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A comparative analysis of attitude of farmers towards agriculture along the rural-urban interface of Bangalore

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Abstract

The present study was carried out to compare the attitude of farmers towards agriculture along the rural-urban interface of Bangalore. Six hundred farmers from North (300 farmers) and South (300 farmers) transects were selected for the study. One hundred, 120 and 80 farmers from rural, transitional and urban gradients of North transect and 100, 115 and 85 farmers from rural, transitional and urban gradients of South transects were randomly selected for the study. Thus, the total sample constituted 600 farmers along the rural-urban interface of Bangalore. A pre-tested interview schedule was used to collect the required data from the sampled farmers. The results revealed that a large number of farmers had favourable attitude towards agriculture in rural (42.50%) and transitional (40.42%) gradients, whereas more number of farmers possessed less favourable attitude towards agriculture in urban gradient (41.21%) of North and South transects. Variables such as, education, employment, annual income, innovative proneness, mass media participation and extension participation exhibited positive and significant to highly significant relationship with the attitude of farmers towards agriculture in all the gradients of North and South transects. Insufficient land, fragmentation of land into unconventional shapes and sizes, non-availability on time and expensiveness of agricultural inputs, lack of infrastructure in rural areas and lack of knowledge on improved farm technology were the five major factors affecting the attitude of farmers towards agriculture along the rural urban interface of Bangalore.

Keywords: Attitude, farmers, agriculture, rural, urban, interface

Introduction

Agriculture and allied sector is unique because of its diversity and location-specific requirements, necessitating adaptation of technologies to a range of agro ecological conditions. Earlier it was subsistence farming, where a farmer produced whatever quantity was necessary to sustain his farm and family, presently it has become commercial where farmers grows for profit. Agricultural land use systems everywhere reflect a millennia-old history of transitions in the use of land, water, labour, and capital, the four critical resources on which all the production systems depend. While the functions, scales, and dynamics of these transition processes are site-specific, the initial ecosystem services are always affected by the planting of crops, establishment of pastures, water drainage, irrigation or construction of physical infrastructure, which has resulted in a 'managed mosaic' (Fedick, 1997) [1]. As this 'managed mosaic' with its physical and ecological dimensions stretches out between undisturbed nature and entirely human-shaped cities, different types of transformations, from native to cultivated, and from rural to urban landscapes that vary in space, time, and processes are driven by human decisions on resources use, livelihood strategies, and public policies. Urban centres attract people in search of better living conditions, thus contributing to rapid urban growth, but this in turn also changes the living conditions of the rural population in the city outskirts. The attitude of farmers towards agriculture will have a large bearing on the success of agriculture in any country. Keeping the above facts in mind the present study was carried out with the following specific objectives:

1. To analyze the attitude of farmers towards agriculture along the rural urban interface
2. To find out the relationship between personal, socio-economic and psychological characteristics of farmers with their attitude level
3. To identify the factors influencing the attitude of farmers towards agriculture

Methodology

The present study was carried out along North and South transects along the rural-urban interface of Bangalore in Karnataka state of India. The Northern transect and the Southern

transect of Bangalore cover an area of 250 km² and 300 km², respectively. The distance from Vidhana Soudha, Bangalore (City centre) to the most distal village of North transect is 47.2 km and the distance from the most distal village is 40.1 km from the urban centre of Bangalore (Defined as Vidhana Soudha). Thirty one villages in North transect and 29 villages from South transect were selected across the rural urban interface for the study. The distance between urban centre to transitional gradient and from transitional to rural gradient is about 15 km in both the North and South transects. Three hundred farmers from North transect and another 300 farmers from South transect were selected for the project, thus the sample constituted 600 farmers from 60 villages of North and South transects. The number of villages and farmers selected for the study is presented in the following table.

Table 1: Number of farmers sampled in North and South transects

| North transect | | |
|----------------|---------|-----------------|
| Transect | Farmers | Villages/Cities |
| 1.Rural | 100 | 17 |
| 2.Transitional | 120 | 09 |
| 3. Urban | 80 | 05 |
| Sub-Total | 300 | 31 |
| South transect | | |
| Transect | Farmers | Villages/Cities |
| 1.Rural | 100 | 09 |
| 2.Transitional | 115 | 13 |
| 3. Urban | 85 | 07 |
| Sub-Total | 300 | 29 |
| Grand Total | 600 | 60 |

Attitude towards agriculture (dependent variable)

The attitude in the present study has been defined as the positive or negative feelings of the head of the family of the agriculture households towards agriculture. The attitude of farmers towards agriculture was measured using the scale developed by Shireesha *et al* (2016) [2]. The scale consisted of 20 statements and the response for each statement was collected on a three point continuum namely, agree, undecided and disagree with assigned score of 3, 2 and 1, respectively. One could get a minimum and maximum score of 20 and 60, respectively. The summed score of all the 20 statements obtained was considered as attitude score of individual respondent. Based on the mean and standard deviation the respondents were classified as follows:

Table: Type of attitude category

| Attitude category | Criteria |
|-------------------|-----------------|
| More favourable | <(Mean - ½ SD) |
| Favourable | (Mean ± ½SD) |
| Less favourable | > (Mean + ½ SD) |

Information regarding eleven personal, socio-economic and psychological characteristics of farmers (independent variables) viz., age, education, family size, farming experience, land holding, employment, annual income, social participation, innovative proneness, mass media participation and extension participation was measured using suitable and standardized scales or procedures. Ex-post facto research design was employed in the present study. The collected data was scored, tabulated and analyzed using frequency, percentage, mean, standard deviation (SD), zero order correlation test and student 't' test.

Results and Discussion

1. Statement-wise attitude of farmers towards agriculture along the rural-urban interface

The statement-wise attitude of farmers of rural, transitional and urban areas of North and South transects towards agriculture is presented in Table 1. With regard to the attitude score of farmers in rural areas, the attitude statement namely, 'Being a farmer is the best job in the world' secured first rank, followed by 'I enjoy the relationship with nature through agriculture (Rank II)', 'One should have passion towards agriculture to practice it (Rank III)', 'I have freedom to work in my own way in agriculture (Rank IV)' and 'It is my privilege to sustain in agriculture (Rank V)' were accorded ranks in the order of magnitude.

It is observed from that attitude score of farmers in transitional areas, that the attitude statement 'Being a farmer is the best job in the world' was accorded first rank, while the attitude statements 'I enjoy the relationship with nature through agriculture (Rank II)', 'One should have passion towards agriculture to practice it (Rank III)', 'It is my privilege to sustain in agriculture (Rank IV)' and 'I feel that I am feeding the world by practicing agriculture (Rank V)' were accorded the subsequent ranks in the order of magnitude.

In the case of attitude score of farmers in urban areas, the attitude statements namely, 'I will encourage others to engage in agriculture' secured first rank, followed by the attitude statements such as 'I prefer to take risks in agriculture at any cost', 'One should have passion towards agriculture to practice it', 'People who are able to take risks in agriculture are successful' and 'I have freedom to work in my own way in agriculture' securing II, III, IV and V ranks, respectively.

It can be inferred from the findings that most of the farmers have 'agreed' for all the statements measuring the attitude towards agriculture, which denotes that the farmers have favourable attitude towards agriculture.

2. Overall attitude of farmers towards agriculture along rural-urban interface

A perusal of Table 2 reveals that 42.50 per cent of farmers of rural areas had favourable attitude towards agriculture, while 36.50 of them had more favourable attitude and 21.00 per cent of farmers had more favorable and less favourable attitude towards agriculture, respectively. Whereas, about four-tenth (40.42%) of farmers of transitional areas had favorable attitude, 31.49 per cent of farmers had less favourable attitude and the remaining 28.09 per cent of farmers of transitional areas had more favourable attitude agriculture. More number of farmers of urban areas (41.21%) had less favourable attitude towards agriculture, while 31.51 and 27.28 per cent of farmers of urban areas had favorable and more favourable attitude towards agriculture, respectively. Almost an equal number of farmers of rural (42.50%) and transitional (40.42%) areas were having favourable attitude towards agriculture, while 41.21 per cent of farmers of urban areas were having less favourable attitude towards agriculture.

Availability of improved agricultural technologies, employment throughout the year in farm activities, regular and decent income from agriculture, accessibility of gross root extension functionaries and adequate opportunities to participate in extension activities are the reasons for the farmers possessing favourable to more favourable attitude towards agriculture.

3. Test of significance between farmers towards agriculture along the rural-urban interface

The results in Table 3 reveals that the mean attitude score of farmers of rural areas (43.73) was slightly higher than the mean attitude score of farmers of transitional areas (42.30) and the 't' value (0.96) revealed a non-significant difference between the mean attitude score of farmers of rural and transitional areas. Similarly, the mean attitude score of farmers of transitional areas (42.30) was also slightly more than the mean attitude score of farmers of urban areas (39.91) and there was also no significant ('t' value = 0.99) difference between the mean attitude score of farmers of transitional and urban areas. On the contrary, the mean attitude score of farmers of rural areas (43.73) was relatively higher than the mean attitude score of farmers of urban areas (39.91) and the 't' value (2.19) revealed a significant difference at five per cent level between the mean attitude score of farmers of rural and urban areas. It can be concluded that there was a significant difference between the mean attitude score of farmers of rural and urban areas, while there existed no significant difference between the mean attitude score between rural and transitional and transitional and urban areas.

4. Relationship between personal, socio-economic and psychological characteristics of farmers with their attitude towards agriculture

Age, family size, farming experience, land holding, and social participation of farmers of rural, transitional and urban areas of North and South transects exhibited a positive and non-significant relationship with their attitude towards agriculture (Table 4). On the contrary, education, employment, annual income, innovative proneness, mass media participation and extension participation of farmers exhibited positive and significant to highly significant relationship with their attitude towards agriculture. For every one unit increase in the education, employment, annual income, innovative proneness, mass media participation and extension participation of farmers there will development of favourable attitude towards agriculture. It can be inferred that education, employment, annual income, innovative proneness, mass media participation and extension participation of farmers in rural, transitional and urban areas of North and South transects had significantly contributed in developing favourable to more favourable attitude towards agriculture.

5. Factors influencing the attitude of farmers towards agriculture along rural-urban interface

A perusal of Table 5 reveals that fragmentation of land into unconventional shape and size (93.50%), lack of infrastructure in rural areas (91.50%), insufficient land (87.50%), lack of knowledge on improved agriculture technology (87.00%) and scarcity of labor (86.00%) were the important five factors influencing the attitude of households

of rural areas towards agriculture.

Insufficient land (95.74%), lack of infrastructure in rural areas (93.19%), fragmentation of land into unconventional shape and size (90.64%), lack of knowledge on improved agriculture technology (89.36%) and high wage rate (80.85%) are the important factors influencing the attitude of households of transitional areas towards agriculture. The five important factors influencing the attitude of households of urban areas towards agriculture are: insufficient land (98.18%), lack of infrastructure in rural areas (95.76%), fragmentation of land into unconventional shape and size (95.76%), lack of knowledge on improved agriculture technology (92.12%) and high wage rate (88.48%). From the above findings, it can be concluded that insufficient land, fragmentation of land into unconventional shape and size, lack of infrastructure in rural areas, lack of knowledge on improved agriculture technology and high wage rate are the major factors influencing the attitude of farmers in rural, transitional and urban areas of North and South transects.

Conclusion

The results of the study revealed that majority of farmers of rural, transitional and urban areas/gradients in North and South transects possess favourable to more favourable attitude towards agriculture. However, more number of farmers possess less favourable attitude in urban areas (41.21%) compared to the farmers in transitional areas/gradients (31.49%) and rural areas/gradients (21.00%) in North and South transects. Hence, there is a need to develop positive and favourable attitude among farming community towards agriculture by making farming more attractive by providing the urban amenities in rural areas. The Government should implement more and more agriculture and related programmes for extending benefits to the farmers and the farmers might also be actively involved in the planning and execution of the agricultural development programmes

Agricultural and allied departments should motivate the farmers to continue in agriculture by (a) conducting well organised educational opportunities (training, demonstrations, meetings, farmers field school, field tours etc.) and disseminating the improved agricultural technology through mass media will enable the farmers to gain more knowledge on improved agricultural technology besides providing; (b) providing timely supply of agricultural inputs at subsidies rates, and extending storage and marketing facilities.

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Table 1: Statement -wise attitude of farmers towards agriculture along the rural-urban interface

| Sl. No. | Statements | Rural (n ₁ =200) | | Transitional (n ₂ =235) | | Urban (n ₃ =165) | |
|---------|--|-----------------------------|------|------------------------------------|------|-----------------------------|-------|
| | | Score | Rank | Score | Rank | Score | Rank |
| 1 | Being a farmer is the best job in the world | 479 | I | 438 | I | 317 | XIV |
| 2 | Practicing agriculture is not stressful | 399 | XVI | 348 | XVI | 309 | XVIII |
| 3 | Agriculture could be practices by both illiterates and literates | 352 | XX | 339 | XX | 303 | XX |
| 4 | I prefer to be a farmer than as an employee | 429 | XIV | 355 | XIV | 332 | VIII |
| 5 | I enjoy the relationship with nature through agriculture | 478 | II | 433 | II | 318 | XIII |
| 6 | Agriculture is viewed as a respectable profession in the society | 399 | XVI | 348 | XVI | 316 | XV |
| 7 | I am proud to own farm land | 419 | XV | 350 | XV | 308 | XIX |

| | | | | | | | |
|----|---|-----|-------|-----|-------|-----|------|
| 8 | I feel agriculture is more profitable than any other occupation | 439 | XI | 363 | XI | 332 | VIII |
| 9 | I am ready to invite innovations in agriculture | 437 | XIII | 359 | XIII | 327 | X |
| 10 | I can overcome any type of hardships in agriculture | 438 | XII | 360 | XII | 325 | XI |
| 11 | I want to continue in agriculture further | 385 | XVIII | 346 | XVIII | 314 | XVI |
| 12 | People who are able to take risks in agriculture are successful | 460 | VIII | 380 | VII | 342 | IV |
| 13 | I feel that I am feeding the world by practicing agriculture | 464 | VI | 398 | V | 339 | VI |
| 14 | I will encourage others to engage in agriculture | 463 | VII | 391 | VI | 364 | I |
| 15 | I have freedom to work in my own way in agriculture | 468 | IV | 370 | IX | 340 | V |
| 16 | One should have passion towards agriculture to practice it | 477 | III | 403 | III | 354 | III |
| 17 | It is my privilege to sustain in agriculture | 465 | V | 400 | IV | 334 | VII |
| 18 | I prefer to take risks in agriculture at any cost | 440 | X | 368 | X | 356 | II |
| 19 | One should be proud of being a member of a farm family practicing agriculture | 460 | VIII | 379 | VIII | 321 | XII |
| 20 | Agriculture is not just an occupation, but it a way of life | 380 | XIX | 340 | XIX | 313 | XVII |

Table 2: Overall attitude of farmers towards agriculture along rural urban interface**Table 3:** Test of significance between farmers towards agriculture along the rural urban interface

| Sl. No. | Attitude category | Rural (n ₁ =200) | | Transitional (n ₂ =235) | | Urban (n ₃ =165) | |
|--------------------|-------------------|-----------------------------|--------|------------------------------------|--------|-----------------------------|--------|
| | | No. | % | No. | % | No. | % |
| 1 | Less favourable | 42 | 21.00 | 74 | 31.49 | 68 | 41.21 |
| 2 | Favourable | 85 | 42.50 | 95 | 40.42 | 52 | 31.51 |
| 3 | More favourable | 73 | 36.50 | 66 | 28.09 | 45 | 27.28 |
| Total | | 200 | 100.00 | 235 | 100.00 | 165 | 100.00 |
| Mean | | 43.73 | | 42.3 | | 39.91 | |
| Standard deviation | | 8.11 | | 7.42 | | 6.97 | |

| Sl. No. | Farmers | Attitude towards agriculture | |
|---------|----------------------|------------------------------|--------------------|
| | | Mean score | 't' value |
| A | Rural (n=200) | 43.73 | 0.96 ^{NS} |
| | Transitional (n=235) | 42.30 | |
| B | Transitional (n=235) | 42.30 | 0.99 ^{NS} |
| | Urban (n=165) | 39.91 | |
| C | Rural (n=200) | 43.73 | 2.19* |
| | Urban (n=165) | 39.91 | |

NS=Non-significant; *Significant at 5% level

Table 4: Relationship between personal, socio-economic and psychological characteristics of farmers with their attitude towards agriculture

| Sl. No | Characteristics | Correlation coefficient ('r' value) | | |
|--------|--------------------------|-------------------------------------|------------------------------------|-----------------------------|
| | | Rural (n ₁ =200) | Transitional (n ₂ =235) | Urban (n ₃ =185) |
| 1 | Age | 0.018 ^{NS} | 0.017 ^{NS} | 0.028 ^{NS} |
| 2 | Education | 0.212* | 0.232** | 0.299** |
| 3 | Family size | 0.019 ^{NS} | 0.089 ^{NS} | 0.033 ^{NS} |
| 4 | Farming experience | 0.029 ^{NS} | 0.088 ^{NS} | 0.070 ^{NS} |
| 5 | Land holding | 0.034 ^{NS} | 0.029 ^{NS} | 0.039 ^{NS} |
| 6 | Employment | 0.210* | 0.333** | 0.230* |
| 7 | Annual income | 0.234* | 0.239* | 0.200* |
| 8 | Social participation | 0.033 ^{NS} | 0.078 ^{NS} | 0.055 ^{NS} |
| 9 | Innovative proneness | 0.231** | 0.209* | 0.213* |
| 10 | Mass media participation | 0.211* | 0.233* | 0.340** |
| 11 | Extension participation | 0.349** | 0.397** | 0.219* |

'r' value =Correlation coefficient

Table 5: Factors influencing the attitude of farmers towards agriculture along rural urban interface

| Sl. No. | Factors* | Rural (n ₁ =200) | | Transitional (n ₂ =235) | | Urban (n ₃ =165) | |
|---------|--|-----------------------------|-------|------------------------------------|-------|-----------------------------|-------|
| | | No. | % | No. | % | No. | % |
| 1 | Insufficient land | 175 | 87.50 | 225 | 95.74 | 162 | 98.18 |
| 2 | Fragmentation of land into unconventional shape and size | 187 | 93.50 | 213 | 90.64 | 158 | 95.76 |
| 3 | Lack of infrastructure in rural areas | 183 | 91.50 | 219 | 93.19 | 158 | 95.76 |
| 4 | Lack of conviction | 116 | 58.00 | 144 | 61.28 | 116 | 70.30 |
| 5 | Lack of knowledge on improved agriculture technology | 174 | 87.00 | 210 | 89.36 | 152 | 92.12 |
| 6 | Inadequate training and extension services | 156 | 78.00 | 170 | 72.34 | 125 | 75.76 |
| 7 | Non-availability of inputs in time | 134 | 67.00 | 161 | 68.51 | 114 | 69.09 |
| 8 | Expensiveness of agro-chemicals and seeds | 163 | 81.50 | 157 | 66.81 | 133 | 80.61 |
| 9 | Non-availability of agro-chemicals | 147 | 73.50 | 158 | 67.23 | 129 | 78.18 |
| 10 | High wage rate | 171 | 85.50 | 190 | 80.85 | 146 | 88.48 |
| 11 | Scarcity of labor | 172 | 86.00 | 168 | 71.49 | 132 | 80.00 |
| 12 | Lack of market facility | 151 | 75.50 | 128 | 54.47 | 136 | 82.42 |
| 13 | Lack of storage facility | 143 | 71.50 | 162 | 68.94 | 139 | 84.24 |
| 14 | Low returns from crops/animals | 163 | 81.50 | 172 | 73.19 | 133 | 80.61 |
| 15 | Heavy risk due to failure of monsoon | 145 | 72.50 | 174 | 74.04 | 125 | 75.76 |

* Multiple response

References

1. Fedick SL. The Managed Mosaic: Ancient Maya Agriculture and Resource Use. University of Utah Press, Salt Lake City, USA. 1997, 360.
2. Ghelfi LM, Parker TS. A county-level measure of urban influence. *Rural Development Perspectives*. 2001; 12:32-41.
3. Government of India, Ministry of Water Resources, Central Gound Water Board. Gound Water Information Booklet, Bangalore Urban District, Karnataka, 2008.
4. Government of India, Ministry of Home Affairs 2011. Census, 2011.
5. Government of Karnataka, Bangalore Development Authority. Bangalore Master Plan 2015. Availabe at: <http://www.docstoc.com/docs/47280739/Bangalore-Master-Plan-2015>
6. Graefe S, Schlecht E, Buerkert A. Opportunities and challenges of urban and peri-urban agriculture in Niamey, Niger. *Outlook on Agriculture*. 2008; 37:47-56.
7. Shireesha K, Satyagopal PV, Lakshmi T, Ravindrareddy B, Prasad SV. A scale to measure the attitude of farmers towards agriculture, Mysore *J. Agric, Sci*. 2016; 50(4):756-761.