



Constraints Analysis of Small Scale Pig Farming in Dhemaji District of Assam

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ABSTRACT

A study on the major constraints faced by the small scale pig farmers was conducted in 5 development blocks of Dhemaji district of Assam. A total of 125 farmer respondents comprising 25 farmers from each block were randomly selected based on their experience on pig farming. A schedule enlisting different constraints under five major heads *viz.* breeding, feeding, healthcare, marketing and miscellaneous including management were prepared. The low productivity of indigenous pig was the major breeding constraint with highest mean score (73.9) followed by non availability of improved pig breed (70.4). The lack of knowledge of feeding balanced ration was the most important constraints with a mean score of 76.1 and ranked first among the different feeding constraints. Mortality of pigs due to unidentified contagious diseases was the most important healthcare constraint faced by the small scale pig farmers of the district with a mean score of 70.0. Non existence of organized market facility was marked as the major constraint (mean score 76.0) in marketing of pigs. Shortage of operating capital and inadequate access to credit institution were identified as the highest constraints among miscellaneous constraints studied need to be address to increase the income of farm family.

Key Words: Breeding, Constraint, Feeding, Healthcare, Marketing, Pig farming, Productivity.

INTRODUCTION

Pig rearing is one of the major animal husbandry activities with a great potential to cater the income of the rural households of Assam in general and of Dhemaji district in particular. The report of the 19th Livestock Census revealed that with 1.636 million pig population Assam ranked 1st position among the states of India and contributing about 16 per cent of country's total pig population (Anon, 2014). The Dhemaji district ranked 4th among the districts of Assam in terms of pig population and it is the resident of different tribal communities *viz.* Mising, Sonowal Kachri, Deuri, Boro, Hazong, Rabha, Lalung, Adi and they have been rearing pig in backyard system traditionally. Most of the people of the district relish pork and other pork products during almost all of their festive occasions. Dhemaji district fulfils the part of the demand of piglets and mature pigs

in the neighboring district of Assam and Arunachal Pradesh. In spite of these advantages and great scope, the pig farming has not come up to fulfill the increasing demand due to some constraints faced by the pig farmers of the district. Thakur *et al* (2016) concluded that capacity building of farmers was an effective tool and therefore, trainings should be organized at regular interval to sustain the enterprise. Considering these points, a study was carried out to analyze the major constraints of small scale pig farming in Dhemaji district.

MATERIALS AND METHODS

For the present study, 5 development blocks of Dhemaji district *viz.* Dhemaji, Bordalani, Machkhowa, Sissiborgaon and MSTD Jonai were considered. The study was conducted during July, 2015 to June, 2016. A total of 125 farmers

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comprising 25 numbers from each block were randomly selected. The minimum 3 yr experience in pig farming with 3-4 numbers of pigs was the basic criteria in selection of farmers as respondent. A schedule was prepared enlisting different probable constraints in 5 major areas *viz*, breeding, feeding, healthcare, marketing and miscellaneous including cost, social acceptance etc. The respondents were asked to rank the constraints from 1 to 8 under each head according to the severity of the constraints faced by them. Rank 1 denoted the most severe while rank 8 denoted the least severe of particular constraint. The collected data were tabulated and analyzed statistically by using Garrett's Ranking Technique. The assigned ranks given by the participant farmers were counted into per cent position value by using the following formula given by Garrett and Woodworth (1969),

$$\text{Per cent position} = \frac{100(\text{Rij}-0.50)}{\text{Nj}}$$

Where, Rij= Rank given by the i^{th} factor by the j^{th} individual

Nj= Number of factor ranked by the j^{th} individual

The per cent position was then converted into scores by referring the table given by Garrett and Woodworth (1969). For each factor the scores of the individual respondents were added together and divided by the total number of respondents for whom scores were added. The mean scores were calculated by dividing the total score by the number

of respondents. Overall ranking was obtained by assigning ranks in the descending order of the mean score.

RESULTS AND DISCUSSIONS

Breeding constraints

The results of the breeding constraints faced by the farmers (Table 1) indicated that the highest mean score (73.91) was observed in case of low productivity of indigenous animals and was ranked 1st followed by non-availability of improved breeds (70.40), non-availability of improved pedigree boar for natural service (59.54), higher cost of natural service by improved boar (50.08), inability to rear improved boar for breeding (49.94), non-availability of AI service (39.13), lack of knowledge in detecting heat (30.72) and lack of knowledge about producing improved pig breed by crossbreeding (25.28). The major constraints of pig farmers in respect of breeding in the district were low productivity of indigenous pigs and non-availability of improved breeds, which might be due to poor germ plasms of the indigenous breeds and non existence of organized breeding farm at both government and private level. Rajkumar and Kavithaa (2014) observed that the non-availability of improved breeding buck was the major constraints faced by the farm women in goat farming in Erode district of Tamil Nadu. In case of dairy farming in Vidarbha region, Nagrale *et al* (2015) also reported that low productivity of animals was the prime constraints

Table 1. Breeding constraints in pig farming.

Sr. No.	Parameter	Garrett's mean score	Garrett's rank
1	Low productivity of indigenous animals	73.91	1 st
2	Non-availability of improved breeds	70.40	2 nd
3	Non-availability of improved pedigree boar for natural service	59.54	3 rd
4	Higher cost of natural service by improved boar	50.08	4 th
5	Inability to rear improved boar for breeding	49.94	5 th
6	Non-availability of AI service	39.13	6 th
7	Lack of knowledge in detecting heat	30.72	7 th
8	Lack of knowledge about producing improved pig breed by crossbreeding	25.28	8 th

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faced by dairy farmers of that area.

Feeding constraints

It was found that lack of knowledge on feeding balanced ration was the most important constraints with a mean Garrett's score of 76.10 and was ranked first (Table 2). However, Rajkumar and Kavithaa (2014) reported that lack of knowledge of feeding balanced ration was the third most important constraints perceived by the farm women in goat farming in Erode district of Tamil Nadu. Non-availability of balanced commercial pig feeds with a mean score 67.50 (2nd rank), higher cost of pig feeds (63.40), lack of knowledge of feeding mineral mixture (50.50), lack of knowledge of feeding green roughages (47.40), inadequate knowledge about the quality of concentrate feeds to be fed to various age group of animals (43.30), inadequate knowledge about feeding of traditional locally available feeds (33.10) and lack of knowledge about 'steaming up' operation (22.40) were some other important constraints faced by the pig farmers of Dhemaji district. The result of this study was supported by the findings of Tochwang and Rewant (2013), who reported that high cost of feed was one of the major constraints faced by the pig farmers in Aizawl district of Mizoram. Johari *et al* (2014) also revealed that high cost of computed feed was the major hindrance in pig rearing in Dima Hasao district of Assam.

Healthcare constraints

It was found that higher mortality of pigs due to unidentified contagious diseases was the most important constraint faced by the small scale pig farmers of the district with a mean score of 70.00 and was ranked first, inadequate veterinary services with a mean score of 63.50 was the second most important constraint followed by lack of knowledge about the important diseases of pigs (62.00), higher mortality of piglets before weaning (47.50), non-availability of vaccines against most harmful diseases of pigs (47.10), lack of knowledge about the bio-security in pig farm (37.90), inadequate knowledge about de-worming of pigs (29.20) and non-availability of important medicines (25.60). Therefore, the results of the study indicated that the pig farmers were required to be trained about health care management of pigs. Some other workers like Ashalatha and Prabhakar (2010) also reported that lack of knowledge of identifying infectious and contagious diseases, improper cleaning of pig shed, non-availability of timely veterinary facilities were some of the major constraints for adopting scientific pig farming. Singh *et al* (2016) also reported that distant location of veterinary hospitals from farmers' house in both KVK-adopted and non-adopted villages of Rewa district of Madhya Pradesh were one of the major constraints in pig rearing.

Table 2. Feeding constraints in pig farming.

Sr. No.	Parameter	Garrett's mean score	Garrett's rank
1	Lack of knowledge of feeding balanced ration	76.10	1 st
2	Non-availability of balanced commercial pig feeds	67.50	2 nd
3	Higher cost of pig feeds	63.40	3 rd
4	Lack of knowledge of feeding mineral mixture	50.50	4 th
5	Lack of knowledge of feeding green roughages	47.40	5 th
6	Inadequate knowledge about the quality of concentrate feeds to be fed to various age group of animals	43.30	6 th
7	Inadequate knowledge about feeding o traditional locally available feeds	33.10	7 th
8	Short of knowledge about 'steaming up' operation	22.40	8 th

Table 3. Health care constraints in pig farming.

Sr. No.	Parameter	Garrett's mean score	Garrett's rank
1	Higher mortality of pigs due to unidentified contagious diseases	70.00	1 st
2	Inadequate veterinary services	63.50	2 nd
3	Lack of knowledge about the important diseases of pigs	62.00	3 rd
4	Higher mortality of piglets before weaning	47.50	4 th
5	Non-availability of vaccines against most harmful diseases of pigs	47.10	5 th
6	Lack of knowledge about the bio-security in pig farm	37.90	6 th
7	Inadequate knowledge about de-worming of pigs	29.20	7 th
8	Non-availability of important medicines	25.60	8 th

Marketing constraints

It was observed that lack of organized marketing facility with the mean score of 76.00 was the most important marketing constraints faced by the pig farmers of the district and ranked first among the marketing factors. Islam *et al* (2016) and Islam and Nath (2015) also reported that lack of organized marketing facilities was the major marketing constraints faced by the small scale pig and poultry farmers respectively in Sivsagar district of Assam. Exploitation of farmers by middleman during marketing of pig, piglets *etc.* with a mean score of 68.62 was found to be the 2nd most important marketing factor faced by the pig farmers of the study area and was followed by unhygienic practices in slaughtering of pig (61.47), seasonal demand of pork and its products (53.49), social taboos (45.46), consumption of pork causes

diseases like measly pork *etc.* in human (38.24), unauthorized supply of pork and its products from neighboring states (30.92) and high cost of pork in comparison to other meat (24.80).

Miscellaneous constraints

Lack of operating capital and inadequate access to credit facility with a mean score of 100.40 topped the list of miscellaneous constraints among the pig farmers and ranked first. Kannan *et al* (2008) reported that lack of financial support was the main constraints in pig rearing as faced by the farmers in different climatic zones of Kerala. Islam *et al* (2016) also reported that lack of operating capital and inadequate access to credit facility is the major constraint faced by the pig farmers and ranked first in Sivsagar district of Assam. Higher cost of hired labour with a mean score of 66.90 became the 2nd most important constraints followed by social

Table 4. Marketing constraints in pig farming.

Sr. No.	Parameter	Garrett's mean score	Garrett's rank
1	Lack of organized marketing facility	76.00	1 st
2	Exploitation of farmers by middleman during marketing of pig, piglets <i>etc.</i>	68.62	2 nd
3	Unhygienic practices in slaughtering of pig	61.47	3 rd
4	Seasonal demand of pork and its products	53.49	4 th
5	Social taboos	45.46	5 th
6	Consumption of pork causes diseases like measly pork <i>etc.</i> in human	38.24	6 th
7	Unauthorized supply of pork and its products from neighboring states	30.92	7 th
8	High cost of pork in comparison to other meat	24.80	8 th

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Table 5. Miscellaneous constraints in pig farming.

Sr. No.	Parameter	Garrett's mean score	Garrett's rank
1	Lack of operating capital and inadequate access to credit facility	100.40	1 st
2	Higher cost of hired labour	66.90	2 nd
3	Social un-acceptance of pig farmers	62.21	3 rd
4	Traditional system of rearing	49.80	4 th
5	Disposal of piggery wastes	47.50	5 th
6	Transportation of live pigs	42.70	6 th
7	Weighing of live pigs at farmers level	23.60	7 th
8	Handling of live pigs for treatment, castration, weighing <i>etc.</i>	6.000	8 th

un-acceptance of pig farmers (62.21), traditional system of rearing (49.80), disposal of piggery wastes (47.50), transportation of live pigs (42.70), handling of live pigs for treatment, castration, weighing *etc.* (23.60) and weighing of live pigs at farmers level (6.00) *etc.*

CONCLUSION

The study revealed that the major constraints of small scale pig production in Dhemaji district were less awareness regarding scientific breeding, feeding, healthcare management *etc.* In addition, high cost of feeds or feed ingredients, non-availability of improved pig germ plasm, vaccine and medicines, un-organized marketing facilities and improper veterinary facilities in rural areas were some other serious constraints faced by the small pig farmers. To address these constraints of the small scale pig farmers of the district, the government or other organization should take initiatives for providing trainings and to create some minimum infrastructure facilities like breeding farms for making improved pigs available for the farmers. Vocational training programme on modern scientific pig farming with exposure visit should be taken extensively by concerned organizations. Production of raw materials and establishment of feed mills at Government Departmental level may be other some steps that can be initiated. Government and different financial institute like banks should come

forward for providing credit facilities with proper subsidies to develop entrepreneurs in piggery in a massive way.

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