluctuated in accordance with seasons and the management of the areas. In support of the poverty reduction in BTC and SS, the access to land and infrastructural services play a critical role to help local fishermen to cope with declining economic returns from fishing. In addition, it can help them by facilitating household diversification of economic activities to reduce their poverty and vulnerability. The study discovers a trend that increasing competition among community members and seasonal in-migrants over fishery resources could cause increasing local interests in changing to some land-based activities. However, this tendency would be accrued unless sustainable local economic development paradigms are not going to be introduced to the low-income communities and their organizations in the areas.

Attitudes of communities towards fishery and protected area management laws and the enforcement of these laws in their areas

Access and ownership rights of local fishermen in BTC and SS core areas over fishery resources, released fishing grounds and public fishing areas are limited and doubtful. Disputes over resources consumption and the invasion of fishing lot / creek / fishpond owners and seasonal in-migrants occur because the legal and institutional frameworks (e.g. property rights, contracts, trust funds, public institutions, etc.) have progressed slower than the policy reforms (i.e. fishery reform in 2000). The state allocation of fishing concessions in designated core areas of the TSBR also brings a lot of resentment among locals and environmental rangers. Also it triggers disputes between concession holders (and its sub-contractors such as creek and fishpond owners) and local communities. A lack of clear definition of water boundary and the unsecured tenure of the locals could be said that the improvement of local livelihoods in the areas is difficult to work out. At the same time, the sustainable management and conservation of natural resources could be further shrunk.

As mentioned in the result section, local communities have negative attitudes towards and distrust on current laws and orders related to fishing behaviors and natural resource management. This is because of corruption, bribery, nepotism and weak law enforcement among different bodies and authorities responsible for the management of the areas. The study reveals that flexible attitudes towards the enforcement of existing laws and law executors (i.e. DoF, DoE, etc.) can bring an advantage and a flaw to local livelihoods. The advantage could be seen through the effective coping strategy for the current pressing situation of BTC and SS, where the system is influenced by the capital and power relation. The villagers have a handle on their social structure and local system, and they are losing more opportunities when natural resources decline. For the short-run, they try to avoid to be excluded from the system since it could lead them to an immediate livelihood deficiency provided they refuse to accept. This is a matter of “to put themselves into the circumstance” or “to be a fish out of water”. It was indicated that the locals try to resort to the dominant groups (i.e. DoF, DoE, military police, navy and traffic police, etc.) to gain fishing permits (access to fishing areas and use of both allowed and prohibited gears⁵⁷) and to exploit other aquatic and natural resources. The flaw was

⁵⁷ For example, trawls, bamboo or wooden barricades, serene net, etc. are considered as illegal gears.

stressed along the perceptions of the locals to apply more illegal activities in the areas if they had enough ability to do so (Section 4.1.2, Chapter 4). This reaction could lead to a further decline in their own resources on which they depend for their livelihoods. However, this shows immediate or short-term strategies of the communities in a way they grasp their systems and how to adapt changes to their livelihoods according to laws and the level of law enforcement in their areas.

8.1.2.2 External Factors

Politics of the government, development and donor agencies

Cambodia has become a key site for global environmental governance partly because it possesses high levels of biodiversity and rich ecosystem (Chanto and Ham, 2005). A growing global concern over environmental crisis in biodiversity rich but poor countries means that Cambodia needs to be identified by donors, I/NGOs and international funding agencies as a country that requires global attention and engagement. In many ways, Cambodia is regarded as an object of prestige for donors, I/NGOs and international development institutions, most of which are interested in conservation movement. They have been influential since early 1990s (ibid). The Royal Government of Cambodia (RGC) has been looking for subsidies, loans and external aids to restore the country's fragile economy caused by a protracted civil war and rapid economic transition after the UN-led national election in 1993. Thus, environmental protection has increasingly become one of the most important funding priorities of donors for the development of policy frameworks and policy implications. In response to international tendency and policy change, the RGC always confirms its strong keen to enter into relationship with foreign donors in order to get oversea development assistances and funding (aid and loan). To please donors, Cambodia frequently promises to pay greater attention to biodiversity conservation and environmental governance in its natural resource rich areas. As a result, many parts of the country have been designated as protected areas, biosphere reserves or Ramsar sites, e.g. the TSBP and its core areas (BPAMP, 2005).

In BTC and SS core areas, the active involvement of global donors and international development agencies in NRM and environmental governance has assisted the transmission of preservationist ideas (Marshall, cited in Butcher, 2007). Paradoxically, this shows that a preservation account coexists with a neo-liberal discourse that promotes the introduction of market-oriented strategies and the diversification of economic activities of the locals. In spite of the fact, the implementation of concerned I/NGOs and development agencies seems to be an enthusiast of the classical approach of conservation paradigm. This approach has been regarded as the oldest and most unsound approach to be applied in protected areas if compared to populist and neo-liberal approaches (Pretty, 2003; Gimmire and Pimberts, 1997). It does not focus on integrated conservation and development principles and CBNRM adding more economic value to biodiversity resources and favor conservationists and local communities as well as developers (Blackie and Jeanrenaud, 1997; Brown, 2002; Mitchell, 2004; Berkes, 2004). In many cases, leaving all capacity and power in the government's hand through the DoE-MoE and the DoF-MAFF to strengthen and improve the protection of natural resources in BTC and SS core areas might have given some positive impacts. However, it also has caused the change of local livelihood options and the restriction over fishery and other natural resources which communities are solely dependent on. In addition, the monopoly of the rich, elites and external patrons intersects the leadership in the areas that the network and the involvement of multi-stakeholders, especially local communities, are excluded from major decision-making and development courses.

The modification of economic policies to response to international market demands and economic growth of the country by the government also distresses local livelihoods in BTC and SS core areas (Duffy, 2006; Milne and Ateljevic, 2001). A growth in freshwater fish demand in international markets has caused a swift increase of fishery production in the TSGL region to provide more competitive advantages to the RGC as one of the biggest freshwater fish supply countries in the region. The new laws, which were established in mid 1990s on investment to put the accent on the free market economy (World Bank Group, 2004), have liberalized the import and export business environment in Cambodia, including fishery production. The high competition among suppliers of the fishery production clouded with weak legal frameworks and corruption in Cambodia has opened a wider chance for the increase in effort and techniques in fishing. The RGC legislations in support of policy change to increase the fish supply and tax focus more on medium and large scale fishing businesses in TSGL region, especially in highly populated fish places such as the core areas. These legislations provide better investment atmosphere in the larger, more formal spheres of the economy which is easy to manage and control repayment and tax. The government's incentive for the continuing operation of fishing lot concessions in TSBR core areas and the ongoing illegal commercial fishing activities (i.e. trawling, electro fishing, pond-and-creek-pumping fishing, etc.) allowed by responsible officials have deprived huge livelihood opportunities of the poor and vulnerable communities in BTC and SS. The study also indicates that economic policies and stimulus of the RGC with regard to the exploitation and investment of fishery and other natural resources have triggered a number of cross-sector policy conflicts in the areas as well. For example, the operation of the fishing lot concession in BTC and SS and the conversion of flooded forestlands in the buffer zones into intensive dry rice cultivation have produced constant conflicts between the MoE and MAFF.

Interaction of BTC and SS communities with outside communities and the attitudes of newcomers towards natural resource use and NRM in the areas

It was indicated in the result section (Chapter 4) that economic potentials and abundant fish species and aquatic resources are critical factors, pulling people from nearby regions to assume diverse economic activities as secondary sources of livelihoods following agricultural production. The interaction between fishing communities in Peam Bang and Phat Sanday communes have been seen on different migratory and settlement patterns, land use patterns and livelihood approaches involved. The movement of upland people into TSBR core areas has been recognized as their traditional passage and leisure interest after rice farming activities in rainy season. Formerly, the upland people often came to fish in the areas in order to earn more income in off-farm (dry) season (late January – late May) and to prepare dried foods (e.g. fermented fish paste called *Prohok*, smoked fishes and dry fishes, etc.) for the next faming season (in rainy season from June to early January). In addition, they brought their cattle to some grassland areas, where had good feed for draft animal. These activities were usually found on some dry lands of TSGL core areas in the water recession season. However, the current situation related to their in-migration and behavioral manners towards the use of natural resources in the core areas have changed considerably. (Chapter 4)

It was found that permanent fishermen inside or in adjacent to BTC and SS are heavily reliant on aquatic resources and are more concerned with recoverable natural resources and its sustainability than those from the upland areas (buffer and transition zones). They tend to use their resources on an opportunistic as available basis, although the study reported that illegal fishing and over-fishing have been practiced by these communities as well. However, the seasonal in-migrants from the upland areas get access to BTC and SS core areas from their outer edges and usually stay in the heart (most important parts) of the core areas. Normally,

they have different survival strategies. They are involved in fishing (often using illegal methods and gears), hunting, dry rice farming (illegal clearing of forests), and harvesting of other natural resources. Furthermore, they work for the fishing lot holders or creek and fishpond owners to collect fishery resources by all means (mostly illegal) in the allocated territories. Frequent and occasionally extensive forest fires are also linked to their activities in using fire as a tool in hunting, clearing forestlands to enlarge their sporadic cultivation areas, cooking in the forests and in other resource collection techniques (e.g. wild honey). The study finds that seasonal in-migrants are potential of accusation since they commit to more harmful activities to the natural environment and livelihood assets of the locals in BTC and SS. At the moment, their migration patterns are noted in both dry and rainy seasons, leaving a considerable amount of which to stay permanently in the areas (Section 4.2.2, Chapter 4). In any case, they are not to blame solely. The study also shows that the changes of livelihoods and migration patterns of seasonal in-migrants are strongly associated with the development bias of the government towards urban growth. This presents a major impediment to rural development in nearby provinces around the lake. For example, the lack of support to provide infrastructural services, social public services, social security services and SMMEs in rural areas, for instance, in Peam Bang and Phat Sanday communes.

It was indicated that the interaction with outside communities offers dual impacts on local livelihoods in BTC and SS core areas. Positively, communities can access to the nearby market for their products, purchase of basic livelihood commodities and exchange of experiences and methods to improve their livelihoods (e.g. the use of more sophisticated techniques and equipments in fishing, fish processing and animal rearing). However, negative impacts on local livelihoods and biodiversity could also be triggered out of their improved knowledge on these issues, either they apply it with or without intention. For example, the knowledge about market demands on watersnake (Vietnam, Kampong Chhnang and Siem Reap), tortoises (Phnom Penh and Siem Reap), monkeys (Kampong Thom), otters (Vietnam), and fish and other aquatic resources would also lead communities in BTC and SS to increase their activities. These contribute to further loss of livelihood assets they are dependent on.

Environmental issues and movement

This part encompasses international conventions and agreements, regional and global relation and climate change. These three attributes are seen to have affected the potential for rural or local economic growth and the improvement of local livelihoods in BTC and SS.

Due to its abundant biodiversity resources and rich ecosystem, Cambodia's economic growth is strongly dependent on the exploitation of primary (natural) resources such as rice, fish, forests and mines. These resources are supposed to be managed and used in a sustainable way in order to respond to the needs of the government and people as well as to the international obligation. Concerning integrated rural development, use, management and protection of biodiversity resources and ecosystem of the TSBR, Cambodia is witnessed to be a signatory to several international conventions and agreements with international communities and neighboring countries in the region (Chanto and Ham, 2005). The international environmental conventions include: Convention on Biological Diversity in June 1992 at UNCED in Rio de Janeiro; Convention on the Protection of World Cultural and Natural Heritage in January 1994; Convention on Wetlands of International Importance (Ramsar Convention) in 1996; and, Convention on International Trade in Endangered Species (CITES) in 1999. The international agreements point out wider international relation between the RGC and other signatory countries, and these include: Mekong River Commission Agreement with GMS member

countries in April 1995 and ASEAN Agreement on the Conservation of Nature and Natural Resources in April 1999.

The evolution of the TSBR management and protection has started since 1993. In 1993, the lake system was proposed to the UNESCO for a nomination as a World Heritage Site (UNESCO, 1996). Until 1997, this lake was designated as a Biosphere Reserve (TSBR) under the Man and Biosphere Program of the UNESCO (UNDP, 2001). The TSBR covers three different land-use zones – core, buffer and transition – to provide conservation, development, protection and support functions for the natural and human environment in the Biosphere Reserve. In 1999, one of the TSBR core areas (BTC) and its associated creek system was given a formal international status as one of the first three Ramsar Sites in Cambodia. However, only until April 2001, the TSBR was officially nominated by the Royal Decree signed by His Majesty the King Norodom Sihanouk, followed by a Sub-decree issued by Prime Minister Samdech Hun Sen in September 2001. To comply with these international conventions and agreements, the RGC and its concerned ministries have developed a variety of legislations, laws and rules which are of relevance to the biodiversity conservation, land use planning and integrated rural development and NRM in the TSBR. Despite many stakeholders of the TSBR region, only several primary institutions are allowed to be involved in NRM of the TSBR, and they are the CNMC, the TSBR Secretariat, the MoE and the MAFF (TSCP, 2005). However, these institutions are not much able to go along with their plans effectively due to financial and human resource limitations.

There are three major constraints that hinder the success of these institutions' performances in the management and conservation of TSBR core areas as well as in the improvement of local livelihoods which depend on natural resources in the areas (UNDP, 2001). These are: [1] policy constraint (too broad, unclear responsibilities and definitions, weak and complex legal and institutional frameworks, etc.); [2] legal constraint (different interpretations and lack of supportive documents, unclear mandate, more economic opportunity focused, poor law enforcement strategies, unspecified key provisions of laws, out-of-date, political instability and frequent change of laws, etc.); and [3] institutional constraint (low capacity, political pressure, corruption, bureaucracy and centralized management plans, nepotism, economic monopoly, lack of community's awareness and support, overlapped responsibilities, etc.).

From the above, there is a strong interest of the RGC to obtain the international recognition. Nonetheless, its weak governance and institutional arrangement to implement policy reforms and development frameworks, which are clouded with systematized corruption and centralization throughout its nominated institutions and military sector, do not allow the RGC to realize its promise with the international communities (World Investment News, 2004). This can be seen as a major challenge to sustaining local livelihoods in BTC and SS core areas. It is because the positive impacts of policy reforms and law enforcement on poverty reduction and food security, which are crucial parts of participatory NRM goals, have not been achieved hitherto.

Apart from this, ecological and environmental aspects in the form of climate change also impinge on natural resource-dependent communities in BTC and SS core areas (ADB, 2003). It was shown in the study that the extent and degree of vulnerability and poverty of BTC and SS fishermen is linked to the climate change affecting the ecosystem of the places and local livelihood assets. For example, the change in the amount of rainfall and the volume of water in the lake and its creek system, flood level and duration, the increase of natural disasters (e.g. rainstorms), the change of temperature in the areas, the change of natural water flow and the change in amount of flooded forests and aquatic resources available as the sources of energy, NTFPs and natural habitats. These changes can reflect the consequences of government's

policies (e.g. electro power dams and irrigation dams) and human activities (e.g. deforestation, over-exploitation of natural resources, dry-rice and crop farming, illegal economic activities, etc.).

8.2 The Interaction between Local Livelihood Improvement and Natural Resource Management in BTC and SS Core Areas

The study finds that local livelihoods in BTC and SS core areas are mainly derived from aquatic and other natural resources. The villagers usually depend on subsistence or semi-subsistence (though some involved in medium and commercial scale) fishing. A majority of them has limited jobs and economic opportunities in the close fishing (high flooded or rainy) season. Another factor that leads to higher level of vulnerability and poverty in the areas is no access right to agricultural land and actual land demarcation despite increasing trend among the locals to clear the flooded forestlands behind their homes to do vegetation and other seasonal crop farming. It was indicated in the result section that there is a need for efficient planning and sustainable management and harvest of natural resources in BTC and SS in order to attain sustainable local livelihoods and growth of local economy, which could contribute to a reduction of poverty and level of resource-dependency among community members. However, the finding presses that the variation of local livelihood conditions strongly affects the management effectiveness, behavioral thinking and use level of natural resources in the areas. This requires the enhancement and diversification of local economic activities, while promoting local empowerment and participation through a variety of dynamic local organizations in decision, planning and development processes (Gordon, 1999; Berrett and Reardon, 2000; O’Riordan and Stoll-Kleemann, 2002; Whittingham, 2003). This would help to promote the local economy and the sustainable management of natural resources.

The history of NRM in BTC and SS core areas retrospects the establishment of a Technical Coordination Unit (TCU) at the MoE with UNESCO support to safeguard and manage the Tonle Sap Great Lake after the Tonle Sap watershed was declared as a Reserve of Biosphere (Malleux, 1997). Thereafter, the TCU attracted a number of donor agencies and I/NGOs to discuss and open a door to address one of the six most important issues of the National Environmental Action Plan (NEAP). It is a development framework for the management of the Tonle Sap Ecosystem. The multi-sectoral participation and effort for the bona fide conservation and management of biodiversity resources of the Reserve rang from CBNRM component to Tonle Sap wetlands database component. These include biodiversity and water quality monitoring programs for TSBR, zone designation or demarcation and registration component, enforcement component, environmental awareness education and outreach component, and natural habitats component (UNDP-GEF and Capacity 21, 2001).

In spite of the fact, only some of the above-mentioned components have been initiated and implemented in BTC and SS core areas. The MoE and the MAFF are responsible predominantly under a constant support from the TSEMP-ADB and TSCP-UNDP-GEF projects (TSCP, 2005). In fact, there should be four main agencies – MoE, MAFF, MRD, and MWRM – with other sub-institutions. Besides some awareness raising and capacity building programs, boundary demarcation (division of core and buffer zones) has been undertaken in a pilot phase by the DoE-PIU. On the other hand, the participatory CBNRM has been carried out slowly by the DoF and DoE. The promotion of CBNRM after recent reforms in NRM in Cambodia (e.g. fishery reforms) is considered as a significant alternative and harmonizing mechanism to the traditional state-owned system (Brown, 2002; Berkes, 2004). However, only CBNRM fisheries, meaning community fisheries (CFs) have been practiced while other imperative subsets of CBNRM have been overlooked (e.g. CPAs). Regarding CBNRM strategies through the

establishment and execution of CFs, only buffer and transition zones of the TSBR are active in this respect. The DoF with its co-executor, DoE, and other current and potential facilitating organizations have failed to put into action the CFs' main task assignments in BTC and SS core areas (see Chapter 4). There are only three CFs in these areas (CF Peam Bang, CF Daun Sdeung and CF Balort), all of which are located in BTC core area, whereas the number of fishing lot concessions and reserve lots have reached seven recently. Neglecting the main functions and inputs of the CFs in BTC and SS reflects a lack of needs assessment of local livelihoods and the main constituent of development and management directions of BTC and SS core areas. These directions are NRM and the sustainable use of natural resources through community support and involvement.

The finding highlights many major constraints to the successful NRM in BTC and SS. These include: 1) lack of financial support; 2) low knowledge, skill and capacity of local communities and implementing government and NGO staffs; 3) population growing rate; 4) insufficient technical assistance; 5) lack of infrastructural services; 6) security issue; 7) geographical condition; 8) lack of alternative energy sources; 9) fragile social organization and weak local network due to the results of civil war for decades; 10) commercial fishing operation in the core areas; 11) conflict over natural resource access and use; 12) weak legal and institutional framework; 13) unclear or overlapped mandate; 14) lack of communities' support and participation; 15) illegal (over-) fishing and overexploitation of natural resources; 16) lack of local economic alternatives; 17) lack of adaptation of traditional knowledge and informal negotiation; 18) lack of local empowerment strategies (e.g. founding and strengthening of local organizations and community rights, etc.); and, 19) lack of external coordination from governmental and non-governmental institutions to advocate local voice. So far, a variety of mainstream conservation and sustainable livelihood projects have not realized the desired results. This is because of the lack of understanding about the relationship or symbiosis between communities and natural environment and natural production systems of BTC and SS core areas. All of these factors have caused increasing internal differentiation within the local social structure and system and marginalization of local intensity. Accordingly, biodiversity resources and natural environment of the places could be further diminished, while local communities have become weaker and poorer and resource management practices unsustainable.

The attempt to strengthen the local social structures and network system at community-based level in BTC and SS in order to stimulate local economy and to set up sustainable management of natural resources is to empower local control and organizations. This could help them to participate actively in decision making, planning and development processes (Markey, Conn and Roseland, 2004; Robert, 1979; Blackstock, 2005). It is widely accepted that the local control, participation and management of biodiversity resources are the important tools at all stages (Yos, 2003). These affect the livelihood improvement approaches of the people. Obviously, local communities can provide significant inputs to manage natural resources in their localities through their traditional wisdom and production culture, conservation ethics and the replication of spiritual and cultural values within local context. The study finds that BTC and SS communities have faced a lot of severe socio-economic and environmental problems and increasing competition from internal and external forces. Different flexible coping livelihood strategies have been adapted by communities to response to their living environment. However, local rights and local social organizations have never been respected or supported. This results in escalating unsustainable economic activities committed by the locals and external force, many of which are harmful to the natural ecosystem and biodiversity resources in the areas.

Growing competition and conflicts over natural resource access and consumption in BTC and SS core areas have made local communities more aware of the importance of conservation. This entails alternative structures of local control and management (Markey, Conn and Roseland, 2004). It was indicated that a majority of local communities want to participate in decision-making, planning and local development. Informal methods and extensive capacity building and information sharing programs are required to promote their roles at this stage. Realizing the improvement of the local involvement to address current pressing strategies for NRM is a central part to mobilize local forces in BTC and SS to help protect their resources against internal misconducts and outside encroachment.

The scope of community organizations' assignments in BTC and SS is still undersized and is not often favored by external developers. There are some evidences that fishery and other aquatic resources found in the boundaries of local control are protected more properly for community services. At least different types of internal and external intrusions are found. Yet, community members are more willing to safeguard their resources from being further depleted as it is the only source of their livelihoods. Both vulnerable and high economic affordability community members stress the strengthening of present local organizations and the creation of more dynamic networks of CBNRM committees in different areas at different levels in the areas.

Increasing demands from various groups of stakeholders and conflicting claims over natural resource access and utilization have led to increasing conflicts in BTC and SS core areas. At least four types of conflicts have been reported in the study: 1) conflict between local communities and responsible government agencies or external developers; 2) conflict between local communities and influential commercial fishing business proprietors; 3) conflict between local communities and external invaders (e.g. seasonal in-migrants); and, 4) conflict within local communities themselves.

From sustainability outlooks, the increase and improvement of local organizations have been sited as offering numerous advantages favoring sustainable rural community livelihoods (Farrington and Bebbington, 1993; Uphoff, 1993). These advantages include: increasing local economic efficiency where commercial or large scale developments fail; increasing the effectiveness of governmental and non-governmental programs by involving local people in the design and implementation of such programs; reducing poverty rate and economic gap in rural communities where developments take place by responding to the needs of the rural poor; empowering rural people by increasing their roles in decision processes that affect their lives and resources; and improving management of natural resources by helping to foster collective action to manage common property resources (Uphoff, 1993; Rasmussen and Meinzen-Dick, 1995; Baland and Platteau, 1996; Meinzen-Dick, Knox, Place and Swallow, 2002). Through these perspectives, it is noteworthy that three observable facts are very interactive and influential with one another and could happen as systematic concurrence, and all of which could apply to the context of BTC and SS core areas.

8.3 Linking Ecotourism to Future Natural Resource Management and Livelihood Improvement in BTC and SS Core Areas

8.3.1 Trend towards Ecotourism Development in the TSBR Core Areas

The unique culture, abundant flora and fauna, and distinctive geographical landscapes of Cambodian protected areas mean that in terms of neo-liberalization concept the country has strong competitive advantages in developing nature-based tourism. In Cambodia, the form of ecotourism that is being currently applied in most protected areas and Biosphere Reserves

crops up as a part of CBNRM strategies and is often initiated by environmental NGOs (Men, 2007). Even though Cambodia has not yet developed ecotourism policies and relevant development plans, the ecotourism initiative in rural protected areas has been vividly promoted via integrated conservation and development frameworks. Because the MoT is still in its infancy stage, the management of ecotourism in Cambodia is under the responsibility of the MoE (Bauld, 2005). This institution uses ecotourism as a tool for rural development in areas where potential environmental conflicts and high poverty rate occur. To date, there are approximately 36 ecotourism and CBET projects being coordinated and funded by NGOs and donor agencies⁵⁸ under two main schemes, CBNRM and ICDPs (Men, 2007). No specific policy on community-based ecotourism (CBET) has been developed. However, many of these projects strongly advocate collaborative approaches in poverty alleviation and biodiversity conservation, as well as in the promotion of community participation.

A trend towards ecotourism initiative in natural resources rich areas where people suffer chronic poverty is increasing considerably (Ken *et al.*, 2004). The Pro-poor Sustainable Tourism Project of the Netherland Development Agency (SNV) is currently trying to help the MoT to prepare national ecotourism strategies and to help integrate the MoT's roles in ecotourism with the MoE's. In addition, the ecotourism strategies for Year 2005 - 2009 and the pro-poor tourism development plans to coordinate tourism along the Mekong River (GMS Project), including some parts of the TSGL, are being developed by the MoT under the WB and the ADB supports respectively. These prospective works attempt to incorporate a variety of frameworks necessary for monitoring and assessment of impacts by visitors on biodiversity resources and the human and natural environments in Cambodian protected areas and Biosphere Reserves.

Ecotourism is promoted as a tool to secure conservation and promote development for all levels of rural society, sparking through local communities to the Cambodian state (Men, 2007). The emphasis on pro-poor development, community participation and integrated conservation and development projects in rural protected areas is clear amongst donors, NGOs and local government bodies. As often as it goes, there is awareness that funding will not be forthcoming without at least some acknowledgement of pro-poor and local empowerment agendas. This reflects that the promotion of ecotourism through community participation satisfies all of these competing and overlapping agendas in one neat neo-liberal package. Every NGOs and foreign-support government projects are seen as capable of holding multiple contradictory views simultaneously on what best practices and how to conserve Cambodia's rural protected areas. While these projects may favor one view over another, it can be said that the host organizations have to speak at the same time to a number of different agendas. This means they have to gratify multiple audiences, mainly donor agencies and foreign experts, who may support preservation, economic development initiatives, poverty reduction, education, community involvement, and sustainable use of natural resources. This cross cutting and contradictory discourse on biodiversity conservation and community involvement is interspersed with a clear commitment to neo-liberal principles among Cambodian responsible government and non-government institutions that try to suit donors' programs (Neth, Knerr, Rith, 2008). As with many programs in Cambodian protected areas and Biosphere Reserves, much of the discussion among donor agencies about saving the environment has become intimately tied up with the idea that eventually conservation would have to pay its own way, usually through ecotourism initiative.

⁵⁸ These are IFC-World Bank, ADB, UNDP, UNDP-GEF-SGP, WWF, CI, WCS, IUCN, Mlop Baitong, etc.

The link between ecotourism and TSBR core areas is as old as the establishment of the Biosphere Reserve (core, buffer and transition zones) itself (Neou, 2003). In TSBR core areas, ecotourism has been considered and suggested by donors and international advisors, consultants and team leaders⁵⁹ as an acceptable form of local economic stimulation, job creation and biodiversity conservation from the beginning. Among the three core areas (Prek Toal, Boeung Tonle Chhmar and Stung Sen), only PT has some ecotourism activities already implemented. The ecotourism operation in PT is mainly based on day visits to the bird colonies. It also includes opportunities for visits to floating villages, purchase of local handicrafts and overnight stays in the area (TSCP, 2006). However, there has been long absence of concrete ecotourism plans and strategies, ecotourism blueprints and footprints, and in-depth study on the potentials and effects of ecotourism on local livelihood approaches and NRM in the area.

The idea behind the ecotourism initiative in PT core area comes from the general observation and proposal of donors, foreign expatriates and environmental organizations in the area (e.g. Gecko and OSMOSE). Simply they perceive that since most ecotourism activities take place in protected areas or biosphere reserves, general figures and trends related to ecotourism development in the TSBR core areas can provide some insight into the current management and protection of the places. Most often, the word “ecotourism” has been used in various project proposals and reports of the TSEMP and the TSCP as a paired development mechanism with other integrated natural resources management and rural development approaches. According to the Prek Toal Management Plan (2006, p.6), the long-term goal of ecotourism development is “to develop and sustainably manage ecotourism in the Prek Toal core area in partnership with local communities and other stakeholders, and without negatively affecting the ecological integrity of the core area or the social and cultural integrity of adjacent communities.” To achieve this goal, community participation in ecotourism development and service delivery and equitable benefit sharing have to be ensured. This rhetoric is broad and difficult to be achieved since there is lack of clear plans and support strategies. However, what have been done so far in the Prek Toal will be forwarded without any adjustment as a role model for the ecotourism development in the BTC and SS core areas.

With respect to this downward management direction, there are many strong concerns with the extent of suitability or expediency of ecotourism as a tool for improving local livelihood options and sustainable conservation and use of natural resources in BTC and SS core areas. Moreover, these concerns have pressed down on the use of ecotourism to help reduce socio-economic and environmental conflicts in the areas. Surely, these aspects are within the next discussion sections of this chapter. However, a wide range of concerns or issues concerning potentiality and challenges for the ecotourism development in BTC and SS have been focused on and answered thoroughly in the result-and-analysis part (Chapters 5, 6 and 7). Therefore, only key points will be subsumed in the rest parts of this discussion chapter. These points are related to management constraints of ecotourism, costs and gains of ecotourism, potential of ecotourism to contribute to NRM and local livelihood improvement, guiding principles for ecotourism, and other necessary strategies for NRM and local economic stimulation, etc.

8.3.2 Ecotourism Development Opportunity in BTC and SS Core Areas

Ecotourism has been regarded as one of the most ideal driving force for many projects in national parks, protected areas and biosphere reserves (Hall, Robert and Mitchell, 2005). Within its embrace, a number of major concepts – e.g. sustainable development, community

⁵⁹ For example: ADB, UNDP-GEF, WB and those of TSEMP and TSCP Projects.

involvement and nature conservation – have always been included, and thus ecotourism becomes popular and a worthy and potentially constructive tool in development (Honey, 1999; Campbell, 2000; Macleod, 2003). However, one needs to fervently ensure with credible aspects before ecotourism is predicated as a possible development tool in rural protected areas. These aspects might include: abundance of resources; positive tourist demand; value-added attributes of ecotourism to other current types of development; commitment and politics of government and non-government organizations to enhance ecotourism development; expected gains exceed expected costs of ecotourism; interest and commitment of the private sector; and, employment opportunities and local economic stimulation and diversification (Fagence, 2001). The concept of integrating these aspects into the ecotourism destination assessment is much relevant to the Ecotourism Opportunity Spectrum (ECOS) model suggested at the UNESCAP Seminar on Sustainable Development of Ecotourism in Pacific Island Countries in 2001.

This part will focus on the adaptation of some substantial factors of the ECOS model to briefly show major characteristics of BTC and SS and concerned issues of current circumstances which influence the atmosphere of ecotourism development (Boyd and Butler, 1996; Fagence, 2001).

A. Attractions

The study finds that BTC and SS core areas offer a high potential to develop as an ecotourism destination in the TSBR. This potential varies from unique natural landscapes and attracting physical features to distinctive ecosystem diversity, abundant fauna and flora species and diversity. Besides being biodiversity hotspots of global environmental significance, BTC and SS are home to a variety of fascinating cultural diversity and integrity of the fishing communities living in the floating villages. The traditional knowledge and practices that local communities possess will enable local ecotourism developers to develop and magnify different ecotourism services and products in the areas. The attractions and possible tourist activities are key pull factors to attract domestic and foreign visitors to visit the areas (please refer to Chapter 5). Noticeably, these activities include wildlife and waterbirds watching, canoeing, cruising, fishing, trekking, learning about fauna and flora species, doing home-stay, and participating in real daily activities of the locals, etc.

B. Relationship

Regarding the current livelihood condition of local communities and environmental concern in BTC and SS, it is not necessary involve much investment costs and modern facilities in which the areas cannot offer when attempting to apply other sources of economic alternative. Therefore, ecotourism could be perceived as a suitable development option. In principle, the development of small, moderately rural ecotourism facilities requires less capitals or investment costs compared with the costs involved in developing other common standard tourist facilities, such as resorts, beach, accommodation, and traditional services (Fannell, 1999). Ecotourists would spend more time and money at the ecotouristic destination, and their contributions are easily seen to have more direct impacts on local livelihood improvement and biodiversity conservation (WCED, 1987; UNEP, 1993).

Ecotourism implies more constructive concepts to the local development and NRM. It would allow BTC and SS communities to be engaged in a variety of business activities complementary to their current livelihoods. These additional economic opportunities in which local communities would obtain will require them to put their conventional efforts which are compatible with their capacities and technologies applied in their daily lives. The integration of ecotourism development into local livelihood strategies would allow them to earn livings from

places they live in or adjacent to that have been set aside for environmental protection. Allowing them to gain more benefit from the environmental friendly development tool such as ecotourism is necessary at the moment. This is because they would be more aware of the values of their resources for the improvement of their livelihoods. Besides, they would be more willing to participate in development and conservation to protect their income-generating course (Murphy, 1985; Wild, 1994; Campbell, 1999; Garrod, 2001). Local participation would allow them to protect the sites actively (Wearing and McLean, 2000). Also, it would drop off (at least) their antagonistic attitudes towards them and government's plans, which have already disallowed them to get access to or use some (or) most parts of BTC and SS protected areas.

C. Infrastructure and Facility

The present support infrastructure, services and facilities for ecotourism development in BTC and SS core areas are considerably insufficient and do not correspond to ecotourism standards even at rustic level. It is obvious that the current condition of the management is not quite ready to cater specific services and facilitate tourist arrivals, except some minor groundwork organized by the DoE-PIU rangers for scientists, environmental experts and student researchers.

All the villages in Peam Bang and Phat Sanday communes have received less attention from the government and non government organizations in terms of putting prime investment in infrastructural and social public services. These include schools, health care centers, transport facilities, security and emergency services, public buildings, all-season roads, electricity and clean water supply, etc. Most of the buildings and houses are scattering around the lake in no harmony with the environment, but rather with the places whereby local communities find appropriate to strap their floating houses. Local houses are built for family use and are subjective to and depending on personal and seasonal factors. Worth mentioning is the unkempt and tattered physical appearance of local houses and the grounds (especially in the water recession season). This would hinder tourist motivation to do home-stay with the locals. Yet, there are some nice-looking houses and buildings belong to well-off fishermen and government institutions (generally are DoE-PIU and DoF-PIU buildings). These groups have enough capacities (good quality motorized boats and speed boats, nice houses and equipments including toilets and bathrooms, bedrooms, sitting rooms, etc.) to host tourist visits in the areas. However, this would mean that if ecotourism is going to be fully developed in BTC and SS, only those minority groups would benefit a lot from it, leaving a majority becomes more vulnerable and marginalized.

The absence of tourist information center and tourist trails (related to the zoning system and hardening of the sites) in the areas also presents another critical note of current ecotourism facilities. Normally, the niche-market tourists (experts, students, researchers and scientists, etc.) come to BTC and SS through direct contact with the rangers of the DoE-PIU. Most often they stay in the environmental office and know nothing what to do to enjoy except to be accompanied to see the floating villages. Site and road maps, information about local and natural resources, sign posts, materials for waterbirds and wildlife watching, and activities which tourists could do are not available yet in the areas. If these are not adhered to there, it would cause tourist dissatisfaction, which could result in no interest for re-visitation and bad word-of-mouth recommendation.

Low sanitation, hygiene and waste (solid and liquid) management are regarded as another grave issue of tourism facilities. Culturally, a majority of people in BTC and SS core areas does not pay much attention (or does not have enough knowledge) to improve their health and living

environment through good sanitation and hygiene in living. In-organic, organic and waste water are dumped into the lake surrounding the accommodation. This causes fishery resource depletion (at least inside or around the village settlement in the dry season) water pollution and unclean living environment. Moreover, it would annoy ecotourists' feelings and disrupt the appealing features of these ecotouristic destinations.

D. Accessibility

Geographically, BTC and SS core areas are located in the two floating communes, Peam Bang and Phat Sanday, and are more accessible by boats in both seasons. Several trails connecting from the mainland of nearby districts and provinces to the areas are also found in the water recession season. The isolation of the places means that visitors have to travel across the lake along a number of creeks to reach there. Transport facilities for high quality and safety travel to the areas could be found with the regular motorized speed boats that transport fishery products in between BTC and SS and wholesale markets at the boat docks (i.e. Kampong Lourng and Chhnok Trou) everyday. Another option is to contact members of the CFs or environmental protection agencies to rent their boats on a bargain basis.

In general, the transport facilities to these ecotouristic destinations are still inadequate and do not live up to ecotourism tour standards. However, the access to and circulation within major fascinating places in the areas are not a real challenge, except for visitors who are river-sick and cannot swim. Common rowing or motorized boats used by local communities could provide enough facilitation for visitors to enjoy the places. Noticeably, in the water recession season, visitors could also do trekking or adventure tours within or across the flooded forestlands to observe the natural beauty crown and biodiversity resources of the places.

The attached complex connection of the waterway system represents one of the best opportunities to arrange different circuits for visitors to travel or come back to other famous touristic destinations in nearby provinces or cities, especially Siem Reap, Kampong Chhnang, Battambang, and Phnom Penh. Furthermore, the unique topography of the places which provide all-season access (although by boats) for ecotourists would not be a major problem of investment costs in transport infrastructure for local or provincial developers.

E. User Prerequisites

To simplify, this refers to the capacity, knowledge, skills and experiences of local communities and potential ecotourism developers as well as necessary equipments they are going to use to operate ecotourism services in BTC and SS core areas (Fagence, 2001; Boyd and Butler, 1996).

The study finds that a majority of local communities and responsible government and non-government officials in the areas, exclusive of those at top-management level, regard ecotourism as a groundbreaking concept of development. In addition to their limited education which makes them prone to vulnerability, livelihood loss and unyielding resource management programs, they hold no skills, knowledge and experiences related to ecotourism principles, practices, and business viabilities. So far, there have been no tourist experts or environmental specialists come to train individuals and current developers on necessary skills required to carry out varied ecotourism fundamentals and activities. Although ecotourism is miniature in terms of its size, scope, and complexity, it demands multi skills and knowledge in different respective fields which support its process to be flourishing and sustainable. Since ecotourism development depends upon specific specialized market forces, the local communities and concerned ecotourism developers in the areas need necessary training, consultation and skill

enhancement programs. This is to prevent unorganized and unplanned development and mass tourism which could result in high competition and depletion of local resources and natural environment.

These skills and knowledge might include: language skills; ecotourism dimensions and principles; guiding and interpreting skills; natural resource management and protection skills; ecotourism management skills; service catering skills; hospitality and customer service skills; marketing and promotion skills; decoration skills; food business skills; eco-friendly construction and house or village maintenance skills; life-guarding skills; eco-friendly livelihood skills; and, waste management skills, visitor management skills, product development and positioning skills, etc. Once failed to provide these prerequisites, people's and developers' intention to lure large groups of tourists would ensue and present a steady threat to the ecotourism initiative project, biodiversity resources, the ecosystem and the communities themselves. As a part of long-term goals of ecotourism development in BTC and SS, some appropriate forms of subsidy, livelihood incentive, and site management would be of great support for local communities. This would also allow them to participate in decision-making, planning and development as well as to gain some direct control over eco-tourism related activities. This could be done through the introduction of skills and knowledge to them to diversify their economic activities into a variety of small and medium scale enterprises.

F. Social Interaction

This part focuses on the attitudes of local communities towards ecotourism and tourist arrivals in their areas which would influence their livelihoods, social structure, personal privacy and local tranquility. On the other way round, it will also ponder the perception of tourists as a guest community towards their visits and interaction with local fishermen in BTC and SS core areas. Overall, it is related to host-guest interaction, while the hosts are local people and the guest communities are tourists, whose interest is to visit the sites (Williams and Lawson, 2001).

The positive idea about ecotourism is to avoid exclusive intervention from outside developers and planners, because local communities are supposed to be a key player if ecotourism is to be fully developed (Markey, 2003). The consideration is to place more focus on the involvement of local communities from the beginning; otherwise, tourist dissatisfaction and anguish would be observed as a result of the lack of local empathy (Boyne, 2005; Hall, Roberts and Mitchell, 2005).

It was found that community attitudes towards ecotourism are positive yet cautious. The ecotourism development project in BTC and SS core area is welcomed by the people as a tool to provide more economic alternatives, a change in current management and development structure, and better strategies for the resource conservation (Chapter 7). Besides its economic benefits, ecotourism was perceived by the communities to have a capacity to improve local sense of pride as owners of the places, local skills and the level of education and knowledge of local communities, particularly children and young community members. This could be obtained through direct contact and cultural and technical exchange with ecotourists, as well as through the provision of training programs in the areas. However, it is noteworthy that local communities would reject ecotourism initiative if it is going to be developed at the total expense of the communities.

The above-mentioned standpoint offers two critical implications for future planning and process of ecotourism development in BTC and SS core areas. First, concerned government and non-government institutions need to work more collaboratively with local communities or

involve them to work and decide for ecotourism tracks from the beginning. It would be ideal if developers and planners develop and lead ecotourism with transparency, good governance and true involvement of communities. They are required to focus more on ownership issues of communities and let them contribute to help shape ecotourism development efforts. Second, concerned government and civil society organizations, including local and provincial authorities, need to pay attention to the influx of seasonal in-migrants, civil management administration and the relation of power in the areas. An expression of anxiety over the increase in number of seasonal in-migrants and outsiders (those with money and power) into the areas when ecotourism becomes fully operationalized was noted by local communities in BTC and SS. Like this, impacts would be fallen on local communities and used resources through outsiders (including outside developers and responsible government agencies too). This would enable outsiders to grab the benefits of the locals, and elites to control the power and development decisions.

Both foreign and domestic tourists are appreciated by the same token. However, only nature-based tourists, ecotourists or adventure tourists were confirmed as the most favorite types of tourists favored by local villagers. It was indicated by the locals that potential tourists could be those who have enough knowledge about and strong interest in natural features, local culture and conservation. The communities were concerned with what and how tourists could understand about their roles and contribution to help promote local activities and economy. The pre-interaction attitudes of the locals reflect their particular attention and prevention to avoid any possible damages to their environment and resources.

Each attraction of BTC and SS core areas has significant potential to attract a variety of tourist markets. While some attractions retain high level of biodiversity which could be a magnet for specialized niche tourist markets (e.g. scientists, researchers, students, conservationists, volunteer tourists, etc.), other resources have sufficient potential to attract those looking for an enthusiastic nature-based and cultural experiences (Wall, 1997). The study finds interesting information about both domestic and international tourists interviewed, many of whom are interested in visiting BTC and SS core areas as a part of their holiday-makings. In most cases, tourists believe that visiting a nature-based or ecotourism site would bring benefits for both parties of the ecotourism industry – hosts and guests. In the guest side, there are those who place importance on learning and education with a specific concern on the environment and communities in BTC and SS. They believe that their interaction with the hosts would bring loads of positive benefits for their experiences of a lifetime. For those who are concerned with scientific knowledge, learning and researching opportunities at the sites confirm that tourists could regard these TSBR core areas as a paradise for their enjoyment with abundant and rare biodiversity resources and nature. This attitude towards future interaction with the human and natural environments simply shows a positive sign of tourist markets and an emphasis on communities as a valuable aspect of their visits.

G. Tourist Demand and Impacts

If compared to the categorization of tourist types defined by Kusler (1991), Allcock (1994), Acott (1998), Fagence (2001), and Priskin (2003), the study finds that the most potential types of tourist markets for BTC and SS core areas would be *deliberate / hardcore* and *dedicated tourists*. The results from the study supports this classification as to what activities and why they are interested (Chapter 6). This because they are more interested in conservation (nature and culture) awareness, support of local livelihoods and in the improvement of their knowledge and experience. It is clear that their motivation and involvement in ecotourism activities does

not only require environmentally compatible recreational activities, but also focus on humanity predominates.

The emphasis of tourists on learning, education, conservation and community development provide better opportunities for the local tourism industry in BTC and SS to promote more green products within their holiday destinations. Also, it is a great opportunity for local service providers to disseminate information about environmental, social and cultural aspects to target these types of tourists. This would help promote specific marketing and promotion strategies of the places that would attract both domestic and foreign tourists from a specific kind of backgrounds. When tourists realize appealing services provided in BTC and SS which could cater for their needs, they could come to visit and behave more responsively to the ecotourism features and principles. Since BTC and SS core areas are not intermediate natural sites (Clawson & Knetsch, 1966), target tourists would choose to use local transport facilities for their travels, either alone as independent travelers (backpackers) or in group.

In addition, realizing a need to enhance their knowledge and appreciative nature-based experience, tourists would spend a considerable amount of time and money to fulfill their expectations. The finding suggests that the local communities and ecotourism developers could organize different kinds of package tours ranging from two to five days (or more) trip basis for both domestic and foreign tourists. The most possible amount of tourist expense per trip at the sites would be in between USD 50 to USD 500 for foreign tourists and from USD 10 to USD 100 for domestic tourists. This information is important for communities and ecotourism developers to know that domestic tourists would prefer traveling in groups or buying package group tours to reduce the costs to traveling a lone or in small groups if compared to foreign tourists. (See Chapter 6)

Aspirations to gain knowledge about nature and culture as well as to help the poor and their environment are the fundamental characteristics of ecotourism (Blamey, 2001; Weaver, 2002; Priskin, 2003; Holland, Burian & Dixey, 2003). Therefore, it is necessary for local developers and planners to obtain sufficient reliable information that would help to identify and qualify ecotourists through their attitudes and activities. In the context of BTC and SS destinations, many of the possible activities that tourists could participate in are related to recreational nature-based activities, study and research activities and cultural exchange with the communities in the areas. Nevertheless, some of expected tourist activities are also consumptive such as adventurous activities including trekking, cruising, canoeing, etc. (Diamantis, 1999). Many of potential tourists to BTC and SS would also desire to participate in activities that are generally closely linked to natural and cultural appreciation and fair economic distribution of visitors' expense to local areas and communities (Borchers, 2003).

However, the quantity of tourists at an ecotourism site is not a primary attention of tourism developers and planners as tourist activities can intrude the natural environment in the areas (Stem, Lassole, Lee, and Deshler 2003). It is optimistic that ecotourism could be developed as a tool for rural community development and natural resource management in BTC and SS core areas. It could grow in a sustainable way as long as local communities understand its benefits for the long-run of their well-being and ecological environment. Besides, one of the most priority mitigations would be to provide better knowledge about tourism and environment, particularly about tourism catering services, to local communities. Given that more attractions and tourism products are developed and diversified with a focus on both international and domestic tourists' demands, ecotourism project in BTC and SS would become a promising

revenue-generating tool for the local economy. However, this cannot be done without appropriate pricing strategies.

Most of tourists interviewed were interested in the value of natural tourism resources and desired to see ecotourism development benefit and involve the local communities. Despite tourists' positive perceptions and attitudes towards the natural environment, conservation, and local communities, local tourism developers should be cautious that tourists' activities at the sites do not always focus on appropriate ecotourism product choices of ecotourism holiday destinations (Blamey & Braithwaite, 1997; Christensen & Beckmann, 1998). Perceptions, attitudes and behavioral intentions of tourists are usually influenced by their knowledge and understanding about ecotourism development process and its service continuum. Thus, it always brings about different behaviors and activities in reality, fitting to different circumstances and product development of the sites. Therefore, environmental awareness and intention do not necessarily lead to appropriate behavior and purchase.

This study confirms that BTC and SS core areas could demonstrate multiple tourist typologies both in terms of types and products. Local tourism industries would benefit more economically from the current and future tourist markets in Cambodia. Generally, these markets are keen on seeing other potential attractions of the country as a part of their visit to this resource (culture and nature) rich country. Ecotourism process at both sites would provide additional opportunities for the locals to work and cater ecotourism services and to participate actively in its development for the betterment of their livelihood improvement and environmental conservation (Kieselbach & Long, 1990; Gannon, 1994). Yet, according to results of tourists demands, the pricing needs to be strategic and demand-oriented as tourist willingness to pay varies according to their income. In addition, as mentioned by tourists, a range of expected good service delivery and factors which could influence tourist satisfaction, such as sanitation and hygiene, diversified tourism services and products are important for their visits. Since the tourists interviewed were also concerned with nature conservation, ecotourism revenue could be obtained more from tourist contribution to support conservation of natural resources and benefit local beneficiaries (Holland, Burian & Dixey, 2003).

The study also finds that demographic, socio-economic, and cultural conditions and tourists' experiences influence destination selection, spending profile, and tourist activities and awareness. Therefore, the context of internality, externality and seasonality for nature-based and ecotourism development by the supply side at BTC and SS sites are not a final destination. This is important for ecotourism industry in BTC and SS to promote basic and specific ecotourism service delivery and tourism facilities for both types of tourists (domestic and international). These include: accommodation and toilet, transport facilities, hospitality, sanitation, tourist information center, guiding and interpreting services; safety and security, health and emergency services, etc.

H. Private Sector Interest

The term "private sector" is more specific to the connection agent, tour operator, which usually functions as a business intermediary of the ecotourism industry, in this study. Tour operators are regarded as one of the most key players in ecotourism system. Their power and influence can be realized through the motivations and types of their ecotour businesses, whether they are specialist or mass ecotour operators (Curtin and Busby, 1999), types of tourists they bring to the site and how they inform tourists to have definite expectations about and activities at the site (Thomlinson and Getz, 1996). Their roles in promoting ecotourism destinations are vital. As well, the interaction they make with local communities and ecotourism industry for supplies,

services, labour or approvals produces diverse socio-cultural, economic and ecological consequences to the sustainability of the site management. If not to a broad extent, they could somehow provide reliable information and good suggestions to improve local and national policies that promote local support for and participation in conservation and development schemes.

According to Section 6.3, Chapter 6, although Cambodian tour operators (CTOs) do not have much knowledge about ecotourism and are not really specialist operators⁶⁰ by nature, they have strong interest to organize ecotour packages. This work can be done in collaboration with local ecotourism industry for tourists to visit BTC and SS core areas as an innovation of their product development strategies. In addition, they place importance on their contribution to local industry-private sector partnership building, environmental conservation, job creation and local economic stimulation of the communities at the sites. Foreign tourists, especially those from Europe, Canada and the United States, would be the most preferable tourist market for them to target and cater their services for. A majority of CTOs know TSBR core areas from the unique natural features and cultural attractions, such as: waterbirds colony, flooded forests, hydrological system of the lake, sunrise and sunset seeing, and typical local lifestyles and stereotypes in the floating villages. Another positive attitude of the CTOs towards ecotourism development in BTC and SS is a possibility that the communities and local industry could organize or create a variety of ecotourism services and products at their capacity and knowledge to attract tourists. They could either sell local package tours to the CTOs or to tourists directly. In terms of marketing and promotion, the CTOs interviewed were happy to extent their helps on this issue.

As part of ecotourism, the CTOs indicate their strong feeling to see local ecotourism developers in BTC and SS core areas take benefit from natural resources, conservation and daily livelihoods to generate revenue for the areas on a sustainable basis. Control of actions and local respect and resident conservation support for nature is key consideration of the development. Sticking to local livelihood improvement and conservation activities, the CTOs press for strong local participation to benefit through ecotourism business activities and available jobs or through community investment. However, this does not mean that the communities and developers can be subjective to ecotourism benefits and become money-minded. They are required to pay attention to environmental education, knowledge and skill enhancement, and appropriate biodiversity conservation activities as integral parts of sustainable destination management to avoid negative impacts on human and natural environment.

I. Management, Stakeholder Involvement and Decision Process

Core area management and ecotourism management are the most critical issue in BTC and SS core areas. Many government and non-government organizations and donors have been working to promote environmental conservation programs to initiate sustainable use of biodiversity resources (UNDP-GEF Inception Report, 2005). To achieve its long-term missions, various approaches defined by the TSCP Sustainable Livelihood Project⁶¹ have been prioritized and being introduced to the TSBR core areas, including BTC and SS. As one of the main components of the project, ecotourism promotion has been a key part of development, poverty

⁶⁰ According to Curtin and Busby *et al.* (1999), specialist operators have a product which might be considered more sustainable; their volumes are lower, they are more likely to use local accommodation, local guides and services, and attract more environmentally aware clients.

⁶¹ It will be carried out for the continuing program activities until 2011 under the guidelines and mainstream works of the TSEMP-ADB.

alleviation and conservation strategies. It has been regarded as a tool that can protect BTC and SS resources, while contributing to the welfare of the local communities.

The concept of ecotourism viability is derived from abundant natural resources and exclusive cultural diversity and integrity of the places, and that these features need be well-preserved for the betterment of local development (Campbell and Matilla, 2003). Though there are several active stakeholders in the management of the areas, none of them has the capacity to develop, establish and manage ecotourism effectively. Lacking capacity and understanding about ecotourism principles would affect future development and sustainability of the areas. Besides, other drawbacks to successful ecotourism business in BTC and SS are found in this study. These include: institutional arrangement; weak legal framework; unclear definition and mandate of responsibilities; no integrated core area management plans; no ecotourism laws, regulations and principles; poor law enforcement; lack of financial and technical supports; and, increasing depletion of natural resources.

The long-term success of ecotourism requires multi-stakeholder involvement and cooperation (F.J. Eagles, 1997). Concerned government institutions in charge of the management of BTC and SS core areas have a wide range of important roles based on environmental, fishery and socio-economic mandates (UNDP-GED, 2001). However, these institutions, e.g. DoE-PIU rangers and DoF-PIU staffs, rarely contact each other and try to find integrated solutions for the current conflicts over nature resource access and use and the declining biodiversity and ecosystem quality. The study highlights that conflict of interest and lack of commitment and consciousness among responsible agencies are relatively central to project failure. More critically, decision-making and planning process have been done only at top-management level, leaving the pivotal implementers in the areas with low power and perished initiative to blindly abide by the given directions. Task assignments performed by these agencies are just to convince project leaders and fund providing agencies that everything is complying with the plans. It is common that they are financially and technically dependent and potential of corruption.

As ecotourism mainly relies on the long-term viability of the management and conservation of biodiversity resources and natural environment, the DoE-PIU claims their sole control over its process. Regardless of its benefit for the communities, responsible developers in the areas never involve local fishermen and other relevant stakeholders in ecotourism business. Such behavioral denial would lead to the failure of ecotourism process as ecotourism is very sensitive to stakeholder involvement or dispute.

8.3.3 Ecotourism and Local Livelihoods in BTC and SS Core Areas

The current threats to natural resources are usually caused by illegal fishing and over-fishing, illegal hunting and poaching, deforestation, conflicts over resource access and control, land encroachment, extractive harvesting and increased poverty rate among the locals. The need for economic alternatives and diversification for local communities to resist these problems is regarded as one of the most desired remedies for the management and conservation of biodiversity resources in the areas. Through ecotourism, alternative local livelihood options and diversified economic activities could be generated and bring a sense of ownership and conservation to current decreasing resources (Weavor, 2002; Jenkins and Wearing, 2003). Besides generating more revenue to local economy and job opportunities, ecotourism would help local communities to realize their roles in contributing to better protection of their natural and cultural resources (Ross and Wall, 1999). This reflects that ecotourism could be one of the most promising strategies to convert use and non-use values of BTC and SS core areas into

actual ecotourism benefits (Dharmarante, Sang and Walling, 2000; Kent, 2003). According to Hap, Seng and Ratana (2006), the use value is comprised of: [1] direct value (production and consumption goods); [2] indirect value (ecosystem functions and services); and, [3] option value (premium placed on possible future uses or application). The non-use value could consist of intrinsic significance of resources and ecosystems of BTC and SS, such as existence value, bequest value, culture value and heritage value.

The study finds that a wide range of stakeholders are optimistic that ecotourism development in BTC and SS core areas would give a lot of benefits to the communities. Besides its economic perspective, ecotourism would also help to: (1) enhance community participation; (2) strengthen local ownership and access rights; (3) improve people's knowledge and skills; (4) revitalize social structure, system, network and relation of the communities; and (5) preserve local values and resources. On the other hand, the local communities in BTC and SS core areas would also be prone to the negative consequences of ecotourism development socially, culturally and environmentally. Even though ecotourism is one of the reliable community livelihood options, its emergence has not been entirely discussed and related to the discourse on sustainable development. It has transpired out of concerns with negative environmental impacts rather than on socio-economic impacts.

The nature of ecotourism industry is critically dependent on local involvement, through their roles as employees or local entrepreneurs and their traditional knowledge as the owners of the places, and on resident goodwill towards tourists. Without adequate community participation and support over decision on the course of development, many possible negative impacts of ecotourism would most likely occur at the sites. This requires strong involvement of BTC and SS communities in ecotourism development from the outset and continually. The sustainable and healthy ecotourism industry which is going to be developed at full speed in the areas would be centered on local awareness and participation in planning, developing and maintaining the whole process (Hall, 1996). Developers of the areas need to place importance on giving more opportunities to the locals to help manage ecotourism and obtain equitable flow of benefits (Pearce, 1992). Moreover, their ideas and decisions are necessary to be incorporated in the planning and implementation process in order to ensure that development is not misled at the expense of the community (Murphy, 2004).

If managed properly from the beginning, ecotourism development in BTC and SS core areas, which is required to be community-driven by civil society and donor agencies, could help to promote community development. Community development is rationally perceived as "building active and sustainable communities based on social justice and mutual respect (Roberts, 1979; Blackstock, 2005). Hence, community development via ecotourism could help to dismantle structural barriers to participation and develop emancipatory collective responses to local issues. However, a critical note for local developers in BTC and SS is to promote local empowerment and social right and equity (Dowling, 1995). In addition, it is necessary that both government and civil society try to understanding the relationship between local participation and local power structures clouding the current development circumstance. This would help to demolish rather than reinforce barriers to local livelihood options. By doing so, the structural constraints to local control over their resources and future development would ground ecotourism in its broader socio-political impacts.

8.3.4 Ecotourism and Natural Resource Management in BTC and SS Core Areas

Ecotourism as a tool for NRM and ICDP is a type of conservation initiatives which seeks to provide an economic incentive to local communities so that they are inspired to conserve the

natural resources (Hall, 1994; Murphy and Murphy, 2004). In this sense, ecotourism could be seen as having great potential to address a range of biodiversity and conservation issues in BTC and SS core areas. As the approach of ecotourism usually focuses on conservation and environmental sustainability, the improvement of local well-being is often considered when it provides incentives for on-going conservation of the areas.

It was found that ecotourism has the potential to help reduce the amount of natural resource depletion and the growing decline of the environmental quality in BTC and SS caused by human activities. It could help to remonstrate with the local communities about illegal activities through the provision of economic alternatives and job opportunities to increase their income-generating abilities in the areas. Realizing economic incentives provided by ecotourism as a conservation mechanism would make people aware of the value of their resources and try to reduce or avoid current destructive practices. A variety of jobs found as possible livelihood alternatives for the locals to do in BTC and SS are paddlers, transport facilitators, food service providers, craft-makers and sellers, floating food and goods vendors, home-stay service providers, tourist guides, cultural performers, boating and canoeing operators, fishing operators, etc.

Ecotourism could also benefit research, education and awareness in BTC and SS core areas (Kent, 2003). It is optimistic that both local communities and tourists would learn more about biodiversity resources and natural environment, its significances and coexistence with the human environment from many sources of information. These sources are books, tourist guides, resource demonstration, or observation. As long as local fishermen understand the value of ecotourism for their individual households and communities, their appreciation of nature and ecology would be increased. This would also result in improved understanding of the need for individual and collective actions and supports in conservation process (Epler Wood, 1998). In addition, revenues that are going to be generated out of ecotourism operation could be used to channel and fuel scientific research in ecology and conservation (Gouvea, 2004; Epler Wood, 1998). This innovative effort would bring more effective conservation measures as well as remedies to current and future conflicts over resource use and access (e.g. through renewable energy). Another possible benefit of ecotourism to conservation could be obtained from the contribution of scientist or research tourists to study fauna and flora species and ecological system of BTC and SS core areas. Volunteer tourist, a new type of tourist markets that inspires to work for community benefits, could also be considered as a motive of conservation activities at these sites.

8.4 Limited Potential of Ecotourism to Contribute to Local Livelihood Improvement and Natural Resource Management in BTC and SS Core Areas

Despite strong optimisms have been put on the roles of ecotourism as a change agent in rural community livelihoods and conservation principles, it needs to be recognized that the outputs of its development may not be economically beneficial as hoped (Fagence, 2001). It might be to general extent an ecologically-driven tool rather than an economically-driven strategy (Kiss, 2004; Hira and Parfitt, 2004). This depends on the nature and politics of its developers and planners as well as on the influence and behavioral compliance of the community representatives (King and Stewart, 1996). This part discusses the problems in using ecotourism as a tool or an incentive for the community livelihood improvement and the conservation of natural resources in BTC and SS. In addition, it demonstrates some factors which obstruct local fishing communities, especially the poor and vulnerable ones, from participating in ecotourism and its benefit sharing.

Different from the natural phenomenon, ecotourism initiative in BTC and SS core areas is not created by the local communities principally. This initiative has been strongly influenced by economic, social and environmental perspectives and policies of the international development (financial) agencies and the TSEMP and TSCP projects respectively supported by the ADB and the UNDP-GEF. These institutions have been working to appeal for immediate participatory development that is environmentally and socially responsible, while at the same time provides economic viability to BTC and SS core areas where environmental problems are closely related to poverty. It was found that the management process of the TSEMP and TSCP in TSBR likely focuses on macro-level, top-down effort spearheaded by multilateral funding agencies' interest and environmental organizations' notice. Generally, their policy and development frameworks open a door to the growing of two different but interrelated movements. These are the global environmental governance concepts applied in TSBR core areas of global environmental significance and the spread of democratic ideology favored by international donors through community participation.

It has been widely accepted that most environmental issues in BTC and SS are state and global threatening and most of the environmental resources in the areas are common property resources. Therefore, it is obvious that many environmental constraints in the areas, which are associated with social and developmental issues, need the intervention from the state and international communities. The nature of their works could shape their management behaviors and thinking of the current resources in which local residents in the areas used to rely on as shared resources for both livelihood requirements and conservation purposes (Hira and Pitfall, 2004). In this respect, their development initiatives, e.g. ecotourism initiative, are not really decentralized or community-oriented. They are covered up by global environmental concern and development politics of the donors, who would love to work for their own political agenda rather than the immediate needs of the communities.

It is problematic that ecotourism is developed in natural resources rich but impoverished areas like BTC and SS, where people need to have more access to common property resources. The problems might occur when only a few, not all local villagers or service providers are committed to conserve the areas, especially its main attractions such as wildlife, waterbirds, flooded forests, etc. This would cause difficulties for the conservation of natural resources and ecological environment through common property resource management of these core areas as its conservation process requires strong willing and participation of both benefit receivers and non-receivers (Murphree, 1993; Goodwin and Roe, 2001).

Even though most fishermen in BTC and SS desire to see ecotourism operation fully established in their localities, their current behaviors and attitudes are subject to change, especially when they see disparities in income generation and income distribution. Apart from an attempt to receive more development and build linkages with the outsiders to reduce social persecution in the areas, local residents expect ecotourism to provide additional revenue or economic incentive to improve their living standard. When more benefits are given to local communities, the conservation status and the management of natural resources could be enhanced. However, economic benefits for local households might be lower than expected or insufficient for people to depend on as a single source of income (Ashley and Roe, 1998; Goodwin *et al.*, 2001). Not all tourist expenses for their ecotourism trips would remain for BTC and SS communities. Also, economic benefits would leak to local rich or elites and outsiders, such as medium and commercial fishermen, members of commune council and community organizations (i.e. CFs and CPAs), government officers in charge of the management (i.e. DoE-PIU and DoF-PIU

staffs), some better-off in-migrants, and business intermediaries. These groups usually have more power, better social network, better education and skills, more investment capital and business experience to operate ecotourism enterprises, let alone the poor and vulnerable ones receive inequitable income distribution (Agrawal and Gibson, 1999). If not managed properly with sound participatory approaches, ecotourism would bring not only ineffective conservation works, but also social inequalities, community disruption and conflict to BTC and SS core areas.

The potential ability of the communities and ecotourism developers in BTC and SS to understand the financial benefits for the areas is a critical intuition that could be changed from fewer efforts. The views of current ecotourism developers and the locals, even at transitional stage, that more tourists mean more income to the areas could be increased when ecotourism initiative is fully developed. However, as ecotourism is a type of small market-oriented economic tool in protected areas, it is required that a considerable amount and specific types of tourists are targeted from the outset of development. Different from traditional tourism or mass tourism, its competence to provide economic revenues enough for community development and conservation is limited in its principles. It would select or attract quality tourists who are willing to pay more to enhance their experience, while at the same time help the environment and the locals, rather than focuses on number. This is because more tourists can bring more damages to the areas, adding more costs to ecological conservation on destruction or spill-over destruction resulting from tourist use of the places (e.g. disturbance of wildlife, habitat crumbling, waste management, etc.) and the migration of animals. Understanding this issue would lead developers and planners, especially communities and local tourism industries not to be completely dependent on ecotourism as a source of income and a sole incentive for conservation. Ecotourism is not different from other types of tourism with respect to its market sensitive nature. It could be an easily fragile industry when affected externally by state and world events which local communities and tourism industry cannot predict and control (Goodwin *et al.*, 1998). The context of BTC and SS core areas would make local fishermen, who strongly look to ecotourism as the only source of their income, vulnerable if such a project initiative fails to provide them sufficient financial benefits.

The management and sharing of ecotourism revenues is another grave issue. It has been observed that current responsible developers of the TSBR ecotourism project are not enthusiastic to invest ecotourism revenues in conservation of natural resources. Less has been used as bonus to motivate environmental rangers, while the rest goes to the central government (e.g. Ministry of Economy and Finance) and the top management level. This always leaves entire conservation process dependent on external funding. Apparently, the designation and further restriction of the areas as protected environmental hotspots to cater authentic services to tourists without reimbursing the communities through their participation in ecotourism activities would bring a lot of negative effects on local livelihoods and ownership rights. Compromising current and future benefits of the communities or developing ecotourism at the expense of the communities would lead to conflicts of interests and other social and environmental problems (Pat, 2001). This is because local fishermen in BTC and SS core areas cannot rely on ecotourism revenue as a single economic activity. Especially, it would cause less resident support and involvement which could result in the failure of conservation and sustainable livelihood projects. Therefore, if ecotourism is not well-planned and regulated properly, it could disregard community roles / rights in development and maintenance as well as in benefiting from ecotourism equally. In addition, it could bring marginal ecotourism earnings and major social and environmental costs to the areas.

The concept of ecotourism development in BTC and SS by concentrating much or only on financial benefits would be inapt and unhelpful for promoting local awareness and resource conservation. Most of the natural resources in these core areas are common property resources which require participatory and collective approaches for sustainable management and conservation. As Brandon (1996) and Steiner and Rihoy (1994) mentioned, using ecotourism as a tool for conservation needs collective support and participatory resource management strategies. These strategies depend not only on financial benefits, but also on how to improve rights, accountabilities, knowledge and skills, proper management organizations, conscience and involvement of local communities. As far as many concerned environmental and developmental institutions (i.e. MoE, MAFF, MRD, ADB, UNDP, etc.) expect, ecotourism could improve local economy and local community livelihoods. It could generate jobs and cash incentives and revitalize local economic activities in the areas, while at the same time helps to stimulate conservation process through community support and involvement. However, many local residents in BTC and SS are facing not only poverty, but also many social problems which are caused by traditional client-patron relationship, social inequality, natural resource depletion, natural disasters, insufficient public services, corruption, inadequate knowledge and skills, weak institutions and mismanagement of the areas. It is not enough to sustain local community livelihoods in BTC and SS just by using ecotourism to increase their income and local benefits. Sustainable livelihoods would mean more than how they make their living. These involve reliable and permanent security – income, food, job, health and life – which people in BTC and SS are looking or struggle for. This could achieve only through the accumulation and increase of communities' capital assets.

BTC and SS core areas are rich in unique, valuable natural resources, particularly fishery resources, which can provide great opportunities for a range of economic activities and for the stimulation of local economy to reduce the poverty rate if managed properly. These distinctive natural assets can provide both goods and services, and this could provide good opportunities for rural community development. Consequently, local fishing communities in BTC and SS core areas could receive higher rates of self-employment from fishing and fish-related activities and other traditional agricultural practices. These practices could add value to local economic activities for commercial speculation which could make their livings self-sufficient. However, it could present challenges for these local fishing communities if their resources are being extracted for the purpose of conservation and recreational demands of tourists, meaning they are losing the opportunities to use the areas for other better livelihood options (Vanasselt, 2000; Pat, 2001). It is undeniable that ecotourism is central to specialized niche markets and market-oriented as other traditional forms of tourism (Isaacs, 2000). Therefore, ecotourism jobs and incomes are seasonal and might be lower to adequately nourish the areas of chronic human poverty like BTC and SS. It is necessary that ecotourism is developed and promoted in these areas without compromising other possible non-destructive economic development efforts of local communities. This means ecotourism should be used as an additional tool for local livelihood improvement and NRM in the areas, enabling people to get away from their illegal activities involved in a single employment option.

8.5 Guiding Principles for Ecotourism Development in BTC and SS Core Areas

This section focuses mainly on the development of ecotourism guiding principles for planning and management of ecotourism in BTC and SS. Based on the real context of these core areas which have been indicated, explained and discussed throughout this study, the site specific strategic frameworks are needed to support and sustain ecotourism process to benefit both conservation and community development.

Rhetorically, the term “ecotourism” and “sustainable tourism” are often used interchangeably or are synonymous by nature. Developing ecotourism in BTC and SS core areas to provide long-term benefits for conservation and community development requires strong consideration from and multi-sectoral development frameworks of all concerned stakeholders, especially the local communities. Despite its focus on sustainability concepts, ecotourism is not really a panacea to all the current problems in the areas which are caused by a complex relationship and interaction between the human society and the natural environment. Three dimensional or triple-bottom line concepts – social, economic and ecological aspects – should be carefully taken into account from the outset in order to achieve sustainability of its development. Since ecotourism is not a single-icon tool to be applied in a complex social, political and environmental sphere, it should be recognized as a part of integrated or wider sustainable development strategies in BTC and SS, and to develop it at a community level is strongly encouraged.

Careful guidelines for planning and management of ecotourism in BTC and SS are strongly needed in order to ensure that it is developed on a right track, and the opportunities and benefits it can offer to the communities and a range of other concerned stakeholders could be increased. Therefore, prior to its development, the substantial characteristics of ecotourism should be recognized by the communities, industrial people and developers in the areas, so that the application of this tool for development and conservation is not overstated. These characteristics involve: (1) promotion of natural and cultural appreciation among local communities, concerned stakeholders and tourist groups; (2) commitment to support environmental protection and conservation of resources is the primary concern; (3) development of ecotourism as a high value and low volume service sector (small scale basis); (4) ensure that ecotourism maximize benefits for the host communities and their environments and less impacts are seen out of its process; (5) it should be regarded as one of sustainable alternative livelihood approaches but not a sole panacea; (6) lowest consumption of non-renewable resources should be applied; (7) ecotourism facilitates the promotion of local empowerment, ownership rights and active participation; (8) interactive exchange of knowledge and experience between the hosts and the guests is focused; (9) high quality of information and services is vital; (10) appropriate planning and management capacities are needed for the long-run; and, (11) tourist satisfaction has to be ensured.

No single stakeholder of ecotourism industry is capable of operating successful ecotourism business. Many organizations (such as WWF International – 2001, World Ecotourism Summit 2002, UNEP and WTO, 2005, etc.) and scholars (such as Eagles, 1997; Wight, 2002; Drumm and Moore, 2002; Angammana, 2004; etc.) have identified general guiding principles for sustainable ecotourism development. However, the context of BTC and SS core areas requires site-specific guidelines which could address all related cross-cutting issues through the development and implementation of ecotourism plans. As ecotourism development in BTC and SS entails a range of key players, the following guidelines for planning and management of ecotourism in a sustainable manner in these core areas should be considered painstakingly.

❖ **Integrated and Collaborative Planning and Policy Development**

For the context of BTC and SS core areas, it is not suitable for every stakeholder to control and implement management and development plans without assistance or collaboration from others. Partnerships between all relevant stakeholders in the areas, including government and non-government agencies, local communities and local tourism industry or external industry

people (e.g. TO/TA), should be fabricated to ensure that all participate actively in the planning and management of ecotourism in BTC and SS. This should be taken into account from the beginning of its development process.

One of the biggest problems in the management of BTC and SS core areas is lack of a sectoral planning perspective (e.g. frequent conflicts and communication barriers between MoE and MAFF). It is necessary that all bodies come to work together and forge cross-cutting visions and objectives while planning and developing policies and strategies for ecotourism. Integrated management approaches should be erected and followed proactively for integrating ecotourism planning to address all resources and involves multi-sectoral interests, which are not away from sustainable development goals and principles. Being a part of a larger sustainable development tool in the protected areas, ecotourism planning, policies and actions in BTC and SS should have precise aims and place importance on community development. However, these need to be accommodated with clear and effective ecotourism laws defined by MoT with its partner institutions, such as SNV which is working to bridge a connection between MoT and MoE for sustainable tourism development in Cambodia. Every ecotourism plans and strategies set up through multi stakeholder consultation and participation, including the local voice, should embrace clear social, economic and ecological objectives. Moreover, appropriate mechanisms which are imperative before the full ecotourism operation takes place in BTC and SS should be slotted in tourism planning and management. These includes: zoning system; general and specific behavior codes for tourists, community members, and tourism industry; environmental assessments and monitoring procedures; visioning and strategy development; land use planning; pricing policies; tourism facility and infrastructure development and control measures; interpretive resources; and, determining acceptable numbers and types of tourists suitable to the local capacity / technology and the physical carrying capacity of the sites.

❖ **Systematic Management Plans for BTC and SS Core Areas**

Protection and preservation of BTC and SS core areas should be regarded as a basis of ecotourism development and planning, and one of the most important goals of the TSBR core area management. There is an immediate need for a protected areas planning and development framework for the areas. The design of this management framework should be specific (avoid putting the Prek Toal Core Area Management Plans into practice in all capacities) to the context of the areas. The main aim of this work is to improve the conservation process of the areas, while at the same time managing and protecting the recreational uses for tourist satisfaction. The zoning system would be an effective strategy to be applied in these core areas planning by incorporating visitor use and site plans to identify attractions, potential tourist trails, low or medium and high impact areas, and buffers.

The management plans and strategies for ecotourism activities in BTC and SS should integrate the strategic policies of the integrated natural resource management principles for the TSBR. This is to ensure that conservation of biodiversity resources and the unique ecosystem of the areas is included, more effective and efficient consumption plans of resources are developed, and mitigation strategies to reduce possible negative impacts caused by tourist activities on human society and environment are determined. It is suggested that all concerned stakeholders work collaboratively to develop short-term and long-term management plans and mechanisms. By doing so, it would help to ascertain that ecotourism plans are consistent and harmonizing to current objectives of the TSBR core area management. However, the community participation and the integration of local traditional knowledge and practices or community rules into this design are strongly recommended.

The management of impacts is a critical issue of ecotourism development in BTC and SS core areas. A variety of approaches and tools for measuring tourism impacts during and after development period should be developed and used. Regular monitoring and evaluating process should be carried out to curb the extent of ecotourism activities and their impacts. Efficient monitoring tools, such as a visitor site monitoring program, should be developed to identify and differentiate the amount and type of development trends with regard to environmental conditions, visitor experience and satisfaction, and the condition of support infrastructure and services. Common impact monitoring criteria include biophysical (e.g. erosion, vegetation damage, behavioral change of animals, water quality, pollutants, physical spatial distribution, waste, the quality of natural landscapes, etc.) and social (conflicts of interests, conflicts of use, visitor behavior / flow / satisfaction, facility standards, community standards, community impacts, social change, etc.).

Visitor (impact) management is another integral part of impact management process. It is recommended that ecotourism development in BTC and SS core areas be small scale, meaning the quality and appropriate types of tourists should be targeted carefully. Tourist behaviors that cause minimal impacts should be encouraged in order to maintain the long-term relationship between natural environment and human activities. Some typical means could be used to ensure that tourist activities are in control, such as visitor and tourism industry codes of conduct, information centers, guides, interpretation, signposts, zoning, etc. Another valuable approach is to build close partnership with the tourism industry (e.g. tour operators) to make them aware of ecotourism development and principles of BTC and SS core areas. Through tourism industry, consumer or tourist awareness of environmentally and socially responsible activities for the communities and their resources would be enhanced prior to or during their visits at the sites.

❖ **Community Involvement and Community-based Approach**

Each step of management (planning, organizing, controlling and monitoring) in BTC and SS core areas should involve local communities to influence and benefit from ecotourism development. This affair is complicated, yet vital for successful community-based ecotourism in the areas. The existing social network and community structure / system should be carefully considered by ecotourism developers and planners because these can create challenges as well as opportunities. The goal of community involvement is to achieve fair benefit sharing which could serve immediate and future needs of the related groups or sub-groups (i.e. types of fishermen) in the areas. Their involvement in socio-cultural and environmental activities would enable them to receive direct benefits through giving support and input in planning, monitoring and criticizing the project. In addition, community participation and support should be encouraged and obtained in order to determine strategies and activities which are beneficial and supportive to the living conditions and capacities of the communities, as well as to retain local knowledge and culture. Respecting the issue of gender equity in community participation is also important since ecotourism can help to promote women roles in decision-making, planning and in income-generating activities.

Ecotourism developers in BTC and SS should try to understand, promote and empower the legal ownership rights and accountabilities of the communities over their resource use and conservation and local development. Enabling the community to influence activity and benefit from ecotourism process would encourage them to partake actively and responsively to development and conservation projects since their sense of pride is upgraded. As ecotourism

development is a community-based initiative favored by donors and environmental organizations, opportunities for private business and investment in the areas should be disallowed; or, (if necessary) only be encouraged where necessary and suitable depending on the nature of works and the level of influence on community benefits.

However, to increase local awareness, understanding, support and involvement in ecotourism as well as in conservation, a wide range of training programs should be provided to enhance the capacities and skills of the communities. This would help to increase local employment opportunities which could also energize local products and local capacities in running and diversifying small and medium scale tourism-related businesses. Training could be provided on a formal and informal basis, reflecting destination potentials and job requirements and the capacities of the communities. It is important that the content (e.g. guiding and interpreting, languages, accommodation management, customer services and hospitality, research assisting jobs, etc.), forms and means of training, and duration of training should be designed and developed in a suitable way to the needs and traditional learning environment and capacities of the communities and other local industry people. Additional training would be needed for those positions that do not require in-depth training due to the nature of their work, but still need some training. This is because these people (e.g. environmental rangers) already have some capacities and skills in certain areas, and would only need training to ensure standards or specifications are met. This type of training would incorporate construction, general labor force and those wishing to join the cooperatives. In this respect, training-of-trainers programs should be adapted to increase the number of possible local skill and knowledge providers in the areas.

Capacity building for the communities in BTC and SS core areas through a range of training should also concentrate on how to encourage and facilitate better local involvement in planning, decision-making, development and implementation (at least at local level). This means local people could participate in designing institutional mechanisms to encourage growth and development as well as conservation in the areas. This should be done prior to ecotourism development to ensure that ecotourism is not perceived as the only remedy to all current problems and that the communities are ready for the consequences of development. Local communities should also be provided skills in addressing the increase of tourist number in the areas and the subsequent impacts. From a conservation perspective, educating the communities to increase their awareness about the value of biodiversity resources and ecological environment in BTC and SS is crucial for the environmental programs. Yet, the messages of such environmental education should refer to the relation between these resources and ecotourism, to how people could conserve at local level and what benefits they could get out of development.

Training programs that could support, promote, and expand small and medium scale and micro enterprises (SMMEs) should be offered to the local communities in BTC and SS. These trainings could include business development and management, financial management, hospitality and customer services, micro investment, entrepreneurial operations, accommodation management, food business and management, marketing and promotion, and sustainability of product/service catering.

However, it would be difficult for a majority of the local communities in BTC and SS to set up their ecotourism-related businesses without any intervention from concerned government agencies, NGOs and donors. Their main difficulty arrives from their limited financial capacity to support the business start-up. Therefore, development aids (grants) or micro-credit programs should be developed and provided to support local SMMEs in the areas, and at least little

attention should be paid to how the communities manage funding or loans as well as how they operate their businesses.

❖ **Raising Awareness of All Concerned Stakeholders**

Not only had the local communities in BTC and SS shall the awareness raising program developers should focus on. A wide range of stakeholders, such as DoE-PIU / DoF-PIU / DoT / DRD / DoT staffs and tour operators, should also be targeted. Awareness raising programs should be carried out through formal and informal trainings and education in order to address all aspects of sustainability. The subject matters of the trainings could be about environmental conservation and protection, ecotourism policies and principles, economic viability, and other advantages of ecotourism socially and culturally. However, wider concern should be paid to the enhancement of local knowledge and understanding of the communities since they play more direct roles in ecotourism businesses.

Stakeholders who would be both directly and indirectly involved in ecotourism development process in BTC and SS should be encouraged to take part in the trainings specifically related to advantages and disadvantages of tourism, hospitality and customer services, how to get added value from visitors, and how to manage and control ecotourism process. For departmental and non-governmental personnel in charge of the management of the areas (DoE, DoF, DRD, UNV, LLEE, etc.), trainings should be stressed on the strengthening of their capacities to carry out ecotourism (planning and management) and how to transfer knowledge about ecotourism development and its best practices to other relevant stakeholders, particularly to the communities. In addition, the trainings should ensure that these personnel realize their roles in facilitating the communities to solve their livelihood problems and earn equal benefits from ecotourism development.

❖ **Stakeholder Partnership Building and Participation**

It is necessary that the partnership between key stakeholders of ecotourism development in BTC and SS core areas is strongly built to ensure that each body could play different significant roles for conservation and community development. First, partnership should be formed between local communities and private sector. This would involve business members of tourism industry (tour operators and travel agencies, transport companies, etc.) to join venture with local communities and industry to organize and provide needed tourism services and products to interested consumers (tourists). This partnership could also be built into planning, marketing and promotion, pricing, and a coordination of technical or financial assistance.

Second, the facilitation of community level joint venture with government and semi-government institutions working in the areas should be established and strengthened. This partnership should be forged into joint planning, decision and policy-making and monitoring and collaboration efforts. Mechanisms and community trust funds established to ensure a proportion of money managed and saved for environmental conservation efforts in BTC and SS could help to contribute to some important activities and programs. These include hiring of more environmental rangers (mainly locals), training programs for rangers and communities, community education and community development programs. Economic incentives from ecotourism and revenue obtained from government subsidies, donors and such joint methods could also use to employ local people in conservation and management of resources. It is noteworthy that local communities could benefit a lot through this partnership building, especially when obtain government incentives, subsidies and technical supports.

Third, the partnership should be built between local communities and civil society organizations. Environmental-based and social-based non-government agencies, both current and potential ones (i.e. UNV, UNESCO, WCS, WWF, CI, Mlop Baitong, CTDC, FFI, FAO, ADB, WB, UNDP, etc.) should develop more short-term and long-term plans related to ecotourism, conservation and community development as a whole and introduce these plans painstakingly to local communities in BTC and SS for their future exercises.

❖ **Government Support Programs**

It is recommended that more infrastructural and social public services (e.g. schools, health care centers, security and emergency services, clean water and green energy supply, etc.) should be provided by the government through its relevant ministries to BTC and SS core areas as well as to other areas adjacent to these sites. This is because these government services are important for local communities to promote, manage and facilitate ecotourism businesses. The government should raise funds in collaboration with concerned NGOs and development agencies and channel these funds to assist local communities to manage ecotourism process. Financial support of the government, such as subsidies (or loans) should also be given through the Rural Development Bank and the Commune / Village Development Councils to support community SMMEs necessary for ecotourism process and local livelihood improvement. An adequate amount of funds should be set aside for community-based ecotourism planning and policy-making for as well as conservation in BTC and SS core areas. Most importantly, to use ecotourism as a tool for promoting local livelihood options and biodiversity conservation in BTC and SS core areas, governmental agencies, such as DoE, DoF and DoT, should not involve themselves strongly in real ecotourism business operations. On the other hand, they should work as advisors to communities. This would help to increase local economic activities, community participation, and the effectiveness of law enforcement and monitoring system.

CHAPTER 9: CONCLUSIONS

9.1 Summary of Major Findings

The study began by using fundamental concepts of sustainable livelihood approach to look at the context of livelihood aspects and the evolution of development and conservation processes in BTC and SS which influence community livelihoods and their capabilities. The main focus of the study was to investigate the potential in applying ecotourism as a tool that could contribute to address current intricate conservation and community development concerns in the areas. In the context of sustainable development of the rural areas, it is promising when there is a strong support from various institutional stakeholder assemblies in providing crucial means and intensifying working force to help the areas achieve its development goals. But, the case of BTC and SS presents a major challenge despite the presence of various key stakeholder groups involved in the conservation and development of the areas, as these core areas are undergoing extensive transformation in management strategies. This makes it difficult to envisage how the communities and the management system which is strongly influenced by the external forces will progress together at length.

Being the core areas of the Tonle Sap Biosphere Reserve, BTC and SS obviously have to be managed through appropriate principles and mechanisms which are favored by the environmental governance regime. This regime represents one of the most powerful stakeholder groups in the areas, supported by international development agencies and donor institutions. However, its internal environmental governance system has strived more to achieve the goals of ecological protection without paying enough attention to enrich the livelihood options of the communities. Another internal management system is mainly guided by concerns to promote economic growth, for instance through concession laws, and benefit the national income, for instance the concession laws on commercial fishing lot operations in the protected areas. It was found that these existing conservation and development paradigms have triggered considerable impacts on natural resource management and community livelihoods which are predominantly dependent on the use of those resources.

A major challenge in BTC and SS is to find appropriate remedies or tools to balance between nature conservation and community development, between top-down management and participatory scheme, and between serving national and global interests and benefit sharing among concerned populations living in and depending on the areas. This issue was picked out for in-depth investigation within the nucleus and scope of this study by considering and assessing ecotourism as a tool for community livelihood improvement and environmental conservation. By endeavoring to pursue and attain the research objectives, the context of livelihoods and internal and external environments which affect community livelihoods and strategies in BTC and SS was placed at the first focus of this study. This was mainly to substantiate whether ecotourism could be developed to address community needs in a way proper to the fact that vulnerability context and livelihoods (capabilities, assets, activities, etc.) of the present communities require additional interventions.

It was indicated in Chapter 4 that despite living in natural resource rich areas, BTC and SS communities, especially the mainstream small scale fishermen, are experiencing rapid livelihood loss caused by a wide range of vulnerabilities and other prevailing factors. The general determinants that make the local people vulnerable, while at the same time causing a decrease or limitation in their livelihood strategies are derived from the consequences of management and development plans of concerned internal and external authorities. These are

attributable to the decline in fishery resources and other nature-based livelihood sources, increasing population pressure, inadequate public and social infrastructural services, limited opportunities to increase livelihood activities, power relation that causes social inequality and exclusion and conflicts of interest over resource access and consumption. The vulnerable conditions are also sequels to limited local capabilities (skills, knowledge, education and rights) to improve (and diversify) their livelihood options and well-being, geography and seasonal environment of the areas, and the change of community attitudes towards law practice and enforcement. Besides, an increase in local livelihood problems is the culmination of political changes and policies of the concerned executing agencies which bring discrepancy between conservation and development, global environmental governance, and the influence of domestic and international markets on local resources. The policies and laws designed by the government through its responsible ministries restrict the ownership, access and use rights over fishery resources and other natural assets among vulnerable and poor fishermen.

As has been discussed in Section 8.2 of Chapter 8, there is a close relation between local livelihood improvement and appropriate management and conservation of natural resources without working at the expense of communities' income possibilities in BTC and SS core areas. It was shown that poverty (in size and number) among local fishing communities varies according to the availability of and local ownership rights over natural resources. In this study, the community attitudes towards nature conservation was denoted as positive, yet cautious and disbelieving the present management system controlled by the implementing agencies. In views of the locals, a constant decline in natural resources, especially fishery production, means their livelihood activities and approaches are being continuously diminished, which could lead to a complete livelihood loss in the absence of proper corrective and preventive measures. Despite their adaptation (i.e. paying for illegal fishing) to resort to the internal structured system, local communities are becoming more attentive to current changes in and challenges to their lives and hold positive demand to see high value but low volume development interventions or tools in order to secure their livelihoods.

Apart from targeting economic incentives from environmental friendly interventions that could generate more village-based livelihood activities at local capacity and technology, most people in BTC and SS also want to see positive changes or improvement in current management of the areas. They are concerned about conservation of natural environment and the risk of corruption spreading throughout current central governance system that provides more benefits to a minority group which is already well-off and has prevailing rights to natural resource access and use. The management system is perceived by the local fishermen as still being centralized and is disproportionately skewed to environmental protection on one hand and to a few rich and elites on the other. In this respect, the broader context of social and economic bases for community livelihood improvement in BTC and SS requires accompanying development tools which is equated to the concept of sustainable growth or development. These facts correspond to the emergence of ecotourism initiative in the areas that could be implemented to help address the pressing livelihood context of BTC and SS communities, without jeopardizing the natural base and ecological preservation in the areas.

A philosophy of using ecotourism to contribute to the improvement of local livelihoods and current conservation process, while rectifying natural resource exploitation in BTC and SS, comes along with a question whether the areas are potential for such development. In the second focus of this study, the potential, challenges, and opportunity for ecotourism development in BTC and SS were analyzed (Chapter 5 and Section 8.3.2 of Chapter 8). The study found that BTC and SS present high potential of natural resources and unique cultural

attractions that could be developed as an ecotourism destination. These resources indicate three fundamental elements of these areas – quantity, quality and fascination. The natural attractions vary from vital and inspiring undisturbed natural habitats, unique ecological and geological formations of the lake, beautiful natural landscapes, and rich biodiversity resources and distinctive ecosystem. It was indicated in Chapter 5 that these areas are home to abundant natural resources, encompassing endemic and illustrious fauna and flora species, some of which are environmentally regionally and globally significant. Besides being natural resource rich regions, BTC and SS core areas have an amalgam resource base of historic and cultural attractions. A variety of cultural resources have emerged from unique local settlements, livelihood activities, varied social organizations and adaptive strategies of the people to their surrounding natural environment, as well as from the evolution of Khmer history moving throughout the lake region. The presence of rich, and distinctive, natural and cultural attractions could enable the areas to develop and magnify a range of possible ecotourism activities and services to attract tourists.

The demand side of ecotourism industry is also an important contribution to the development of ecotourism in these core areas of the TSBR. It was found out that potential tourist markets, both domestic and international, have positive perceptions and attitudes and strong motivation towards ecotourism development in BTC and SS core areas. Their appreciation and preference for improving their knowledge and experience, for participating and contributing to environmental protection, and for helping the communities through their expenses in BTC and SS reveal an optimism that local ecotourism enterprises could be established to cater environmental friendly services to tourists. The demand for ecotourism development in BTC and SS was also held positive by the private business sector, mainly the travel intermediary firms running businesses with tourism operation. This research shows that potential tour operators and travel agencies have strong interest to incorporate ecotour packages provided by ecotourism developers in BTC and SS into their programs, as well as to help attract tourists to visit the sites. Furthermore, it was indicated that they are willing to collaborate with local ecotourism organizers, and are concerned with a way that local ecotourism developers and communities could benefit from their resources, the conservation process and development.

Despite having many natural and cultural attractions and positive demands of tourists and private business sector, the study indicates that there are various challenges for the development and operation of ecotourism business in BTC and SS core areas. These include: lack of infrastructure and superstructure to support and facilitate tourist visits; lack of capacities (skills, knowledge and experience) among local fishermen and existing developers and authorities; lack of stakeholder partnership, collaboration and participation; low awareness of natural resource management and conservation practices among the locals; inadequate law enforcement of existing fishery, forestry and environment laws; poor legal and institutional framework; conflicts over resource use and access; uncommitted community-based and participatory programs; conflicts between conservation and economic development that lead to unclear government support and political will; overlapped boundaries between environmental protection and concession operation zones; and increasing population pressure on the use of the areas.

A concern on the opportunity for ecotourism development in BTC and SS core areas was also incorporated into the focus of the third operational question of this research. It was found that the majority of local community members (comprise local authorities and the three types of local fishermen) hold positive perceptions and attitudes towards ecotourism development in their areas. They are attracted by a philosophy that ecotourism would help to improve the

livelihoods of the people, to diversify and promote local economy, to foster community development programs, to support nature conservation or at least to positively change the management system in the areas. Yet, they are also cautious whether it could bring alternative economic incentives for conservation and local development which is not at the expense of local livelihood options. Although other concerned stakeholders, which represent influential external forces (government, NGOs, development and donor agencies), hold different interests and politics, know-how and accountabilities, their stances and perceptions were also indicated as a positive reaction and support to ecotourism development in the areas. As mentioned in Section 5.3.3 of Chapter 5, almost all of them have faith that ecotourism initiative in BTC and SS is the right thing to carry out, but their doubts concerning its success are stuck into its performance and management.

Having all concerned internal and external stakeholders understand the possible benefits and risks of ecotourism development for the host communities (people, resources and environment) was also one of the two integrated foci of this third question. It was mentioned in this study that possible positive social, economic and environmental benefits of ecotourism could be direct, indirect and induced. These include: increase additional local livelihood options and income; create jobs in the villages; diversify local economic activities and local products; enhance people's abilities to work and improve their well-being; enhance community empowerment and participation in development and conservation; strengthen local ownership and access rights; improve awareness and cultural and natural appreciation among the locals; improve people's capacities (skills and knowledge); revitalize and rectify social structure, system, network and relation among community members; revive local culture and social value; stimulate local development (infrastructure and communication services and facilities); increase markets for local products; improve the management and decentralization system and security; increase more conservation projects and activities in the areas through ecotourism incentives and other funding supports; increase research activities related to biodiversity protection; and increase community support and volunteerism to protect the environment. It was also indicated in the study that a range of prospective negative impacts could be spawned from ecotourism development, such as: conflicts of interest; disparities in income generation and distribution; disturbance of natural habitats, waterbirds and wildlife species caused by tourist activities; environmental degradation; increase in population and human pressure; cultural alienation; commodification of nature and culture; environmental pollution and change of village landscapes; increase in dependency of the locals on supports (technical and financial) from external forces; economic leakage; and increase in restriction over natural resource access and use for the locals.

The last operational research question of this study put emphasis on the analysis of ecotourism potential to contribute to natural resource management and conservation and community development in a specific context of BTC and SS core areas. It was shown that the context of these core areas are complicated and there are many interrelated factors that cause poverty and biodiversity degradation in the areas. Poverty is not only a result of declining natural resources in the areas, but is also caused by many social factors (i.e. traditional client-patron relationship, corruption, nepotism, social exclusion, etc.) and especially by weak institutions and mismanagement of the areas by multi external powers. The deterioration of biodiversity resources and natural environment cannot be only translated into the responsibilities of the three fishermen groups and the seasonal fisher migrants, whose activities and rationale-self interests bring the areas into such social and natural catastrophes. It is not idealistic to say that their pursuits determine the development mechanism and policy dialogues between the inter-ministries and member agencies responsible for the management of BTC and SS and other parts

of the TSBR. As it was indicated in the study, systematic corruption (from the top to the grassroots and within the elements of horizontal and vertical bodies) and political, policy and institutional constraints within and between each implementing bodies are major challenges to the conservation of natural environment and good governance in the areas. Therefore, a theoretical question is how much could ecotourism contribute to the change of the system, or is ecotourism going to be changed by the current system on the other way round?

It was shown that due to its principles and the interests of all concerned stakeholder groups, ecotourism represents one of the most optimistic tools which is small scale but high value in its operation. It has multifaceted aims that could address the triple bottom-line concepts or the three imperatives of sustainable development – socially desirable, economically viable, and ecologically sustainable – which are needed for BTC and SS context, even though at some extent. In addition, because it involves participatory approach and multi stakeholder networking from its nature, ecotourism could work as an indirect assisting remedy to help improve the institutional linkage, collaboration and participation in conservation and development. Such a high value, and environmental friendly, development tool could be promoted as an exemplar of successful policy intervention in helping to prevent negative environmental impacts in BTC and SS, while restructuring the management system to work to serve the poor. The context of BTC and SS, which are natural resource rich but impoverished areas, might positively influence ecotourism to turn from its conventional base (conservation as a focus) to be a tool which could help balance between ecological protection and development or growth. In this respect, it could also work to balance and address different policy issues of concerned internal and external forces as well as related beneficiary groups.

However, as mentioned early, the success of ecotourism depends on many factors, especially on who are involved in its development and who control the operation. In hindsight, it can be stated that ecotourism development in BTC and SS can only be successful if all partners share the same foresight and goal, have equal input in assisting its process, and share mutual benefits. In other words, the premise of using ecotourism to fuel biodiversity conservation and help improve people's livelihoods and wellbeing in the areas relies on how developers and planners fabricate its development frameworks and plan to incorporate concerned players, especially local communities, through a fair and open benefit sharing approach. To help combat pressing issues in BTC and SS, it is required that ecotourism is used to build a relationship between poverty reduction strategies and current comprehensive development and conservation frameworks. Otherwise, within its original limits (e.g. small scale niche markets, market sensitive, specific group oriented), ecotourism would just favor a single-coined direction that hinder other processes from being supporting elements of community development and sustainable growth in the areas. By doing so, it would also help to prevent or tackle post-development impacts or to reduce the costs of ecotourism.

This study also stresses that a plan to develop ecotourism in BTC and SS cannot be seen as a definite subjectivity, especially when aiming to use it at optimal level to stimulate local economy, increase tourist satisfaction, while favoring conservation goals. The complex environment of BTC and SS core areas does not allow ecotourism to be functioned as the only tool in conservation and development, as well as in reducing poverty pressure among the people. However, it is positive to implement it first as a short-term mitigation tool which allows other small (and medium) scale economic development pursuits to be undertaken and forwarded in chorus. Thus, more promising opportunities could be given to consolidate its process as a long-term development objective based on sustainable and more participatory approaches. This would avoid using ecotourism as a blaze that could run down the quality and

quantity of natural environment and biodiversity without benefiting the target groups and the conservation process.

Despite strong optimism, the study finds that because of its limited potential, ecotourism is not the only remedy or panacea for conservation, management and livelihood problems in TSBR core areas. Therefore, management mechanisms of TSGL core areas should start from addressing local survival groundwork to clear medium and long-term strategic plans for rapid adjustment, local economic development and conservation supported by good micro and sectoral policies. Ecotourism in BTC and SS core areas cannot be developed at fast speed to solve pressing ecological and socio-economic problems. Its development process should be limited to a stabilization stage, meaning not to use natural features beyond its capacity in order to rejuvenate and regenerate economic growth or nature conservation. This is because although the rejuvenated economy would turn its face to responsible ecotourism developers and communities, ecotourism incentives would make them favor rapid economic growth that could obtain from financial aids (i.e. conservation and infrastructural development for ecotourism) and investments. It might occur especially when ecotourism is controlled by the government actors such as MoE or MoT, and thus skewing the opportunities to sustain the management and protection of natural resources in the areas. On the other hand, if ecotourism is only, and stongly, influenced by current donors and NGOs, most priorities would be oriented towards environmental conservation, leaving the needs and wishes of the local people, especially the poor and vulnerable fishermen, for their improved quality of life as the second option.

Other approaches to improving local livelihoods and environmental governance in BTC and SS should be introduced via the enhancement of current livelihood strategies, diversification of local economic activities and the adoption of ecotourism as an alternative livelihood option. Although ecotourism is likely to be less destructive to the natural environment and biodiversity than other alternative options such as rice cultivation and large-scale fishing, opportunity cost and economic externalities of other BTC and SS Biosphere Reserved should be distinguished provided sustainable development is needed for these areas. In other words, ecotourism development in BTC and SS should recognize the need to integrate ecotourism with other forms of economic and social progress, meaning to balance between socio-economic development and environmental conservation in the areas.

9.2 Policy Implications for Sustainable Conservation and Development in BTC and SS Core Areas

The development and conservation of BTC and SS core areas are very critical and subjective to the increase and improvement of living conditions and awareness of local communities. To alleviate poverty in these areas, there is an immediate need to raise fishing incomes and other additional village-based incomes through promising employment opportunities. Progress in this direction could secure integration of the local economy and social solidity throughout the region and improved security in all areas.

To balance economic development and natural resource management, it is important that agricultural sector, particularly fishery production, should be promoted on small scale basis along side micro industrial sector (i.e. fish processing) and ecotourism. The development should aim to promote the areas as an integral part of the dynamic community development and biodiversity conservation oriented processes, which should be carried out regionally. BTC and SS core areas have great potential and comparative advantage for developing natural resource based industries of specific kinds, such as fishery-based, agro-based (to some extent)

and service industries (tourism). The responsible development of these economic incentives to the point where BTC and SS can sustain its natural resource use and economic growth will create jobs for the locals and add value to local economic products.

The study shows that BTC and SS core areas could be developed as a single ecotourism destination due to abundance and great variety of resources. The development of ecotourism on community-based level will provide more direct and indirect employment to the areas. A wide range of local industries will be revitalized, established and enhanced. These include accommodation, food, handicraft, and other service businesses. However, a number of challenges could hinder the success of ecotourism as a tool for conservation and development in the areas. These challenges range from technique to politics including: capacities of the locals and responsible government institutions to sustain ecotourism process; participation and structural barriers; and community vs. market's competing interests. Although ecotourism could contribute to the success of the three major principles⁶² of development, it is not the only remedy for current socio-economic and environmental problems in the areas.

The current challenges facing BTC and SS core areas are to enhance local economic viability based on current livelihood activities, reduce poverty, and foster the implementation and succession of reform policies. These entail institutional and administrative reform, fishery reform, environment reform, structural reform, etc. To overcome these problems will require effective economic and environmental management and external assistance in order to support the completion of local economic self-sufficiency and conservation priorities. Considerable structural development frameworks to improve the quality of life of the locals (particularly vulnerable and marginal groups) and sustainable use of natural resources should be introduced into the areas.

Development mechanisms should start from addressing local survival groundwork to medium and long-term strategic plans for rapid adjustment, local economic development and conservation supported by good micro and sectoral policies. In the medium term, developers and conservationists should aim to: eliminate illegal and destructive activities to natural resources by strengthening institutional and legal framework; ensure equal access to resources and fair economic distribution of benefits of development; promote and diversify local livelihood activities with less impact on human and natural environment; improve infrastructural and social services; and sustain growth within a stable microeconomic framework in BTC and SS core areas. In the long term, local communities and the government should aim to achieve: poverty alleviation defined in the Millennium Development Goals; the improvement of people's well-beings and quality of life; community development goals; and environmental governance in these TSBR core areas. Sound community development and sustainable management and conservation mechanisms of natural resources in BTC and SS should take place along side nation-wide micro and macro economic frameworks in provinces around Tonle Sap Great Lake. This would help to reduce the in-migration of people from nearby regions (buffer and transition zones) into these core areas, in order to reduce pressure on social and natural environments of BTC and SS.

Therefore, there is a need for a holistic framework for sustainable biodiversity conservation and livelihood improvement in BTC and SS core areas. Figure 35 shows three major steps to achieve these objectives. First, all concerned stakeholders of development and conservation should work hand-in-hand and establish good coordination and partnership programs between each

⁶² The three main principles are: equilibrium principle (ecological, economic and social imperatives), holistic principle (focuses on participatory approach), and equity principles.

other. They are national and international funding institutions (i.e. RGC, ADB, UNDP-GEF, etc.), implementing agencies (i.e. MoE, MAFF, MoEYS, MRD, etc.), focal points of the support programs (i.e. CNMC, TSBRS, TSEMP, TSCP), and contracting and sub contracting organizations (I/NGOs). It is recommended that their policies and programs or project activities are built on harmonization and integration bases in order to increase cost efficiency and work effectiveness with region-wide impact. It is clear that these stakeholders vary in scale, scheme, and availability of resources, and they have different powers and politics of works. However, they need to work on similar directions to help to preserve the environmental hotspots and rural poor in TSBR core areas. Therefore, it is necessary that adaptive management and effective integrated natural resource management and rural development should be put into practice. These would allow flexible plans and actions to address current needs of the locals and conservation in the context of BTC and SS.

Second, improved natural resource management and conservation in these TSBR core areas require two parallel interventions from all concerned stakeholders, both directly and indirectly. Suitable policies and laws on environmental management, boundary designation and demarcation, land use planning, and business concession or economic operation in the core areas are the primary facet before any actions start off. Environmental management in this way refers to resource management (natural, human, technical and economic) and waste (solid and liquid) management. Fishery, forestry and other aquatic resource access, use and preservation should be stated precisely and practically in policy papers and functional and conventional laws. The knowledge, capacities and skills of government and project staffs and local communities should be improved via diverse environmental awareness, education and outreach programs. Technical assistance (materials and technical knowledge/skills) should be provided to implementing staffs of DoE-MoE and DoF-MAFF and community organizations (i.e. CF, CPA) to develop strategic frameworks for natural resource management. It will be idyllic if this assistance is not beyond the capacities and traditional knowledge of the people in the areas. It is widely accepted that to implement these activities and achieve development and conservations goals, financial resource is strongly needed. Yet, budget should be used up more at operational level, rather than at technical level (e.g. steering committee meetings, conferences, hire local and international experts / consultants, purchase better-off equipments, etc.). Furthermore, there is a need to supply and improve infrastructural and social services to the areas. These services will not only help decrease people's livelihood problems (i.e. health care centers, schools, techniques to produce safe drinking water, sustainable energy, sewage system, etc.), but also help save biodiversity resources and natural environment of the places as a whole. All in all, an effort to sustain natural resource management and conservation in BTC and SS core areas will be futile without actual enforcement programs to control and curtail illegal activities committed by local communities, SIMs and responsible government officers. All destructive activities are unlikely to disappear unless rules or regulations are imposed properly and law enforcement is performed firmly.

Another issue for stakeholders' intervention is to understand the relationship and symbiosis between human and natural environment in BTC and SS core areas. Over the last decade, several national and international development agencies, NGOs and the state have been playing crucial roles in the management of the areas. Each stakeholder at international and supranational levels always exerts their political and economic influence over decision-making, planning and implementation of dependent agencies. However, it is unavoidable that the outcomes of collaborative efforts are skeptical of its values in the face of power imbalance and work effectiveness. Therefore, it is important to understand the roots of the problems in the areas in order to define right mitigation strategies. In general, the context of BTC and SS is out

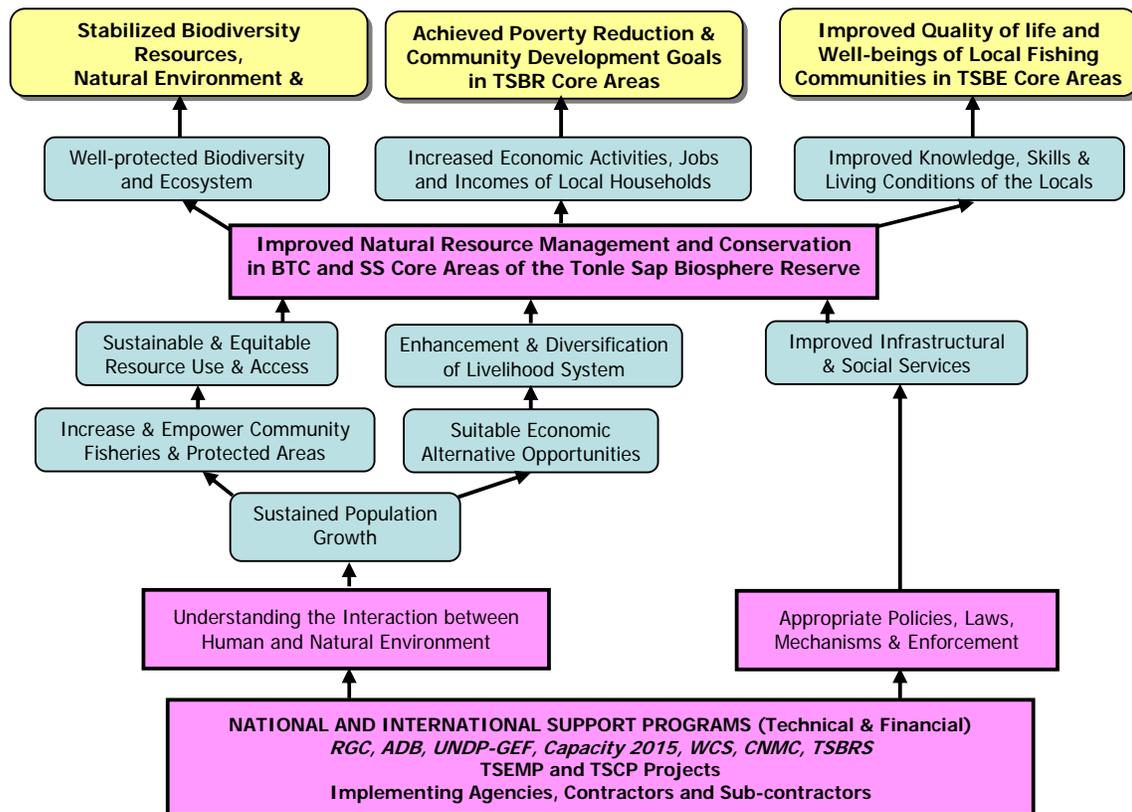
of control due to a number of reasons. These are: rapid population growth, chronic human poverty, deficiency of community power and participation, structural constraints (i.e. power relation, client-patron relationship, structural linkage, etc.), corruption and nepotism. At the moment, there is an urgent need to sustain population growth by strengthening local administrative reform in order to reduce population pressure on environment. Since biodiversity conservation and livelihood options in BTC and SS are intertwined issues, concerned stakeholders should promote sustainable rural community livelihoods while building a culture of sustainable use of natural resources. This could be done through introducing integrated fishing (fishing, fish culture, fish processing) and farming (organic cropping, vegetation, dry-season rice and flooded rice, animal rearing, etc.). Typically, less impacted farming activities should be allowed to do temporarily in potential cultivated fields (i.e. pasture, swamp, less populated forest / shrub areas) on a collective basis. This helps to avoid forestland clearance, land encroachment, land conflict and other conflicts of interest in the areas. In addition, other suitable (small scale) economic alternative opportunities, such as ecotourism, should be provided to the areas to allow the locals receive more economic earnings. In order to prevent inequitable economic distribution, such emerging service industry should be run and managed by local communities with financial and technical supports from NGOs, government and development agencies. Along side these perspectives, appropriate extension services related to agriculture, environment and tourism should be established and offered to local communities. By doing so, local livelihood system in BTC and SS core areas will be strengthened through the enhancement and diversification of local economic activities.

All stakeholders should aim to ensure that biodiversity resources and ecological environment in TSBR core areas are managed and preserved well from the effort of local communities rather than from other interest groups'. Therefore, it is required that power is given to local communities to develop and manage their areas under genuine assistance of responsible government institutions and external agencies. Apart from community empowerment and advocacy programs, community conservation zones, e.g. community fisheries and community protected areas, should be increased in size and number. This will prevent encroachment and illegal activities of outsiders as well as local elite groups, while community members will benefit more from their conservation process. Overall, it will lead to sustainable and equitable natural resource access and use, at least within community protected zones.

The third step is strongly dependent on the success and smoothness of the first two. Improved natural resource management and conservation will make three scenarios possible. An attempt to improve the management and conservation performances of government agencies and community organization will produce three positive impacts. There include: (1) sustain availability of natural resources which people depend on for daily livelihood needs and income generation; (2) increase the quality and quantity of fishery, aquatic resources and other fauna and flora resources; and (3) establish well-preserved biodiversity and ecosystem zones in BTC and SS core areas. This scenario will gradually lead to the stabilization of common property resources, biodiversity resources, natural environment and ecosystem in TSBR. As mentioned earlier, all stakeholders should bring a balance between conservation and economic development to bear on the current situation of the management of BTC and SS hotspots. This relates the next scenario to increased economic viability, employment and income generation activities of local communities. This would happen when the economic productivity of local households based on available resources and jobs increased. Yet, there are other factors which needed to be fulfilled as well, e.g. product development and market mechanisms. There is no doubt that this scenario will help the government and its development partners achieve poverty alleviation and community development goals in TSBR core areas. The last scenario focuses on

the improvement of knowledge and skills of local communities, which could lead to the increase of their quality of life and well-being. This does not involve only knowledge and skills on environmental conservation, but also on sustainable livelihood approaches which do not compromise the ability of the next generation to benefit from available resources in the areas. However, in sum, good political will of the government and its development partners is needed to open a door for the success of this step.

Figure 9.1: Suggested framework for sustainable biodiversity conservation and livelihood improvement in BTC and SS core areas of the TSBR



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APPENDICES

1. RESEARCH TOOLS FOR DATA COLLECTION

(A) Questionnaires for Semi-Structured Interviews with Rural Households

Subject: Vulnerability, Capital Assets and Threats

Questionnaire N°: Date:

1. Name of the household head:
2. Place of residence:

<i>Peam Bang commune</i>			
Peam Bang	<input type="checkbox"/>	Daun Sdeung	<input type="checkbox"/>
Pov Veuy	<input type="checkbox"/>	Balort	<input type="checkbox"/>
<i>Phat Sanday commune</i>			
Tourl Neang Sav & Prek Ksach	<input type="checkbox"/>	Kampong Chamlong & Koh Tapeo	<input type="checkbox"/>
		Phat Sanday	<input type="checkbox"/>
		Psaot	<input type="checkbox"/>
3. Name of respondent and relationship with household heads:
4. Sex: (1=Male; Female=2)
5. Age:
6. Marital status: (1=Married; 2=Single; 3=Divorced; 4=Separated)
7. Ethnic: (1=Khmer; 2=Chinese; 3=Vietnamese; 4=Cham)
Others = 5; please specify :
8. Education: (1=No education; 2=Functional literacy; 3=Education at local pagoda; 4= Primary school not finished; 5=Primary school finished; 6=Lower secondary school; 7=Higher secondary school; 8=Uni.)
9. If no education, why?
(1=No school in the area; 2=Poverty; 3=Education not needed; 4=No desire; 5=Others)
Please specify:
10. Place of birth: (1=Same village; 2=Different village; 3=Same commune; 4=Different commune but same province; 5=Different province)
11. How long have you been living in this village?
12. (For in-migrants only)
Where are you migrating from?When:
13. Why do you decide to live in this village?
14. Do you plan to live here longer?
Yes *please specify:*
No *please specify:*
15. Occupation: A. Main occupation:
B. Secondary occupation (*please record two important ones*)
(1=Fishing; 2=Fish selling; 3=Fish raising; 4=Fish culture; 5=Fish processing; 6=Crop farming; 7=Draft livestock rearing; 8=Groceries selling; 9=Daily paid labor; 10=Fish wholesaling/retailing; 11=Construction/factory worker; 12=Fishing gear making; 13=Money lending; 14=Working in the fishing lots; 15=Government service; 16=Others:)
Do you like your job / work? Yes No
If "No", why?
16. What was your previous job / work?
17. How do you think about your present job / work if compared to the previous one?
18. When did you leave school?
19. Why?
20. In what ways do you think education important for your career and life?
21. How many children do you have (if married)?
22. Do your children go to school?
Yes Where:
23. No Why:
24. How many school are there in your villages?
Primary
25. Secondary
26. High school
27. Others:
28. Do you want your children to go to school?
Yes Why:what level:

- No Why:
22. How many members are there in your family? Male:/ Female: members
23. Level of education of the eligible members of the household

<i>Level of Education</i>	<i>Male (no.)</i>	<i>Female (no.)</i>
No education		
Functional literacy		
Education at local pagoda		
Primary		
Secondary		
Higher secondary		
University		

24. How many members of your family are schooling at present?

<i>Level of Education</i>	<i>Male (no.)</i>	<i>Female (no.)</i>
Primary		
Secondary		
Higher Secondary		
University		

25. How many members of your household are working to earn the living?

<i>Occupation</i>	<i>Male (no.)</i>	<i>Female (no.)</i>
Fishing		
Fish selling		
Fish dealing		
Fish culture and raising		
Fish processing		
Fishing gears making		
Farming		
Daily paid work		
Business (i.e. groceries)		
Government service		
Money lending		
Working in the fishing lots		
Livestock rearing		
Construction / factory worker		
Crocodile rearing		
Wildlife hunting		
NTFP collecting		
Others (specify)		

26. Type of dwelling
- a. Wooden house on land 1
- b. Bamboo and cane with palm leaves or thatched roof on land 2
- c. Small floating house on boat made of cane/bamboo and palm leave 3
- d. Big floating house on boat made of wood and tin roof 4
- e. Floating house on water made of wood and tin roof with fish cage below 5
- f. Floating house on water made of wood and tin roof with fish and crocodile cages below 6
- g. Floating house on water made of wood and tin roof without fish cage below 7
- h. Floating house on water made of cane/bamboo and palm leave roof, with cage below 8
- i. Floating house on water made of cane/bamboo and palm leave roof, without cage below 9

27. How much did you spend for building or rebuilding your house?

28. What is the average annual maintenance and repair cost for your house?

29. Is the space in your house adequate for your family? (1=Yes; 2=No)

30. How many boat does your family have?

<i>Rowing boat (no.)</i>	<i>Normal motorized boat (no.)</i>	<i>Speed motorized boat (no.)</i>

31. Are there any hospitals or health care centers in your village or neighborhood?
(1=Yes; 2=No)

"If no", Where do you normally receive health treatment services?

And how could you go there?

How far (km) is the nearest hospital from your home?

32. Do you have electricity in your house? (1=Yes; 2=No)

If "yes", what is the source of power?

(1=generator; 2=Supplied by private electricity generating firm; 3=Electricity spawn)

33. What are the common and major health problems in your family and village?

For women:

For men:

For children:

34. How much money could you and your family earn per day?
 You: Your family:
35. What is the average annual income of your household?

Sources of Income	Total Value in Riel
Fishing	
Fish raising	
Livestock rearing	
Crocodile farming	
Farming	
Fish dealing/wholesaling/retailing	
Fish processing	
Business income (i.e. groceries and vegetable selling)	
Fishing gears making	
Non-farm/fishing (i.e. handicraft)	
Paid labor	
Construction/factory work	
Remittance by relatives	
Gift (kind)	
Wildlife hunting	
NTFP collecting	
Forest cutting	
Others (specify).....	

36. Is your household income enough to support your / your family daily expense and other extra costs? Yes No *please specify:*
37. How many kilograms of fish can you catch per day?
 Close season:
 Open season:
 Instruments used for fishing:
38. What is your most favorite fishing periods / months?
Please specify the reasons:
39. Rank five important fish species which are expensive in the markets.
 1st _____
 2nd _____
 3rd _____
 4th _____
 5th _____
40. List five common fish species your households normally catch.
 1st _____
 2nd _____
 3rd _____
 4th _____
 5th _____
41. Is your daily fish catch (kg) sufficient for everyday consumption and goods exchange for your family?
 More than enough and have surplus to sell or lend out = 1
 Just adequate = 2
 Not sufficient = 3
 Entirely dependent on the fish price and on buying rice and other necessities = 4
42. What should help you or your family to improve the fish catches?
43. If you had enough money to buy or practice whatever fishing gears you like, what would you buy or what methods would you apply?
44. If your household is involved in large-scale or middle-scale fishing, what do you normally do in the close season?
45. Do you have your family members or relatives migrating to work in urban areas or in neighboring countries?
 "If yes", where? Urban: Neighboring countries:
 Since when do they work there? What are their jobs / works?
46. How much could they earn monthly?
47. To what extent can they support themselves and the family?
47. Do they ever face any problems? Please specify?
 When living there:
 When come back:
48. Have you ever experience having no rice / food to eat? Yes No

- How often? How long?
49. Are there any loan providers in your villages, neighborhood, or commune?
(1=Yes; 2=No)
50. Do you ever borrow money? (1=Yes; 2=No)
For what purposes? (put '1' is relevant, 'o' is otherwise)
- Buy rice
 - Make Prahoc for family consumption
 - Buy boats / fishing gears
 - Buy draft animals (livestock) for rearing
 - Raise fish
 - Raise crocodile
 - Medical treatment / emergency
 - Spend for children to school
 - Spend during wedding / festival
 - Buy land for farming
 - Finance business investment
 - Pay for govern. officers to get fishing permit
 - House and boat maintenance
 - Others (specify):
51. How much money or rice do you normally borrow from the lenders?
- | | <i>Amount Borrowed</i> | <i>Interest (%)</i> |
|--------------|------------------------|---------------------|
| Money (riel) | _____ | _____ |
| Rice | _____ | _____ |
52. Who do you normally borrow money from? (put '1' if relevant, 'o' otherwise)
- Fishing partner or cosharer
 - Local money lender
 - Fish trader/wholesale buyer
 - Friends and relatives
 - Private bank (specify):
 - NGO
 - Others
53. Are you obliged to sell fish to your moneylender? (1=Yes; 2=No)
If you are obliged, do you normally get a competitive price? (1=Yes; 2=No)
54. Do you sometimes have conflicts with money/rice lenders? (1=Yes; 2=No)
If 'yes', how do you usually solve the problems?
55. What is the means of transport in your village, between villages in the commune, and between your commune and other places? Are you satisfied? (1=Yes; 2=No)
56. How could people access to other areas, especially markets (cross question)?
Rainy season:
Water recession season:
57. Do you listen to radio and watch TV everyday? (1=Yes; 2=No)
"If no", how could you access to information (social, economic, political) outside your village?
.....
58. How do you think about infrastructure development in your area if compared to the past? And what would you suggest to improve? How?
- Houses:*
 - Electricity:*
 - Water:*
 - Roads or waterway:*
 - School, hospital & other public buildings:*
 - Technology applied in fishing, living, & security system:*
 - Quality of knowledge of people & local government officers:*
 - Others:*
- Suggestions:*
How:
59. Do you have access to common property resources located within your locality/community?
(1=Yes; 2=No)
If yes, what types of common property resources?
60. Do you think the means of access and the level of access among each local fisher to the common property resources is equal? (1=Yes; 2=No)
If no, why?
61. If access to the common property resources become restricted, how will it affect your livelihood opportunities?
- a. Will not affect because current benefits are very small
 - b. Will affect only little but can easily manage without these

- c. Will significantly affect the livelihood because alternatives livelihood options are limited
- d. Others (specify):
62. How well do you know about rural community and Boeng Chhmar / Stung Sen core area in terms of natural resources? (Please specify)
Natural landscapes:
Wildlife:
Marine life:
Flooded forest:
Waterbirds:
Others:
63. Are these natural resources important for social and economic development in your village or community?
Why?
Why not?
64. What values do these natural resources give to you, your family, your community, and country as a whole?
You:
Family:
Community:
Country:
65. Do you think these resources have been used, developed, and conserved properly?
Why?
Why not?
66. What has been the trend of availability of natural resources in recent years?
 (1=Increasing; 2=Decreasing; 3=Remained constant)
- | | | |
|----|----------------------------|---|
| a. | Flooded forests | <input type="checkbox"/> |
| b. | Fish species and quantity | <input type="checkbox"/> |
| c. | Non-timber forest products | <input type="checkbox"/> |
| d. | Waterbirds | <input type="checkbox"/> |
| e. | Reptiles | <input type="checkbox"/> |
| f. | Amphibians | <input type="checkbox"/> |
| g. | Mollusk and bivalve | <input type="checkbox"/> |
| h. | Others | <input type="checkbox"/> (specify): |
67. If the availability of natural resources is declining in your community / locality, what are the four main reasons contributing to this decline? (please rank in order of importance)
- | | | | |
|----|-------|----|-------|
| 1. | | 2. | |
| 3. | | 4. | |
68. What kind of regulation or restrictions do you need to follow to access and use the natural resources in the area? (put '1' if relevant, '0' otherwise)
- | | | |
|----|--|--------------------------|
| a. | Need to buy licenses for cutting wood and bamboo | <input type="checkbox"/> |
| b. | Need permission from head of commune | <input type="checkbox"/> |
| c. | Need permission from environmental officers | <input type="checkbox"/> |
| d. | Need permission from fishery officers | <input type="checkbox"/> |
| e. | Pay lease for seasonal use of land and water | <input type="checkbox"/> |
| f. | Free and unlimited access | <input type="checkbox"/> |
| g. | Other (please specify) : | |
69. What make your village or community different or unique from others in terms of tangible and intangible cultural resources?
Cultural events:
Cultural objects:
Cultural activities:
70. How many government agencies, NGOs, community services are operating in your locality? Please list them and point out their plans and works.

71. Among them, who are the key players in development and control?
72. Have you ever been invited to participate in or informed about the meetings, discussions, decision-makings, planning, and implementation for the development of your community?
 Yes No
If "yes", by/from whom? How often? In what ways?.....
If "no", would you like to participate? Why / why not?
73. Have you ever initiated or been allowed to initiate any ideas for the overall development of your community? Yes No
If "yes", to whom? Are your ideas accepted?
74. Are you satisfied with government's, NGOs', and other sub developers' plans and works?
 Yes No ; *please specify:*

75. To what extent do you think their missions are effective for natural resources conservation and social development in the area, as well as for improving your quality of life?
(1=Strongly effective; 2=Effective; 3=Ineffective; 4=Strongly ineffective)
76. Who are the main mediators in your community?
77. When you or your community members / villagers have problems, what should you or they do for problem solving?
78. What main issues relate to your village or community?
.....
79. How might more groups or other groups be involved in the planning, decision-making process, and execution?
.....
80. How might conflicts be resolved in the planning and decision-making process?
.....
81. Do you want tourists to visit your Boeng Chhmar / Stung Sen core area?
Why?
Why not?
82. What type of tourists or visitors do you welcome?
- Cultural tourists
- Recreational tourists
- Business tourists
- Ecotourists
- International tourists
- Domestic tourists others:
83. What kinds of tourism service and products do you think your community can offer to tourists when they come to visit and stay in Boeng Chhmar / Stung Sen?
.....
84. What are the challenges for tourism development in your area?
.....
85. What problems or impacts will be happened if tourism is going to be developed in your area?
.....
86. If you are allowed to prioritize development plans and strategies for your community / locality, would you choose tourism as one of the major alternative livelihoods or vice versa?
(1=Yes; 2=No)
Why?
Why not?
87. If no, what would you suggest to the government and NGOs to help solve your livelihood loss and at the same time improve your quality of life?
.....
88. What would you suggest to be addressed and developed to improve the management strategies for natural resources conservation and alleviating poverty rate in Boeung Chhmar / Stung Sen hotspot?
.....
89. How should planners, developers and practitioners shoulder and strengthen their task assignments? And what should local people do for the betterment of their community development and lives?
.....

Thank you for your time and collaboration!

**(B) Questionnaires for In-depth Interviews
with Executing Agencies' Staffs and Local Communities**

Subject: Potentials and Challenges for Ecotourism and Its Impacts

Questionnaire N^o: Date:

1. Name and surname (if allowed): Sex: M / F

2. Age:; Education:; Occupation:

3. Ethnic: Khmer Laotian Vietnamese Muslim Others:

4. Village of residence:

Peam Bang commune

Peam Bang	<input type="checkbox"/>	Daun Sdeung	<input type="checkbox"/>	Anlong Taon	<input type="checkbox"/>
Pov Veuy	<input type="checkbox"/>	Balort	<input type="checkbox"/>	Kamping Tralach	<input type="checkbox"/>

Phat Sanday commune

Tourl Neang Sav	<input type="checkbox"/>	Kampong Chamlong	<input type="checkbox"/>	Phat Sanday	<input type="checkbox"/>
& Prek Ksach	<input type="checkbox"/>	& Koh Tapeo	<input type="checkbox"/>	Psaot	<input type="checkbox"/>

5. What organization or institution are you working for?
And what are your responsibilities and working conditions?

6. How long have you been living in this village?
(For in-migrants only)

Where are you migrating from?When:

(For rangers and community officers)

How long have you been working here?

Generally, are you satisfied with your works in this core zone?

Yes *please specify:*

No *please specify:*

7. Why do you decide to live in this village?

8. Do you plan to live here longer?

Yes *please specify:*

No *please specify:*

Why do you decide to work here?

What benefits can you get from your works? Please specify.

9. Do you like this locality?

Why?

Why not?

How much do you like it?

1. Strongly like 4. Dislike

2. Like 5. Strongly dislike

3. On the fence 6. No ideas

10. People say "Boeng Chhmar / Stung Sen hotspot is home to abundance of natural resources." Do you agree? Yes No

If "yes", what are those natural resources? Please explain as follows:

Wildlife:

Marine life:

Flooded forest:

Waterbirds:

Rare or endangered species:

Natural boundary and landscape:

Others:

11. Are you proud of these rich resources? Yes No

In your opinion, what values and significances do these natural assets have for yourself (your work), your family, your people and community, and for the government of Cambodia?

Yourself / your work:

Your family:

Your people and community:

Government:

12. How do you think about the fish catch or productivity in Boeng Chhmar / Stung Sen core area in terms of subsistent, local, and commercial levels? Please explain the differences between past and present with reasons or evidences.
.....
13. What would you say about the fish resources in Boeung Chhmar / Stung Sen in 5 - 10 more years?
.....
14. What instruments or gears do local people, lot owners, and seasonal in-migrants use for fishing? Which instruments do you like the most? Why?
15. What kinds of punishment committed by the fishery officers and environmental inspectors on illegal fishing and activities? Are they effective and transparent?
.....
16. Besides fishing, what are the other economic activities of the people in this village, commune, and hotspot as a whole?
.....
Are their works seasonal? Why?
17. Are there works sustainable for supporting their families? Why / why not?
Are there any effects on natural resource use and environment from their daily activities and works?
.....
18. How many ethnic groups are there in your locality? And where do they come from? Why do they come here?
.....
19. How do you think about the seasonal in-migration into Boeng Chhmar / Stun Sen hotspot?
.....
20. Are there any conflicts or problems between local people and these in-migrants? If yes, what have the problems usually been solved?
.....
21. How many government institutions, NGOs / INGOs, community bodies are there in your village and commune? And what are they doing?
.....
22. Who or what institutions / organizations have been considered as the main developers, planners or mediators for natural resources management and conservation in Boeng Chhmar / Stung Sen?
.....
23. What benefits can you and your communities get from their involvement?
.....
24. Do you think the natural resources, especially fish resources, are appraised, used, managed and protected properly according to their plans and execution?
Why?
Why not?
25. How many lots are there in you village or community?
Are the lot owners the local villagers in Boeng Chhmar / Stung Sen? Yes No
If "no", where do they come from?
How do you think about their business impacts on your work and daily livelihood?
.....
26. Could you tell about the zoning system divided by the community fisheries, department of fisheries, department of natural resources management, and by the lot owners?
.....
Do you like this system? Why / why not?
27. Do you know about development plans and practices of the local and outside planners and developers? Please specify what you know.
.....
How do you know?
1. Word-of-mouth
2. Meeting with local authority
3. Dissemination from the government officers / inspectors
4. TV, radio, newspaper, and other mass media
5. Others:
28. Are there any differences between their working plans and real execution? Please explain with reasons.
.....

29. Generally, what kinds of infrastructure have been strongly considered and developed in your locality and Boeng Chhmar / Stung Sen core area?
.....
30. Have you ever been encouraged and invited to participate in or confirmed about the decisions, policies (reform) or development plans prior to development process in the village, commune, and Boeng Chhmar / Stung Sen zone? *Yes* *No*
Please specify:
31. How often do you involve in and generate constructive ideas to the village and commune chiefs, district chief or concerned management-related teams in your area?
.....
32. How do you think about the social network and activities of the people here?
.....
33. How do you think about the linkage and collaboration between local people and planners / developers / management-related teams and between those local and outside practitioners and agencies? Please specify.
.....
34. Do you think the plans for development are suitable and conducive to the existing resources in this village / commune / core area?
Why?
Why not?
35. To what extent do you think government's, NGOs/INGOs' and local authority's plans and operation are effective and beneficial for improving your living standard and community?
.....
36. In your own opinion, who should have strong responsibility to develop your community and Boeng Chhmar / Stung Sen in a timely and sustainable manner?
.....
Why?
37. What should be the roles of the local community in development (social, economic, cultural, infrastructure) of their own area?
.....
What kind of assistance and collaboration should local people and community be convinced to provide to local authorities and developers for a betterment of natural resources management and conservation, as well as for stimulation of the local economy?
.....
38. What make your village, commune, or Boeng Chhmar / Stung Sen distinctive from other places in terms of cultural resources (heritages and patrimonies)?
Tradition:
Handicraft:
Music & art:
History & visual reminders:
Gastronomy:
Type of work & technology:
Architecture:
Religion & visual manifestation:
Educational system:
Dress:
Leisure activity:
Cultural event:
Farm attraction:
Other tangible resources:
Other intangible resources:
39. Have you ever seen tourists / visitors coming to visit your area? How many per time? How often?
.....
Where do they come from?
Mainly domestic tourists *Mainly international tourists*
40. Do you know about tourism (esp. ecotourism) development in Cambodia? Please specify what you know.
.....
Do you think tourism can be developed in your community or this core area?
If "yes", how could it be developed?
If "no", what else should be introduced to enhance the economic activities and livelihood of the people?

41. What kind of tourism are you and your community fond of?
Cultural tourism
Recreational tourism
Business tourism
Ecotourism
Sex tourism
Ethnic tourism
Others: (please specify)
- Should this kind of tourism be developed on the basis of community-based level and structure?
 Yes No
 Why?
42. What infrastructure and superstructure should be introduced or developed to facilitate tourism (OR Ecotourism) in Boeng Chhmar / Stung Sen hotspot?

43. Do you think your BTC and SS are appropriate and ready for tourism (ecotourism development)?
 Why? And why not?

44. How can people in Boeng Chhmar and Stung Sen contact each other?

- What kinds of products and services can people in the two core areas provide to each other in exchange?
45. To what level the local community should participate in ecotourism development?

46. What kind of benefits would you expect to get from tourism (ecotourism) development?
For yourself:
For your family:
For your community:
For natural resources and other anticipated assets:
For other interest groups:
47. Who should be involved in tourism (ecotourism) development process? Among them, who should be the key player?

48. What are likely to be the constraints for tourism (ecotourism) operation in your locality or Boeng Chhmar / Stung Sen as a whole?

49. From your experiences and opinions, what possible impacts or changes tourism (ecotourism) could bring in your community and on natural resources in Boeng Chhmar / Stung Sen core area?
Positives:
Negatives:
50. If tourism (ecotourism) is going to be developed in your area or Boeng Chhmar / Stung Sen Biosphere Reserve, what coping strategies would you suggest to be considered and implemented by the local community and authority and other stakeholders in association with negative changes?

- If not, what should be the effective remedies to improve the management and conservation of natural resources in Boeung Tonle Chhmar or Stung Sen hotspot?*

Thank you for your time and collaboration!

**(C) Questionnaires
for Interviews with International Tourists / Visitors**

Subject: Tourist Demand on Ecotourism in Tonle Sap's Hotspots



Questionnaire N°:

Date:

Time:

Place of Interview:

1. Sex: 1. M 2. F
2. Age: 1. 18 - 25 3. 36 - 45
2. 26 - 35 4. 46 and over
3. Education: 1. Primary school 5. Undergraduate
2. Secondary school 6. Graduate
3. High school 7. Post graduate
4. Vocational / technical college
4. Where do you come from?
5. How do you come to Cambodia?
by 1. Boat / ship
2. Air
3. Car / bus
6. Where do you get the information about tourism sites or development in Cambodia?
from 1. Internet 5. Friends & relatives
2. Newspaper 6. Travel agency
3. Newsletter / magazine 7. Self-explored/by chance
4. TV 8. Tourist guide book
Others:
7. How many times have you been tourists in Cambodia?
1. Never
2. One time
3. Two times
4. Three times and more
8. How do you come to this tourist site / destination?
by 1. Taxi 5. Bus
2. Motor taxi 6. Owned car
3. Boat 7. Others:
9. How long do you ("often" if not the first time) stay in Cambodia?
1. One day 4. Six to eight days
2. Two to three days 5. Nine days and over
3. Three to five days
10. How could you define yourself as tourist?
1. Backpacker or independent traveler
2. Package-tour tourist
3. Excursionist
4. Family-trip tourist
11. What kinds of tourism are you involving in, according to your opinion?
1. Cultural tourism
2. Recreational tourism
3. Nature-based tourism
4. Ecotourism
5. Sex tourism
6. Ethnic tourism
7. Business tourism
8. Farm tourism Others (please specify):
12. Is your trip to Cambodia your sole purpose of visit?
1. Yes 2. No
13. What is your main purpose of visiting Cambodia or the site?
1. Visiting friends and relatives
2. Business
3. Education
4. Mission / work
5. Culture, leisure, sightseeing

6. Others (please specify):
14. With whom do you come with?
1. alone
 2. with family
 3. with friends or relatives
 4. with an organized tour
 5. with partner / spouse
 6. Others:
15. How many places have you visited in Cambodia? (*you can tick more than one*)
1. Angkor Wat temple and other Angkor Complex in Siem Reap
 2. Sihanouk Ville or Kampong Som province
 3. Phnom Penh and its surroundings (Koh Dach, Kean Svay, Tonle Bati, Phnom Tamao, etc.)
 4. Ratanakiri, Mondol Kiri and provinces in northeastern Cambodia
 5. Koh Kong province
 6. Kampot province
16. Are you satisfied with your visit in Cambodia or in the site? Please measure the level of your satisfaction by circling the number of the following points.

Factors of Satisfaction	Very Satisfied	Satisfied	On the Fence	Dissatisfied	Very Dissatisfied	No Ideas
Accommodation	1	2	3	4	5	6
Transportation / Accessibility	1	2	3	4	5	6
Food and beverage	1	2	3	4	5	6
Sanitation	1	2	3	4	5	6
Guide service & interpretation	1	2	3	4	5	6
Leisure programs	1	2	3	4	5	6
Shopping	1	2	3	4	5	6
Hospitality	1	2	3	4	5	6
Security	1	2	3	4	5	6
Price of the ticket to the site	1	2	3	4	5	6
Travel cost	1	2	3	4	5	6
Package tour arrangement	1	2	3	4	5	6
Facilities and site management	1	2	3	4	5	6
Information about the site	1	2	3	4	5	6
Promotion and marketing	1	2	3	4	5	6
Information and interpretation about local culture, history, and resources	1	2	3	4	5	6
Interaction with local people	1	2	3	4	5	6
The match between information distributed & the real experience at the site	1	2	3	4	5	6
Others (please specify)	1	2	3	4	5	6

17. How much money do you earn monthly?
1. USD 50 – 100
 2. USD 100 – 200
 3. USD 300 – 500
 4. USD 600 – 1000
 5. USD 1000 – 2000
 6. USD 3000 – 5000
 7. USD 5000 – 7000
 8. Over USD 7000
18. How much money have you spent or would you have spent after visiting Cambodia (or the site *for domestic tourists*)?
1. USD 50 – 100
 2. USD 200 – 500
 3. USD 500 – 1000
 4. USD 1000 - 2000
 5. USD 2000 – 3000
 6. USD 3000 – 5000
19. Do you have any plan to visit other tourist site / destination in Cambodia?
1. Yes
 2. No
20. Where would you consider to visit in Cambodia after this tourist site / destination? (*you can tick more than one*)
1. Angkor Wat temple and other Angkor Complex in Siem Reap
 2. Sihanouk Ville or Kampong Som province
 3. Phnom Penh and its surroundings (Koh Dach, Kean Svay, Tonle Bati, Phnom Tamao, etc.)
 4. Ratanakiri, Mondol Kiri and provinces in northeastern Cambodia
 5. Koh Kong province
 6. Kampot province
 7. Hotspots of the Tonle Sap Biosphere Reserve
 8. Chambok and other community-based ecotourism site

21. What kind of tourist site or destination are you strongly interested in visiting in Cambodia?

1. Cultural place
2. Historical place
3. Nature-based place
4. Ecotourism site
5. Recreational place
6. Nightlife place
7. Adventure place
8. Wildlife habitat
9. Business place
10. Others:

22. What is your preferred time of visit (at the site) in Cambodia?

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

23. Have you ever been to any nature-based and ecotourism sites in the world?

Yes No

If "yes", in which country? Please tell about the names of the places?

24. Could you please (if yes) briefly describe about the tourism activities and services that you received from you visit there?

Activities:

Services:

25. How many nature-based and ecotourism places in Cambodia do you know? How do you know about those places?

1. Chambok community-based ecotourism
2. Yeak Lom community-based ecotourism
3. Ecotourism site in Stoeng Treng province
4. Nature-based tour and trekking in Sihanouk Ville
5. Koh Kong province
6. Preah Vihear ecotourism centre
7. OSMOSEcommunity-based ecotourism in Prek Toal
8. Others (*please specify*):

How:

26. Have you ever visited these sites? Yes No

If "yes", are you satisfied with your trip there including the services provided by the host community? Yes No

And would you like to visit there again? Why / why not?

If "no", would you like to visit some of these places? Yes No

When: with whom:

27. In your opinion, what are the differences between nature-based and ecotourism sites in Cambodia and those of other countries you have visited?

28. What could drive you to visit natural areas, national parks or biosphere reserves?

1. Contribute to the conservation of natural resources
2. Indigenous people and nature
3. Environmental education and interpretation
4. Environmental programs and nature-based recreation
5. Ecological environment, biodiversity and natural resources

29. Have you ever heard about Tonle Sap Great Lake or Biosphere Reserve, especially its 3 hotspots, in Cambodia? Yes No

Have you ever visited one of its hotspots (Preak Toal, Boeng Chhmar, and Stung Sen)?

Yes No

If "no", would you like to visit there one day? Yes No

30. What are famous about Tonle Sap Great Lake or Biosphere Reserve? (*you can tick more than one*)

1. Unique local culture in floating villages
2. Biggest freshwater lake in Southeast Asia
3. Wildlife and natural habitats
4. Biodiversity and great ecosystem
5. Flooded forests and wetland
6. Waterbirds
7. Abundance of fish and aquatic life
8. Others (*please specify*):

31. To what extent would you agree ecotourism development can positively give to community and tourists?

	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
Increase local economic activities	1	2	3	4	5
Improve local people's awareness about the significances and values of natural resources and their culture	1	2	3	4	5
Strengthen and enhance the management and conservation of natural resources in the area	1	2	3	4	5
Prevent people's out-migration by creating jobs for people	1	2	3	4	5
Empower people to have control over resources in their locality	1	2	3	4	5
Encourage people's active participation in development	1	2	3	4	5
Improve gender equity					
Generate sustainable livelihood alternative for local community	1	2	3	4	5
Increase people's sense of pride	1	2	3	4	5
Preserve local culture and natural and built landscapes	1	2	3	4	5
Encourage and light up local small and medium scale enterprises or businesses	1	2	3	4	5
Increase market for local products and services	1	2	3	4	5
Use of local labor and expertise	1	2	3	4	5
Increase more voluntary works among local residents	1	2	3	4	5
Attract volunteers and fund to support the development and conservation of natural resources in the area	1	2	3	4	5
Provide tourist opportunities to participate and learn / experience about unspoiled natural area and its unique resources	1	2	3	4	5
Increase or diversify tourism products and services for long satisfactory stay of tourists in the host country	1	2	3	4	5
Improve tourists' awareness and knowledge about natural resources and local culture	1	2	3	4	5
Facilitate tourists to interact actively with local community in natural and rural setting	1	2	3	4	5
Help tourists to contribute their valuable expense for the improvement of quality of life of people in rural and remote areas and the conservation of natural environment	1	2	3	4	5
Assist tourists to visit and experience a real taste of nature, wildlife, and local culture	1	2	3	4	5
Others (please specify)	1	2	3	4	5

32. What (eco-) tourism activities are you aware & would you like to do in Tonle Sap core areas?
(Please circle the following scales)

	Strongly Aware	Aware	Not Aware	Strongly Like	Like	Dislike
Cruise on the river and lake to view the natural landscape, environment, and people's activities	1	2	3	1	2	3
Trekking and hiking into the forest	1	2	3	1	2	3
Waterbirds watching or observing	1	2	3	1	2	3
Tasting local gastronomy	1	2	3	1	2	3
Buying local handicrafts and other cultural products	1	2	3	1	2	3
Home-stay with people	1	2	3	1	2	3
Observing fishing, fish raising, and fish processing activities	1	2	3	1	2	3
Watching wild crocodile and animal raising on the river / lake and on the shore of the creek system	1	2	3	1	2	3
Participate with local cultural activities in real setting	1	2	3	1	2	3
Learn and experience more about natural resources and local culture	1	2	3	1	2	3

Go fishing and participate in rice and crop cultivation, and non-timber products harvesting	1	2	3	1	2	3
Swimming and bathing	1	2	3	1	2	3
Wildlife viewing	1	2	3	1	2	3
Canoeing, boating, and diving	1	2	3	1	2	3
Others: (please specify)	1	2	3	1	2	3

33. To what areas are you willing to pay for ecotourism development process from your visit to the Tonle Sap Biosphere Reserve sites? *(please circle the items below)*

	Strongly willing	Willing	No opinion	Not willing	Strongly not willing
Conservation of natural resources	1	2	3	4	5
Strengthening and revitalization of local culture					
Stimulation of local economy					
Improvement of people's living standard					
Securing local livelihood approach					
Preservation of natural and built landscape					
Local empowerment and control over resources and development in the area					
Others (please specify)					

34. If you were about to visit ecotourist sites in Tonle Sap Biosphere Reserve core areas, how much would you consider to pay during your visit?

- | | | | |
|-------------------|--------------------------|--------------------|--------------------------|
| 1. USD 50 – 100 | <input type="checkbox"/> | 4. USD 1000 – 2000 | <input type="checkbox"/> |
| 2. USD 200 – 500 | <input type="checkbox"/> | 5. USD 3000 – 5000 | <input type="checkbox"/> |
| 3. USD 500 – 1000 | <input type="checkbox"/> | | |

35. If you were about to visit ecotourist sites in Tonle Sap Biosphere Reserve core areas, how long would you consider to stay there during your visit?

- | | |
|--|--------------------------|
| 1. Just one day trip | <input type="checkbox"/> |
| 2. Two-day trip | <input type="checkbox"/> |
| 3. Three to five days trip | <input type="checkbox"/> |
| 4. More than five days trip | <input type="checkbox"/> |
| 5. Depend on the organized package tours available | <input type="checkbox"/> |

36. Would you prefer to go to visit ecotourism sites in Tonle Sap Biosphere Reserve core areas alone or whom would you go with?

- | | |
|--|--------------------------|
| 1. Alone | <input type="checkbox"/> |
| 2. With family or relatives | <input type="checkbox"/> |
| 3. With friends / schoolmates / colleagues | <input type="checkbox"/> |
| 4. With the organized tour | <input type="checkbox"/> |
| 5. With partner or spouse | <input type="checkbox"/> |
| 6. Others: | |

37. What would you consider important for your visit to an ecotourism site in Tonle Sap core areas or in Cambodia in general? Please circle each of the following scaling items from very important (1) to less important (5).

Accommodation and toilets	1	2	3	4	5
Accessibility	1	2	3	4	5
Safety or security	1	2	3	4	5
Hospitality	1	2	3	4	5
Sanitation	1	2	3	4	5
Information	1	2	3	4	5
Facilities & Site management	1	2	3	4	5
Food and local products / souvenirs	1	2	3	4	5
Guide service & interpretation	1	2	3	4	5
Range of tourism activities	1	2	3	4	5
Environment of visit	1	2	3	4	5
Interaction with local communities	1	2	3	4	5
New knowledge / experience about nature & culture	1	2	3	4	5
Service quality and customer services,	1	2	3	4	5
Health, life-safeguard and emergency services	1	2	3	4	5
Safe drinking water	1	2	3	4	5
Pollution including noise pollution	1	2	3	4	5
Real setting of natural environment and resources	1	2	3	4	5
Others: (specify)	1	2	3	4	5

38. How do you think about tourism development and management in Cambodia in general?

39. What would you say about your time, visit, and money you spend in Cambodia for your tourism purposes (or at the side)?

40. Would you like to come to visit Cambodia again?
 1. No
 2. Not sure
 3. Yes
41. If “yes”, what are your reasons? *(please kindly tick the following items)*
 1. Want to know more about Cambodian culture/art/history
 2. Want to visit Angkor Wat again
 3. Want to spend more time in visiting the attractive sites
 4. Want to visit other places besides Siem Reap Angkor
 5. Want to see new development in tourism sector in Cambodia
 6. Others *(please specify)*:
42. What would to suggest to change or help develop tourism in Cambodia in a sustainable manner?

-

Thank you for your time and collaboration!

5. Ream National Park
6. Vireak Chey National Park
7. O Cheuteal / Koh Rong / O Tres
8. Koh Kong beach and the safari world
9. Waterfall and mountain sightseeing & indigenous villages in Mondol Kiri
10. Dolphin watch in Kratei
11. Ecotourism and Ramsar Sites in Stung Treng
12. Cardamon mountain
13. Baray & Kulen mountain
14. Kampot and Kep
- Others:
16. What could drive you to visit natural areas, national parks or biosphere reserves?
1. Contribute to the conservation of natural resources
 2. Indigenous people and nature
 3. Environmental education and interpretation
 4. Environmental programs and nature-based recreation
 5. Ecological environment, biodiversity and natural resources
17. What is your preferred time of visit at a nature-based/ecotourism site or at any touristic destination in Cambodia in general?
1. On public holidays
 2. On weekends
 3. On missions
 4. Others
18. **(Continued from Q.15)** Were you satisfied with your trip there including the services provided by the host community? Yes No
19. And would you like to visit there again? Why / why not?
20. Where did you get the information about ecotourism or nature tourism sites in those areas?
- | | |
|---|---|
| 1. Internet <input type="checkbox"/> | 5. Friends & relatives <input type="checkbox"/> |
| 2. Newspaper <input type="checkbox"/> | 6. Travel agency <input type="checkbox"/> |
| 3. Newsletter / magazine <input type="checkbox"/> | 7. Self-explored/by chance <input type="checkbox"/> |
| 4. TV <input type="checkbox"/> | 8. Tourist guide book <input type="checkbox"/> |
- Others:
21. When you were on holiday (s) at that (those) sites, what were three things or activities that you were interested and enjoyed?
1.
 2.
 3.
22. Were you satisfied with your visit (s) at that or those sites? Please measure the level of your satisfaction by circling the number of the following points.

Factors of Satisfaction	Very Satisfied	Satisfied	On the Fence	Dissatisfied	Very Dissatisfied	No Ideas
Accommodation	1	2	3	4	5	6
Accessibility	1	2	3	4	5	6
Food and beverage	1	2	3	4	5	6
Sanitation	1	2	3	4	5	6
Guide service and interpretation	1	2	3	4	5	6
Leisure programs	1	2	3	4	5	6
Shopping	1	2	3	4	5	6
Hospitality	1	2	3	4	5	6
Security	1	2	3	4	5	6
Price of the ticket to the site	1	2	3	4	5	6
Travel cost	1	2	3	4	5	6
Facilities and site management	1	2	3	4	5	6
Information about the site	1	2	3	4	5	6
Interaction with local people	1	2	3	4	5	6
The match between information distributed & the real experience at the site	1	2	3	4	5	6
Others (please specify):	1	2	3	4	5	6

23. **(Continued from Q.14)** If 'No', would you like to visit some of these places?
 Yes No
24. If 'Yes', what drive you to visit a natural area, protected area, national park, or Biosphere Reserve?
1. Ecological environment, biodiversity, and interesting natural resources
 2. Environmental programs and nature-based recreational activities
 3. Environmental education and interpretation

4. People and culture
5. Contribution from my visit to the conservation of natural resources
6. Others: (specify)
25. Have you ever heard about Tonle Sap Great Lake or Biosphere Reserve, especially its 3 core areas (Prek Toal, Boeung Tonle Chhmar, and Stung Sen)? Yes No
26. Have you ever visited one of these core areas? Yes No
27. Would you like to visit there one day **(or other two core areas besides the one already visited)**? Yes No
28. What are famous about Tonle Sap Great Lake or Biosphere Reserve? *(You can tick more than one)*
1. Abundance of fish and aquatic life
2. Waterbirds
3. Flooded forest and wetland
4. Good natural landscape
5. Biodiversity and great ecosystem
6. Wildlife and natural habitats
7. Unique local culture on the floating villages
7. Others *(please specify)*:
29. What (eco-) tourism activities are you aware & would you like to do in Tonle Sap core areas? *(Please circle the following scales)*

	Strongly Aware	Aware	Not Aware	Strongly Like	Like	Dislike
Cruise on the river and lake to view the natural landscape, environment, and people's activities	1	2	3	1	2	3
Trekking and hiking into the forest	1	2	3	1	2	3
Waterbirds watching or observing	1	2	3	1	2	3
Tasting local gastronomy	1	2	3	1	2	3
Buying local handicrafts and other cultural products	1	2	3	1	2	3
Home-stay with people	1	2	3	1	2	3
Observing fishing, fish raising, and fish processing activities	1	2	3	1	2	3
Watching wild crocodile and animal raising on the river / lake and on the shore of the creek system	1	2	3	1	2	3
Participate with local cultural activities in real setting	1	2	3	1	2	3
Learn and experience more about natural resources and local culture	1	2	3	1	2	3
Go fishing and participate in rice and crop cultivation, and non-timber products harvesting	1	2	3	1	2	3
Swimming and bathing	1	2	3	1	2	3
Wildlife viewing	1	2	3	1	2	3
Canoeing, boating, and diving	1	2	3	1	2	3
Others: (please specify)	1	2	3	1	2	3

30. What would be the positive impacts of ecotourism on local community and tourists? (Circle)

	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
Increase local economic activities	1	2	3	4	5
Improve local people's awareness about the significances and values of natural resources and their culture	1	2	3	4	5
Strengthen and enhance the management and conservation of natural resources in the area	1	2	3	4	5
Prevent people's out-migration by creating jobs for people	1	2	3	4	5
Empower people to have control over resources in their locality	1	2	3	4	5
Encourage people's active participation in development	1	2	3	4	5
Improve gender equity					
Generate sustainable livelihood alternative for local community	1	2	3	4	5
Increase people's sense of pride	1	2	3	4	5
Preserve local culture and natural and built landscapes	1	2	3	4	5

Encourage and light up local small and medium scale enterprises or businesses	1	2	3	4	5
Increase market for local products and services	1	2	3	4	5
Use of local labor and expertise	1	2	3	4	5
Increase more voluntary works among local residents	1	2	3	4	5
Attract volunteers and fund to support the development and conservation of natural resources in the area	1	2	3	4	5
Provide tourist opportunities to participate and learn about unspoiled natural area and its unique resources	1	2	3	4	5
Increase or diversify tourism products and services for long satisfactory stay of tourists in the host country	1	2	3	4	5
Improve tourists' awareness and knowledge about natural resources and local culture	1	2	3	4	5
Facilitate tourists to interact actively with local community in natural and rural setting	1	2	3	4	5
Help tourists to contribute their valuable expense for the improvement of quality of life of people in rural and remote areas and the conservation of natural environment	1	2	3	4	5
Assist tourists to visit and experience a real taste of nature, wildlife, and local culture	1	2	3	4	5
Others: (please specify)	1	2	3	4	5

31. Could you think of three negative impacts that ecotourism can bring to the host community?
 1)
 2)
 3)
32. How much money would you spend for visiting an ecotourism site in Tonle Sap and its surroundings? **(Change to an ecotourism site in Cambodia in general if necessary)**
 1. USD 10 – 50 5. USD 300 – 400
 2. USD 50 – 100 6. USD 400 – 500
 3. USD 100 – 200 7. Over USD 500
 4. USD 200 – 300
33. To what areas are you willing to pay for ecotourism development process from your visit to the site? *(Please circle the items below)*

	Strongly willing	Willing	No opinion	Not willing	Strongly not willing
Conservation of natural resources	1	2	3	4	5
Strengthening and revitalization of local culture					
Stimulation of local economy	1	2	3	4	5
Improvement of people's living standard	1	2	3	4	5
Securing local livelihood approach	1	2	3	4	5
Preservation of natural and built landscape	1	2	3	4	5
Local empowerment and control over resources and development in the area	1	2	3	4	5
Others: (please specify)	1	2	3	4	5

34. If you plan to visit an ecotourism site in Tonle Sap core areas **(or in Cambodia in general)**, how long would you think of staying at the site or at local accommodation nearby to the site?
 1. Just one day trip
 2. Two-day trip
 3. Three to five days trip
 4. More than five days trip
 5. Depend on the organized package available
35. Would you prefer to go to visit nature-based and ecotourism site / destination alone or whom will you go with?
 1. alone 5. with partner / spouse
 2. with family or relatives 6. with colleagues
 3. with friends/school mates / colleagues 7. Others: (specify)
 4. with an organized tour
36. What will you consider important for your visit to an ecotourism site in Tonle Sap core areas or in Cambodia in general? Please circle each of the following scaling items from very important (1) to less important (5).

Accommodation and toilets

1 2 3 4 5

Accessibility	1	2	3	4	5
Safety or security	1	2	3	4	5
Hospitality	1	2	3	4	5
Sanitation	1	2	3	4	5
Information	1	2	3	4	5
Facilities & Site management	1	2	3	4	5
Food and local products / souvenirs	1	2	3	4	5
Guide service & interpretation	1	2	3	4	5
Range of tourism activities	1	2	3	4	5
Environment of visit	1	2	3	4	5
Interaction with local communities	1	2	3	4	5
New knowledge / experience about nature & culture	1	2	3	4	5
Service quality and customer services,	1	2	3	4	5
Health, life-safeguard and emergency services	1	2	3	4	5
Safe drinking water	1	2	3	4	5
Pollution including noise pollution	1	2	3	4	5
Real setting of natural environment and resources	1	2	3	4	5
Others: (specify)	1	2	3	4	5

Thank you for your time and collaboration!

(E) Questionnaires with Tour Operators / Travel Agencies

Subjects: Characteristics and Interests of the Company as an Intermediary
Concerning Ecotourism Development in BTC and SS Core Areas

Date:

Time:

1. What are the main and subsidiary services of your company?
(a) Main services:
(b) Subsidiary services:
2. Please specify the classification of your company according to CATA criteria **(if any)**.
.....
3. Where is your business main office?
4. Does your company have any office branches in other cities or provinces?
1. Yes 2. No
5. If 'Yes', how many office branches? And where?
6. Does your company have any business contact with other firms of tourism industry for attracting your customers as tourists and for facilitating tourist trips and activities?
1. Yes 2. No
7. If 'Yes', what are the three major firms that your company always contact with?
(a)
(b)
(c)
8. **(Continued from Q.6)** What kind of business contact and business dealing you have with your partner company (ies)?
(a) Business contact activities:
(b) Business dealing:
 Long-term contract basis Fee basis (i.e. commission)
 Short-term contract basis Per item contract basis
 Seasonal contract basis Others: (specify)
9. Who does your company want to recruit as employees?
 Mainly those with high school degree and have less than 2 years experience in tourism
 Mainly those with high school degree and have more than 2 years experience in tourism
 Mainly those with bachelor degree not in tourism field and have less than 2 years experience
 Mainly those with bachelor degree not in tourism field and have more than 2 years experience
 Mainly those with bachelor degree in tourism field and have less than 2 years experience
 Mainly those with bachelor degree in tourism field and have more than 2 years experience
 Mainly those receive non-degree training certificate in tourism and have less than 2 years experience
 Mainly those receive non-degree training certificate in tourism and have more than 2 years experience
 Mainly tourism specialist (i.e. Master's Degree or high tourism skills with more than 10 years experience)
 I do not care
10. What are the education backgrounds and experiences of your tour leaders?
 High school with less than 2 years experience and have low knowledge about green tourism products, ecotourism, and sustainable tourism
 High school with more than 2 years experience and have good knowledge about green tourism products, ecotourism, and sustainable tourism
 Bachelor degree not in tourism field with less than 2 years experience and have low knowledge about green tourism products, ecotourism, and sustainable tourism
 Bachelor degree not in tourism field with more than 2 years experience and have good knowledge about green tourism products, ecotourism, and sustainable tourism
 Bachelor degree in tourism field with less than 2 years experience and have low knowledge about green tourism products, ecotourism, and sustainable tourism
 Bachelor degree in tourism field with more than 2 years experience and have good knowledge about green tourism products, ecotourism, and sustainable tourism
 Non-degree training certificate in tourism with less than 2 years experience and have low knowledge about green tourism products, ecotourism, and sustainable tourism
 Non-degree training certificate in tourism field with more than 2 years experience and have good knowledge about green tourism products, ecotourism, and sustainable tourism
 Tourist specialists in tourism sector with more than 10 years **(or more than 5 years experience if the background is unmatched)** experience in nature-based tourism, ecotourism, and sustainable tourism
11. What is the pattern of guiding service of your company?
 Everything will be handled by your tour leader (s)
 Your tour leader will hire the local guide and share the duty with them
 Your tour leader will hire the local guide for the whole guiding process at the touristic site
 Your tour leader will only conduct major guiding activities in central destination points, allowing the tourists to choose by chance any interesting activities they want to do

12. Please tick one definition among the following well-known definitions of ecotourism that your company prefers to choose?
- Ecotourism is tourism to natural areas
 - Ecotourism is activities of visitors to use the natural endowment and features of an area through good practice with the goal and objectives of finding new experiences
 - Ecotourism is an alternative tourism which is shifting from a small-scale nature tourism to a set of principles applicable to any nature-based tourism
 - Ecotourism is a traveling to relatively undisturbed or uncontaminated areas with the purpose of studying, admiring, and enjoying the scenery and their wild plants and animals, as well as any existing cultural manifestation found in these areas
 - Ecotourism is a responsible touristic activities in natural areas or even in nature-based artificial areas which support the nature conservation efforts and the local people's welfare
 - Ecotourism is the major spirit of any sort of touristic activities which is indicated by the best welfare and respect for the local people, environmentally sound, and therefore it should not always hang the first hand tourist experiences on the natural resources and ecological environment
13. Do you think that your company sometimes or often contributes on the negative environmental impacts of tourism activities? 1. Yes 2. No
14. If 'Yes', what are your contributions and the main area that the impacts happened?
.....
15. Does your company often or is willing to participate in environmental conservation in nature-based or ecotourism sites? 1. Yes 2. No
If 'Yes', to what extent and how much would be the highest grant of your company?
.....
If 'No', why? Please specify the reasons.
.....
16. Please list 5 nature-based tourism or ecotourism sites in Cambodia that your company has included in the package for tourist visits. Please rank them in order of popularity and received visitation.
- | | |
|-------------|-------------|
| (1st) | (4th) |
| (2nd) | (5th) |
| (3rd) | |
17. Among these sites, which one represents the good example of tourism development?
..... And which one represents the bad example of tourism development?
18. What is your company's interest in dealing with the following ecotourism business opportunities and issues for the benefits of your company and local community? Please circle each of the following scaling items from 1 (very interested) to 5 (less interested).
- | | | | | | |
|--|---|---|---|---|---|
| Explore the untouched or unspoiled natural areas and its natural tourism resource | 1 | 2 | 3 | 4 | 5 |
| Develop the new natural tourism resources | 1 | 2 | 3 | 4 | 5 |
| Educate tourists about ecotourism and sustainable tourism concepts | 1 | 2 | 3 | 4 | 5 |
| Educate locals about ecotourism and sustainable tourism concepts | 1 | 2 | 3 | 4 | 5 |
| Support locals in the new ecotourism destination (s) to learn & understand about ecotourism concepts and its sustainable operation and development | 1 | 2 | 3 | 4 | 5 |
| Support locals on conservation and sustainable use of natural resources in their areas | 1 | 2 | 3 | 4 | 5 |
| Support locals on development of ecotourism commercial messages, product development, and marketing and promotion | 1 | 2 | 3 | 4 | 5 |
| Provide information about tourist demand by segments and promote the attractions of the ecotourism sites for locals | 1 | 2 | 3 | 4 | 5 |
| Support the change of mass-tourism activities to responsible, environmental sensitive activities which promote sustainable ecotourism destination management & development | 1 | 2 | 3 | 4 | 5 |
| Support on waster minimization and management | 1 | 2 | 3 | 4 | 5 |
| Support on waster water treatment | 1 | 2 | 3 | 4 | 5 |
| Support on energy efficiency use | 1 | 2 | 3 | 4 | 5 |
| Provide and strengthen partnership support with local community for sustainable ecotourism development | 1 | 2 | 3 | 4 | 5 |
| Others: (please specify) | 1 | 2 | 3 | 4 | 5 |
19. Who are your company's three main customers (tourists)?
(a) (b) (c)
20. Do they like visiting nature-base tourism or ecotourism sites in Cambodia?
1. Yes 2. No
21. If 'Yes', where are the three major nature-based tourism or ecotourism sites in Cambodia that your company always bring tourists to (include the natural sites put in the package)?
(a) (b) (c)
22. Have you ever brought tourists to visit one of the Tonle Sap core areas (Prek Toal, Boeung Tonle Chhmar, and Stung Sen)?
1. Yes 2. No
23. If 'Yes' but only to 'Prek Toal', would you like to send tourists to visit the other two core areas provided they have ecotourism is developed there with the pulling force of plentiful attractions?
1. Yes 2. No

If 'No' (**continued from Q.22**), would you like to send tourists to visit there?

1. Yes 2. No

24. Please indicate 5 main characteristics or natural-cultural features of Tonle Sap core areas that tourists and your company are interested in.
- (a)
 (b)
 (c)
 (d)
 (e)
25. Please indicate 5 major obstacles for your company to arrange the package tour to and for tourists to visit the Tonle Sap core areas? Please specify each of them.
- (a)
 (b)
 (c)
 (d)
 (e)
26. In your opinion, please indicate 5 positive impacts and 5 negative impacts of ecotourism development in the Tonle Sap core areas?
- Positives: (a)
 (b)
 (c)
 (d)
 (e)
- Negatives: (a)
 (b)
 (c)
 (d)
 (e)
27. What would be possible ecotourism-related income activities for the local communities in BTC and SS core areas, according to your experiences? Please tick each scaling item in the table below.

Possible Economic Activities	Low	Moderate	High
Paddlers within village settlement and to waterbirds / wildlife areas			
Speed boat drivers from main ports or nearby docks			
Food services for guests or tourists			
Floating food and goods vendors			
Handicrafts			
Grocery store operators			
Floating gardeners			
Home-stay accommodation (guesthouse and diner)			
Local tourist guides			
Snorkeling and diving operators			
Scenic cruising operators			
Cultural group performers			
Boating or canoeing operators			
Fishing operators			
Local rangers			
Local tour arrangers			

28. Please indicate the level of your company's interest in running services for **domestic tourists** (.....%) and for **international tourists** (.....%) to an ecotourism site in Cambodia.
29. What would you suggest for the improvement and sustainable ecotourism development in the Tonle Sap core areas?
-

Thank you for your time and collaboration!

(F) Questionnaires for the Expert Interviews

Subject: Stakeholders' Collaboration and Partnership, Challenges, Impact Assessment and Guiding Principles for Ecotourism Development in BTC and SS Core Areas

1. Name and Surname:
2. Occupation:
3. Organization:
4. How long have you been working for this organization?
5. What are your main responsibilities?
.....
6. Please indicate the project activities in which your organization has been involved in for the development and conservation of the Tonle Sap core areas, especially Boeung Tonle Chhmar (BTC) and Stung Sen (SS) hotspots.
.....
7. What are your organization's existing and potential partner institutions for the project compliment and implementation in the Tonle Sap (core areas)? Please specify briefly their project plans and development frameworks if you are acquainted with.
.....
8. How long have your organization's project activities been undertaking in relation to the Tonle Sap core areas, especially BTC and SS?
9. When will these projects finish or terminate?
10. How important and effective do you think your organization's projects are for the natural resources management (NRM), conflict resolution (CR) over resource access and use, local economic stimulation (LES), poverty reduction (PR) and livelihood improvement (LI) in the Tonle Sap core areas, particularly in BTC and SS?
NRM
- CR*
- LES*
- PR*
- LI*
11. What are the success stories and failures of these projects? Please explain the lessons learnt.
Success stories
- Failures*
12. Do you know about an ecotourism initiative in the Tonle Sap core areas, especially in BTC and SS, for the conservation and sustainable use of natural resources and for the livelihood improvement of the local fishing communities? Yes No
13. If 'Yes', which is/are the responsible institution (s)?
14. Do you think introducing ecotourism development to the BTC and SS core areas is appropriate for the context of natural resources management and protection and local livelihood development? Please choose one of the following scaling items.

<i>(a) Very appropriate</i> <input type="checkbox"/>	<i>(c) Inappropriate</i> <input type="checkbox"/>
<i>(b) Appropriate</i> <input type="checkbox"/>	<i>(d) Very inappropriate</i> <input type="checkbox"/>
15. If your answer is 'C' or 'D', please specify your reasons and other development mechanisms which should be taken place immediately in these core areas.
Reasons
- New development mechanisms*
16. In your opinion, what are the issues and challenges for the natural resources management and sustainable livelihood activities of the people in the BTC and SS core areas?
.....
17. What are your organization/institution's future plans and development frameworks for the improvement of the Tonle Sap core areas management and governance as well as for sustainable livelihood approaches of the local fishing communities living in or adjacent to the areas?
.....
18. How do you perceive the governance, accountability, transparency, participation and collaboration of the responsible government agencies and concerned NGOs working in relation to the Tonle Sap core area management and livelihood improvement?
.....
19. According to your knowledge and experience, what are the strengths, weaknesses, opportunities and threats for ecotourism development in the BTC and SS core areas?
Strengths

.....
Weaknesses

.....
Opportunities

.....
Threats

20. According to understanding, what are the challenges for ecotourism development in BTC and SS core areas? Please specify?

21. In your opinion, which of the following impacts do you think ecotourism development in the BTC and SS core areas will give to the local communities and to the Tonle Sap region as a whole? Please write the degree of your personal projection about those negative and positive impacts by circling one of the scaling items from '1' to '5'. In this case '1' means lowest quantity of impact and '5' represents the highest one.

No.	Projected Negative Impacts of Ecotourism	Scaling Item
(a)	Biological impacts	
	Decrease in abundance and diversity of flora (i.e. flooded forests, semi thick forests, evergreen forests, shrubs and bushes, etc.)	1 2 3 4 5
	Decrease in abundance and diversity of fauna (i.e. waterbirds, aquatic life, wildlife, etc.)	1 2 3 4 5
	Displacement and change of migration patterns of fauna	1 2 3 4 5
	Change in fauna behavior	1 2 3 4 5
	Decrease in the aesthetics of the areas	1 2 3 4 5
	Decrease in water quality (i.e. increase in water contamination caused by household wastes)	1 2 3 4 5
	Decrease in air quality (i.e. aesthetics of the areas decrease)	1 2 3 4 5
	Destruction of natural habitats (i.e. fish and aquatic, reptile, mammal, amphibious, and wildlife habitats, etc.)	1 2 3 4 5
	Decrease in sensitivity of ecosystems	1 2 3 4 5
	Noise pollution	1 2 3 4 5
	Others (please specify)	1 2 3 4 5
(b)	Physical environmental impacts	
	Soil erosion and landslide	1 2 3 4 5
	Loss of nutrient quantity and quality	1 2 3 4 5
	Change of hydrological system of the river and its creek system	1 2 3 4 5
	Decrease in water resources and water bodies in terms of quality and quantity	1 2 3 4 5
	Decrease in landscape characteristics and quality	1 2 3 4 5
	Deterioration of archaeological sites, cultural monuments and heritages due to low carrying capacity of the sites	1 2 3 4 5
	Traffic jam in the densely populated floating areas	1 2 3 4 5
	Others (please specify)	1 2 3 4 5
(c)	Socio-cultural impacts	
	Overcrowding of site	1 2 3 4 5
	Host community and ecotourists are in conflict causing dissatisfaction	1 2 3 4 5
	Demonstration effect (i.e. alien ideas and change of cultural behavior and lifestyle)	1 2 3 4 5
	Effect on social pathology (i.e. increase in crime and other associated activities)	1 2 3 4 5
	Change from a slow to a fast pace of life	1 2 3 4 5
	Lack of sufficient infrastructure	1 2 3 4 5
	Commodification and commoditization of local culture and loss of traditional knowledge	1 2 3 4 5
	Loss of cultural value and heritage	1 2 3 4 5
	Diversion, distortion and exploitation of resources for money	1 2 3 4 5
	Conflict of fishery and aquatic resources and other natural resources use	1 2 3 4 5
	Disturbance of local cultural significant sites	1 2 3 4 5
	Degradation of the environment containing the sites (i.e. cultural value and significance)	1 2 3 4 5
	Disruption to local people's lifestyle and living culture	1 2 3 4 5
	Decrease in local cohesion of local communities	1 2 3 4 5
	Local people are more interested in economic perspective than development and conservation in general	1 2 3 4 5
	Conflict over land use pattern and division of water territory for fishing concession and ecotourism development zones	1 2 3 4 5
	Children and youths abandoned education for economic pursue	1 2 3 4 5
	Increase dependency of local communities on outside developers and planners	1 2 3 4 5
	Local authorities have less control over development activities	1 2 3 4 5

	Corruption and nepotism among local authorities and community members	1	2	3	4	5
	Conflict over benefit sharing among authorities and local community members	1	2	3	4	5
	Conflict between all the fishing communities (small, medium and large) with regard to ecotourism tourism development plans	1	2	3	4	5
	Influx and invasion of seasonal in-migrants into the areas when the sites become developed	1	2	3	4	5
	Low sanitation in the areas	1	2	3	4	5
	Abandon of traditional knowledge and skills and lifestyle among young people	1	2	3	4	5
	Cultural assimilation and alienation	1	2	3	4	5
	Rising up the materialism attitude among local people	1	2	3	4	5
	Local people and authorities become money-interested by exploiting the tourists	1	2	3	4	5
	The tourists first, the local people later	1	2	3	4	5
	Tourists ignore local customs, traditions and religions	1	2	3	4	5
	Rising the lack of accessibility to the natural resources for locals	1	2	3	4	5
	Local people feel like animals living in the zoos	1	2	3	4	5
	Deserting fishing and other agricultural activities	1	2	3	4	5
	Local people and local guides tend to tell distorted information or to miss interpret the local cultural and natural resources	1	2	3	4	5
	Deserting traditional land use patterns	1	2	3	4	5
	Decreasing the use of local language	1	2	3	4	5
	Decrease in traditional leisure activities	1	2	3	4	5
	Young people leave family jobs for touristic jobs	1	2	3	4	5
	Education in the areas becomes touristic educational oriented	1	2	3	4	5
	Young people tend to learn how to cheat tourists	1	2	3	4	5
	Losing the traditional play for kids and youth	1	2	3	4	5
	Tourism only benefit business owners	1	2	3	4	5
	Development becomes too touristic oriented (i.e. everything is organized just for touristic matters)	1	2	3	4	5
	Others (please specify)	1	2	3	4	5
(d)	Economic impacts					
	Increase in the cost of living (i.e. increased prices of local products and imported necessities)	1	2	3	4	5
	Seasonality of income or employment causing unstable local economy	1	2	3	4	5
	Expensive place to live	1	2	3	4	5
	High incoming out-migration of local people	1	2	3	4	5
	Low productivity of renewable and nonrenewable resources and poor profitability of tourism business	1	2	3	4	5
	Economic leakages to outside business owners	1	2	3	4	5
	Too tourism economic dominant activities	1	2	3	4	5
	Others (please specify)	1	2	3	4	5

No.	Projected Positive Impacts of Ecotourism	Scaling Item
(a)	Biological and physical impacts	
	Increase in conservation awareness among local communities, authorities, and other concerned stakeholders	1 2 3 4 5
	Reduction in environmental efforts	1 2 3 4 5
	Conservation status becomes important in Boeung Tonle Chhmar and Stung Sen core areas	1 2 3 4 5
	Increased conservation and preservation of natural and cultural resources and natural and built landscape in the areas	1 2 3 4 5
	Improved landscape characteristics and quality, both from an environmental and from cultural points of view	1 2 3 4 5
	Well-preserved water resources, water bodies, and natural habitats	1 2 3 4 5
	Increase in abundance and diversity of flora and fauna	1 2 3 4 5
	Increase in the aesthetics of the areas	1 2 3 4 5
	Increase in water, air and other environmental qualities	1 2 3 4 5
	Others (please specify)	1 2 3 4 5
(b)	Socio-cultural impacts	
	Improvement in infrastructure, both in terms of facilities and services	1 2 3 4 5
	Better services (increase in diversification of local services)	1 2 3 4 5
	Cultural and natural appreciation (i.e. encourage host communities and ecotourists to value cultural and natural assets)	1 2 3 4 5
	Improved environmental education (i.e. a more environmentally informed communities)	1 2 3 4 5
	Recognition, strengthening, revitalization and preservation of local culture and cultural-historic resources	1 2 3 4 5
	Increase in employment opportunities or job availability and job quality which draw	1 2 3 4 5

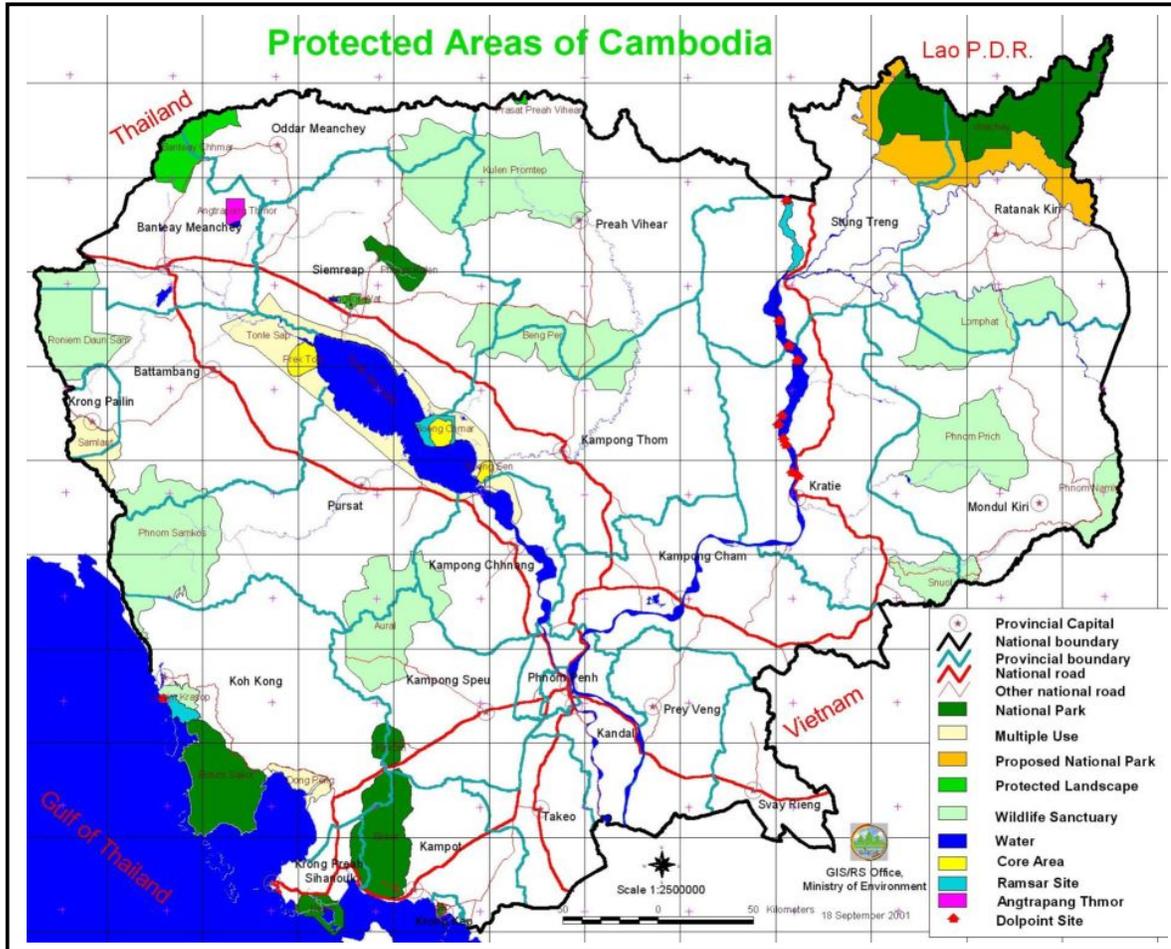
on local cultural knowledge					
Established ecotourism interest in the areas	1	2	3	4	5
Stimulation of local livelihood approaches	1	2	3	4	5
Local empowerment and control over resources and development in the areas	1	2	3	4	5
Prevention of people's out-migration	1	2	3	4	5
Increased people's active participation in local development	1	2	3	4	5
Improve gender equity	1	2	3	4	5
Reduction in domestic violence through equal participation in household earning and development between men and women	1	2	3	4	5
Established sustainable livelihood alternative for local communities	1	2	3	4	5
Use of local labor and expertise	1	2	3	4	5
Increase people's sense of pride	1	2	3	4	5
Increase more voluntary works among local residents	1	2	3	4	5
Knowledge and experience sharing about cultures among local people and between local communities and tourists	1	2	3	4	5
Much lessons learnt from tourists, especially from the scientist and expert visitors	1	2	3	4	5
Open up people's mind about the outside world and development	1	2	3	4	5
Children and students are encouraged to study higher	1	2	3	4	5
Better social or public services in the areas (i.e. health care center, school, etc.)	1	2	3	4	5
Open-minded local authorities and governance	1	2	3	4	5
Well-planned development and conservation process in the areas	1	2	3	4	5
Better opportunities for young generation	1	2	3	4	5
Better information access	1	2	3	4	5
Better access to common natural and public properties for local communities	1	2	3	4	5
Better communication and transportation facilities and infrastructure	1	2	3	4	5
Well-managed core areas	1	2	3	4	5
Increase in collaboration between all the concerned stakeholders, especially between present responsible institutions (i.e. Department of Fisheries, Department of Environment, etc.)	1	2	3	4	5
Maintenance of population in political boundaries (stability of the area)	1	2	3	4	5
Others (please specify)	1	2	3	4	5
(c) Economic impacts					
Change in employment opportunities (i.e. increase in job availability which draws on expertise of local people)	1	2	3	4	5
Foreign revenue for the local and regional development	1	2	3	4	5
Increase in money in the local economy (i.e. increase in wealth in the local communities)	1	2	3	4	5
Increase in money for local development	1	2	3	4	5
Increase in economic benefits for the livelihood improvement of local households	1	2	3	4	5
Increase in and development of local small, medium, and micro economy enterprises	1	2	3	4	5
Increased markets for local products and services	1	2	3	4	5
Increased volunteers and funds to support the conservation of natural resources and ecological environment and the development of sustainable livelihood strategies in the areas	1	2	3	4	5
Others (please specify)	1	2	3	4	5

22. In your point of view, who or which institutions should be the potential stakeholders of ecotourism development in the Boeung Tonle Chhmar and Stung Sen core areas?
.....
.....
23. What should these stakeholders do in order to develop ecotourism in a timely and sustainable manner in these Tonle Sap core areas?
.....
.....
24. What would you suggest to be addressed and developed to improve the management strategies for natural resources conservation and for alleviating poverty rate in Boeung Chhmar / Stung Sen core areas?
.....
.....

Thanks for your collaboration and kind assistance!

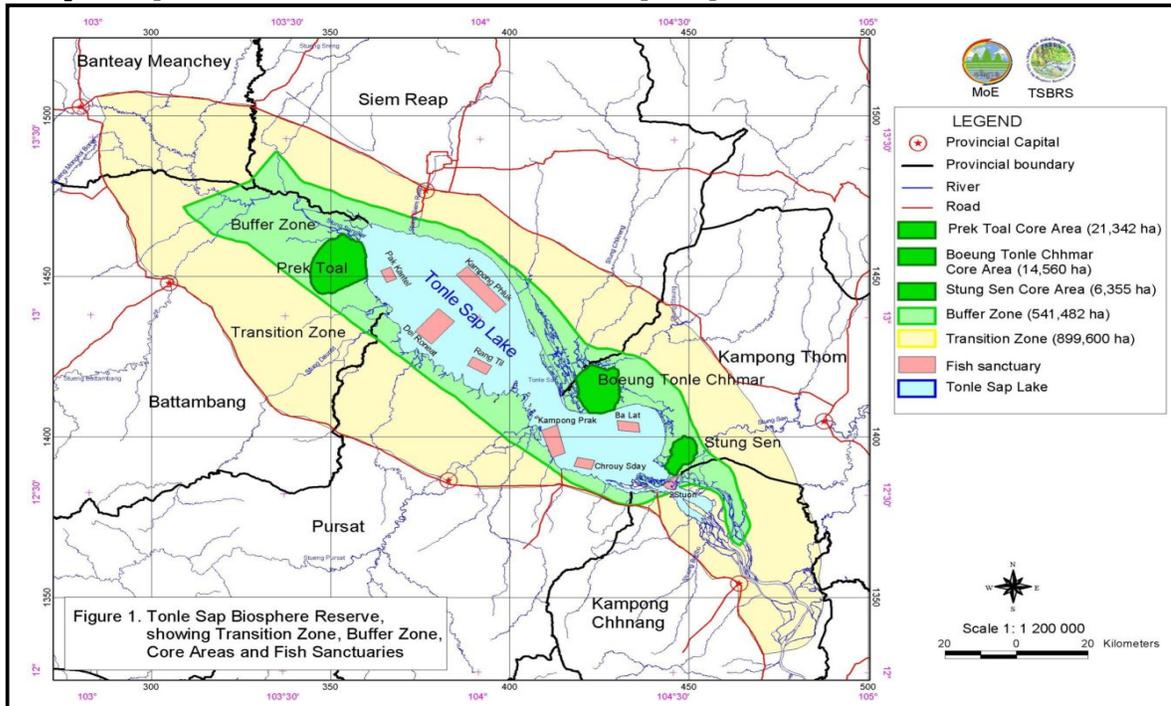
2. MAPS

Map 1: Map of protected areas of Cambodia



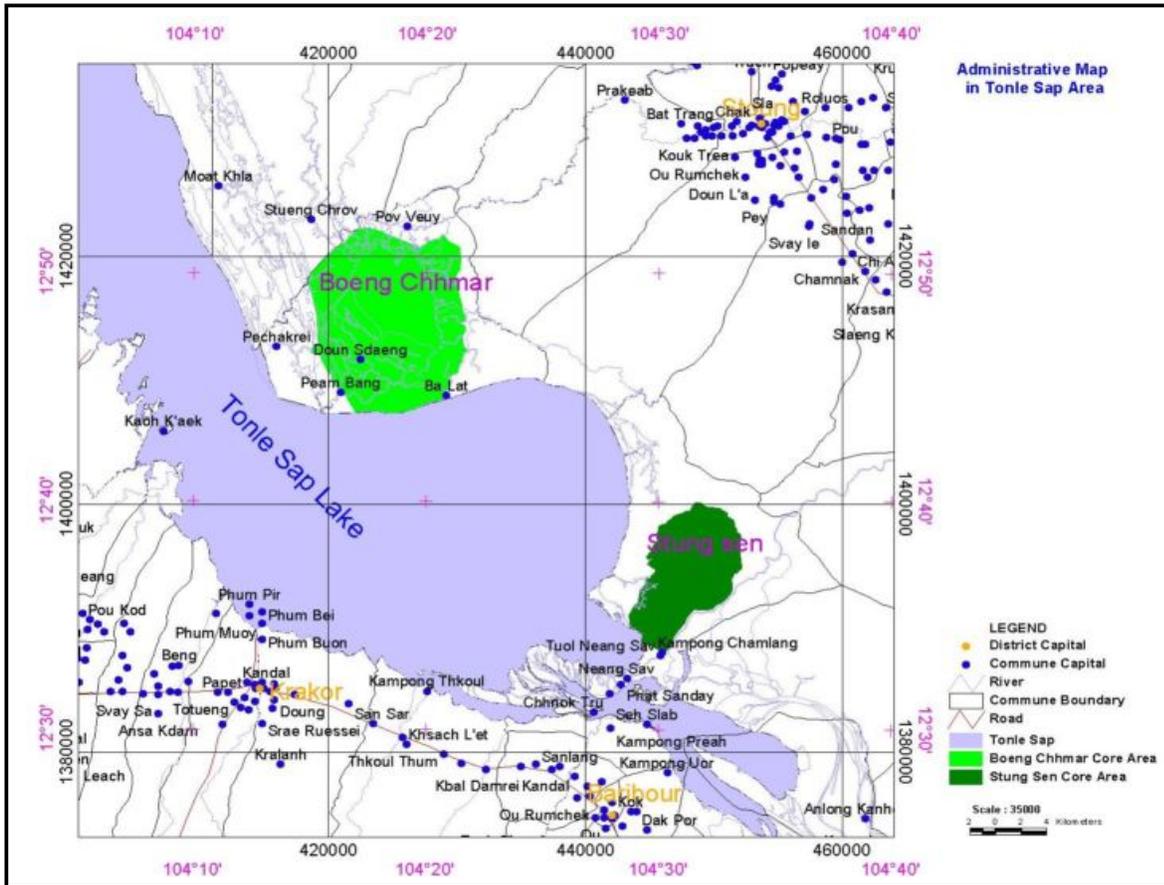
Source: Ministry of Environment (2001)

Map 2: Map of different allocated zones of the Tonle Sap Biosphere Reserve



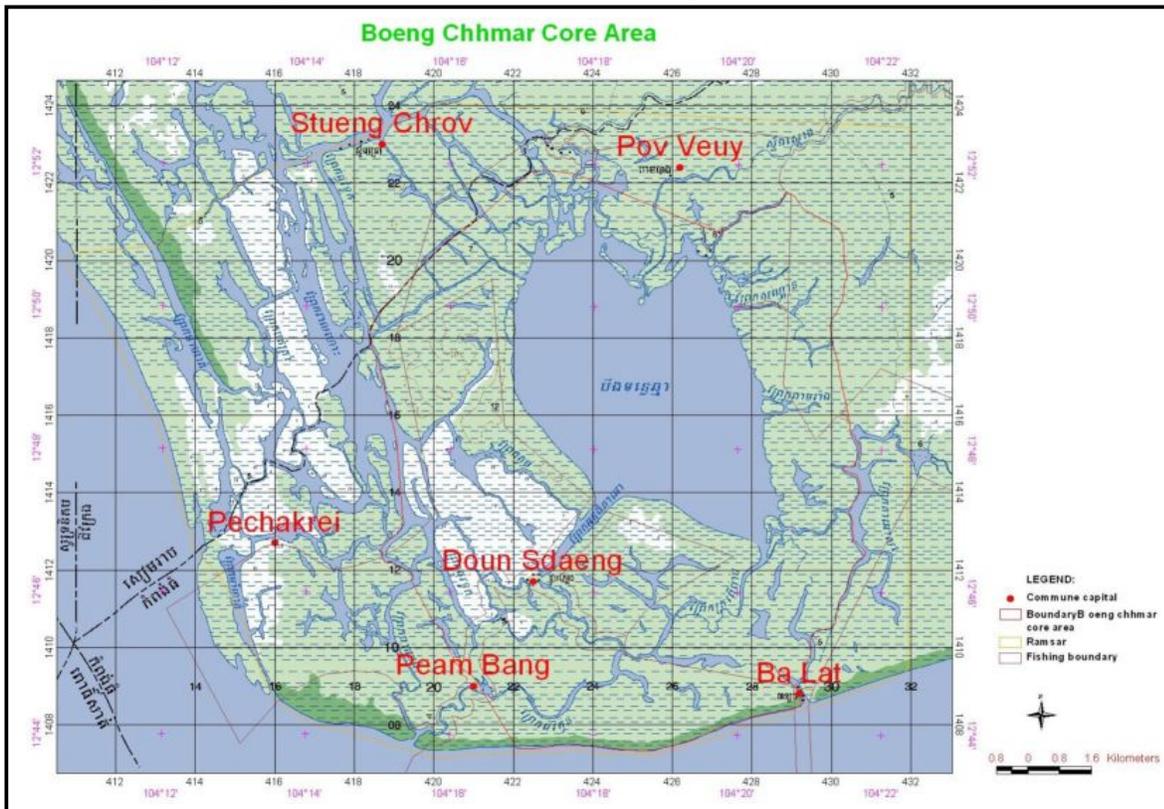
Source: Ministry of Environment and Tonle Sap Biosphere Reserve Secretariat (2001)

Map 3: Map of Boeung Tonle Chhmar and Stung Sen core areas of the Tonle Sap Biosphere Reserve



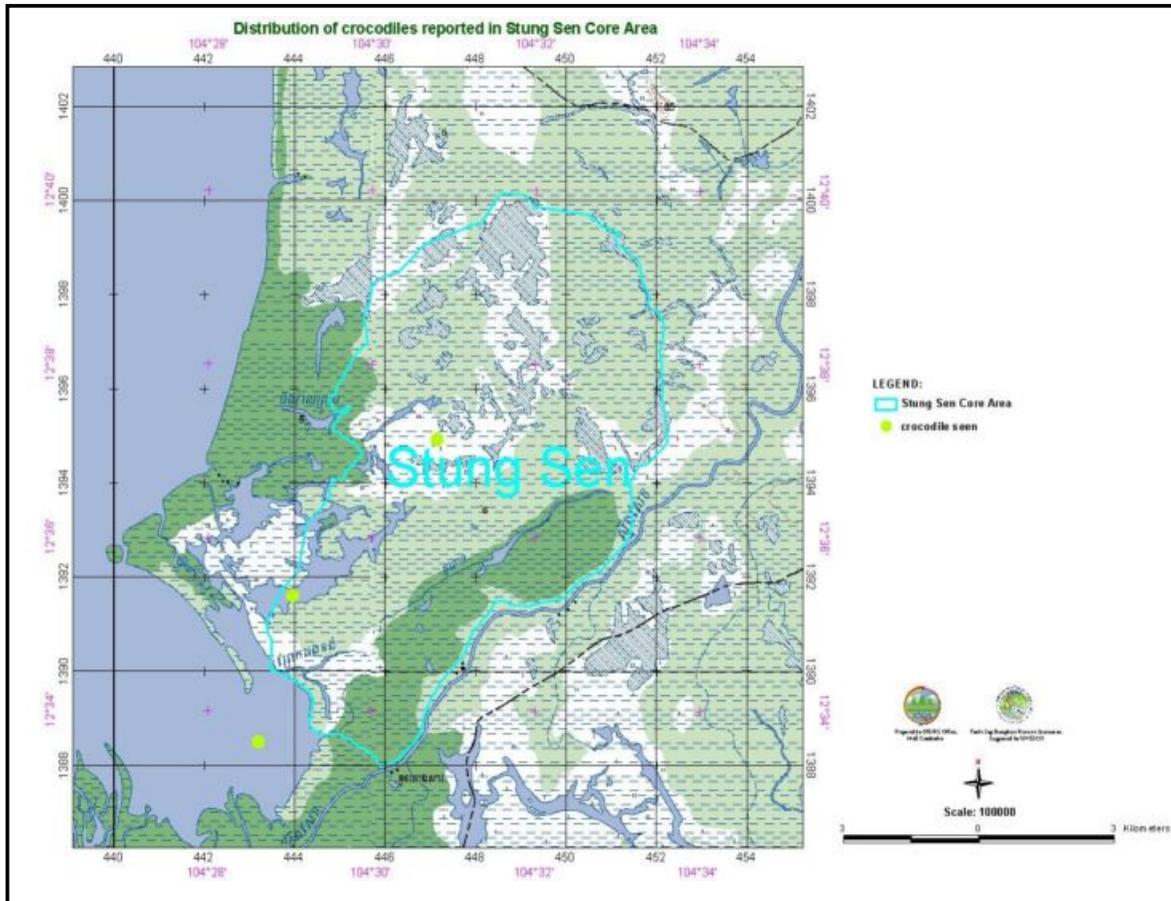
Source: The Tonle Sap Biosphere Reserve Secretariat (2001)

Map 4: Map of Boeung Tonle Chhmar core area (Peam Bang commune)



Source: Ministry of Environment and Tonle Sap Biosphere Reserve Secretariat (2001)

Map 5: Map of Stung Sen core area (Phat Sanday commune)



Source: Ministry of Environment and Tonle Sap Biosphere Reserve Secretariat (2001)

3. ILLUSTRATIONS (photographs by the author)

A. Village settlement in Peam Bang in the dry season



B. Village landscape on the way to BTC core area



C. Fishing lot operation in BTC core area



D. Fish trading activity in Phat Sanday (SS core area)



E. Restricted area along the river occupied by the lot owners



F. Floating school in Peam Bang donated by the UNICEF



G. A traditional fishing activity by the locals in Stung Sen



H. An informal medical service in Peam Bang (BTC)



I. Traditional fish smoking in Peam Bang (BTC)



J. Fish catch (per boat) of a medium scale fisherman



K. Pig raising on a floating pigsty in SS core area



L. Crocodile rearing in Peam Bang commune (BTC)



M. Watersnake dealing in SS core area



N. Cutting of fuel wood to reserve for the rainy season



O. Snakehead fish raising (illegal) by the locals in BTC



P. Dry rice farming by the SIMs in SS core area



Q. Flooded forestland conversion into dry rice paddies



R. Return of the SIMs in the early rainy season



S. A waterbird nesting spot in BTC core area



T. A home-stay owner prepares food for visitors in BTC



U. Tourists on a speed boat passing by SS core area



V. A spirit possession ritual in Peam Bang (BTC)

