Mysore J. Agric. Sci., 50 (4) : 749-755, 2016

Economic Analysis of Urbanisation Impact on Different Social Groups Located in Fringes of Bengaluru Urban

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Abstract

The study was conducted in Ramanagara District of Karnataka state. Two categories of rural fold considered were : 1) men, women and children and 2) Agricultural labour, marginal farmers, small farmers, medium farmers, large farmers. According to farmers' perception, urbanization had negative impact (about 60% and 63 % in the case of rainfed and irrigated situation, respectively) on the men community as it created shortage of agriculture labour and also loss of interest in the farming activity. Farmers felt that urbanization had both positive (better non-agricultural jobs, leisure, and reduction in the work load due to new technologies) and negative impact (imparts laziness) on the women community. Urbanization had positive impact (65 % and 70% in the case of rainfed and irrigated situations) on the children as it created better school facilities in turn helping for over all development of the children. Farmers felt that urbanization had positive impact (60 % and 68 % in the case of rainfed and irrigated situations) on labour as it creates better job opportunities for them, thereby increasing their standard of leaving. Farmers perceived that urbanization has negative impact (about 55% and 63% of rainfed and irrigated farmers, respectively) on marginal farmers as there was difficulty in investing on land for commercialized farming and also fear of losing lands. Urbanization had negative impact (60% and 68% in the case of rainfed and irrigated situations, respectively) on the small farmers. Urbanisation had both positive and negative impact on medium farmers. Urbanization had negative impact (65% and 53% of the sample farmers from rainfed and irrigated situations, respectively) on large farmers as it was difficult to get the agricultural labour for work and larger land holdings calls for larger investment, market risk and prove to theft of the produce.

Worldwide urbanization is pervading rural areas and more so in developing countries including India. In the country, rural areas around Bengaluru are experiencing rapid urbanization process and its growth has been unprecedented. In the past two decades in India, the level of urbanization has gone up by 27.80 per cent in 2001 to 31.20 per cent in 2011 and likely to increase to greater than 50 per cent by 2050. In relative terms, rural population which was 89.14 per cent in 1901,had decreased by 20.3 per cent in the last eleven decades to about 69 per cent. On the contrary, the urban population had increased almost threefold from 10.86 per cent in 1901 to 31.16 per cent in 2011. The urban–rural ratio (an index measuring the number of urban people for each rural person) for 2011 was 0.45 (in simple terms, for 100 rural people, there were 45 urban people), with an increase of 6 per cent from the previous decade (39 in 2001), again highlighting that India is catching up fast in the process of urbanization in the recent decades (Sudhira and Gururaja, 2012). In 1951, there were only five Indian cities with a population greater than one million and only 41 cities greater than one tenth of million population. Much of India effectively lived in 0.56 million villages. In 2011, there were three cities with population greater than ten million. Over 833 million Indians lived in 0.64 million villages, but 377 million lived in about 8,000 urban centres. By 2031, it is projected that there will be six cities with population greater than 10 million.

Karnataka is India's 7th most urbanized State in India. As per Census 2011, Karnataka had 6.10 crore population, out of which 38.60 per cent (i.e. 2.35 crore) resided in urban areas. In terms of urbanization, the state had witnessed an increase of 4.68 per cent in the proportion of urban population in the last decade. As per the Registrar General of India, for the decade 2001-2011, the absolute increase in population had been more in urban areas than in rural areas for the first time since independence. Karnataka's urban population had grown by 31.27 per cent between 2001 and 2011, compared with 28.85 per cent in the previous decade. The growth of urban population between 2001 and 2011 was also higher as compared to the growth of 7.63

per cent in the rural population. The state is expected to reach an urban population proportion of 50 per cent in the next eleven years that is in the year 2026 (Anonymous, 2011).

Bengaluru district's population ballooned 46.68 per cent over the past decade to around 9.59 million in 2011. The district today houses over 15.69 per cent of the state's population. Urbanization has bought major changes in demand for agricultural products both from increases in urban populations and from changes in their diets and demands. Thus importance of agriculture is especially marked in the nearby rural areas with respect to fresh and perishable fruits and vegetables supply to cater the need of urban Bengaluru.

Methodology

Ramanagara district was purposively selected for the research study as it surround Bengaluru Urban District. The sample frame consists of 80 farmers, 40 farmers had assured irrigation and 40 farmers had dry lands. Data were obtained from the selected farmers using a pre-tested schedule developed for the study through personal interview. The information elicited from the respondent farmers pertained to family size, educational level, etc. Farmers' opinion about urbanization and its impact on the social groups such as men, women and children are different.

Cochran Q test for 'k' related sample provides a method for testing whether three or more matched sets of frequencies or proportions of relevant characteristics differ significantly among themselves. The matching may be based on relevant characteristics of the different subjects, or on the fact that the same subjects are used under different conditions. This test is suitable when the data are in a nominal scale or dichotomized ordinal information.

In this study Cochran Q test was used to study the impact of urbanization on society which includes across the members of the family and across the categories of the farmers.

The test procedure is outlined briefly as follows

Arrange the data into separate columns for each condition, with the scores for each subject in a separate row. For the computation of this statistic, the response variable scores must be coded as '0' and '1'. Compute sum of each column represented as 'G', the sum of each row is represented as 'L'. Also compute square of the sum of the rows represented as 'L^2', number of conditions as 'K'.

Compute Q test using following formula:

$$Q = \frac{(K-1)*[(K*\Sigma G^2)-(\sum G)^2]}{(K*\sum L)-\sum L^2}$$

Compute Chi square value with degrees of freedom as 'K-1'.

If obtained 'Q' value is less than the critical Chi square value, then null hypothesis should be accepted and inferred that there is no relationship between subjects' values on one categorical variable and their values on the other categorical variable, in the population represented by the sample.

Results and Discussion

General profile of sample farmers : The details about general profile of sample farmers are shown in Table I. Average age of farmers in rainfed and irrigated areas were 51 and 41 years, respectively. Average size of the family in both rainfed and irrigated areas was five members. An average year of schooling of sample farmers was eight and ten years for rainfed and irrigated areas, respectively. About 63 per cent and 95 per cent of the sample farmers were literates in the case of rainfed and irrigated situations respectively.

Table I

General profile of sample farmers in the study areas

Particulars	Rainfed	Irrigated
Age of the farmer (Years)	51	41
Size of the Family (Number)	5	5
Years of schooling	8	10
Illiterates (Number)	15(38)	2(5)
Literates (Number)	25(63)	38 (95)
Primary School (Number)	10(25)	8(20)
High school (Number)	9(23)	14(35)
PUC (Number)	3(8)	7(18)
College and above (Number)	3(8)	9(23)

Note: Figures in the parentheses indicate per cent to total.

Impact of urbanisation on social groups (men, women and children) : It is evident from the Table II, sample farmers viewed that urbanisation had a negative impact (about 53% and 60% in the case of rainfed and irrigated situation, respectively) on men. They felt that urbanisation creates fancy towards the city with in the minds of men, had made man lazy creating shortage of agriculture labour and making men lose interest in cultivation of crops. Sample farmers felt that urbanisation had positive impact on men (about 40% and 48% in the case of rainfed and irrigated situation, respectively) as it provides better income, more job opportunities in non farm sector, better and near market for agricultural produce.

As shown in the Table III, majority of the farmers (55% in the case of rainfed farmers and 50% in the case of irrigated farmers) expressed that urbanisation had created laziness and women had developed dominating nature which sample farmers felt that its negative aspects of the urbanisation. Equally urbanisation provides better non-agricultural jobs, there would be more leisure available and due to new technologies there will be reduction of household work load, thus impacting positively on the women community. Thus equally there is an impact of urbanisation on women community positive (48%) and negative (52%)

As indicated in Table IV, both rainfed and irrigated farmers viewed that urbanisation had positive impact (65% and 70% in the case of rainfed and irrigated situations) on children in terms of better exposure, better schooling, exposure to english language and exposure to competitive world. But one third (35% and 30% in the case of rainfed and irrigated

TABLE II

Impact of urbanisation on men in the study areas

Particulars	Rainfed (n=40)		Irrigated (n=40)		Over all (N=80)	
	Number	Per cent	Number	Per cent	Number	Per cent
Better income	5	13	6	15	11	14
More job opportunities	6	15	8	20	24	18
Closer markets for produce	5	13	5	13	22	13
Fancy towards urban area	10	25	9	23	39	24
Laziness	8	20	5	13	26	17
Non available for crop work	2	5	4	10	11	8
Reduced interest in agricultural work	4	10	3	8	14	9
Positive impact	16	40	19	48	71	44
Negative impact	24	60	21	53	89	57

TABLE III

Impact of urbanisation on women in the study areas

Particulars	Rainfed (n=40)		Irrigated (n=40)		Over all (N=80)	
	Number	Per cent	Number	Per cent	Number	Per cent
Better non agricultural jobs	7	18	6	15	13	17
Leisure availability	4	10	6	15	10	13
Reduction of work load	5	13	5	13	10	13
Transfer of technology	6	15	6	15	12	15
Domination by women	12	30	12	30	24	30
Laziness	6	15	5	13	11	14
Positive impact	18	45	20	50	38	48
Negative impact	22	55	20	50	42	53

TABLE IV

Impact of urbanisation on children in the study areas

Particulars	Rainfed (n=40)		Irrigated (n=40)		Over all (N=80)	
	Number	Per cent	Number	Per cent	Number	Per cent
Better exposure	7	18	7	18	14	18
Better schools	10	25	10	25	20	25
English learning	4	10	7	18	11	14
More competitive options	5	13	4	10	9	12
Conservative behaviour	5	13	3	8	8	11
Language thought is not mother tongue	2	5	2	5	4	5
Junk eatables	4	10	4	10	8	10
More school work	3	8	3	8	6	8
Positive impact	26	65	28	70	54	68
Negative impact	14	35	12	30	26	33

situations) of the farmers felt that urbanisation had negatively influences their children by means of making their children conservative, access to more junk foods, more work load from school and not much importance to the mother tongue was given. Over all opinion concludes that urbanisation had positive impact on children.

Impact of urbanisation on social groups (labourers and farmers) : As described in Table V both the categories of farmers believed that urbanisation had positive impact (60 % and 68 % in the case of rainfed and irrigated situations) on landless labourers in the form of better income opportunities and better jobs, thereby increasing their standard of living. But about 38 and 30 per cent of rainfed and irrigated farmers believed that urbanisation impacted negatively on the labour class as landless labours were unwilling to work in agricultural lands, they tend to follow demonstration effect and they would also become addicted to bad habits. Over all, there was a positive impact of urbanisation on labour class.

TABLE V

Impact of urbanisation on labour in the study areas

Particulars	Rainfed (n=40)		Irrigated (n=40)		Over all (N=80)	
	Number	Per cent	Number	Per cent	Number	Per cent
Additional income opportunities	4	10	5	13	9	12
Better exposure	6	15	7	18	13	17
Better income jobs	9	23	9	23	18	23
Improved standard of leaving	5	13	6	15	11	14
Addiction to bad habits	5	13	3	8	8	11
Demonstration effect	5	13	5	13	10	13
Unwillingness to work in the farm	6	15	5	13	11	14
Positive impact	24	60	27	68	51	64
Negative impact	15	38	12	30	27	34

TABLE VI

Impact of urbanisation on marginal farmers in the study areas

Particulars	Rainfed (n=40)		Irrigated (n=40)		Over all (N=80)	
	Number	Per cent	Number	Per cent	Number	Per cent
Additional income opportunities	4	10	5	13	9	12
Better farming with household labour	3	8	2	5	5	7
Better utilization of leisure	5	13	6	15	11	14
House hold dependent	2	5	3	8	5	7
Can work in other's field also	10	25	8	20	18	23
Dilemma situation to cultivate	5	13	6	15	11	14
Investment on land is difficult	8	20	7	18	15	19
Loosing lands	7	18	8	20	15	19
Positive impact	18	45	15	38	33	42
Negative impact	22	55	25	63	47	59

Impact of urbanisation on marginal farmers in the study areas : It is evident from Table VI urbanisation had negative impact on marginal farmers. About 55 and 63 per cent of rainfed and irrigated farmers, respectively believed that urbanisation had negative impact on marginal farmers as the land holdings was small, farmers cannot invest more on them, difficult to decide on what to cultivate and also as their lands were nearer to the urban area there was fear of losing of land. About 45 and 38 per cent of the rainfed and irrigated farmers, respectively felt that urbanisation positively impacted marginal farmers as they could do farming with available household labour, they can utilise the leisure in a better way and they could also work in the other fields at time of leisure.

Impact of urbanisation on small farmers in the study areas : According to Table VII, urbanisation had negative impact (60% and 68% in the case of rainfed and irrigated situations) on small farmers as it there existed fear of encroachment and there was also fear of losing land as influenced by land mafia. As the holdings were small , farmers were not able to

TABLE VII

Impact of urbanisation on small farmers in the study areas

Particulars	Rainfed (n=40)		Irrigated (n=40)		Over all (N=80)	
	Number	Per cent	Number	Per cent	Number	Per cent
Additional income opportunities	4	10	5	13	9	12
Better income	8	20	6	15	14	18
Better non-agricultural opportunities	5	13	4	10	9	12
Farming with household labour	3	8	3	8	6	8
Encroachment	3	8	4	10	7	9
Fear of losing lands	8	20	9	23	17	22
Investment on land is difficult	7	18	8	20	15	19
No proper utilization of resources	6	15	6	15	12	15
Positive impact	16	40	13	33	29	37
Negative impact	24	60	27	68	51	64

invest on their land. However about 40 and 33 per cent of the farmers in the rural and peri-urban area, respectively felt that urbanisation also had positive impact as it creates better non agricultural opportunities for the farming household. Some of the farmers felt that farming can be done effectively using the household labour only.

Impact of urbanisation on medium farmers in the study areas : As indicated from Table VIII, farmers from rainfed and irrigated area had mixed opinion on the impact of urbanisation on medium farmers. About 50 per cent and 53 per cent of rainfed farmers and irrigated farmers, respectively viewed that urbanisation had negative impact (such as difficulty in managing the farming, requirement of huge investments etc) on medium farmers, whereas about 50 and 48 per cent of the rainfed and irrigated farmers were of the view that urbanisation had positive impact (such as better income, better access to market and better value for the land) on the medium farmers.

Impact of urbanisation on large farmers in the study areas : As summarised in Table IX, both categories of the farmers believed that urbanisation had negative impact (labour problem, marketing risk and theft) on large farmers. About 65 and 53 per cent of the sample farmers from rainfed and irrigated situations,

TABLE VIII

Impact of urbanisation on medium farmers in the study areas

Particulars	Rainfed (n=40)		Irrigated (n=40)		Over all (N=80)	
	Number	Per cent	Number	Per cent	Number	Per cent
Better income	9	23	9	23	18	23
Better market	7	18	6	15	13	17
Better value for land	4	10	4	10	8	10
Difficult to get the labour	7	18	8	20	15	19
Huge investment	4	10	6	15	10	13
Management difficult	9	23	7	18	16	21
Positive impact	20	50	19	48	39	49
Negative impact	20	50	21	53	41	52

TABLE IX

Impact of urbanisation on large farmers in the study areas

Particulars	Rainfed (n=40)		Irrigated (n=40)		Over all (N=80)	
	Number	Per cent	Number	Per cent	Number	Per cent
Commercialized farming	4	10	5	13	9	12
Huge value for the land	5	13	6	15	11	14
More income if managed properly	5	13	6	15	11	14
Difficult to get the paid labour	11	28	10	25	21	27
Huge investment	7	18	3	8	10	13
Market risk	4	10	3	8	7	9
Theft	4	10	5	13	9	12
Positive impact	14	35	19	48	33	42
Negative impact	26	65	21	53	47	59

TABLE X

Cochran's Q test to analyse the impact of urbanisation across the different classes

Particulars	Rainfed	Irrigated	Table Chi square value
Impact on men, women and children	6*	5.03	5.99
Impact on labour and farmers	5.86	12.39*	9.49

Note: * indicates significant at 5 per cent.

respectively believed that urbanisation had negative impact on large farmers. Urbanisation had negative impact on large farmers as it was difficult to get the agricultural labour for work and larger land holdings calls for larger investment, market risk and prove to theft of the produce. About 35 and 48 per cent of the rainfed and irrigated farmers, respectively felt that as urbanisation encourages commercialization of farming reflecting in increased the value of agricultural lands and more value for the produce, thus pointing towards the positivity of urbanisation.

Validation of positive and negative opinions regarding social categories by the respondent farmers : The result of Cochran's Q test is furnished in Table X. The test results indicated that the impact of urbanisation on social groups (men, women and children) was statistically significant in the case of rainfed situations according to the opinion of sample farmers. But results were insignificant in the case of irrigated situations. There had been industrialization at the fringes of Bengaluru city. Men and women had better income earning opportunities than one at native village or home. Thus they had moved out of their natives in seek of better earnings.

Opinions of farmers on impact of urbanisation on different classes of farmers (landless, marginal, small, medium and large farmers) were significant in the case of irrigated farmers. But it was non-significant statistically in the case of rainfed situations as indicated by the table chi square values. Due to urbanisation farmers either go for better farming or will lose interest in the farming.

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(*Received :* January, 2016 *Accepted :* September, 2016)