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Socioeconomic Characteristics of Farmers Who Sold and Retained Their Farmland in the Peri-urban Interface of Bengaluru, India

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Authors' contributions

This work was carried out in collaboration between all authors. Author KP designed the study and supervised the work. Author KNR prepared the interview schedule and protocol of the study, carried out field survey, interaction with stakeholders and performed the statistical analysis. Author NPD managed the analyses of the study. Author KNR wrote the first draft of the manuscript and managed the literature searches and edited the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Understanding peri-urban farmer's socio-economic characteristics is a prerequisite for successful planning and implementation of developmental programmes in peri-urban areas. In view of this, a study was undertaken to analyze socio-economic characteristics of farmers who sold their farmland (sold category¹) and farmers who retained their farmland (retained category²) in the peri-urban area

¹ Sold category –farmers who partially sold their farmland

² Retained category- farmers who completely retained their farmland without any sale

of Bengaluru. A total of 160 respondents selected using multi-stage sampling procedure constituted the sample size and data collection was done through semi-structured interview schedule. Post stratification of respondents was made into sold (n=93) and retained (n=67) categories based on their farm land selling behaviour. Results of the study revealed that majority of sold (41.9%) and retained category (41.8%) belonged to middle age group (36-50 years). More schedule caste and schedule tribe respondents were found in sold category (24.7%) as compared to retained category (11.9%). More graduate and above educated (9.7%) were present in sold category as compared to retained category (4.5%). Around 46.3 per cent respondents belonged to medium category (5-8 family members) in case of both sold and retained category. More than half of respondents (55.9%) in sold category belonged to marginal farmers as compared to retained category (37.3%). Sold category had high (>2) family education status versus retained category. The study recommends the need for considering socio-economic conditions of peri-urban farmers for the suitable design and successful implementation of Governments' developmental programmes in complex peri-urban settings.

Keywords: Peri-urban; socio-economic; farmland sold; Bengaluru.

1. INTRODUCTION

Indian agricultural policies have focused strongly on rural areas, aiming to achieve self-sufficiency in food production and to reduce rural poverty. Accordingly, urban food needs are expected, explicitly or implicitly, to be fulfilled by production in rural areas [1]. With the emphasis on rural agriculture, the positive contribution that production closer to the cities can make has hardly been acknowledged. Much of the evidence to date has been gathered from African, Latin American, Caribbean and some Asian and Eastern European countries. But the Indian sub-continent has been underrepresented, reflecting a neglect of this issue by the international and national research communities [2]. For the first time since independence, the absolute increase in population in India is more in urban areas than in rural areas. The Rural – Urban population distribution is 68.84 per cent and 31.16 per cent, respectively and the level of urbanization increased from 27.81 per cent in 2001 census to 31.16 per cent in 2011 census [3]. The real estate growth and the continued demand for infrastructure development in the periphery of the urban areas make greater impact on the livelihood as well as priorities and preferences in farming. In developing nations little attention has been paid to food production in peri-urban areas; nevertheless, agricultural activity is constantly increasing in small and medium sized cities due to migration of rural population [4]. The population density in Bengaluru has risen 47 per cent in the past decade as job opportunities and economic growth have lured people from across the nation to India's Silicon Valley (Bengaluru). The

increased growth in population is a result of adding six new fringe areas around the Greater Bengaluru city [5]. The city growth is touching the rural borders which are considered as peri-urban areas which have led to several distortions producing adverse impact on the agriculture in the peri-urban area of Bengaluru [6]. This increase in trend of rapid urbanization and urban expansion influenced many of the farmers to sell their land in the adjoining peri-urban areas. Therefore, effect of urbanization on farm land loss is the major factor that influences the socio-economic condition of peri-urban farmers and food production in the peri-urban areas. So, keeping these points in mind, the study was mainly focused to reveal the socio-economic variables associated with farmers who sold and retained their land in the peri-urban area of Bengaluru.

2. METHODOLOGY

2.1 Description of Study Area

The present study was undertaken in peri-urban area of Bengaluru which includes Bengaluru urban and rural districts which falls under Bengaluru metropolitan region. Bengaluru is the capital city of the Indian state of Karnataka. Located in the Deccan Plateau, at a height of over 3,000 feet (914.4 m) above mean sea level and also known for its pleasant climate throughout the year. Its elevation is the highest among the major cities of India [7]. It is the third most populous city and fifth most populous urban area. Also known as the Silicon Valley of India. Bengaluru has an estimated population of 10.1 million in its urban area in 2014. It is now the

18th most populous city in the world and the fastest-growing Indian metropolis [8]. Open spaces generally, were seriously affected however with the enhanced demand for real estate and infrastructure consequent to urbanization that observe the farmland loss and socioeconomic changes among the farmers in peri-urban area of Bengaluru.

2.2 Sampling Technique

Four blocks around the Bengaluru city periphery viz., Bengaluru East, Bengaluru North, Devanahalli and Hosakote were selected purposively due to its peri-urban characteristics. Two villages were randomly selected from each block. From each village, 20 farmer households were selected randomly. A total of 160 farmer households constituted the sample size. A structured, pre-tested interview schedule was developed for collecting data from the respondents according to the objective of the study. Data were collected from the respondents by conducting personal interview method. Post stratification of respondents was made into sold and retained categories based on their response on farm land sold and studied the effect of sale of farm land on socio-economic characteristics of peri-urban farmers.

3. RESULTS AND DISCUSSION

The results of the investigation carried out are presented through the Table 1 showing the socio-economic characteristics of farmers who sold their farmland (sold category) and farmers who retained their farmland (retained category). It could be observed from Table 1 that 41.9 per cent and 41.8 per cent in sold and retained category respectively belonged to middle age group (36-50 years) followed by old and young group. The possible reasons for this could be, the middle age respondents are more interested and enthusiastic in agriculture to get better income from peri-urban farming. Similar results were reported by [9]. Further it was found that young age group (up to 35) were more about 3 per cent in sold category. The probable reason for this might be the young farmers are less interested in agriculture because of low income and they were diverted towards off-farm activities with the money obtained from sales of farm land [10,11].

Based on the caste, the respondents were classified and it has been found that respondents belonged to OBC (other backward class) was

69.9 per cent in sold and 74.7 per cent in retained followed by schedule caste/schedule tribes (SC/ST) and General category and the same data has been presented in Table 1. However it was observed from the Table that in sold category, schedule caste/schedule tribes caste respondents were 12.8 per cent more as compare to retained category. This indicates that majority of the economically and socially backward class sold their land which can pose negative impact on their livelihood in the future. Also, described by [9] in their study that most of the schedule castes and schedule tribe respondents were poor and landless in peri-urban region.

Majority of respondents were male in case of both the sold (83.9%) and retained (80.6%) category due to gender constraints in society as females were not ready to come out and willing to give information to the outsiders. However, in peri-urban area female respondents observed better response in both sold (16.1%) and retained (19.4%) category since male respondent absent during survey as landless, small and marginal men are migrating to nearby cities for non-farm opportunities. This leads to women are bestowed with additional responsibilities in peri-urban areas due to temporary male migration [12].

Table 1 reveals that 29.1 per cent and 34.3 per cent respondents in case of sold and retained category, respectively were educated up to matriculation level followed by 24.7 per cent in case of sold category and 22.4 per cent retained were literate up to primary level. Similar findings were reported by [9]. It was also found that 21.9 per cent of the respondents in sold were illiterate in the study area while in retained category maximum numbers of illiterates were found (23.9%). As compared to retained category (4.7%), the sold category respondents belonged to more educated to the level of graduation and above (9.7%). It could be construed that more literate respondents were in substantial numbers in sold category. Reason for higher education among the sold category could be due to more literate farmers sold some of their land might significantly invest in off-farm activities [11].

Based on the family type, it could be observed that in retained category nuclear families are more about 86.6 per cent as compare to sold category (76.6%). At the same time Joint families are more in sold category as compare to retained category (13.4%). The Table 1 reveals that

maximum and equal percentage (46.3%) of respondents in both sold and retained category having medium (5-8 members) family size. But in case of sold category the small family size percentage is less (41.9%) as compare to retained category (44.8%).

Based on land holding of the respondents, it has been found that majority of respondents in sold category (55.9%) belonged to marginal land holding as compared to retained category (37.3%). The findings were reported by [9] also supports our findings that in case of peri-urban respondents most of them were marginal land holders. From the present study it was clear that marginalization of peri-urban farmers might be due to selling land partially or completely and fragmentation of land due to trend of more

nuclear families in peri-urban region [11]. It was also found that majority of respondents having small land holding (1-2 ha) in retained category (34.3%) whereas in sold category majority of respondents belong to marginal land holdings (55.9%). The reason for possession of land in small size among retained category might be due to regular fragmentation of land occurring in the peri-urban areas between the children when the families get separated. The similar findings were reported by [13,9].

The data pertaining to annual income of the respondents revealed that in both retained and sold category majority of respondent's fall under medium income medium (Rs. 50000 to 420000) groups about 71.6% and 77.4% respectively. But, in case of retained category low income

Table 1. Socio-economic characteristics of farmers who sold their farmland (sold category) and farmers who retained their farmland (retained category)

Variables	Category	Sold category		Retained category	
		Respondents		Respondents	
		(n=93)		(n=67)	
		F	%	F	%
Age (in years)	Young (up to 35)	18	19.4	11	16.4
	Middle (36-50)	39	41.9	28	41.8
	Old (>50)	36	38.7	28	41.8
Caste	General	5	5.4	9	13.4
	Other backward class	65	69.9	50	74.7
	Scheduled caste/Scheduled tribes	23	24.7	8	11.9
Sex	Male	78	83.9	54	80.6
	Female	15	16.1	13	19.4
	Illiterate (0)	19	20.4	16	23.9
Education level	Primary (1)	23	24.7	15	22.4
	Matriculate (2)	27	29.1	23	34.3
	Intermediate (3)	15	16.1	10	14.9
Family type	Graduate and above (4)	9	9.7	3	4.5
	Nuclear	71	76.4	58	86.6
	Joint family	22	23.6	9	13.4
Family size	Small (<5 members)	39	41.9	30	44.8
	Medium (5-8 members)	43	46.3	31	46.3
	Large (>8 members)	11	11.8	6	8.9
Land holding	Marginal (up to 1 ha)	52	55.9	25	37.3
	Small (1-2 ha)	18	19.4	23	34.3
	Semi-medium (2-4 ha)	13	14	15	22.4
Annual income	Medium (4-10 ha)	6	6.4	4	6
	Large (above 10 ha)	4	4.3	0	0
	Low (<50000 rupees)	11	11.8	13	19.4
Family education status	Medium (50000 to 420000)	72	77.4	48	71.6
	High (>420000)	10	10.8	6	9.0
	Low (<1.1)	27	29.0	33	49.2
Family education status	medium (1.1 to 2)	41	44.1	29	43.3
	High (>2)	25	26.9	5	7.5

group were high (19.4%) as compared to sold category (11.8%). This might be mainly due to the involvement of sold category in diversified livelihood options to earn their living after selling some of their land and low income from agriculture and low occupation diversification among retained category [11].

The data pertaining to family education status disclosed that majority of respondents in both sold category (44.1%) and retained category (43.3%) belonged to medium level of family education status who possess family education score between 1.1 to 2 followed by 29 per cent of the respondents in sold category with low family education status (less than 1.1) as compare to retained category (49.2%). It could be construed that high family education status respondents were in substantial numbers in sold category (26.9%) as compared to retained category (7.5%). Thus showing that sold category seemed to possess better family education status as compared to retained category. The data indicated that the educated families who sold their land could have diversified their livelihood occupations and might have invested substantially in their children's education.

4. CONCLUSION AND RECOMMENDATIONS

A critical comparison of socio-economic characteristics of farmers who sold their farmland (sold category) and farmers who retained their farmland (retained category) revealed that majority of farmers in sold category belong to young and middle age group and majority of young farmers who sold land happened to be marginal farmers. The exiting marginalization among farmers need to be addressed by sensitising the peri-urban agriculture potentials by imparting skills to marginalised farmers through Agricultural Skill Council of India in the areas of commercial crops and protected cultivation to cope with existing marginal lands and avoid further land selling. Trend of nuclear family is more in both sold and retained category results in loss of family labour for performing various operations in agriculture. This requires user friendly selective mechanization. It also revealed that many of the economically and socially backward class (schedule caste/schedule tribes and other backward class) farmers who could not understand the dynamics of real estate business sold their land was permanently loss their key asset (land) which is a great negative impact on their livelihood in future.

So, systematic control mechanism of farmland sale should be revised under the Indian law to overcome farmland loss in peri-urban regions.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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