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**RESEARCH ARTICLE**

# SOCIO-ECONOMIC STATUS OF FISH FARMERS IN TRIPURA, INDIA

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**ABSTRACT**

Fisheries sector plays a very important role in socio-economic development of the state of Tripura. In spite of different measures being taken by the Government of Tripura to make the state fish self-sufficient, a large amount of fish are still being imported from neighbouring states and Bangladesh. This indicates existence of positive gap between demand and supply which can be filled up if appropriate policy measure towards strengthening the condition of fishermen is undertaken. Any policy measure to be successful needs a clear understanding of the status of its stakeholders. The fish farmers are the key stakeholders of fisheries sector. Hence, to address the issues related to development of fisheries sector of the state, the status of fish farmers of the state needs to be understood. Present study is an effort towards this direction. Using multi-stage random sampling 256 farmers are selected from two major fish producing districts of the state for the present study. The study reveals that fish farmers in the state are economically poor with average per capita annual income (Rs. 24,940/-) significantly lower than the average per capita annual income of the state as a whole (Rs. 69,705/-). Though the literacy rate among the farmers and their spouses are reasonably good (90%) but overall level of education is found to be very poor with majority having only secondary level of education. Majority of the farmers (55%) is found to be residing in the houses of *kachha* structure, though the basic amenities like drinking water facility, electricity, defecation etc is found to be reasonably good. The study, after examining all the indicators, comes to the conclusion that overall situation of the fish farmer stakeholders of the state is miserable which needs to be improved with appropriate policy initiatives.



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## INTRODUCTION

Aquaculture plays a multi-dimensional role providing nutritional security, generating employment; alleviating poverty and finally uplifting the socio-economic status of those who are directly or indirectly connected with exploitation, production and processing of fish. Presently 1.73 lakh people in the state are associated with culture fisheries i.e. aquaculture activities and another 0.43 lakh are associated with capture fisheries either regularly or occasionally (Directorate of Fisheries, Government of Tripura, 2015 - Unpublished). Other than that a large number of people are associated with fish marketing through different channels, transportation, trading and other activities having close forward and backward linkages with fisheries sector. The number of fish farmers in the state as well as the percentage of fish farmer population to total population of the state is increasing over time indicating expansion of the sector.

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A large section of fish farmers in the state have been practicing fish culture only for their domestic consumption without applying any scientific method of production process resulting in poor production and productivity (Saha 2011). However, aquaculture sector of the state is presently undergoing a transition from traditional activity to commercial activity (Das, *et al*., 2013). In spite of a reasonably good achievement in aquaculture development in the state after adoption of the perspective plan by the government to ensure fish for all in the state, there is still a large amount of import of fish from neighbouri nmjng states and Bangladesh which indicates that there still exists a gap between demand and supply which needs to be filled up with appropriate measures.

Study of socio-economic status of fish farmers is important because of the fact that on the one hand it has influence on the farming practice adopted by the farmers and on the other hand it is the outcome of farming practice and performance. Lack of authentic information on the socio-economic condition of the target group is one of the serious impediments in the successful implementation of developmental policies (Sheikh and Goswami 2013). Though a heap of studies on the socio-

economic condition of fish farmers of different regions all over the country have been done by different agencies, but such systematic attempt to study the fish farmers of Tripura has hardly been made (Pandey and Upadhayay 2012). The present study is an attempt to understand the socio-economic condition of fish farmers in the state. This understanding is important to trigger the policy measures in the right direction.

## MATERIALS AND METHODS

### Study area

Two Districts viz., North Tripura District and West Tripura District are selected for the present study out of four Districts (pre-restructured) in the state as best performing Districts in aquaculture activities. Five-year-average productivity (kg/ha/annum) is taken as the performance indicator and based on that using the data for the period 2006-07 to 2010-11, the best performing districts are selected for the study. Then from each District two Blocks viz., Dukli and Boxonagar Blocks from West Tripura District and Gournagar and Kadamtala Blocks from North Tripura District are selected using the same methodology. Then finally from each Block four Gram Panchayats are selected randomly. The selected Gram Panchayats are Belabar, Bikramnagar, Gazaria and Pandabpur from Dukli Block; Ashabari, Boxanagar, Rahimpur and Veluarchar from Boxonagar Block; Chandrapur, Gabindapur, North Hurua and Baruakandi from Kadamtala Block and Bilashpur, Chandipur, Jalai and Srirampur from Gournagar Block.

### Sampling procedure and sample size

From the complete list of fish farmers maintained Gram Panchayat wise by the Department of Fisheries, Govt. of Tripura, 16 farmers from each Gram Panchayat are selected totalling to 256 farmers for the present study. While selecting 16 farmers from each Gram Panchayat a well-being ranking of all the farmers is done with the help of Fishery Assistants, Panchayat functionaries and local people of the particular Gram Panchayat through a participatory process to identify and distinguish better-off and worse-off farmers based on certain livelihood context like social status, education, health, culture etc. along with wealth or asset holding. Then from each of the groups equal numbers of farmer are selected randomly for the present study.

### Data collection and analysis

Both qualitative and quantitative data are collected from the selected area under the present study. Cross-sectional survey method using semi structured questionnaire is adopted for collection of quantitative data. Stakeholder consultation is done to obtain qualitative information. This process also helped in narrowing down the number of variables to be fixed for the quantitative survey.

## RESULTS

Socio-economic indicators are closely interrelated. Hence, a particular indicator alone, be it favourable or adverse, can not reflect the status of a particular group or individual. In the present effort different demographic and socio-economic indicators of the stakeholders have been studied which are summarised and explained in the following paragraphs.

### Demographic Profile

### Religion

Religion plays a vital role in the social and cultural environment of people in a given area (Khatun, *et al*. 2013). Tripura is a multicultural society and people practicing Christianity, Hinduism, Islam, Buddhism etc. can be found in the society. In the present study majority of farmers are found to be practicing Hinduism (79.3%) followed by Islam (20.7%). However, no farmer is found to be practicing any other religion under this study (Table 1).

### Caste

Caste is one of the important factors affecting the choice of the occupation and possession of skill in different rural economic activities (Singh 2003). Majority of farmers (46.9%) in the present study belong to General category, followed by Scheduled Castes (34.4%) and Other Backward Class (18.8%). No farmer is found under the present study belonging to Scheduled Tribe community (Table 1).

### Gender

Only 12 women (4.7%) out of 256 respondents from both the districts under study are found to be heading their households and they are mainly the widows (Table 2). It may be noted here that in the North Eastern Region of the country, there are groups of people among mainly the tribal population who follow matrilineal system. However, the present study covers only the population belonging to Bengali community that follow patrilineal system and hence domination of men is seen in the society.

### Age structure

Knowledge of age structure of fish farmers is important in estimating potential productive human resources (Hussain, *et al*. 2009). Average age of farmers in the present study is found to be 51 years ranging from a minimum of 22 years to a maximum of 93 years. Majority of farmers (52.3 %) are of middle age group (40 to 60 years of age) which is followed by old age group (>60 years of age) registering 25.8% of total farmers and only 21.9% of farmers are from young generation (<40 years) indicating a trend of disinclination of generation-next in the fisheries sector (Table 2).

### Family size

Family size is an important socio-economic indicator as it reflects the income, food consumption and socio-economic well-being of the households (Hussain, *et al*. 2009). On the other hand, family size reflects the supply of family labour which plays a vital role in fish farming. Fish farmers under present study are categorised in three family size groups viz., small family (<4 members), medium family (4-6 members) and large family (>6 members). Majority (66.4%) of farmers belong to medium family (Table 1) which is followed by small family (20.7%) and large family (12.9%).

**Table 1. Profile of households by category of respondents**

| Item | West Tripura District | | North Tripura District | | All Tripura | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Religion | | | | | | |
| Hindu | 82 | 64.1 | 121 | 94.5 | 203 | 79.3 |
| Muslim | 46 | 35.9 | 7 | 5.5 | 53 | 20.7 |
| Christian | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Others | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Caste | | | | | | |
| General | 78 | 60.9 | 42 | 32.8 | 120 | 46.9 |
| SC | 43 | 33.6 | 45 | 35.2 | 88 | 34.4 |
| ST | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| OBC | 7 | 5.5 | 41 | 32.0 | 48 | 18.8 |
| Family Size | | | | | | |
| Small family (<4 members) | 25 | 19.5 | 28 | 21.9 | 53 | 20.7 |
| Medium family (4-6 members) | 75 | 58.6 | 95 | 74.2 | 170 | 66.4 |
| large family (>6 members) | 28 | 21.9 | 5 | 3.9 | 33 | 12.9 |
| Economic Status | | | | | | |
| BPL | 34 | 26.6 | 39 | 30.5 | 73 | 28.5 |
| APL | 94 | 73.4 | 89 | 69.5 | 183 | 71.5 |
| Social Status | | | | | | |
| Category A | 4 | 3.1 | 1 | 0.8 | 5 | 2.0 |
| Category B | 8 | 6.3 | 4 | 3.1 | 12 | 4.7 |
| Category C | 116 | 90.6 | 123 | 96.1 | 239 | 93.4 |
| Income category | | | | | | |
| High income (>36000) | 28 | 21.9 | 26 | 20.3 | 54 | 21.1 |
| Middle income (12000-36000) | 61 | 47.7 | 72 | 56.3 | 133 | 52.0 |
| Low income (<12000) | 39 | 30.5 | 30 | 23.4 | 69 | 27.0 |
| Average per capita income | Rs. 25,389.00 | | Rs. 24,491.00 | | Rs. 24,940.00 | |
| Expenditure category | | | | | | |
| High expenditure (>36000) | 47 | 36.7 | 35 | 27.3 | 82 | 32.0 |
| Middle expenditure (12000-36000) | 81 | 63.3 | 91 | 71.1 | 172 | 67.2 |
| Low expenditure (<12000) | 0 | 0.0 | 2 | 1.6 | 2 | 0.8 |
| Average per capita exp. | Rs. 38,077.00 | | Rs. 29,075.00 | | Rs. 33,576.00 | |
| Total | 128 | 100 | 128 | 100 | 256 | 100 |

Source : Field Survey, 2014-15

**Table 2. Profile of farmers by category of respondents**

| Item | West Tripura District | | North Tripura District | | All Tripura | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Gender | | | | | | |
| Male | 122 | 95.3 | 122 | 95.3 | 244 | 95.3 |
| Female | 6 | 4.7 | 6 | 4.7 | 12 | 4.7 |
| Age group (Average age) | | | | | | |
| Young (<40 years) | 31 | 24.2 | 25 | 19.5 | 56 | 21.9 |
| Middle age (40-60 years) | 63 | 49.2 | 71 | 55.5 | 134 | 52.3 |
| Old (>60 years) | 34 | 26.6 | 32 | 25.0 | 66 | 25.8 |
| Average age (years) | 51 | - | 51 | - | 51 | - |
| Education level of farmer | | | | | | |
| No formal education | 23 | 18.0 | 3 | 2.3 | 26 | 10.2 |
| Primary (I-V) | 39 | 30.5 | 27 | 21.1 | 66 | 25.8 |
| Secondary (VI-X) | 44 | 34.4 | 77 | 60.2 | 121 | 47.3 |
| Higher Secondary (XI-XII) | 11 | 8.6 | 10 | 7.8 | 21 | 8.2 |
| Above | 11 | 8.6 | 11 | 8.6 | 22 | 8.6 |
| Education level of spouse | | | | | | |
| No formal education | 23 | 18.0 | 5 | 3.9 | 28 | 10.9 |
| Primary (I-V) | 40 | 31.3 | 20 | 15.6 | 60 | 23.4 |
| Secondary (VI-X) | 37 | 28.9 | 73 | 57.0 | 110 | 43.0 |
| Higher Secondary (XI-XII) | 8 | 6.3 | 12 | 9.4 | 20 | 7.8 |
| Above | 3 | 2.3 | 5 | 3.9 | 8 | 3.1 |
| Primary occupation | | | | | | |
| Agriculture | 50 | 39.1 | 50 | 39.1 | 100 | 39.1 |
| Aquaculture | 28 | 21.9 | 20 | 15.6 | 48 | 18.8 |
| Animal Husbandry | 2 | 1.6 | 1 | 0.8 | 3 | 1.2 |
| Business/self employed | 24 | 18.8 | 26 | 20.3 | 50 | 19.5 |
| Govt. service | 8 | 6.3 | 13 | 10.2 | 21 | 8.2 |
| Private service | 5 | 3.9 | 2 | 1.6 | 7 | 2.7 |
| Wage labourer / NREGA | 6 | 4.7 | 9 | 7.0 | 15 | 5.9 |
| Others | 3 | 2.3 | 6 | 4.7 | 9 | 3.5 |
| Involvement in aquaculture | | | | | | |
| Regular | 78 | 60.9 | 93 | 72.7 | 171 | 66.8 |
| Occasional | 50 | 39.1 | 34 | 26.6 | 84 | 32.8 |
| No involvement | 0 | 0.0 | 1 | 0.8 | 1 | 0.4 |
| Experience in aquaculture | | | | - | | |
| High (>20 years) | 32 | 25.0 | 40 | 31.3 | 72 | 28.1 |
| Medium (10-20 years) | 57 | 44.5 | 59 | 46.1 | 116 | 45.3 |
| Low (<10 years) | 39 | 30.5 | 29 | 22.7 | 68 | 26.6 |
| Average experience (years) | 15.5 | - | 19.2 | - | 17.3 | - |
| Total | 128 | 100 | 128 | 100 | 256 | 100 |

Source : Field Survey, 2014-15

Reduced number of large size families indicate reduced dependence on labour intensive source of income like agriculture.

**Social Status**

**Literacy and Education**

Literacy and education are considered to be good indicators of development in a society. Literacy and education level of fish farmers affects the knowledge level, skill development, exposure to production technology and marketing practices and adoption level of improved technology. Literacy rate of farmers in the present study is found to be 89.8% (Table 2) as against the overall literacy rate of the state of 87.2% as per Census 2011 (Government of Tripura 2014). Farmers in North Tripura District are found to be more literate registering literacy rate of 97.7% as compared to the literacy rate of 82.0% in West Tripura District which is nonconforming with overall literacy status of these two districts, West Tripura District having higher literacy rate (91.7%) than North Tripura District (87.9%) as per Census 2011 (Government of Tripura 2014).

Level of education is considered as one of the factors affecting utilisation of pond for fish farming (Khan 1986). Though highly educated persons having at least degree level education among the farmers are very rare (only 8.6%) but the majority of farmers in both the study areas has at least secondary level of education (51.6% in West Tripura District, 76.6% in North Tripura District and 64.1% for the whole state) which is in parity with overall educational scenario of the population of the state (Table 2).

Gender gap in literacy is an important indicator of gender empowerment. Male-female gap in literacy rate in the state as per Census records is reduced to 8.8% in 2011 as against 16.1% in 2001 (Government of Tripura 2014). The present study with fish farmers shows almost no gap in male-female literacy rates in both the districts of the study reflecting better status of women in the farmer households (Table 2).

**Social participation**

Social participation is important for socio-cultural development through interpersonal communication on many issues including practice of fisheries activities (Pandey and Upadhayay 2012). The farmer households are categorised into three groups in terms of their involvement in different social and political activities. 'Category A' includes those farming households where either the respondent farmer or at least any one of his/her family members is a member of Panchayat. 'Category B' includes those farming households where either of the respondent farmer or at least any one of his/her family members is actively involved in any Non-Government Organisation (NGO), Self Help Group (SHG), Co-operative Society or any such social organisation excluding those who comes under Category A. 'Category C' includes those farming households where none of the family members is a member of Panchayat or NGO/SHG/Co-operative society or any such social or political organisation.

Almost all the farmers (93.4%) in the present study are found to be categorised in Category C, indicating their detachment from organised socio-political activities making them isolated from the larger society outside (Table 1).

**Occupational status**

The standard of living and earning of fish farmers depend on their occupation (Goswami, *et al*. 2002). Primary occupation of majority of respondents in the present study is agriculture and allied activities (59.1%), which are followed by business (19.5%), govt service (8.2%) and wage earning (5.9%) (Table 2). This occupational distribution reflects the overall occupational structure of the economy where more than 42% of its population are directly dependent on agriculture and allied activities and its contribution to Gross State Domestic Product (GSDP) is about 25% as on 2013-14 (Government of Tripura 2014).

Only 18.8% of the total farmers under this study indicates 'aquaculture' as their primary occupation though all of them are registered as 'Fish farmers' in the records of the Department of Fisheries, Government of Tripura. However, irrespective of aquaculture to be their primary or secondary occupation, majority of the farmers (66.8%) are found to be regularly engaged in aquaculture activities and the rest (32.8%) are involved occasionally except one farmer who is found to be not involved in any way in aquaculture practices (Table 2).

**Experience in fish farming**

Experience plays a vital role in efficient utilisation of resources and getting better output in any venture particularly in agricultural sector as it is the core factor in generation of traditional knowledge. Farmers in the present study has experience of 17 years on average in fish farming (Table 2). In spite of average age of farmers in both the districts being 51 years, farmers in North Tripura District are more experienced (average 19 years) than farmers in West Tripura District (average 16 years).

**Economic Status**

**Income pattern**

Income determines standard of living, income is highly correlated to almost all the indicators of well-being. Average per capita annual income from both agricultural and non-agricultural sources for the farmer households under the present study is found to be Rs. 24,940/- for the state as a whole. The amount is almost similar for both the districts. It should be noted here that per capita income of the state in general as on 2013-14 is reported to be Rs.69◄►705/- (Government of Tripura 2014) which is more than 2.5 times of the income earned by the fish farmers under this study. Distribution of farmers under three income groups viz., high income group (>Rs. 36,000/- per capita per annum), middle income group (Rs. 12,000/- to Rs. 36,000/- per capita per annum) and low income group (<Rs. 12,000/- per capita per annum) reveals that majority of farmers (52.0%) belong to middle income category followed by low income category (27.0%) and high income category (21.0%) respectively. The proportion is almost similar for both the districts (Table 1).

**Expenditure pattern**

Average annual per capita expenditure of the farmer households is reported to be Rs. 33,576/- for the state as a whole. The amount is found to be Rs.38,077/- and Rs. 29,075/- respectively for West Tripura District and North Tripura District. Distribution of farmers under three expenditure groups viz., high expenditure group (>Rs. 36,000/- per capita per annum), middle expenditure group (Rs. 12,000/- to Rs. 36,000/- per capita per annum) and low expenditure group (<Rs. 12,000/- per capita per annum) reveals that majority of farmers (67.2%) belong to middle expenditure category followed by high expenditure category (32.0%) and low expenditure category (0.8%) respectively. The proportion is found to be almost similar for both the districts (Table 1).

**Poverty level**

It has been found that only 28.5% farmers possess BPL card issued by the local administration signifying them as in below poverty line (Table 1). However, grievances are noticed among the respondents about adverse selection of beneficiaries for BPL cards. Hence, having no BPL card may not necessarily indicate the family to be affluent.

**Access to Basic Amenities**

**Housing condition**

Using the methodology adopted by National Family Health Survey (NFHS-3), 2005-06, houses are categorised into three types viz., *kachha, semi pucca* and *pucca.* Houses made from mud, thatch, or other low-quality materials is defined as *kachha* houses, houses that use partly low-quality and partly high-quality materials is defined as semi-*pucca* houses, and houses made with high quality materials throughout, including the floor, roof, and exterior walls, is defined as *pucca* houses (Govt. of India 2007). Majority of the structure of houses in farmers' homestead are found to be of *kachha* type (54.7%) followed by semi *pucca* (23.8%) and *pucca* houses (21.5%) indicating their not-so-posh dwelling condition (Table 3). In both the districts, proportion of types of houses owned by the farmers are found to be almost similar though as per Census 2011, proportion of *pucca* houses in the state is 80.7% (Government of Tripura 2014). Whatever the structure of house is, those mostly are owned by the farmer themselves (97.7%) except only 6 farmers (2.3%) who did not have their own house (Table 3). Average number of rooms per house under the study is slightly upper than 3 in both the districts and the state as well having separate kitchen in all the houses. Average number of persons per room, which is approximately 1.2 for both the districts, reflects comfortable living condition for dwellers of farmer family (Table 3).

**Electricity**

Almost all the houses under this study (96.9%) has electricity connection except only 8 houses (3.1%) in North Tripura District (Table 3). As per Census 2011 households having electricity as source of lighting in the state as a whole is registered to be only 68.4% (Government of Tripura 2013). This indicates relatively better situation of the farming households in terms of having basic amenities like electricity connectivity.

**Drinking water**

41.0% of farmer households are found to be using piped drinking water either from their own plot or from the nearby common facility. The percentage of households using piped drinking water is 47.7% and 34.4% respectively in North and West Tripura Districts. Majority of farmers (65.6%) in West Tripura District are found to be dependent on hand pumps for their drinking water which is only 9.4% for North Tripura District and 37.5% for the state as a whole. No farmer household is found to be using well water in West Tripura District, whereas 38.3% of farmers in North Tripura District has to depend on well water for collection of their drinking water (Table 3).

75% households under the present study are found to have their own drinking water facility and the rest has to depend on their neighbours or common facilities provided by the local government (Table 3). This reflects the present status of drinking water facilities in the state in general, where, 73% households are having drinking water facility as per Census 2011 (Government of Tripura 2014). Majority of farmers (86.7%) are found to be using water filter for drinking water purification followed by straining water by cloth (2.7%) and boiling of water (2.0%). However, 8.6% farmer households reported to drink water without purification. This practice of drinking without purifying is found very common (16.4%) in North Tripura District whereas in West Tripura District only one farmer (0.8%) is found to have this habit (Table 3).

**Defecation**

Census, 2011 reports that 86% households in Tripura have their own toilet facility (Government of Tripura 2014) which is quite a good achievement for the state as far as the general status of the country is concerned. This status of defecation is also reflected in case of farmer households under the present study. Almost all the farmer households (96.9%) reported to have their own defecation facility either in the form of own flush toilet (43.4%) or own pit toilet (53.5%). District wise variation in the status is found to be almost negligible (Table 3).

## DISCUSSION

Demographic and socio-economic indicators of the fish farmer households indicate their miserable socio-economic condition which needs to be improved with utmost importance. Appropriate policy measures needs to be taken to achieve this target. Fish farmers should be equipped with modern scientific technologies and knowledge.

Basic minimum amenities like potable drinking water, sanitation etc. should be ensured for their families. Need based infrastructural and institutional support should be extended to enhance their income level in general and from fish culture in particular. This will attract new generations in scientific fish farming which is a need of the time for the fisheries sector to grow further and faster and to contribute towards overall economic development of the state.

**Table 3. Housing characteristics by category of respondents**

| Item | West Tripura District | | North Tripura District | | All Tripura | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Type of house | | | | | | |
| *Pucca* | 26 | 20.3 | 29 | 22.7 | 55 | 21.5 |
| Semi *pucca* | 27 | 21.1 | 34 | 26.6 | 61 | 23.8 |
| *Kachha* | 75 | 58.6 | 65 | 50.8 | 140 | 54.7 |
| Ownership of house | | | | | | |
| Own | 126 | 98.4 | 124 | 96.9 | 250 | 97.7 |
| Other's | 2 | 1.6 | 4 | 3.1 | 6 | 2.3 |
| Number of rooms | | | | | | |
| < 2 | 3 | 2.3 | 6 | 4.7 | 9 | 3.5 |
| 2-4 | 108 | 84.4 | 108 | 84.4 | 216 | 84.4 |
| > 4 | 17 | 13.3 | 14 | 10.9 | 31 | 12.1 |
| Person per room | | | | | | |
| < 3 | 95 | 74.2 | 92 | 71.9 | 187 | 73.0 |
| 3-4 | 30 | 23.4 | 35 | 27.3 | 65 | 25.4 |
| 5-6 | 3 | 2.3 | 1 | 0.8 | 4 | 1.6 |
| 7+ | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Separate kitchen | | | | | | |
| Yes | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| No | 128 | 100.0 | 128 | 100.0 | 256 | 100.0 |
| Source of lighting | | | | | | |
| Electricity | 128 | 100.0 | 120 | 93.8 | 248 | 96.9 |
| Kerosene/Gas/Oil | 0 | 0.0 | 8 | 6.3 | 8 | 3.1 |
| Others | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Source of drinking water | | | | | | |
| Piped (own/public) | 44 | 34.4 | 61 | 47.7 | 105 | 41.0 |
| Hand pump | 84 | 65.6 | 12 | 9.4 | 96 | 37.5 |
| Well water | 0 | 0.0 | 49 | 38.3 | 49 | 19.1 |
| Surface water | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Others | 0 | 0.0 | 6 | 4.7 | 6 | 2.3 |
| Location of source of water | | | | | | |
| Own dwelling | 85 | 66.4 | 65 | 50.8 | 150 | 58.6 |
| Own yard / plot | 22 | 17.2 | 19 | 14.8 | 41 | 16.0 |
| Elsewhere | 21 | 16.4 | 44 | 34.4 | 65 | 25.4 |
| Drinking water purification | | | | | | |
| Strains water by cloth | 4 | 3.1 | 3 | 2.3 | 7 | 2.7 |
| Uses alum | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Uses water filter | 123 | 96.1 | 99 | 77.3 | 222 | 86.7 |
| Boils water | 0 | 0.0 | 5 | 3.9 | 5 | 2.0 |
| Do not purify water | 1 | 0.8 | 21 | 16.4 | 22 | 8.6 |
| Sanitation facility | | | | | | |
| Own flush toilet | 68 | 53.1 | 43 | 33.6 | 111 | 43.4 |
| Shared flush toilet | 3 | 2.3 | 1 | 0.8 | 4 | 1.6 |
| Own pit toilet | 53 | 41.4 | 84 | 65.6 | 137 | 53.5 |
| Shared pit toilet | 4 | 3.1 | 0 | 0.0 | 4 | 1.6 |
| Others | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| No facility | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Total | 128 | 100.0 | 128 | 100.0 | 256 | 100.0 |

Source : Field Survey, 2014-15

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