



A Socio-Economic Analysis of Duck Farmers of Tripura

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Abstract

The present study was conducted to assess the socioeconomic status of duck farmers in Tripura. A stratified random sampling technique was used to identify 100 respondents for the collection of data through a personal interview by using a pretested questionnaire. The result obtained from the study revealed that 70.00 percent of farmers belonged to the middle age group (35 to 50 years). Most of the farmers were married (94.00%). Majority of the farmers were found to be educated up to primary school (34.00%). Almost all the families were headed by a male (99.00%). The average number of ducks were 9.90/household. No farmers found to be rearing ducks only as a sole occupation. Highest proportion of farmers were having farming experience of 9-18 years in duck rearing. Almost in all families, a male member of the family was the owner of the assets and resources. Most of the farmers were having medium (50.00%) and low level (39.00%) of knowledge on duck farming. None of the farmers received any type of formal training on duck farming. There is a great potential to increase the socioeconomic status of the farmers by increasing the duck production in Tripura by adopting improved managerial practices.

Keywords: Duck Farming, Tripura, Duck Farmer, Socio Economic Status

Introduction

Duck farming is very well known and is a very lucrative livestock industry all over the world, due to its egg (production and demand for) meat. The growth rate of duck is also higher than chicken (Rajput *et al.*, 2014). They require a very simple type of housing. Ducks are hardy and can easily be adapted to various agroclimatic conditions and they are likewise moderately resistant to diseases. Like chicken, duck provides hard-cash income and creates employment opportunities for the rural farmers and landless peoples (Khan *et al.*, 1999). The leading states in duck population are West Bengal, Assam, Kerala, Bihar, Andhra Pradesh, Orissa and Tamil Nadu. The duck population increased from 23.53 million in 2012 to 33.51 million in 2019 with an increase of about 42.40% (Livestock census, 2019). Duck comprises of about 3.93% (33.51 million) of the total poultry population (851.81 million), occupying second place next to chicken in the production of table eggs in the country (Livestock Census, 2019). In the North East region, Tripura possesses 3rd position in the duck population (8.54 lakh) with 1st position Assam and 2nd Manipur (Livestock census, 2019). The per capita availability of eggs reached to 70 eggs/annum in Tripura whereas 79 eggs/annum in India in the year 2018-19 (Basic Animal Husbandry & Fisheries Statistics, 2019). The total egg production of Tripura is 275.95 million whereas in India it is 103317.63 million in the year 2018-19 (Basic Animal Husbandry & Fisheries Statistics, 2019). Duck production in Tripura can provide self-employment for landless and small farmers. There is an excellent potentiality of improving the productivity of ducks in Tripura. Ducks can contribute efficiently in increasing egg and meat production in this North-eastern region. Therefore, the present research work was undertaken to study the social status of traditional duck farmers in the Sepahijala and South districts of Tripura.

Materials and Methods

Two districts namely Sepahijala and South Tripura were selected purposively due to comparatively highest number of ducks in these areas. Another reason was- that no study of this kind was conducted previously in this region. Two development blocks were selected randomly from each district and five villages from each block so a total of 20 villages were selected. From each village 5 households rearing at least 5 ducks for last one year were selected randomly and the total numbers of respondents for the study were 100, i.e. fifty (50) respondents from each district. Information on respondent's age, gender, marital status, family type, family size, education, family labour, head of family, livestock holding, occupation, income, expenditure, years of experience, social participation, land holdings, access to different resources and services, ownership of assets and resources, media exposure and frequency of use, extension contact, training on duck farming and knowledge level were collected by personal interview method using a standard pretested schedule especially designed for the purpose.

Results and Discussion

Socio-Personal Status of the Duck Farmers

Farming seemed to be practiced mostly by middle-aged people as the study revealed that majority (70.00%) of the farmers belonged to the middle age group (Table 1). This might be due to the fact that opportunities in getting meaningful employment either in Government and private sectors were minimal at this age. The young farmers were very less, may be due to that the younger professionals, who were believed to be more energetic were not interested in animal husbandry as an occupation. The reasons might be a lack of willingness to take risks in terms of animal husbandry and lack of incentives in comparison to other enterprises. A similar finding was observed by Rahman *et al.* (2009) that the majority of farmers involved in duck rearing belonged to the middle age (36-50 years) group in Bangladesh. The result was also similar with Pervin *et al.* (2013), Alam *et al.* (2012), Hoque and Itohara (2008), Islam *et al.* (2016) and Hoque *et al.* (2010) who reported that majority of respondents involved in duck farming activities were of the middle-aged group. The present finding was contradicted by Jha *et al.* (2015) as they found that most of the duck farmers (52.00%) were below 35 years of age.

Perusal of the Table 1 revealed that 57.00 percent of the respondents were female and 43.00 percent were male respondents. As duck farming is not labour intensive and most of the women involved in household activities rather than outside work and, they might have been enthusiastic for the enterprise that provides regular income to meet the household's expenses. Nath *et al.* (2012) and Deka *et al.* (2013) reported similar findings that the number of females participated in terms of rural poultry production were always higher than males. Most of the respondents were married (94.00%) who were engaged in duck farming activities as duck farming was mainly practiced by the middle

age group of farmers as evident from the Table 1 whereas Alam *et al.* (2012) reported only 68.00 percent duck farmers were married.

Table 1: Socio-personal records of duck farmers

Parameter	Categories	Frequency & Percentage (n=100)	Mean ± SD
Farmers Age	Young (Below 35 years)	15	41.08±8.70
	Middle (Between 35 to 50 years)	70	
	Old (Above 50 years)	15	
Gender	Male	43	
	Female	57	
Marital Status	Married	94	
	Single	5	
	Widowed	1	
Family Size	Small (<4)	9	5.57±2.24
	Medium (Between 4 to 7)	75	
	Large (>7)	16	
Family Type	Nuclear family	28	
	Extended nuclear family	42	
	Joint family	30	
Educational status	Illiterate	11	
	Functionally literate	1	
	Primary school	34	
	Middle School	24	
	Secondary school	26	
	Higher secondary	4	
Farming Experience	Short (Below 9)	39	11.14±5.97
	Medium (9-18)	50	
	Long (Above 18)	11	
Head of family	Male	99	
	Female	1	
Knowledge level	Low (Below 5)	39	5.27±1.42
	Medium (5-6)	50	
	High (Above 6)	11	
Ownership of assets and resources	Dwelling/ land	Men: 99.00	
		Women: 1.00	
	Farm/animals	Men: 99.00	
		Women: 1.00	
	Household	Men: 99.00	
		Women: 1.00	
Access to resources and services	Sufficient water for the household and farming	100	
	Demand (market) for duck and duck product in their area	98	
	Accessibility to bank whenever necessary	98	
	Accessibility of Veterinary Hospital/ Aid Centre/AI Centre.	93	
	Well connectivity of the farm/home with road	92	
	Public water supply facility	90	
	Livestock insurance agency known in their area	21	
	Veterinary extension officer known	16	
	Accessibility of Extension Officer for different service	9	

Most of the farmers (75.00%) having the medium family size with an average family size of 5.57. Similar observation was reported by Patr *et al.* (2014) who stated that average family size was 5 to 8 in tribal household of Nagaland. The average family size i.e. 5.57 was larger than that of national level i.e. 4.80 (Census of India, 2011) and in accordance with the finding of Alam *et al.* (2012). It was also found that majority of the respondents (42.00%)

belonged to extended nuclear family, followed by joint family i.e. 30.00 percentage and nuclear family (28.00%). Having joint or nuclear families of course depended on the tradition and culture of the societies on one hand and the growing necessities on the other hand.

It could be observed from the Table 1 that most of the respondent's education level was upto primary school (34.00%) level. The reason behind the present findings was might be due to the fact that highly educated peoples were less interested in household activities or livestock activities and found more opportunities outside for better income. The result was in line with the findings of Islam *et al.* (2016) who stated that majority of the farmers (36.00%) studied upto primary school education in Mymensingh district of Bangladesh. The finding was also supported by Khanum and Mahadi (2015), Pervin *et al.* (2013), Hoque *et al.* (2010) and Rahman *et al.* (2009) who reported that majority of the respondents had their education level upto primary school. The finding was not in agreement with the finding of Alam *et al.* (2012) who reported that majority of the farmers studied upto secondary level. Table 1 also revealed that majority (50.00%) of the farmers were having a medium farming experience, i.e. 9 to 18 years with an average of 11.14 years. The present finding was in contrast with the finding of Tochwang and Rewani (2013) that nearly half of the respondents had a farming experience of above 10 years. The reason behind the present finding was that the respondents might be engaged in farming activities after completion of their marriage to generate additional income for children education, daily petty requirements etc. It was also found that majority (99.00%) of the household was male-headed and only 1.00% was female-headed households. It may be a direct result of the male overwhelmed society and legacy of family goes to the male individual from the family. The result was not in line with the finding of Aredo (1998) who reported that in Sudan mostly female headed household were noticed.

From the Table 1, it could be revealed that majority of the respondents were having medium (50.00%) and low (39.00%) level of knowledge on duck farming practices whereas Alam *et al.* (2012) found in their studies that 51.00 percent had low level of knowledge about duck farming and Zahan *et al.* (2016) also found that majority (80.00%) farmers were having poor level of knowledge. The reason might be due to the fact that the respondents had learned many aspects of duck farming through their experience from friends, TV shows, animal fairs, exhibitions and veterinary officers though they did not undergo any formal training. The control and access on resources remains with the male counterparts in all the assets (99.00%). The reason was due to the fact that in society all the assets were in the name of the husband and if only husband dies it should be in the name of the wife or the eldest son of the family. Societal traditions discourage women from owning or renting land, as this is seen as a male domain. While women legally have the right to own land, social norms frequently dictate otherwise land is commonly divided among male family members, leaving women to rely on either their husband's or father's land for survival. It was also seen that access to sufficient water for the household and farming, public water supply, bank, veterinary services and road connectivity was sufficient in that area. A higher demand was reported for the duck and duck products in the study area. There was least access to Extension officers (9.00%) for their service in the area reported.

Economic Status of the Duck Farmers

The present study showed that most of the respondents had an income above state per-capita expenditure (Rs. 71,652), 38.00 percent respondents were having an income between the poverty line and the state per capita expenditure (Rs. 48,961-71,652) and only 1.00 percent respondents were with low income i.e. below Rs. 48,960 (Table 2). A similar finding was recorded by Lalnunpuii (2012) that all the pig farmers of Aizawl were from Above Poverty Line (APL) but contradicting with the finding of Kumar *et al.* (2004) who observed that 67.00 percent of the farmers were from low income group earning less than Rs.15,000. The mean household income value was found to be Rs. 75,904 annually. The average annual income of the farmers from duck farming was Rs. 2692/household/year. Similar finding was reported by Jha *et al.* (2017) that the income obtained from the duck farming was 2663.30/household/year in Jharkhand (India). High income was observed in the study areas as majority of the respondents were found to engage in other activities like petty business, private taxi driving, agriculture labour, daily labour etc.

From Table 2 it was found that majority (42.00%) of the respondents were engaged in duck farming and agricultural activities as their occupation and no respondents were found to be rearing ducks as a sole occupation. Jha *et al.* (2015) reported most of the respondent farmers (50.00%) had agriculture as their main occupation which is in line with the present finding. This might be due to the fact that only duck rearing was not sufficient for the sustenance of family living and needed other activities which seem to be more remunerative. Most of the households were

having small size family labour *i.e.* below 3 and the mean family labour was 2.56. This may be due to the fact that in every household only husband and wife and the eldest child were engaged in different type of activities. The average operational land holding was 0.27 ha and majority (82.00%) of the farmers belonged to marginal land holders whereas Lalngaihawmi (2016) reported that the farmers had small land holding. Similarly, Kumar *et al.* (2004) also found that majority (64.80%) of the farmers of North Eastern regions were small holders. The reason behind this might be the duck farming was mainly practiced by the poorer section of the society who did not have the land for agricultural purpose.

Table 2: Economic variables of duck farmers of Tripura

Parameter	Categories	Frequency & Percentage (n=100)	Mean±SD
Household income	Low (below 48960)	1	Rs. 75904±12581
	Medium (48961-71652)	38	
	High (Above 71653)	61	
Family occupation	Duck farming + Agricultural Laborer	42	
	Duck farming + Business	25	
	Duck farming + Others	33	
Family labour	Small (Below 3)	87	2.56±0.90
	Medium (3-4)	10	
	Large (Above 4)	3	
Operational land holding	Marginal (Below 1 ha)	82	0.27±0.52
	Small (1-2 ha)	15	
	Semi-medium (2-4 ha)	3	
Expenditure categories	Purchased food items (crops product, sugar, salt, coffee etc.) in Rs.		51950.00±7671.44
	Non food stuffs e.g. Clothing (in Rs.)		3490.00±1272.28
	Medical/Health Care		1978.00±777.93
	Any other (in Rs.)		1654.50±1152.23
	Social obligations (in Rs.)		1409.50±685.66
	Marketing cost and Transport cost (in Rs.)		773.00±346.95
	Veterinary Services (in Rs.)		698.00±344.94
	Purchase of animals (in Rs.)		629.00±323.90
	Household utensils (in Rs.)		616.50.00±205.36
	Total Expenditure (in Rs.)		63198.50±8646.02

Perusal of Table 2 revealed that respondents from selected districts have the highest expenditure on purchase of food items with an average of Rs. 51,950.00/year/households. Expenditure for purchasing of household utensil ranked lowest with an average of Rs. 616.50 annually. Total average expenditure was Rs. 63,198.50 annually/households. The present findings were similar with the findings of Lalchhannhimi, (2017) that majority of the respondent's expenditure was highest on purchase of food items. The household expenditure varies from one household to the other based on their economic status, household composition, food habits and number of dependent household members. The expenditure was highest on purchase of food items as food is one of the basic needs of human and the price of different items in the market was increasing in the present day.

It could be observed from the Table 3 that all the households were keeping the female ducks and 95.00 percent households were keeping adult male duck. Only 3.00 percent respondents were keeping both young male and female ducks. Households who were keeping other poultry birds, cattle, goat and pig were 74%, 71%, 7% and 10%, respectively. The average number of ducks, other poultry birds, cattle, goats and pigs were 9.90, 5.57, 1.55, 0.26 and 0.15 per cent, respectively. The finding was in line with the findings of Halder *et al.* (2007) that majority of the respondents were having 6-10 ducks. This may be because most of the farmers were rearing the ducks under backyard farming with locally available resources (kitchen waste, leftover food) and also for subsidiary occupation by the female members of the family.

Table 3: Livestock holdings of the respondents

Species	No. of Household with Livestock (n=100)					No. of Livestock	
	Total Household	Adult male	Adult female	Young male	Young female	Total	Mean \pm SD
Duck	100	95	100	3	3	990	9.90 \pm 3.89
Pig	10	5	7	1	1	15	0.15 \pm 0.50
Poultry	74	42	73	15	15	557	5.57 \pm 6.36
Cattle	71	6	65	4	28	155	1.55 \pm 1.42
Goat	7	2	7	2	4	26	0.26 \pm 1.09

Status of Communication Level of the Farmers

From the Table 4 it was found that majority of the respondents (44.00%) had medium level of extension contacts. The result behind the medium to higher level of extension contact was due to the fact that rural people almost every day contact with their friends/neighbours regarding their problems. They also contacted with the veterinary officers and veterinary field assistant who were also serving as extension workers who were playing important role as they promote the adoption of new livestock technologies and rendered treatment to the ailing livestock. The study also revealed that none of the farmers received any type of formal training on duck farming (Table 4). Jha *et al.* (2015) reported that majority (73.00%) of the duck farmers had no training on duck farming. As duck farming was not organized one, agency/organization responsible for development of livestock sector were not giving much importance for imparting training on duck farming. This might be due to the fact that the concerned agencies were giving less importance to the duck farming as compared to other livestock and poultry sector. Only 23.00 percent respondents were members of SHGs and 77.00 percent were not having membership of any organization whereas Lalngaihawmi (2016) revealed in her study that 69.00 percent of the respondents were members of one or more organizations. It might be due to their involvement in farming and household activities or may be due to cultural/social norms and lack of awareness about the advantage of being a member of any social organization.

Table 4: Communication variables

Parameter	Categories	Frequency & Percentage (n=100)	Mean \pm SD
Extension contact	Low (Below 7)	23	8.47 \pm 2.01
	Medium (Between 7 to 9)	44	
	High (Above 9)	33	
Training received	Yes	0	
	No	100	
Social participation	No Membership	77	
	SHGs	23	
Media exposure	Newspaper	42	
	Television	90	
	Telephone/ Mobile	100	
	Others (Eg: Animal fair/ Exhibition etc.)	100	
Frequency of use of different media	Low (Below 9)	15	9.87 \pm 2.312
	Medium (Between 9 to 11)	56	
	High (Above 12)	29	

The exposure and frequency of use of different information media namely newspaper, television, telephone/mobile and others (animal fair/exhibition etc.) by duck farmers are shown in the above Table 4. All of the respondents had access to telephone/mobile and other information media such as animal fair/exhibition etc., for getting information followed by 90.00 percent from television and 42.00 percent from newspaper. All the respondents were using newspaper, telephone/mobile and other media such as animal fair/exhibition for the purpose of both agriculture /dairy and non-agriculture activities. Televisions were mostly used for non-agriculture purpose (85.00%). Majority used information media with medium frequency (56.00%). Lalngaihawmi (2016) in her study observed that the most frequent used media was Television followed by Mobile phone in Mizoram. Taj *et al.* (2009) found in their

study that mass media (TV and Radio) were the major and most frequent used information sources. This might be because mobile phone is replacing the other useful media such as TV, Newspaper etc. and people were more interested in having mobile phone for instant and useful information.

Conclusion

From the study it can be concluded that most of the duck farming activities were carried out by middle aged group women who belong to marginal type of farmers. The introduction of egg/meat type duck breeds enhance the production and can change the economic status of the farmers in the coming years. As there is lack of sufficient knowledge about scientific duck farming a training need analysis should be done to know the future training programme to be organized for the duck farmers to improve the duck production in the state.

Conflict of Interests

There is no conflict of interest.

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