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Farmers in Peri-Urban Regions: Socio-Economic Changes and Access to Finance Study for Indian Economy

The International Center for Development and Decent Work

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1 The paper has been prepared while the author was working as a Fellow, International Centre for Development and Decent Work (ICDD), Department of Social Sciences, University of Kassel, Germany.

Contents

Abstract

Given the rapid pace of urbanization and expansion of cities, the peri-urban regions become important mostly because of their dynamic and transitional nature. This paper tries to capture the changing nature of socio-economic characteristics and access to different financial activities in the peri-urban regions of India in general and Karnataka in particular. More specifically, the paper examines these changing characteristics among the farmers of the peri-urban regions. Results reveal that urbanization has had impact among the farmers in terms of different socio-economic characteristics, such as, changing nature of their production activities, their asset owning structure, infrastructural improvement, shift in their modes of transport equipment, etc. Besides, farmers experience changes in financial particulars and access to finance in terms of owning of financial assets, increasing number of bank account holders, access to credit, use of that credit, sources of credit, etc. Thus, changes occur in terms of both socio-economic and financial particulars among the farmers as an impact of urbanization. Moreover, these changes vary in different types of peri-urban regions as well.

1 Introduction

Given the rapid pace of urbanization in India and its immense impact on livelihood as well as socio-economic status of the population, it is the peri-urban region that demands its importance to study. Peri-urban regions are mostly transitional in nature that fall in between rural and urban regions, which precisely means that these regions are neither strictly rural nor strictly urban. Rather these regions are defined as the 'rural–urban interface', that indicates the region where the rural meets the urban or otherwise. In other words, it is the region where rural and urban features co-exist. Thus, being dynamic and transitional, it is important to understand the peri-urban region from a political perspective and as a process of urbanization (Narain, Anand & Banerjee, 2013). Further being a transitional zone, the peri-urban region can clearly identify the changes as per different parameters like land use pattern, social and cultural norms, environmental issues, socio-economic characteristics, financial flows, governance, etc., as a result of urbanization. Its dynamic nature allows it to impact city planning as well.

In addition, the rural-urban interface (termed as peri-urban region) may have significant impact on the farmers as well in terms of diversification in agricultural production from food crop to cash crop, shifting of production to perishable commodities like fruits and vegetables (Addo, 2010; Brown & Jameton, 2000; Golden, 2013; McCormack et al., 2010), change in land use pattern, transformation of livelihood from agriculture to non-farm businesses, etc. Moreover, with city expansion, along with changes in the socio-economic particulars of the farmers, the peri-urban region also allows changes in financial flows, especially, changes in access to credit facilities among the farmers. Since financial inclusion has been considered as an important policy priority majorly targeting the rural and urban poor, assessing the changing accessibility of financial flows of the farmers in the peri-urban regions is an important researchable issue for further exploration. With these mixed features and multi-faceted nature, the peri-urban region, thus, attracts many scholars to re-look this region from different dimensions.

In spite of this wide spectrum of features and its multi-faceted nature, the peri-urban region is often found neglected mainly because of deficiency in proper planning as well as lack of efficient management. The Centre for Urban Science and Engineering in their roundtable discussion on 'Development of Peri-Urban Areas around Indian Cities' also discussed this point by saying that since by definition, the peri-urban region is the mix of rural and urban features, sometimes it is difficult to exactly identify this region, for which sometimes it loses its proper identity and so the appropriate planning and efficient management. Marshall & Randhawa (2017) also support this view and argue that the peri-urban region requires proper planning and importance so that the benefits from this region can be extracted. Moreover, it should be understood by the planners that these regions are the ones which will transform into urban centres in the near future.

Therefore, it is indeed crucial to have a comprehensive understanding of the changes occurring in these peri-urban areas as a result of urbanization. There are studies that examine the change in the socio-economic characteristics in few specific peri-urban regions in India, but it is the changing accessibility of financial resources in those areas that needs particular attention especially with reference to India. Moreover, because of its transitional nature, it is indeed important to examine the change in the access to credit, purpose of credit etc., particularly among farmers[2] in the peri-urban regions, which further establishes the fact whether financial inclusion is actually taking place in the peri-urban regions of India or not.

This paper tries to examine whether there is any substantial change in the financial services among the farmers in the peri-urban regions as a result of urbanization considering financial variables like holding of bank, post-office, deposit and savings accounts; incidences of taking loan; use, purpose, sources of loans; conditions of accessibility to credit/loan; role of government-run banks, etc. Apart from considering the financial changes, the paper also examines socio-economic changes among farmers in peri-urban regions in terms of change in their land-owning pattern, the different types of assets they own, etc. Therefore, the basic objective of this paper is to explore if there is any substantial financial services and other socio-economic changes in the peri-urban zones of India in general and Karnataka in particular.

2 The paper considers the farmers (i.e., who are self-employed in agriculture and thus whose primary occupation is agriculture) in the peri-urban regions of India in terms of their changing nature of socio-economic and financial characteristics.

Our results show that urbanization has significantly impacted the farmers in terms of their changing nature of production activity, their asset owning structure, infrastructural improvement, shift in their modes of transport equipment, etc. For instance, as a consequence of urbanization, farmers are now engaged in livestock, poultry and other mammals' production apart from agriculture. Moreover, farmers own more of power-driven equipment and advanced transport equipment for their production. In addition, urbanization encourages the farmers to own assets like workplace to build up their non-farm businesses.

Further, results on the change in financial particulars depict that there is an increase in the percentage of farmers having bank accounts, valid Kisan credit card, and also having different types of financial deposits, especially bank deposits, deposits in microfinance institutions, insurance schemes, government certificates, etc., although these percentages are sometimes merely limited to a relatively urban set-up, which then decreases towards a rural set-up.

Urbanization impacts on the access to credit to the farmers as well. For instance, short-term crop loans are mostly taken by farmers in a rural set up, while farmers in more urban set-up (farmers in urban set-up are considered as farmers in peri-urban regions) are mostly taking medium and long-term loans. Moreover, urbanization inspires farmers to use their loan for capital expenditure to continue productive investment. In addition, differences do exist in terms of source of that loan; commercial banks are providing loans to mostly farmers in more urban set-ups, while co-operative society/banks are more popular in mostly rural areas. Thus, changes occur in terms of both socio-economic and financial particulars among the farmers as an impact of urbanization in India as well as in Karnataka. Moreover, these changes vary in different types of peri-urban regions as well.

The paper is structured in the following sections. Section 2 discusses some important literatures in terms of definition of peri-urban region and the literatures examining its changing nature in socio-economic characteristics. Section 3 discusses about the data and methodology part, while Section 4 presents the detailed analysis regarding the changing accessibility of several socio-economic and financial resources in the peri-urban region of India. Section 5 finally concludes the study.

2 Literature Review

Before moving into analysing the changing nature of peri-urban region in terms of various characteristics, it is primary first to define the peri-urban region.

2.1 Defining Peri-Urban

Although scholars define the peri-urban region using different characteristics, this particular region faces ambiguity in terms of a unique definition especially because of its multifaceted nature (Brook & Purusthothoman et al., 2003). Scholars like Sarkar & Bandyopadhyay in 2013 argued that the peri-urban region exhibits some exclusive features of spatio-temporal and socio-economic characteristics. They also added that although rural and urban regions have distinctive features, in the peri-urban region an interrelation exists between them, showcasing a mixed culture of both rural and urban as well as the changing nature of the socio-economic status and livelihood patterns of the household including changing land use patterns, environmental and societal patterns etc. With this changing outline of peri-urban region, several scholars like Sarkar & Bandyopadhyay (2013), Iaquinta & Drescher (2000), Narain, Anand & Banerjee (2013), Nilsson (2009) in the Peri-urban Land Use Relationships (PLUREL) project and many others argued that the peri-urban region is dynamic in nature, that may change overtime with the increasing incidence of urbanization. Moreover, Nilsson in his PLUREL project in 2009, terms the peri-urban region as a complex one that develops in a non-linear way with three forms of changes at three different fronts, viz., functional, organizational and institutional, where the functional changes include land use changes, infrastructural changes and changes in the overall economy, employment, etc., organizational changes refer to the changes in organizational set-up, like cooperation of government and non-government organizations, and finally, institutional changes include changes in norms, culture and its overall structure. In addition, Narain, Anand & Banerjee (2013), Allen (2003) pointed out that not only the changing nature is observed in terms of land use and cultural and societal norms, it does exist among the social groups of the peri-urban region as well (Narain, Anand & Banerjee, 2013). According to their views, this region also encompasses the co-existence of a wide heterogeneous population, namely, small farmers, informal workers, industrial actors, who have different interests. The region also comprises a large number of migrant labourers who work there with the hope of getting better job opportunities and living conditions in the peri-urban set-up (Narain & Nischal, 2007). Along with this changing nature, authors like Narain & Nischal (2007) defined the peri-urban region in three ways, namely, a place, a concept and a process. If the place-based definitions

are followed then peri-urban means the rural–urban fringe region, which is defined by Wehrwein (1942) in his article 'The Rural-Urban Fringe' as 'the area of transition between well-recognized urban land uses and area devoted to agriculture'. Further based on this definition, scholars like Sarkar & Bandyopadhyay (2013), Adell (1999) and many others termed the peri-urban region as the one that comprises the city and the countryside together, precisely meaning outskirts or the urban hinterland. Besides, scholars like Mookherjee (1963) and Smith (1937) have considered the rural non-farm population as the peri-urban zone. In addition, according to Rodehaver (1947), peri-urban region implies the interrelation 'between an urban unit and its outlying rural-farm areas'. Therefore, because of having this mixed character of rural and urban, the region has also been termed as the region having 'mixed spaces' by scholars like DuPont in 2005. However, similar to other scholars like Sarkar & Bandyopadhyay (2013), Iaquinta & Drescher (2000), Narain, Anand & Banerjee (2013) and many others, DuPont (2005) also supported the dynamic nature of the peri-urban space. Pryor (1968) also defined a peri-urban region as the rural–urban fringe region characterized by change in land use, demographic particulars, etc., thus expecting its transitional nature. Ramachandran (1989) in this regard, argued that the rural–urban fringe is characterized by a region, 'where agriculture land-uses appear near the city and extends up to the point where villages have distinct urban land-uses'. He also pointed out the dynamism nature of this region by stating that the peri-urban zone has mixed land-use pattern with special focus on especially horticulture and dairy activity that clearly indicates the changing cultivation pattern in this region. Apart from land-use pattern, the residents of the peri-urban region are engaged with different economic activities mainly connected with the nearest urban centre that further leads to change the societal and cultural transformation in this region.

2.2 Literatures on the Dynamic Nature of Peri-Urban Region

Given the underlying importance of the peri-urban region, a large number of scholars have found examining the socio-economic changes in terms of several aspects for different peri-urban regions of India. For instance, scholars like Brook, Purushothaman & Hunshal (2001) have examined the changing pattern in the peri-urban interface of Hubli-Dharwad of the Karnataka state in India in terms of their land-use pattern, land price, infrastructural development, namely, road connection, institutional structures, etc. Not only did the land-use pattern change substantially in the peri-urban regions of India, it is the composition of household income also that faces significant changes in the peri-urban region of Udaipur city (Rao, Singh & Purohit, 2016). By choosing six villages councils (India: *panchayats*), they have shown the changing pattern in the land

utilization, farming type and production of crop, and finally, the level and composition of household income of the farmers for two different points of time. Moreover, studies like Addo (2010), Brown & Jameton (2000), Golden (2013), McCormack et al. (2010), and many others have argued that in the peri-urban region, there is a huge demand for production of perishable commodities like fruits and vegetables, thus farmers in those regions have shifted their production from food crop to those commodities, which, then, makes the farmers profitable by selling those commodities in the market with good price. Also, since these peri-urban regions are mostly located in the countryside, it has the advantage of the proximity of good markets, which, in turn, reduces the transportation cost that the farmers have to bear to sell the product at good price.

Apart from the changes in socio-economic characteristics, financial services as well change a lot in the peri-urban region. As evident from the existing studies of Bhattacharjee & Rajeev, 2013; Klein et al., 1999; Satyasai, 2008; and many others, the small and marginal farmers in agriculture face severe problems in getting credit for their use. Especially, the formal credit system happens to be rigid for them mostly because of the several rules and documentation required for getting the loan, which proves to be an obstacle. It is, therefore, necessary to examine whether there is any change in the financial services delivery (such as getting loan and similar services) in the peri-urban region as an impact of urbanization. Not only access to credit, the purpose of credit also remains an important question. As pointed out by the scholar like Morvan-Roux (2011), farmers mostly use their loan for meeting consumption needs or engaging in micro-scale activities like buying animals, etc., which is not a productive investment.

Therefore, it is important to examine the prime purpose of the farmer for seeking loan. The study questions whether rapid urbanization and city expansion at all change this purpose among the farmers in the peri-urban region. Institutional factors like role of government also determine accessibility to credit. In particular, the question should incorporate the change in the services of government-run banks in the peri-urban region, i.e., whether they provide better credit accessibility to farmers as a result of urbanization and if the sum can be used for productive purposes like infrastructural investment, and so forth.

Given the importance of all these questions in particular, it has been observed that although there are studies that examine the socio-economic changes in different peri-urban regions of India as well as across the country using primary survey, no studies have been found that understand the change in the financial services in the peri-urban region, especially those analysing the changing nature of access to credit. This, therefore, forms a gap in the existing literature that the current paper tries to address.

3 Data and Methodology

3.1 Data

In order to examine the change in the socio-economic and financial characteristics in the peri-urban regions of India, we have used the All India Debt and Investment Survey (AIDIS) decennially (every 10 years) conducted by the National Sample Survey Office (NSSO). NSSO started AIDIS for the year 1971–72 for the 26th round continuing up to the latest one for the year 2013 (70th round) each with an interval of 10 years. AIDIS comprises several questions related to financial characteristics of a household, including the information on having bank account, post-office account, deposit and saving account, Kisan credit card (credit scheme introduced in 1998 by Indian banks), loan taken by the household (both in cash and kind form), purpose of loan, use of loan, type of credit agency, and so on. along with several socio-economic particulars like different types of assets owned by the household, like land, poultry/dairy activity, transport equipment, agricultural machinery, etc. In order to portray the change in socio-economic and financial activities, we have used the NSSO data on AIDIS for the latest two years, viz., 59th round for the year 2003 and the recent round, 70th round for the year 2013.

Photo by Dharavi: Pipe Walk

3.2 Methodology: Sampling Strategy

In order to examine the change in the socio-economic and financial activities of the farmers in the peri-urban regions of India, it is first important to define the region that is peri-urban in nature. As discussed above, the peri-urban region faces ambiguity in terms of a unique definition mostly because of its mixed nature—rural and urban. Also, since the paper is based on the secondary data source like NSSO (2003; 2013) on All India Debt and Investment Survey, it is further difficult to define a peri-urban region. However, given all the difficulties in defining a peri-urban region using secondary data, we have defined a peri-urban region of India in our paper in the following way:

- First, we listed the cities with million plus population in India according to the Census of India, Government of India (2011) and Census of India, Government of India (2001). For our sample, we considered those cities that had million plus population in both the censuses. Also, since city-wise data was not available, based on the secondary data sources NSSO (2003; 2013) on All India Debt and Investment Survey, we considered these cities as districts.
- In the second step, the previous listed cities were divided into two parts, namely, city type 1 and city type 2. City type 1 consisted of six metros – Mumbai, Delhi, Kolkata, Chennai, Bangalore[3] and Hyderabad. Another characteristic of cities grouped as type 1 was that they had more or less 100 % population living in urban areas[4]. Besides, city type 2 comprised those cities that were 50 %–80 % urban, i.e., in those cities where 50 %–80 % people lived in the urban region and the rest lived in rural region. After defining the cities as city type 1 and type 2, the rest were defined as 'rural', i.e, in our analysis, 'rural' comprised regions where city type 1 and city type 2 were considered zero. Thus, three divisions had been made with respect to all over India. Tables A.1 in the Appendix to this paper list the details of cities included in city type 1 and city type 2 with their population figures (as per Census of India, Government of India, 2011 and 2001) and also the respective percentage of people living in the urban region according to the Census of India, Government of India (2011).

3 It should be noted here that while considering Bangalore, the district named 'Bangalore rural' was not considered in city type 1, since it had only 27.1 % people living in the urban region Census of India, Government of India (2011), the rest were in rural. Therefore, it had not satisfied our criteria of 100 % urban population for its inclusion in city type 1.

4 As per Census of India, Government of India (2011), the characteristics of urban areas is listed as follows: a) All places with a municipality, corporation, cantonment board or notified town area committee, etc. b) All other places which satisfied: i) A minimum population of 5,000; ii) At least 75 % of the male main working population engaged in non-agricultural pursuits; and iii) A density of population of at least 400 persons per sq. km.

Thus, the cities have been selected based on the following two criteria:

1. million plus population for both the censuses.
2. their divide in rural/urban population
   (i.e., percentage of people living in urban region)

- After listing the cities, in the third step we looked at the farmers' (those who are self-employed in the agriculture sector) profile in both these cities. As per the definition of peri-urban which refers to the mixed nature of rural and urban, we assumed the rural nature of city type 1 and city type 2 as the peri-urban region. More specifically, our focus was on farmers living in both these cities, who were then considered as farmers living in the peri-urban. Thus, to some extent, our definition of peri-urban population follows the concept-centric as well as place-based definition pointed by Narain & Nischal (2007). According to Narain & Nischal (2007), the place-based definition of peri-urban implies the rural–urban fringe region or the region that is a mix of city and countryside. Based on this, our definition also assumes that farmers living in cities are considered as peri-urban, thus they have both the features of rural and urban. In this respect, our definition of peri-urban is a mix of both places as well as concepts, as pointed out by Narain & Nischal (2007).

Further, it is important to note that city 1 and city 2 comprises cities that represent sample cities from all parts of India. However, apart from providing a glance of India, it is also important to concentrate on a specific state in particular, which has several versatile characteristics. In this respect, this paper considers Karnataka for reasons explained below.

3.3 Why Karnataka?

We have chosen the state of Karnataka because of its diverse nature in terms of its varied climatic zones among different districts, land-use pattern, environmental pattern, process of urbanization, etc. It is evident that Karnataka underwent a change through rapid urbanization especially in cities like Bangalore, Dharwad, etc., where above 50 % people live in urban regions according to Census of India, Government of India (2011) (even Bangalore is termed as one of the metro cities, where above 90 % people live in urban region, Census of India, Government of India, 2011). But at the same time, Karnataka is also characterized by a large number of districts[5] which have very less population living in urban region like Belgaum (25.34 % people live in urban region, Census of India, Government of India, 2011), Chikmagalur (21.05 % people live in urban region, Census of India, Government of India, 2011), etc. With this diverse rural/urban divide in Karnataka,

5 Here also due to lack of city-wise data from NSSO (2003; 2013) on All India Debt and Investment Survey, we have considered the cities as districts.

it is, therefore, important to examine the changing nature of farmers (those who are self-employed in agriculture) in the peri-urban regions of Karnataka in terms of their socio-economic and financial characteristics, which our study intends to focus on.

While defining the peri-urban regions in Karnataka, similar fashion was adopted as previously discussed for the cities. The districts of Karnataka were divided into four parts – district type 1, district type 2, district type 3 and rural. Based on the rural/urban divide in the districts of Karnataka as per the Census of India, Government of India (2011), district type 1 incorporated metro city Bangalore with above 90% population living in the urban region. District type 2 comprised those with above 40% population living in the urban region. District type 3 constituted those with 25%–40% population living in urban region[6]. Finally, the rural comprised those where district type 1, district type 2 and district type 3 equalled zero, which means that the rural comprised less than 25% and where other urban districts (namely, district type 1, 2 and 3) do not exist at all. **Table A.2** in the Appendix to this paper provides detailed information regarding the specific district names with their respective percentage of people living in the urban region according to the Census of India, Government of India (2011). After listing the districts of Karnataka, our task is to look at the changing nature of farmers in terms of their socio-economic and financial characteristics living in those districts. Thus, as before, we try to capture the rural nature of district type 1, type 2 and type 3, which then captures the peri-urban region in Karnataka.

Based on the above steps, in the subsequent section, we analyse the changing nature of socio-economic and financial characteristics of the farmers living in both city type 1 and type 2 (i.e., farmers in the peri-urban region) as well as in Karnataka for both the time periods, namely, 2003 and 2013 using NSSO data on AIDIS.

6 Since, Karnataka is characterized by a diverse nature in its rural/urban divide among the districts, we could not follow the exact percentages (i.e., about 100% as district type 1 and 50-80% as district type 2) as we defined in terms of city type 1 and type 2. Therefore, while dividing the districts of Karnataka in terms of their rural/urban population, we have listed Bangalore in the large extent having above 90% population in urban areas (thus defined as district type 1) and then used the definition like above 40% as district 2 and 25-40% as district 3.

4 Analysing the Changing Structure of Peri-Urban Region in India

This section presents the changing structure of peri-urban region from 2003 to 2013 in terms of farmer's socio-economic and financial particulars. Also, as mentioned above, the analysis has a pan-India approach (consisting of city type 1, city type 2 and rural) in general as well as for Karnataka (consisting of district type 1, district type 2, district type 3 and rural) in particular for both these time periods.

4.1 Distribution of households in India and Karnataka based on their occupation

However, before concentrating on the farmers, it is indeed crucial to provide an overall picture of the households in India as well as in Karnataka based on their occupation for both time periods; 2003 and 2013. Thus Table 1 presents the distribution of households in India based on their occupation. Following this table, we subsequently concentrate on the farmers per se in this paper.

Photo by ICDD

Table 1: Distribution of Households in India Based on their Occupation in Rural and Urban Areas

	CITY-1		CITY-2		OTHER URBAN[7]		RURAL	
	2003	2013	2003	2013	2003	2013	2003	2013
Rural								
Self-employed in agriculture (farmers)	0.3	0.7	11.6	14.4	0	0	37.1	47.8
Self-employed in non-agriculture	0.7	0.7	5.3	2.3	0	0	15.1	11.1
Regular wage/ salary earnings[8]		1.5		3.4		0		11.5
Casual labour in agriculture	0.3	0.1	6.5	4.0	0	0	24.4	12.8
Casual labour in non-agriculture	0.2	0.2	5.3	3.7	0	0	10.8	12.2
Others	1.3	0.1	4.2	1.1	0	0	12.5	4.5
Urban								
Self-employed	29.8	31.9	25.2	26.3	40.0	37.2	0	0
Regular wage/ salary earnings	54.7	50.7	30.9	32.1	38.2	37.8	0	0
Casual labour	8.1	8.1	7.4	8.5	12.9	16.7	0	0
Others	4.7	6.1	3.5	4.3	8.8	8.2	0	0

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: The figures are percentage figures, each calculated in comparison with the total population (rural + urban) in each of these cities for both the years.
Note: As per NSSO (2003; 2013) data on All India Debt and Investment Survey, the farmers in this paper have been characterized by those who are considered as 'self-employed in agriculture'.

Table 1 clearly shows the change in the occupational nature among the households in India for both 2003 and 2013. It has been seen that because of city expansion, the percentage of farmers (i.e, self-employed in agriculture in the above table) has increased both in city type 1 and in city type 2 (from 0.3% in 2003 to 0.7% in 2013 for city type 1[9] and from 11.6% in 2003 to 14.4% in 2013 for city type 2). This is simply because with

7 Other urban represents the region other than city type 1, city type 2 and rural areas.

8 Regular wage/salary earnings category was not present in NSSO (2003, 59th round data on All India Debt and Investment Survey).

9 This percentage increase is not so significant for city type 1 (i.e., 100% urban cities) mainly because of its urban metropolitan nature.

the incidence of city expansion, new rural areas are now being added within the cities' periphery. As a result, the farmers who previously belonged to the rural region, are now included within the city, thus characterizing the region as peri-urban, therefore, increasing the percentage of farmers in city types 1 and 2. Apart from the farmers, city expansion encourages people to engage as regular wage/salary earners in city type 1 and 2 for the year 2013. Also, the urban self-employed people have shown an increase both in city type 1 and 2. Thus, city expansion does impact on the occupational nature of the households in India.

Table 2: Distribution of Households in Karnataka Based on their Occupation in Rural and Urban Areas

	DISTRICT-1		DISTRICT-2		DISTRICT-3		OTHER URBAN		RURAL	
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
Rural										
Self-employed in agriculture (farmers)	2.5	2.8	14.6	16.9	25.3	25.1	0	0	37.0	42.4
Self-employed in non-agriculture	0.2	1.0	6.8	5.4	7.9	5.6	0	0	15.2	11.4
Regular wage/ salary earnings		4.2		3.9		7.6		0		10.1
Casual labour in agriculture	1.2	0.8	14.0	15.7	21.3	16.5	0	0	24.0	15.8
Casual labour in non-agriculture	0.4	0.4	5.9	5.4	4.2	10.4	0	0	11.0	13.3
Others	1.7	0.1	6.5	0.7	5.9	1.4	0	0	12.6	7.0
Urban										
Self-employed	22.1	20.4	19.4	10.8	12.8	10.3	38.7	31.7	0	0
Regular wage/ salary earnings	54.2	54.1	20.3	12.4	13.3	12.1	41.6	40.2	0	0
Casual labour	12.4	9.1	6.4	8.6	6.1	5.8	11.9	14.9	0	0
Others	5.4	7.1	6.1	20.1	3.3	5.2	7.8	13.2	0	0

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).
Note: The figures are percentage figures, each calculated in comparison with the total population (rural + urban) in each of these districts for both the years.
Note: As per NSSO (2003; 2013) data on All India Debt and Investment Survey, the farmers in this paper have been characterized by those who are considered as 'self-employed in agriculture'.

Although district type 1 in Karnataka (which typically considers Bangalore, 100 % urban) shows a nominal increase in the percentage of farmers overtime (from 2.5 % in 2003 to 2.8 % in 2013), the same percentage has increased from 14.6 % in 2003 to 16.9 % in 2013 for district type 2. This may be due to the change in the occupational nature among farmers in Bangalore. In particular, due to rapid urbanization with changing land use pattern, livelihood pattern, environmental design as well as with the dynamic climatic conditions in Bangalore, the new rural population that has been added as a peri-urban region, may not typically engage in agriculture. Rather they are engaged in some non-farm businesses or sometimes migrated from other rural areas and thus not considered as 'self-employed in agriculture'. However, as soon as we are encroaching towards a less urban set-up (i.e., towards district type 2, the farmers percentage shows a significant increase.

4.2 Socio-Economic Particulars of Farmers in the Peri-Urban Region for 2003 and 2013

After estimating the percentage of farmers in both time periods, we are now analysing the changing nature of socio-economic particulars of the farmers. Based on NSSO (2003; 2013) data on All India Debt and Investment Survey, the socio-economic particulars of the farmers have been captured in terms of the variables like their major economic activity, their primary and secondary occupation, whether they are engaged primarily in agriculture or not, their source of income, assets owned by them, especially land, buildings and other constructions, transport equipment, agricultural machinery, etc. Based on these variables, an analysis is made for both India and especially Karnataka in terms of percentage of farmers owning these different types of assets.

4.2.1 Indian Scenario

Economic Activity

Table 3 first presents the economic activities of farmers in both time periods and also examine whether that changes with urbanization processes.

Table 3: Economic Activity of the Farmers in India for 2003 and 2013[10]

ECONOMIC ACTIVITY OF THE FARMERS								
Primary activity / occupation (Agriculture)			**Secondary activity / occupation (Animal husbandry)**					
Whether operated land for Agricultural activities			**Livestock and poultry owned**					
	2003	**2013**	**2003**	**2013**	**2003**	**2013**	**2003**	**2013**
			Livestock		**Ovine, pigs, rabbits**		**Poultry birds**	
City type 1	92.0	90.2	76.0	72.5	28.0	17.6	28.0	21.6
City type 2	97.3	96.9	80.0	75.4	19.8	15.5	8.8	12.0
Rural	97.9	97.7	72.6	69.9	23.6	23.3	22.3	20.4

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: These percentages may exceed 100, because one individual may involve more than one type of economic activity. Therefore, owning one type of asset is not mutually exclusive from the other.

Table 3 clearly shows that apart from the primary occupation, agriculture, there is an increase in the percentage of farmers owning poultry birds in city type 2 (12% in 2013 from 8.8% in 2003). Moreover, 23.3% farmers in rural areas have been found owning other mammals like ovine, pigs and rabbits in 2013. Although in some cases these percentages show a decline in 2013 as compared to 2003, especially for farmers in city type 1, still a large percentage of farmers (72.5%) in city type 1 are owning livestock in 2013 apart from primary occupation agriculture. Not only for farmers in city type 1, the percentage is huge for city type 2 and rural as well (75.4% and 69.9% respectively), who are engaged in owning livestock besides agriculture. Thus, although there is not much significant increase in 2013, different secondary activities are coming up among farmers as a result of urbanization.

10 The figures represent the percentage of farmers having primary and secondary activity in both 2003 and 2013. In both the cities and rural, the percentages have been calculated with respect to the number of farmers in each of them. This calculation is true for the remaining tables in the paper. In the remaining tables of the paper, the percentages have been calculated with respect to the number of farmers in each of these cities and rural areas for India and also for Karnataka, the percentages have been calculated with respect to the number of farmers in each of the districts and rural areas.

Asset Owned: Buildings and Other Constructions

Not only the nature of economic activity has experienced a change for the farmers in the peri-urban region, the asset-owning nature has changed a lot too. Table 4 presents the changing nature of asset owned by farmers, especially buildings and other constructions in the peri-urban region of India for 2003 and 2013.

Table 4: Asset Owned: Buildings and Other Constructions by the Farmers in India for 2003 and 2013[11]

	ASSET OWNED: BUILDINGS AND OTHER CONSTRUCTIONS BY THE FARMERS									
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
			Building for farm business		Building for non-farm business				Other constructions	
	Residential building		Animal shed		Workplace / workshop		Shop		Well, borewell, tube well	
City type 1	96	100	40	45.1	0	2.0	0	3.9	0	9.8
City type 2	98.1	98.8	58.2	52.4	0.8	0.2	1.7	0.8	3.1	21.2
Rural	98.2	98.0	50.2	52.0	0.6	0.6	1.8	1.2	2.0	20.8

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: These percentages may exceed 100, because one individual may own more than one type of buildings and other constructions. Therefore, owning one type of building is not mutually exclusive from the other.

Table 4 portrays that owing to urbanization, a great percentage of farmers in the peri-urban region own several constructions related to farm and non-farm businesses. For instance, since animal husbandry happens to be the dominant occupation for the farmers, 45.1% farmers have animal sheds in city type 1 in 2013. Similar trends are visible for having buildings for non-farm businesses also, i.e., 3.9% farmers are conducting their non-farm business from a building, like a shop in city type 1 in 2013, which was not at all there in 2003. Moreover, 2% farmers in city type 1 are now having a building for constructing their non-farm workplace/workshop in 2013, which were not at all present in 2003. Not only the construction for farm and non-farm businesses, a large percentage of farmers in both types of cities as well as in rural areas now own other constructions like well, borewell, tube well, etc., which was significantly less in 2003. However, it is

11 The figures represent the percentage of farmers owning buildings and other constructions in 2003 and 2013. In both the cities and rural, the percentages have been calculated with respect to the number of farmers in each of these cities and rural.

interesting to note that in the year 2013, as long as we move from city type 1 to city type 2 and rural, i.e., from 100% urban to less than 100% urban area (50%–80% urban), the percentage of farmers owning building for non-farm businesses has decreased, while the percentage of farmers owning building for animal shed and other constructions (well, borewell, tube well) has shown an increase from city type 1 to city type 2 and rural. This clearly implies that urbanization mostly influences the farmers in the metro cities to be engaged in non-farm businesses, while farm businesses are more dominant among farmers in city type 2 and rural as compared to city type 1. Even the percentage of farmers owning buildings for well, borewell, tube well is much higher in city type 2 and rural as compared to city type 1 in the year 2013.

Asset Owned: Transport Equipment

Table 5: Asset Owned—Transport Equipment by Farmers in India for 2003 and 2013

	ASSET OWNED—TRANSPORT EQUIPMENT BY THE FARMERS									
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
	Carts (hand driven / animal driven)		Bicycles		Motor cycles / scooters / mopeds / auto-rickshaws		Motor cars / jeep / van		Tractors, trailers	
City type 1	16.0	3.9	36.0	33.3	16.0	45.1	0.0	2.0	0.0	9.8
City type 2	19.3	10.2	54.3	43.5	22.8	43.8	2.2	4.2	6.2	11.4
Rural	11.5	5.9	49.9	53.4	7.4	22.3	0.8	2.0	2.5	5.6

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: These percentages may exceed 100, because one individual may own more than one type of transport equipment. Therefore, owning one type of transport equipment is not mutually exclusive from the other.

The urban culture also encourages the farmers in the peri-urban region to use more advanced transport equipment. Therefore, significant difference has been observed in terms of the nature of transport equipment. It is clear from **Table 5** that in 2013, there is less percentage of farmers who are owning hand-driven or animal-driven cart. Because of city expansion and the transitional nature of the peri-urban region, the farmers in those regions are now part of the city culture, which led them to use more of motor cycles/scooters/mopeds and motor cars/jeep/van etc. as compared to bicycles. However, the use of bicycles is still high among the farmers in rural and to some extent in city type 2 in the year 2013.

Asset Owned: Agricultural Machinery

Table 6: Asset Owned: Agricultural Machinery by the Farmers in India for 2003 and 2013

	ASSET OWNED: AGRICULTURAL MACHINERY BY THE FARMERS			
	2003	2013	2003	2013
	Power tiller		Water lifting equipment (electric pumps / persian wheel)	
City type 1	0.0	7.8	0.0	15.7
City type 2	1.2	3.6	5.2	27.9
Rural	1.3	2.4	3.9	20.0

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: These percentages may exceed 100, because one individual may own more than one type of agricultural machinery. Therefore, owning one type of agricultural machinery is not mutually exclusive from the other.

Urbanization has made an impact on the pattern of farming activity as well. Since urbanization makes agriculture more mechanized, farmers are now preferred to use more power-driven agricultural machinery. For instance, **Table 6** shows that in 2013, a significant percentage of farmers own power-driven agricultural machinery like power tiller, water lifting equipment like electric pumps, Persian wheel, etc., as compared to 2003. For instance, in city type 1, 7.8% and 15.7% farmers are now owning power tiller and other power-driven water-lifting equipment (like, electric pumps, Persian wheel, etc.) in 2013, who were fully absent in 2003.

4.2.2 Karnataka Picture

As mentioned previously, we are analysing the changing nature of the farmers in the peri-urban region for India as well as for Karnataka.

Economic Activity

Table 7 presents the economic activity of the farmers in both the time periods and also examines whether it changes with city expansion or not.

Table 7: Economic Activity of the Farmers in Karnataka for 2003 and 2013

ECONOMIC ACTIVITY OF THE FARMERS								
Primary activity / occupation (agriculture)			Secondary activity / occupation (animal husbandry)					
Whether operated land for agricultural activities			Livestock and poultry owned					
	2003	2013	2003	2013	2003	2013	2003	2013
			Livestock		Ovine, pigs, rabbits		Poultry birds	
District type 1	91.3	100.0	78.3	77.8	26.1	33.3	30.4	27.8
District type 2	97.9	97.9	75.5	71.3	11.7	12.8	12.8	18.1
District type 3	97.4	97.8	81.6	71.9	11.9	14.5	13.8	16.6
Rural	97.9	97.6	72.6	70.0	23.8	23.3	22.1	20.2

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).
Note: These percentages may exceed 100, because one individual may involve more than one type of economic activity. Therefore, owning one type of asset is not mutually exclusive from the other.

Apart from the primary occupation, agriculture, a significant percentage of farmers owned livestock in 2013, although there has been a declining trend if compared to 2003. It reveals that in owning other mammals like ovine, pigs and rabbits, farmers in district type 1 experienced a boost in 2013 as compared to 2003. Even this percentage is also high for other districts and rural. Moreover, 27.8% farmers in district type 1 own poultry birds in 2013, which is the highest as compared to other districts.

Assets Owned: Buildings and Other Constructions

A large percentage of farmers in Karnataka as in other parts of India, own buildings for constructing animal shed, workplace, well, borewell, etc., although in most cases this percentage show a decline as soon as farmers move from more urban population to less urban population, i.e., from district type 1 to type 2, 3 and to rural areas. Apart from buildings for farm business, 5.6% farmers in district type 1 own buildings for workplace/ workshop.

Table 8: Assets Owned—Buildings and Other Constructions by the Farmers in Karnataka for 2003 and 2013

	ASSETS OWNED—BUILDINGS AND OTHER CONSTRUCTIONS BY THE FARMERS									
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
			Building for farm business		Building for non-farm business				Other constructions	
	Residential building		Animal shed		Workplace/ workshop		Shop		Well, borewell, tube well	
District type 1	95.7	100.0	34.8	72.2	0.0	5.6	0.0	0.0	0.0	11.1
District type 2	100.0	96.8	59.6	47.9	1.1	2.1	1.1	0.0	1.1	14.9
District type 3	99.2	99.0	40.0	45.3	0.3	0.2	3.0	1.6	0.7	6.7
Rural	98.2	98.0	50.6	52.1	0.7	0.6	1.8	1.2	2.0	21.1

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).
Note: These percentages may exceed 100, because one individual may own more than one type of buildings and other constructions. Therefore, owning one type of building is not mutually exclusive from the other.

Assets Owned: Transport Equipment

Table 9: Assets Owned—Transport Equipment by the Farmers in Karnataka for 2003 and 2013

	ASSETS OWNED—TRANSPORT EQUIPMENT BY THE FARMERS									
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
	Carts (hand driven / animal driven)		Bicycles		Motor cycles / scooters / mopeds / auto-rickshaws		Motor cars/ jeep/ van		Tractors, trailers	
District type 1	17.4	5.6	30.4	22.2	13.0	27.8	0.0	0.0	0.0	0.0
District type 2	8.5	14.9	25.5	34.0	11.7	30.9	4.3	3.2	1.1	4.3
District type 3	25.6	9.9	32.9	39.8	11.2	36.2	1.1	1.6	1.4	6.9
Rural	11.4	5.9	50.5	53.3	7.8	22.7	0.9	2.0	2.7	5.8

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).
Note: These percentages may exceed 100 because one individual may own more than one type of transport equipment. Therefore, owning one type of transport equipment is not mutually exclusive from the other.

Urbanization made the use of transport equipment more advanced and technology driven by the farmers in the peri-urban region of Karnataka. Therefore, the use of motor cycles/scooters/mopeds among farmers in all the districts and rural areas has increased significantly in 2013, while there is less use of hand and animal-driven carts in almost all the districts, except in district type 2. However, in Karnataka, since most of the districts fall in the category of district type 3 (i.e., 25-40% urban population) and also district type 2 (above 40% urban population), bicycle is still used by a large number of farmers in district types 2 and 3 and rural in the year 2013 as compared to 2003. Moreover, the use of tractors and trailers has increased in district type 2 and 3 and rural in 2013.

Assets Owned—Agricultural Machinery

Table 10: Assets Owned—Agricultural Machinery by the Farmers in Karnataka for 2003 and 2013

	ASSETS OWNED—AGRICULTURAL MACHINERY BY THE FARMERS			
	2003	2013	2003	2013
	Power tiller		Water lifting equipment (electric pumps / persian wheel)	
District type 1	0.0	0.0	0.0	0.0
District type 2	0.0	2.1	0.0	13.8
District type 3	0.9	3.8	3.3	19.2
Rural	1.3	2.4	4.0	20.3

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: These percentages may exceed 100, because one individual may own more than one type of agricultural machinery. Therefore, owning one type of agricultural machinery is not mutually exclusive from the other.

It is agricultural machinery also, where farmers in the peri-urban region of Karnataka have experienced significant change. Farmers from mostly all the districts are now using power tiller, electric pumps and Persian wheel as their water lifting equipment in 2013 as compared to 2003, which clearly implies the incidence of urbanization.

4.3 Financial Particulars of Farmers in the Peri-Urban Region for 2003 and 2013

After examining the changing nature of socio-economic particulars of farmers in the peri-urban region of India and especially Karnataka, it is essential to study whether their pattern of financial flows have changed or not as a result of urbanization. It is hypothetically assumed that city expansion may have positive impact on the financial flows, especially access to credit facility to farmers, their use of credit towards productive investment, etc. In this context, we need to examine whether farmers in the peri-urban region are actually experiencing changes in terms of financial flows or not as a benefit from city expansion. Based on NSSO (2003; 2013) data on All India Debt and Investment Survey, the financial particulars of the farmers have been captured by the variables like having a bank account or not, a Kisan card or not, a post-office account or not, a deposit account or not, owning shares and debentures, other financial assets, etc. More specifically, in order to assess the change in the access to credit facility, we are using variables like access to credit from different institutions, purpose of that credit, use of that credit, type of security, nature of interest, etc. Based on these variables, the analysis followed is presented for India and Karnataka.

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4.3.1 Indian Scenario

Financial Particulars

Table 11: Percentage of Farmers having Financial Particulars in India for 2003 and 2013

	FINANCIAL PARTICULARS OF THE FARMERS[12]				
	2013	2013	2013	2003	2013
	Having bank account	Having post-office account	Having deposit account[13]	Having valid Kisan credit card	
City type 1	84.3	19.6	25.5	0.0	3.9
City type 2	89.3	8.6	1.2	7.0	29.3
Rural	78.5	13.9	6.8	4.4	19.5

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).
Note: These percentages may exceed 100, because one individual may hold accounts in more than one places. Therefore, owning one type of account is not mutually exclusive from the other.

12 It is to be noted here that while examining the financial particulars, we have presented the information on bank account, post-office account and deposit account for the year 2013 only, not for 2003, due to lack of information on the same variables in 2003. Of course the bank account incorporates the deposit account, but the deposit account considers the account holder in any enterprise other than propriety/partnership.

13 This column considers those farmers having any deposit account in any enterprise other than propriety/partnership

14 Kisan credit card scheme is a scheme introduced in the year 1998 with a view to provide card to the farmers based on their land holdings. The farmers can use this card especially in the harvest season to purchase seeds, fertilizers, etc. for meeting their production needs. National Bank for Agriculture & Rural Development (NABARD) had developed a model Kisan credit card scheme, in collaboration with some other major banks in India. Based on that, this scheme has been implemented to all the farmers in India with a view to provide necessary credit. This card is mainly offered by regional rural banks, public sector banks and co-operative banks.

Although financial particulars show that 84.3% farmers have bank account in city type 1, followed by 89.3% and 78.5% in city type 2 and rural respectively in the year 2013, a significantly less percentage of farmers are having post-office as well as deposit accounts. Although this percentage is little higher in the 100% urban metro cities, city type 1, the same is relatively low in city type 2 and rural. On a slightly different note, the percentage of farmers having valid Kisan credit card is showing an upward trend in 2013 as compared to 2003. However, it is interesting to note that the Kisan credit card is mostly used by farmers in city type 2 and rural as compared to city type 1. The underlying reason may be that the farmers in city type 1 are now more involved in non-farm businesses (as portrayed and discussed in table 3), while farm businesses are more dominant especially in city type 2 and rural areas. Therefore, the percentage of farmers having valid Kisan credit card in city type 1 is only 3.9%, while the same is 29.3% for city type 2 and 19.5% in rural in the year 2013. Another reason for the limited spread of the Kisan credit card is its low credit limit (Rs 20,000 per month).

Financial Assets Owned

Table 12: Percentage of Farmers Owning Different Financial Assets in India for 2003 and 2013

	FINANCIAL ASSETS OWNED BY THE FARMERS											
	Type of Assets											
	2003	2013	2003		2013	2003	2013	2013	2003	2013	2003	2013
	Government deposit		Bank deposit		Bank deposit	Deposit in non-banking company		Deposit in micro-finance institutions / self-help groups	Provident fund		Insurance scheme	
			Co-operative society / bank	Commercial bank								
City type 1	0.0	9.8	0.0	8.0	68.6	0.0	2.0	5.9	0.0	13.7	0.0	29.4
City type 2	1.3	5.6	10.7	23.4	64.5	2.0	0.9	1.6	1.6	1.5	7.7	15.4
Rural	0.7	9.5	4.4	14.2	64.9	1.4	1.7	5.9	0.7	1.0	4.7	14.3

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).
Note: These percentages may exceed 100, because one individual may own more than one type of financial assets. Therefore, owning one type of financial asset is not mutually exclusive from the other.

Not only having bank account, urbanization influences farmers to own several different types of financial assets. As a result, **Table 12** clearly portrays the fact that farmers in the peri-urban region of India are owning more government deposits, especially bank deposits with them in 2013 as compared to 2003. For instance, 68.6% farmers own bank deposits in city type 1, which is even 64.5% and 64.9% in city type 2 and rural areas in the year 2013 as compared to 2003. Apart from that 5.9% farmers in city type 1 have their deposits in micro-finance institutions or self-help groups, a large percentage of farmers in city type 1 (13.7%) have provident fund in 2013, although this percentage is much less for farmers in city type 2 and rural. In addition, farmers are more interested towards opening several insurance schemes like life insurance policies, etc., for which the table shows that 29.4% farmers in city type 1 are having financial asset as insurance schemes in 2013. Although this percentage is less in city type 2 and rural in 2013 (15.4% and 14.3% respectively), it is higher than what it was in 2003.

Financial Flows

This sub-section presents the financial flows of the farmers in the peri-urban region of India. By financial flows, we are considering the information of cash loan in terms of the average amount borrowed and paid by the farmers, type of loan, source of getting that loan, purpose of loan, type of security, interest rate, etc.

Cash Loan

As described in the NSSO (2003; 2013) data on All India Debt and Investment Survey, 'all loans taken in cash, even if they are repaid or propped to be repaid in kind will be considered as cash loans'.

Average Amount of Cash Loan Borrowed and Amount Repaid

Table 13: Average Amount of Cash Loan Borrowed and Amount Repaid by the Farmers in India for 2003 and 2013

	2013	
	Average amount of cash loan borrowed (Rs.)	Average amount of cash loan repaid (Rs.)
City type 1	139,058	23,724
City type 2	107,897	29,869
Rural	71,331	16,503

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).

Table 13 presents the average amount of cash loan borrowed by the farmers in the peri-urban region of India in 2013. It is quite evident that the average amount of cash loan borrowed is the highest in city type 1 which then shows a decreasing trend as soon as the farmers move towards city type 2 and rural, i.e., from 100% urban to less than 100% urban population. The underlying reason of this fact may be that as soon as the farmers are encroaching towards more rural set-ups in city type 2 and rural areas, their capability of taking large amounts of loan decreases, mainly because of discrimination in providing loans, lack of efficiency of government-run banks, etc. in rural areas. Due to similar reasons, the farmers in the rural areas are repaying the loan amount of only Rs 16,503 in 2013, while farmers in city type 1 and 2 are repaying on an average a loan amount of Rs 23,724 and Rs 29,869 respectively.

Type of Loan and Their Nature of Interest

Table 14: Percentage of Farmers Receiving Different Types of Loan and Their Nature of Interest in India for 2003 and 2013

	TYPE OF LOAN								NATURE OF INTEREST							
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
	Short term-pledged[15]		Short term-non-pledged		Medium term		Long term		Interest free		Simple		Com-pound		Conces-sional rate	
City type 1	0.0	19.6	21.4	23.5	64.3	37.3	14.3	41.2	14.3	23.5	71.4	62.7	0.0	17.6	14.3	17.6
City type 2	22.1	26.6	38.5	21.9	42.0	33.0	38.5	29.8	29.2	27.8	88.4	50.3	21.7	25.7	2.0	7.5
Rural	20.2	22.5	37.4	30.4	45.3	31.5	34.7	22.1	28.4	20.9	81.9	58.2	24.3	21.3	3.2	6.1

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: These percentages may exceed 100, because one individual may own more than one type of loan. Therefore, owning one type of loan is not mutually exclusive from the other.

15 Pledged loan means if the borrower defaults, the lender has the right to seize the collateral against that loan. If the short-term loan has been taken against the pledge of a commodity, that is called a short-term pledged loan.

As soon as we move from city type 1 to city type 2 and rural, i.e., moving towards more rural areas, the farmers are more preferred to use the short-term loan, while the medium and long-term loans are mostly used by farmers in city type 1. For instance, although in 2013 the percentage of farmers (19.6%) using short-term loans is higher, it is lower than that in city type 2 and rural (26.6% and 22.5% respectively). In contrast, the long-term loans, which are mostly for long-term agricultural investments, are mostly used by the farmers in city type 1 (41.2%) in 2013, which is less in city type 2 and rural (29.8% and 22.1% respectively). In addition, due to introduction of several interest free schemes, a large percentage of farmers use interest-free loan and that is higher as long as we are encroaching towards the rural. Besides due to large amount of long-term loan in city type 1, farmers mostly use concessional interest rate for that loan.

Source of Loan: Institutional and Non-Institutional Credit Agency

Farmers mostly get loans from two major sources: institutional and non-institutional credit agencies. Institutional credit agencies include loans from government, co-operative society/banks, commercial banks, Self-help groups (SHGs) etc., while non-institutional credit agencies involve loans from landlord, money lenders (both agricultural and professional money lenders[16]), relatives and friends, etc.

Table 15: Percentage of Farmers Receiving Loan from Different Institutional Credit Agencies in India for 2003 and 2013

	2003	2013	2003	2013	2003	2013	2013	2013	2003	2013
	Government		Co-operative society/bank		Commercial bank		SHG bank link	SHG-non-bank	Other institutional agencies	
City type 1	0.0	0.0	14.3	21.6	7.1	21.6	3.9	0.0	14.3	0.0
City type 2	1.5	1.2	50.7	41.5	25.0	22.3	0.8	0.7	0.3	0.6
Rural	3.2	1.5	30.0	22.6	27.2	23.6	4.0	1.2	1.4	0.8

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).
Note: These percentages may exceed 100, because one individual may get loan from more than one *Source*s. Therefore, getting loan from one *Source* is not mutually exclusive from the other.

16 Agricultural money lenders are those who are engaged in both money lending job and farming, while the professional money lenders are fully engaged in money-lending activities.

Table 16: Percentage of Farmers Receiving Loan from Different Non-Institutional Credit Agencies in India for 2003 and 2013

	SOURCE OF LOAN: CREDIT AGENCY (NON-INSTITUTIONAL)													
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
	Landlord		Agri-cultural money lender		Profes-sional money lender		Input supplier		Relatives and friends		Doctors, lawyers & other profes-sionals		Others	
City type 1	0.0	0.0	14.3	2.0	35.7	49.0	0.0	0.0	7.1	23.5	0.0	0.0	0.0	0.0
City type 2	0.2	0.3	6.4	2.2	23.5	15.2	3.8	0.4	27.2	22.6	0.9	0.2	1.2	2.1
Rural	1.0	0.6	12.6	5.0	27.7	23.2	5.5	0.2	24.0	19.5	0.4	0.4	4.0	2.4

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: These percentages may exceed 100, because one individual may get loan from more than one *Source*s. Therefore, getting loan from one *Source* is not mutually exclusive from the other.

Tables 15 and **16** portray that while co-operative society/bank is mostly active in the peri-urban set up of city type 2 (where 50.7% and 41.5% farmers are getting loan from co-operative society in 2003 and 2013 respectively), commercial banks are mainly powerful in city type 1 (where 21.6% farmers are getting loan from commercial bank in 2013, which is a significant increase from 7.1% in 2003). However, loans from the government have not shown significant increase in 2013 as a result of urbanization. Hence, farmers often are bound to take loan from non-institutional credit agencies, especially from money lenders, relatives and friends, etc. The reason may be that such loans are sometimes easy accessible to the farmers, also they can be obtained at any time, for any purpose with limited paper work, while institutional credit agencies follow literally stringent regulations for providing loans to the farmers. For instance, Table 16 shows that 49% farmers in city type 1 have taken loan from professional money lenders in 2013, which is a significant increase from 35.7% in 2003. This percentage decreases for city type 2 and rural (15.2% and 23.2% farmers respectively in 2013). Therefore, these professional money lenders are more prominent among farmers in city type 1. Besides, the percentage of farmers taking loans from agricultural money lenders have experienced a decreasing trend in 2013 as compared to 2003 with respect to all three set-ups, namely, city type 1, city type 2 and rural. The underlying reason may be the exorbitant interest rate charged by these money lenders, which sometimes decreases the probability of taking loans from them. At the same time, since loans from the government are inadequate, farmers often have been found to take loans from their relatives and friends. Again, percentage of farmers taking loans from relatives and friends is boosting up in 2013 for city type 1, while the

same follows a decreasing path for city type 2 and rural as compared to 2003. Therefore, we can say that as long as the farmers are moving towards more urban set-ups (i.e., towards city type 1), commercial banks from institutional credit agency and professional money lenders along with relatives and friends from non-institutional credit agencies are found to be a dominant source to provide loans. In contrast, a co-operative society is found to be the major source of providing credit to farmers residing in relatively less urban set-ups (i.e., in city type 2), although some percentage of them take loans from the money lenders and relatives as well.

Purpose of Loan

Table 17: Purpose of Loan (Productive Expenditure) by the Farmers in India for 2003 and 2013

	PURPOSE OF LOAN: PRODUCTIVE EXPENDITURE													
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
	Capital expenditure in farm business		Current expenditure in farm business		Capital expenditure in non-farm business		Current expenditure in non-farm business		Expenditure on litigation		Repayment of debt		Financial investment expenditure	
City type 1	14.3	17.6	0.0	19.6	0.0	7.8	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
City type 2	35.1	16.1	51.3	46.9	5.3	0.8	0.9	0.3	0.0	0.0	1.8	0.8	0.2	0.2
Rural	32.6	16.2	35.9	32.5	5.0	1.9	2.1	1.0	0.4	0.1	1.6	0.9	0.3	0.1

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).

Table 18: Purpose of Loan (Household Expenditure) by the Farmers in India for 2003 and 2013

	2013	2013	2013	2003	2013	2003	2013
	Expend-iture for education	Expenditure for medical treatment	Expenditure for housing	Other household expenditure		Others	
City type 1	0.0	11.8	19.6	85.7	31.4	0.0	11.8
City type 2	1.0	4.8	8.6	42.9	28.4	3.7	3.4
Rural	1.8	7.9	8.5	50.2	29.6	9.5	6.1

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).

Urbanization also has had impact on the purpose of getting loan by farmers. **Table 17** clearly portrays that 17.6% and 7.8% farmers in city type 1 are getting loan for spending capital expenditure in farm and non-farm businesses in 2013. However, overtime comparison of these percentages clearly portrays that the purpose of taking loan is more prominent for meeting new investment expenditure in non-farm businesses (no farmers in 2003, with an increase to 7.8% in 2013) than that for productive investment in farm businesses like for new purchases of agricultural implements, repair of machinery, etc. (increase from 14.3% in 2003 to 17.6% in 2013). In contrast, there is a significant fall among farmers in city type 2 and rural using their loan for meeting capital expenditure in farm and non-farm businesses; rather, 46.9% and 32.5% farmers in city type 2 and rural areas respectively have been found using their loan amount for spending current expenditure in their farm business in the year 2013, i.e, for purchasing seeds, fodder, payment of wages, rent, etc. It is also seen from Table 18 that 11.8% and 19.6% farmers in city type 1 are using their loan amount for medical treatment and for housing purpose respectively, while this percentage has shown a decrease towards city type 2 and rural farmers. However, the farmers in city type 2 and rural are mostly using their loans for meeting their household expenditure.

Type of Security

Table 19: Type of Security (Movable Property) by the Farmers in India for 2003 and 2013

	TYPE OF SECURITY: MOVABLE PROPERTY													
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
	Personal security		Sure security/ guarantee by third party[17]		Crop		Bullion/ ornaments		Shares of companies, govt. security & insurance policy		Agricultural commodities		Other movable property	
City type 1	92.9	60.8	0.0	3.9	0.0	3.9	0.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0
City type 2	81.1	49.2	7.6	4.1	8.9	5.3	4.7	4.6	0.3	0.0	0.8	1.9	1.2	2.6
Rural	84.2	57.8	6.8	4.9	5.3	4.0	3.1	4.8	0.3	0.3	0.7	0.7	0.4	1.0

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).

17 If a loan is taken without any security, as listed under different type of securities in tables 18 and 19, then that is considered as 'personal security'.

Table 20: Type of Security (Immovable Property) by the Farmers in India for 2003 and 2013

	2003	2013	2003	2013	2003	2013
	First charge on immovable property		Mortgage of immovable property		Other type of security	
City type 1	7.1	3.9	0.0	33.3	0.0	2.0
City type 2	16.5	6.3	17.1	34.9	3.1	2.6
Rural	12.8	7.4	20.0	22.3	3.8	3.2

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).

It has been observed that farmers in city type 1 are using their bullions/ornaments as a type of security while farmers in city type 2 and rural are mostly using crop as their security for getting loan. Therefore, this result also establishes the fact that farmers in the metro cities (i.e., city type 1) are capable of using their ornaments and also sometimes their personal security, while farmers in city type 2 and rural are using crop and agricultural commodities as the security for getting loan. In addition, farmers are often found to mortgage their immovable property like land, etc. to get loan.

4.3.2 Karnataka Picture

After analysing the changing nature of socio-economic and financial particulars of the farmers in the peri-urban region of India, we are now concentrating on Karnataka.

Financial Particulars

Table 21: Percentage of Farmers having Financial Particulars in Karnataka for 2003 and 2013

	FINANCIAL PARTICULARS OF THE FARMERS				
	2013	2013	2013	2003	2013
	Having bank account	Having post-office account	Having deposit account	Having valid Kisan credit card	
District type 1	77.8	33.3	27.8	0.0	0.0
District type 2	92.6	18.1	31.9	2.1	3.2
District type 3	82.2	14.9	24.6	1.1	1.0
Rural	78.7	13.7	6.3	4.6	20.1

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).
Note: These percentages may exceed 100, because one individual may hold accounts in more than one places. Therefore, owning one type of account is not mutually exclusive from the other.

77.8% farmers in district type 1 (Bangalore district) have bank account, although none of the farmers are having valid Kisan credit card. Besides, above 90% farmers in district types 2 and 3 are having bank accounts, still their shares in having post-office and deposit accounts are significantly low.

Financial Assets Owned

Table 22: Percentage of Farmers Owning Different Financial Assets in Karnataka for 2003 and 2013

	FINANCIAL ASSETS OWNED BY THE FARMERS											
	Type of Assets											
	2003	2013	2003		2013	2003	2013	2013	2003	2013	2003	2013
	Government deposit		Bank deposit		Bank deposit	Deposit in non-banking company		Deposit in micro-finance institutions / self-help groups	Provident fund		Insurance scheme	
			Co-operative society / bank	Commercial bank								
District type 1	0.0	22.2	0.0	4.3	55.6	0.0	0.0	5.6	0.0	0.0	0.0	27.8
District type 2	2.1	12.8	1.1	10.6	66.0	0.0	7.4	39.4	2.1	2.1	8.5	45.7
District type 3	1.2	8.1	7.3	7.0	45.3	0.8	1.8	12.1	0.3	3.6	5.8	39.2
Rural	0.7	9.4	4.6	14.7	65.2	1.4	1.7	5.6	0.7	1.0	4.8	13.8

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey).
Note: These percentages may exceed 100, because one individual may own more than one type of financial assets. Therefore, owning one type of financial asset is not mutually exclusive from the other.

Urbanization impacts on the attitude of the farmers as well towards owning different types of financial assets. Table 22 clearly portrays the fact that farmers in the peri-urban region of India own more government deposits with them than in the past; especially in district type 1, 22.2% farmers are having government deposits which then decrease as we move towards more rural areas. Apart from government deposits, farmers own more bank deposits. For instance, 55.6% farmers in district type 1 own bank deposits, which are even higher in district type 2 and rural areas (66.0% and 65.2% respectively) in the year 2013 as compared to 2003. Besides, 5.6% farmers in district type 1 have their deposits in micro-finance institutions or self-help groups, which is significantly higher in district type 2 (39.4%). In addition, farmers are now owning more of insurance schemes in district type 1, 2 and 3, although this percentage is pretty less in rural areas in 2013, though higher than 2003.

Financial Flows

This sub-section presents the financial flows of the farmers in the peri-urban region of Karnataka. By financial flows, we are considering the information of cash loan borrowed and paid by the farmers regarding their amount of loan, type of loan, source of getting that loan, purpose of loan, type of security, interest rate, etc.

Cash Loan

Average Amount of Cash Loan Borrowed and Amount Repaid

Table 23: Average Amount of Cash Loan Borrowed and Amount Repaid by the Farmers in Karnataka for 2003 and 2013

	2013	
	Average Amount of cash loan borrowed (Rs. in Thousand)	**Average Amount of cash loan repaid (Rs. in Thousand)**
District type 1	142,684	20,183
District type 2	133,578	26,909
District type 3	90,717	22,166
Rural	71,930	16,721

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)

As evident the average amount of cash loan borrowed by the farmers in district type 1 is the highest followed by in district type 2, 3 and rural, while rural farmers repay the lowest amount of loan.

Type of Loan and Their Nature of Interest

Table 24: Percentage of Farmers Receiving Different Types of Loan and Their Nature of Interest in Karnataka for 2003 and 2013

	TYPE OF LOAN								NATURE OF INTEREST							
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
	Short term-pledged		Short term-non-pledged		Medium term		Long term		Interest free		Simple		Compound		Concessional rate	
District type 1	0.0	27.8	21.4	33.3	64.3	50.0	14.3	38.9	14.3	16.7	71.4	61.1	0.0	33.3	14.3	38.9
District type 2	5.7	7.4	38.6	31.9	75.7	63.8	20.0	54.3	21.4	24.5	100.0	100.0	18.6	6.4	0.0	2.1
District type 3	26.9	24.2	36.5	32.5	38.3	52.1	25.0	26.1	15.4	17.6	96.7	100.0	13.8	5.7	0.8	4.0
Rural	20.2	22.7	37.5	30.0	45.2	31.1	35.1	22.2	28.8	21.1	81.6	56.9	24.5	21.7	3.2	6.2

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: These percentages may exceed 100, because one individual may own more than one type of loan. Therefore, owning one type of loan is not mutually exclusive from the other.

While short-term loans are mostly used by farmers in rural areas, the medium and long-term loans have been taken by farmers in the more urban district. In addition, 100% farmers in district types 2 and 3 use simple interest rate, while most of the concessional interest rate have been used by farmers in district type 1 for their long and medium-term loan.

Source of Loan: Institutional and Non-Institutional Credit Agency

Table 25: Percentage of Farmers Receiving Loan from Different Institutional Credit Agencies in Karnataka for 2003 and 2013

	SOURCE OF LOAN: CREDIT AGENCY (INSTITUTIONAL)													
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2013	2013	2003	2013
	Government		Co-operative society/ bank		Commercial bank		Insurance		Provident fund		SHG bank link	SHG-non-bank	Other institutional agencies	
District type 1	0.0	0.0	14.3	33.3	7.1	33.3	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0
District type 2	1.4	3.2	24.3	36.2	34.3	29.8	0.0	0.0	0.0	0.0	10.6	8.5	0.0	1.1
District type 3	2.5	2.2	39.6	41.0	29.6	16.0	0.4	0.0	0.0	0.0	7.1	1.2	0.8	0.8
Rural	3.1	1.5	30.5	22.8	27.0	23.7	0.2	0.1	0.0	0.0	3.9	2.4	1.3	1.2

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: These percentages may exceed 100, because one individual may get loan from more than one *Source*s. Therefore, getting loan from one *Source* is not mutually exclusive from the other.

Table 26: Percentage of Farmers Receiving Loan from Different Non-Institutional Credit Agencies in Karnataka for 2003 and 2013

	SOURCE OF LOAN: CREDIT AGENCY (NON-INSTITUTIONAL)													
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
	Landlord		Agricultural money lender		Professional money lender		Input supplier		Relatives and friends		Doctors, lawyers & other professionals		Others	
District type 1	0.0	0.0	14.3	0.0	35.7	0.0	0.0	66.7	7.1	0.0	0.0	16.7	0.0	0.0
District type 2	1.4	0.0	30.0	0.0	22.9	10.6	2.9	31.9	17.1	0.0	0.0	24.5	2.9	0.0
District type 3	1.7	0.2	13.8	0.6	17.1	17.0	4.0	28.9	14.4	0.8	0.2	17.4	2.1	1.2
Rural	1.0	0.8	12.3	0.6	27.8	4.7	5.5	22.8	24.4	0.2	0.4	19.6	4.0	0.4

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)
Note: These percentages may exceed 100, because one individual may get loan from more than one *Source*s. Therefore, getting loan from one *Source* is not mutually exclusive from the other.

In Karnataka also, the role of government to provide loans to the farmers is not at all significant, except for district type 2, where 3.2% farmers are getting loan from the government, although it is still very low. Co-operative society/bank is playing a major role in providing loan to farmers as soon as they intrude to the more rural areas (i.e., 41.0% in district type 3 with only 25-40% urban population); in contrast, the commercial bank has provided loan to 33.3% farmers in district type 1 in the year 2013, which is significantly higher from 2003. Therefore, we can say that co-operative society/bank is more significant in rural areas with some urban set-up, while commercial banks are flexible in more urban set-up. Although for Karnataka, 33.3% and 36.2% farmers in district type 1 and 2 respectively, have got loans from co-operative society. Moreover, input supplier and doctors, lawyers and other professionals have been found dominant to provide loans to the farmers in Karnataka.

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Purpose of Loan

Table 27: Purpose of Loan (Productive Expenditure) by the Farmers in Karnataka for 2003 and 2013

	PURPOSE OF LOAN: PRODUCTIVE EXPENDITURE													
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
	Capital expenditure in farm business		Current expenditure in farm business		Capital expenditure in non-farm business		Current expenditure in non-farm business		Expenditure on litigation		Repayment of debt		Financial investment expenditure	
District type 1	14.3	22.2	0.0	16.7	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
District type 2	21.4	48.9	58.6	28.7	5.7	2.1	5.7	0.0	0.0	0.0	0.0	1.1	0.0	0.0
District type 3	27.5	14.7	40.2	48.7	6.0	2.0	2.7	0.4	0.2	0.0	1.0	0.0	0.6	0.0
Rural	32.8	16.1	36.2	32.7	5.0	1.9	2.0	0.9	0.4	0.1	1.7	1.0	0.3	0.1

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)

Table 28: Purpose of Loan (Household Expenditure) by the Farmers in Karnataka for 2003 and 2013

	2013	2013	2013	2003	2013	2003	2013
	Expenditure for education	Expenditure for medical treatment	Expenditure for housing	Other household expenditure		others	
District type 1	0.0	0.0	16.7	85.7	50.0	0.0	38.9
District type 2	6.4	0.0	1.1	45.7	14.9	2.9	54.3
District type 3	1.2	3.8	8.1	42.9	13.7	5.4	42.2
Rural	1.7	6.1	7.8	50.1	8.4	9.4	29.3

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)

As a result of city expansion, a significant percentage of farmers in district type 1 and 2 are now using their loan amount for spending new productive investments, repair of machinery, etc. (i.e., capital expenditure in farm business), while farmers in more rural areas (i.e., in district type 3 and rural) are mostly using their loan for meeting current expenditure, like purchase of fodder, input, etc.

Type of Security

Table 29: Type of Security (Movable Property) by the Farmers in Karnataka for 2003 and 2013

	TYPE OF SECURITY: MOVABLE PROPERTY													
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
	Personal security		Sure security / guarantee by third party		crop		Bullion/ ornaments		Shares of companies, govt. security & insurance policy		Agricultural commodi-ties		Other movable property	
District type 1	92.9	55.6	0.0	5.6	0.0	0.0	0.0	27.8	0.0	0.0	0.0	0.0	0.0	0.0
District type 2	97.1	79.8	5.7	24.5	10.0	1.1	0.0	9.6	0.0	1.1	0.0	0.0	0.0	4.3
District type 3	55.8	64.6	6.3	8.5	18.3	5.3	2.7	2.4	0.2	0.6	0.0	2.4	0.6	0.0
Rural	84.8	57.4	6.8	4.8	5.1	4.1	3.2	4.8	0.3	0.3	0.7	0.7	0.4	1.0

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)

Table 30: Type of Security (Immovable Property) by the Farmers in Karnataka for 2003 and 2013

	2003	2013	2003	2013	2003	2013
	First charge on immovable property		Mortgage of immovable property		Other type of security	
District type 1	7.1	5.6	0.0	55.6	0.0	0.0
District type 2	21.4	3.2	5.7	30.9	0.0	3.2
District type 3	22.1	6.1	19.2	42.0	1.5	3.0
Rural	12.7	7.4	19.9	22.3	3.9	3.2

Source: Author's estimation using NSSO (2003, 59th round data on All India Debt and Investment Survey) and NSSO (2013, 70th round data on All India Debt and Investment Survey)

In order to procure loans, farmers in Karnataka district type 1 and 2 are mostly using their personal security, bullions/ornaments, mortgage of immovable property, etc., while farmers in district type 3 and rural are generally preferred to use crops, agricultural commodities as their security to get loan.

5 Conclusions

The paper analyses the changing nature of the farmers in the peri-urban region in India with special reference to Karnataka in terms of their socio-economic and financial particulars. The analysis clearly portrays that farmers have experienced significant changes in terms of their livelihood pattern, asset owning nature, type of loan, purpose of loan, etc., as a result of urbanization. In addition, differences do exist among the farmers in more urban population than in less urban population and rural.

Results show that as a result of urbanization, apart from agriculture, farmers are now engaged in livestock, poultry and other mammals' production as well. Particularly, in Karnataka, district type 1 (more than 90% urban population), there is a boost among the percentage of farmers owning mammals like ovine, pigs and rabbits, while this percentage is high among farmers in the rural all over India. In terms of asset, as in India, a large percentage of farmers in Karnataka district type 2, 3 and rural own buildings for constructing animal shed, well, borewell, etc. in the year 2013, while in the same year, farmers in more urban set-ups were mostly engaged in constructing workplace for their non-farm business for India, with a focus on Karnataka. The use of agricultural machinery, especially power tiller, electric pumps, Persian wheel has been increased significantly as an impact of urbanization. Even the use of hand and animal driven carts has been replaced by tractors and that the farmers are now using more of motor cycles/scooters/mopeds and motor cars/jeep/van etc. instead of bicycles. Although bicycles are still being used among farmers in more rural set ups, i.e., in city type 2 and rural in India and specifically in district type 2, 3 and rural in Karnataka.

Results on the change in financial particulars show that farmers are now having bank account, valid Kisan credit card, etc., although a very small proportion of them have post-office and deposit accounts with them. However, it is interesting to note that the percentage of farmers having valid Kisan credit card is high as soon as we move towards a more rural set-up. Even, particularly, in Karnataka, in district type 1, no farmers are having valid Kisan credit card in 2013, while the same is only 3.9% in city type 1 considering the Indian picture. Also, farmers presently have different types of financial deposits, mainly bank deposits, deposits in microfinance institutions, insurance schemes, government certificates, etc., although those having insurance schemes and deposits in microfinance institutions belong to a relatively urban set-up (i.e., in city type 1 in India and district type 1 in Karnataka), which again is shifting towards a rural set-up.

The results on financial flows of the farmers show that the farmers in more urban set-ups (i.e, city type 1 and district type 1 and 2) are mostly taking medium and long-term loans for long-term productive investment with concessional interest rate, while farmers in city type 2, district type 3 and rural mostly prefer to take short-term loans, which are nothing but crop loans. The purpose of taking a loan also varies across farmers in different peri-urban set-ups. For instance, farmers in more urban set-ups (i.e, city type 1 and district type 1 and 2) are using much amount of their loan for capital expenditure in farm business, i.e., for new purchases, repair of machinery, etc., while farmers' preferences have shifted from capital expenditure in farm and non-farm business towards meeting current expenditure in farm business as soon as they are encroaching a more rural set-up. Differences do exist in terms of source of that loan as evident by the fact that commercial banks are providing loans to mostly farmers in city type 1 and district type 1 and 2, while co-operative society/banks are more popular in mostly rural areas. Farmers in city type 1 are often found to take loans from relatives and friends and professional money lenders, while in Karnataka, input supplier and doctors, lawyers and other professionals have been found to be dominant non-institutional sources for providing loan to the farmers.

Thus, changes occur in terms of both socio-economic and financial particulars among the farmers as an impact of urbanization in India as well as in Karnataka. Moreover, these changes vary in different types of peri-urban regions as well.

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7 Appendices

Table A.1: List of Cities[18] Included in City 1 and City 2 from All Over India

SERIAL NUMBER	CITIES / DISTRICTS INCLUDED IN CITY 2 (the corresponding states represented in brackets)	PERCENTAGE OF PEOPLE LIVE IN URBAN REGION (Economic Census, 2011)	POPULATION (Economic Census, 2011)	POPULATION (Economic Census, 2011)
1	Mumbai (Maharashtra)	100	18,394,912	16,434,386
2	Delhi (Delhi)	100	16,349,831	12,877,470
3	Kolkata (West Bengal)	100	14,057,991	13,205,697
4	Chennai (Tamil Nadu)	100	8,653,521	6,560,242
5	Bangalore (Karnataka)	90.94	8,520,435	5,701,446
6	Hyderabad (Telengana)[19]	100	7,677,018	5,742,036
7	Ahmedabad (Gujarat)	84.04	6,357,693	4,525,013
8	Pune (Maharashtra)	60.99	5,057,709	3,760,636
9	Surat (Gujarat)	79.74	4,591,246	2,811,614
10	Jaipur (Rajasthan)	52.40	3,046,163	2,322,575
11	Kanpur (Uttar Pradesh)	65.83	2,920,496	2,715,555
12	Lucknow (Uttar Pradesh)	66.21	2,902,920	2,245,509
13	Nagpur (Maharashtra)	68.31	2,497,870	2,129,500
14	Indore (Madhya Pradesh)	74.09	2,170,295	1,506,062
15	Coimbatore (Tamil Nadu)	75.73	2,136,916	1,461,139
16	Bhopal (Madhya Pradesh)	80.85	1,886,100	1,458,416
17	Vadodara (Gujarat)	49.59	1,822,221	1,491,045
18	Ludhiana (Punjab)	59.16	1,618,879	1,398,467
19	Madurai (Tamil Nadu)	60.78	1,465,625	1,203,095
20	Meerut (Uttar Pradesh)	51.08	1,420,902	1,161,716
21	Faridabad (Haryana)	79.51	1,414,050	1,055,938
22	Rajkot (Gujarat)	58.19	1,390,640	1,003,015
23	Jamshedpur (Jharkhand)	55.56	1,339,438	1,104,713
24	Jabalpur (Madhya Pradesh)	58.46	1,268,848	1,098,000
25	Dhanbad (Jharkhand)	58.13	1,196,214	1,065,327
26	Amritsar (Punjab)	53.58	1,183,549	1,003,917

Source: Author's conceptualisation using Census of India, Government of India (2011, 2001)

18 As previously mentioned, due to lack of city wise data using NSSO (2003; 2013) on All India Debt and Investment Survey, here we have used cities as districts.

19 It should be mentioned here that for NSSO (2003, 59th round data on All India Debt and Investment Survey), Hyderabad is in Telengana state, however for NSSO (2013, 70th round data on All India Debt and Investment Survey), Hyderabad is in Andhra Pradesh state.

Table A.2: List of Districts Included in District 1 and District 2 from Karnataka

SERIAL NUMBER	LIST OF DISTRICTS INCLUDED IN DISTRICT 1	PERCENTAGE OF PEOPLE LIVE IN URBAN REGION (Economic Census, 2011)
1	Dharwad	56.82
2	Bangalore	90.94
3	Dakshina Kannada	47.67
4	Mysore	41.50
5	Belgaum	25.34
6	Bagalkot	31.64
7	Gulbarga	32.56
8	Bidar	25.01
9	Raichur	25.42
10	Gadag	35.63
11	Uttara Kannada	29.15
12	Bellary	37.52
13	Devanagere	32.33
14	Shimoga	35.59
15	Udupi	28.37
16	Kolar	31.25
17	Bangalore Rural	27.12

Source: Author's conceptualisation using Census of India, Government of India (2011)

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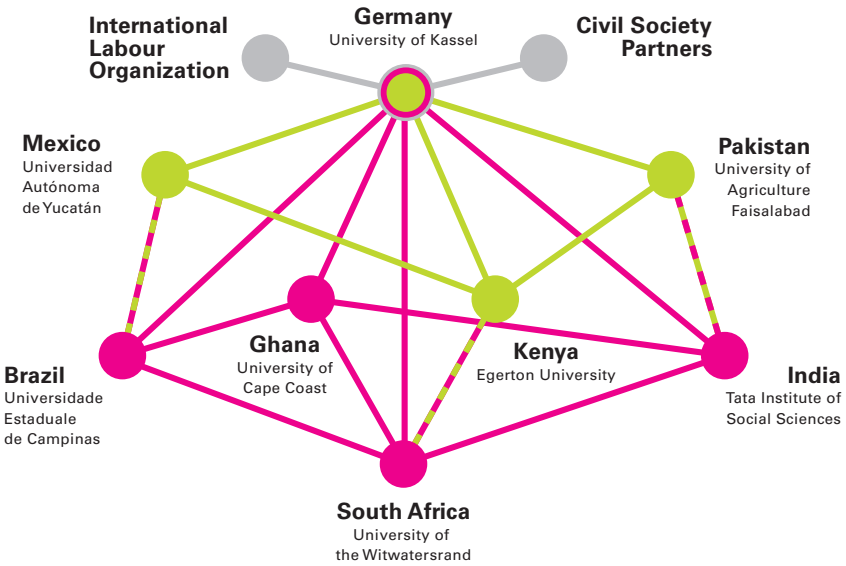

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