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Socio-Economic Profile and Management Practices of Tribal Pig Farmers in West Bengal

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ABSTRACT

The present study was conducted in Nadia district of West Bengal during January, 2010 to December, 2012 with two specific objectives, viz., (i) to study the socio-economic profile of the Tribal pig farmers and (ii) to study the housing and feeding systems followed by the Tribal pig farmers for keeping pigs. Women members of farmers' family played a major role (61.33%) in the rearing of pigs. Pig farmers under study were illiterate (66.66%); out of which 22.66% were male and 44% were female. Pig farming is much popular amongst the landless, small marginal farmers (49.33%), followed by the agricultural labourers (33.33%), whereas, only 12% of small business holders and 5.33% of service men are involved in pig rearing. Results indicated that 52% farmers housed their pigs in kachcha house, 22.66% in pucca and 25.33% in partially pucca house. From socio-economic profile study, it can be said that pig farming is still an occupation of poor ST community.

KEYWORDS Socio-economic profile, Tribal pig farmers, Housing and feeding systems.

INTRODUCTION

Pigs are the most prolific among domestic animals, quick growers, use cereal by-products efficiently and give higher dressing percentage at younger ages. There is considerable scope for pig development as a profitable enterprise in rural areas. In general poor people belonging to backward castes maintain them. Due to rearing under scavenging system the non-descript deshi pigs grow poorly, have low reproduction rates and are generally a source of health hazards (Sastry and Thomas, 2005). Pan et al. (2005) reported that the Ghoongroo breed of pig with distinctive productive and reproductive characteristics has been identified in the eastern Sub-Himalayan region of West Bengal state, India and adjoining Nepal. The breed is known as Ghoongroo (meaning anklet in the local language). The breed is most prevalent within 88ºE to 90ºE longitudes and 26.3ºN to27.3ºN latitudes. Two distinct climates viz., cold moist and hot humid are observed during the year. Farmers manage the animals both under stall-feeding and stall-feeding-cum-grazing systems. Simple housing principally made up of bamboo and jute sticks used with an emphasis on giving protection from the rain. Keeping in view of its importance of poor people mainly Scheduled Tribes (ST) community a "Front line demonstration on Ghoongroo pigs" was proposed with two specific objectives to viz., (i) to study the socio-economic profile of the Tribal pig farmers and (ii) to study the housing and feeding systems followed by the Tribal pig farmers for keeping pigs.

MATERIALS AND METHODS

The present work was done in Nadia district in the state of West Bengal during January, 2010 to December, 2012. The Nadia district is selected purposively. Nadia district lies between 22°52`30" and 24°05`40" parallels of North latitudes and 22°08`10" and 88°48`15" meridians of East Longitudes. It is bounded on the North and North-West by the district of Murshidabad. On the North-East and East it is bounded by the districts of Rajshahi and Kushthia of Bangladesh. In the South and South-East, the district is bounded by the district of North 24 Parganas. Considering the need for availability of data and accessibility of the area, five villages viz. Mollabelia, Nischintapur, Basantapur, Brahmapur and Panpur of the Nadia district of West Bengal are selected purposively for the present study. Seventy five farmer families from five villages, of which fifteen families belonged to each village belonging to Scheduled Tribes (ST) community and already accustomed to pigs rearing, were randomly selected. Seventy five male Ghoongroo pigs, aged 3 months and weighed on average 30 kg, were procured from West Bengal University of Animal and Fishery Sciences, Mohanpur Campus, Nadia, West Bengal, and one such pig was handed over to each of the farmer families. The Ghoongroo pigs were maintained under the scavenging system along with other non-descript local pigs. A pilot study has been carried out, and accordingly a structured interview schedule has been constructed. The data has been collected through face-to-face interview and by direct observation method. Data pertaining to farmers' socio-economic parameters viz. sex, education, occupation and annual income of farmers were recorded. Information on housing and feeding systems of goat rearing like housing duration, housing location, type of houses, type of floor, roofing pattern, feeding and grazing pattern were recorded. Data were analyzed following the standard statistical methods (Snedecor and Cochran, 1967).

RESULTS AND DISCUSSION

Socio-economic profile of pig farmers

The socio-economic profile of the pig farmers in terms of sex, education and income is presented in Table 1.

Table 1: Socio-economic profile of Tribal pig farmers in selected villages of Nadia district of West Bengal

Variables	Category	Total number	Percentage (%)
Sex of farmers	Men	29	38.66
	Women	46	61.33
Education of farmers	Illiterate male	17	22.66
	Primary standard male	9	12.00
	Secondary standard male	3	4.00
	Illiterate female	33	44.00
	Primary standard female	7	9.33
	Secondary standard female	6	8.00
Occupation of farmers	Landless, small and marginal farmers	37	49.33
	Agricultural labourers	25	33.33
	Small business holders	9	12.00
	Service men	4	5.33
Annual income	Low income group (within Rs. 15000.00)	45	60.00
	Medium income group (Rs. 15000.00-25000.00)	21	28.00
	High income group (Above Rs. 25000.00)	9	12.00

Sex
Women members of farmers' family played a major role (61.33%) in the rearing of pigs. However, the male members of the family were also involved (38.66%) in rearing of the animals (Table 1). Almost entire activities, so far as washing and cleaning of pig sheds and feeding of pigs, were being performed by the women. Male members were used to take decision in selling or purchasing of pigs. Breeding of the sows was mostly arranged by male members, while parturition was attended by the female members. Borgohain et al. (2011) reported that the time spent pattern of the tribal women in various animal husbandry operations in descending order, were preparing feed for animals (29.33 minutes), providing water to the animals (21.24 minutes), cleaning animal shed (20.42 minutes), grazing animals (19.28 minutes), milking (18.06 minutes), cutting and bringing fodder (16.39 minutes) and also observed that most of the animal husbandry operations were female dominated as compared to their male partners in two districts of Assam namely Kamrup and Lakhimpur.

Educational status
Pig farmers under study were illiterate (66.66%); out of which 22.66% were male and 44% were female (Table 1). Payeng et al. (2013) found that most of the respondents of organized and unorganized farmers were married and belonged to Schedule tribe (ST) category and also observed that 37.50% of the respondents of organized farmers had education level up to higher secondary and 52.50% of unorganized farmers' education was up to primary level in Kamrup district of Assam.

Occupation
Pig farming is much popular amongst the landless, small marginal farmers (49.33%), followed by the agricultural labourers (33.33%), whereas, only 12% of small business holders and 5.33% of service men are involved in pig rearing (Table 1). Payeng et al. (2013) found that majority of the respondents of both organized and unorganized farmers managed their pig farming through family labour.

Income of farmers' family
Annual income of most of the pig farmers (60%) was within Rs. 15000, and 28% farmers earned medium annual income (Rs. 15000-25000), and only 12% farmers earned more than Rs. 25000 per year (Table 1). This result was supported by Nath et al. (2013) in local and crossbred pigs in Sikkim Himalayan region. Tochhawng and Rewani (2013) reported that that the majority of the pig farmers had piggery as secondary occupation (86.67%) with small herd size of 1-3 pigs (47.78%) and had low annual income of less than Rs 31,000 (53.33%). Payeng et al. (2013) reported that the gross annual income and income from piggery of organized farmers is higher than unorganized farmers and economic gain in organized farming was more as compare to unorganized pig farmers.

Pig housing and feeding systems
Pig housing and feeding systems followed by the pig farmers in the selected villages of Nadia district is presented in Table 2.

Table 2: Pig housing and feeding systems followed by the Tribal pig farmers in selected villages of Nadia district of West Bengal

Variables	Category	Total number of families rearing pigs	Percentage (%)
Housing duration	Night only	41	54.66
	Both day and night	13	17.33
	No housing	21	28.00
Housing location	With other animal	27	36.00
	With human	7	9.33
	Separately	41	54.66
Type of houses	Kachcha	39	52.00
	Pucca	17	22.66
	Partially *pucca*	19	25.33
Type of floor	Earthen floor	43	57.33
	Brick finished	17	22.66
	Cement floor	15	20.00
Roofing pattern	Covered	19	25.33
	Half covered	47	62.66
	Open	9	12.00
Feeding pattern	Tethering		
	Adoption of tethering grazing	49	65.33
	Grazing without tethering	26	34.66
	Source of drinking water		
	Pond water	25	52.00
	Well water	11	33.33
	Tube well water	39	14.66

Pig housing system
Survey indicated that majority of farmers kept their pigs confined during night only (54.66%), some farmers kept their pigs confined during both day and night (17.33%) and no housing was provided to pigs in 28% cases. Farmers housed their pigs with other animals (36%) and with themselves in their dwelling places (9.33%); 54.66% farmers kept their pigs separately. Results indicated that 52% farmers housed their pigs in kachcha house, 22.66% in pucca and 25.33% in partially pucca house. Floor was found to be earthen floor (57.33%), brick finished (22.66%) and cemented floor (20%). Roofing pattern was found to be covered (25.33%), half covered (62.66%) and open (12%) (Table 2). Pan et al. (2005) reported that the housing systems are very simple and are designed only to provide feeding and watering facilities to the animals, minimum fencing and protection from rain, major housing materials are bamboo and jute-stick which are freely available locally, and earthen or cement-cast mangers and earthen floors are adequate for animals being raised under a stall-feeding- cum-grazing system but are not hygienic for animals on stall-feeding only.

Pig feeding system
Results indicated that about 65.33% of pig farmers used to rear pigs by tethering. This simple device has made possible of keeping pigs out-of-doors and at the same time on a limited area. Grazing without tethering was found to be 34.66%. Pond water as the source of water for pigs was found to be very common (52%) and in only 33.33% cases farmers used well water and 14.66% tube well water (Table 2). Pan *et al.* (2005) reported that the farmers managed their Ghoongroo pigs in both under stall-feeding and stall-feeding-cum-grazing systems and also tethered grazing is the usual practice. Johari *et al.* (2014) reported that 100%, 86% and 93% of the pig farmers provided clean water for the purpose of drinking in Dima Hasao district in Assam.

CONCLUSION
From the present study, the following conclusions may be drawn:
1. From socio-economic profile study, it can be said that pig farming is still an occupation of poor ST community. For any pig improvement programme, female members should be engaged in training programme. Training should be offered in such a way that illiterate people can follow this.

2. From housing system study, it can be said that awareness programme should be strengthened in light of providing housing to the pigs as 28.00% family provided no housing for their pigs, which is essential for scientific pig production management; pig farming away from human dwelling as they may transmit zoonotic diseases; and improving the condition of the pig houses including floor and roof.

3. From feeding system study, it can be said that due to warm and humid noon, it is better to reschedule the grazing pattern – morning and after-noon. As a sizeable number of farmers provide pond water for drinking purpose, the quality of pond water should be taken care of to reduce the water borne diseases.

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