



Purposes, Problems and Prospects of Piggery Development in West Jaintia Hills District of Meghalaya, India

F.R. Shadap¹, K.K. Saharia² and C. Debbarmen^{3*}

¹Department of A.H. & Veterinary, Govt. of Meghalaya, INDIA

²Department of Extension Education, College of Veterinary Science, AAU, Khanapara, Guwahati, INDIA

³Department of Extension Education, College of Veterinary Sciences & A.H., R.K. Nagar, Tripura, INDIA

*Corresponding author: C Debbarmen; Email: cdebbarmen@gmail.com

Received: 18 April, 2016

Accepted: 01 June, 2016

ABSTRACT

Pigs are prolific and fast growing livestock that are early converter of feed and food waste to valuable products and its rearing among the tribes of the North-East Region (NER) is prevailing since time immemorial. A study was taken up in the West Jaintia Hills District, Meghalaya to understand the purposes, problems and prospects of Piggery Development in the state of Meghalaya where pork is one of the best preferred meats for all sections of the population. A structured, pre-tested, reliable and valid interview schedule was used to interview 100 randomly selected pig farmers from two Development Blocks namely, Laskein and Thadlaskein blocks where pig farming was in higher concentration. Areas such as recycling waste food (100.00%), additional income (99.00%), mark of insurance (97.00%), profit in short time (96.00%) and primary income (50.00%) were identified as the purposes of pig rearing. Problems of concentrate feed (99.00%), medicines and vaccines (97.00%), input supply (95.00%), economic problem (94.00%), non-availability of feed and fodder (93.00%), transportation (93.00%), access to market (88.00%), absence of cooperatives/self-help groups (SHGs) (85.00%), market place (76.00%) and bank linkages (58.00%) were the major concerns. Making provisions of feed, water, treatment, linkages and marketing could be able to make the piggery sector prosper in the state. The results issued that interdisciplinary approaches could do well with farming, marketing, linkage, convergence and other related issues.

Keywords: Piggery, Meghalaya, problems, purposes, prospects

The eight sister states in North-East India (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura) resemble ethnically, economically, aesthetically, traditionally and culturally. Wright *et al.* (2010) observed in one of his studies that inspite of being one of the richest regions at the time of independence of the country, they are amongst the poorest in India today where a higher proportion of the population lives below the poverty line (35%) than the national average (26%).

Agriculture, in fact, is the major source of employment and livelihood for around 60% of the population in the NER against the national average of 52% (ILO, 2014). Livestock is an important component of mixed farming systems due to preference of meat by large majority of people in their diets on one hand and the difficult terrain

for large scale crop production on the other. There are few or no social taboos against taking any type of meat but the most preferred meat is pork, followed by beef, chicken and others (Feroze *et al.*, 2010).

As per Basic Animal Husbandry Statistics (2014), the total pig population in the country stands at 10.29 million, which accounts for 2.01% of the total livestock population. Livestock population in Meghalaya has increased substantially (7.41%) which is in contrast to the overall national population which has seen a decrease of 3.33% from 2007 to 2012. The increase in the livestock population in the state was largely due to a substantial 3.6% increase in the pig population during the same period. The region in general and the state of Meghalaya in particular draws upon supplies from outside the state regularly to meet its growing demand (Mandal, 2011).



It is pivotal to converge social concerns in the design of new farming systems in order to justify pig production as a tool to improve livelihoods. Long-term strategies for improvement schemes in livestock production systems should focus on the use of indigenous populations, in purebred or in crossbreeding systems with improved breeds (Stern, 2005). Keeping these ideas in mind, a study was taken up in the West Jaintia Hills District of Meghalaya to know the purposes, problems and prospects of piggery development.

MATERIALS AND METHODS

The research work was carried out in West Jaintia Hills District of state of Meghalaya in India. Two development blocks of the district, viz. Laskein block and Thadlaskein block, were selected for the study where pig population was in higher concentration. The respondents were divided into beneficiaries and non-beneficiaries of Government grant/aid/subsidy. From the list of beneficiaries, 5 (five) respondents each from 5 (five) clusters of villages from both blocks were selected randomly keeping in view the objectives of the study. Thus, 50 (fifty) respondents were selected randomly from these five selected clusters of villages on the basis of proportionate random sampling to constitute the total population of pig farmers. Further, 5 (five) respondents each from 5 (five) villages of the two blocks under study were selected making a total of 50 (fifty) non-beneficiary respondents as well. Thus, the total number of respondents for this study comprised of 50 (fifty) beneficiaries and 50 (fifty) non-beneficiaries, making the total sample size 100 (hundred). Data were collected through a pre-tested, dependable and valid objective interview schedule by personally meeting the respondents at their available convenient time. The data thus collected were scored, aggregated, organized and subjected to appropriate statistical analysis in order to arrive at a conclusion in respect of set objectives. Major statistical tools used for analyzing data were mean, standard deviation, frequency distribution, percentage, range, correlation, regression and t-test.

RESULTS AND DISCUSSION

Purposes of pig rearing

All livestock farmers certainly carry some idea about

the purpose for which they reared the animals. A glance at Table 1 revealed varied degree of agreement on the different purposes for which the respondents reared their pigs.

Table 1: Distribution of respondents on various degrees of purposes of rearing pigs by farmers

| Sl. No. | Settings | Pooled (N=100) | | |
|------------|---|----------------|------------|------------|
| | | Very much | Much | Somewhat |
| 1 | Consumption | 0 (0.00) | 8 (8.00) | 92 (92.00) |
| 2 | Primary income | 50 (50.00) | 43 (43.00) | 7 (7.00) |
| 3 | Fun of accumulation | 2 (2.00) | 12 (12.00) | 86 (86.00) |
| 4 | Social achievement | 3 (3.00) | 70 (70.00) | 27 (27.00) |
| 5 | Rituals and ceremonies | 5 (5.00) | 57 (57.00) | 38 (38.00) |
| 6 | For company | 2 (2.00) | 9 (9.00) | 89 (89.00) |
| 7 | As prestige symbol | 2 (2.00) | 11 (11.00) | 87 (87.00) |
| 8 | To recycle the waste food | 100 (100.00) | 0 (0.00) | 0 (0.00) |
| 9 | To have additional income | 99 (99.00) | 0 (0.00) | 1 (1.00) |
| 10 | As a mark of insurance | 97 (97.00) | 3 (3.00) | 0 (0.00) |
| 11 | To better utilize leisure time | 35 (35.00) | 32 (32.00) | 23 (23.00) |
| 12 | To engage the idle labour force in family | 19 (19.00) | 26 (26.00) | 65 (65.00) |
| 13 | To please others in family | 6 (6.00) | 23 (23.00) | 71 (71.00) |
| 14 | Mark of family tradition | 12 (12.00) | 20 (20.00) | 68 (0.00) |
| 15 | Easy access to loan, subsidy etc. | 5 (5.00) | 23 (23.00) | 72 (72.00) |
| 16 | Because of better profit in short time | 96 (96.00) | 4 (4.00) | 0 (0.00) |

Note: Figures in parentheses () indicate percentage.

Among the prominent ones, it could be observed that majority of the respondents reared pigs for purposes such as 'to recycle the waste food' (100.00%), 'to have additional income' (99.00%), 'as a mark of insurance' (97.00%), 'because of better profit in short time' (96.00%) and 'primary income' (50.00%). Subsequently, the table also indicated that the respondents had lower degree of

agreement on other listed purposes such as consumption, fun of accumulation, social achievement, rituals and ceremonies, for company, as prestige symbol, to better utilize leisure time, to engage the idle labour force in family, to please others in family, easy access to loan, subsidy, etc. received considerably lower degree of agreement. By and large, the main area received maximum attention in purpose of rearing pigs revolved around economic reasons which was expected among the poor farmers in otherwise economically poor villages. The above findings were in line with the findings of Petrus *et al.* (2011), Biradar *et al.* (2013) and Kambashi *et al.* (2014).

Problems

Table 2 indicated that 'high cost of concentrate feed' was the main problem encountered by the respondents and was ranked first (99.00%).

Table 2: Distribution of respondents on different problems of rearing pigs

| Sl. No. | Problems | Frequency (%) | Rank |
|---------|---|---------------|------|
| 1 | Non-availability of feed & fodder | 93.00 | V |
| 2 | High cost of concentrate feed | 99.00 | I |
| 3 | Shortage of water supply | 25.00 | XIII |
| 4 | Lack of quality breeds | 36.00 | XI |
| 5 | Inadequate input supply from government | 95.00 | III |
| 6 | Economic problem | 94.00 | IV |
| 7 | Absence of cooperatives/SHGs | 85.00 | VIII |
| 8 | Less training on scientific farming | 31.00 | XII |
| 9 | Lack of easy approach to veterinarians | 16.00 | XV |
| 10 | Limited medicines and vaccines | 97.00 | II |
| 11 | Lack of proper market place | 76.00 | IX |
| 12 | Lack of regular market except on weekly market days | 88.00 | VII |
| 13 | Exorbitant transportation charge | 93.00 | V |
| 14 | Profit is less | 22.00 | XIV |
| 15 | Social taboo | 3.00 | XVI |
| 16 | Difficulty in bank linkages | 58.00 | X |

This was closely followed by 'limited medicines and vaccines' (97.00%), 'inadequate input supply from

government' (95.00%), 'economic problem' (94.00%) at second, third and fourth respectively. 'Non-availability of feed and fodder' and 'exorbitant transportation charge' were both ranked at fifth (93.00% each). Similarly, 'lack of regular market except on weekly market days' (88.00%), 'absence of cooperatives/SHGs' (85.00%), 'lack of proper market place' (76.00%), 'difficulty in bank linkages' (58.00%) were ranked seventh, eighth, ninth and tenth respectively. 'Lack of quality breeds' (36.00%), 'less training on scientific farming' (31.00%), 'shortage of water supply' (25.00%), 'profit is less' (22.00%), and 'lack of easy approach to veterinarians' (16.00%) were ranked at eleventh, twelfth, thirteenth, fourteenth and fifteenth respectively. 'Social taboo' was ranked last (3.00%).

There could be various reasons that led to the respondents' perception towards the above mentioned and ranked problems. For instance, high cost of concentrate feed could be due to the absence of feed industries in the region; lack of pharmaceutical laboratories and industries in the whole North-eastern region could be the reason for limited supplies of medicines and vaccines; inadequate input supply from government could be explained due to very few government farms; procurement of inputs from neighbouring state of Assam could explain the high cost and transportation charges; and difficulty in bank linkages could be explained by high interest rates fixed by the banks. Such problems and constraints were commonly encountered by the respondents in their day to day farming activities and therefore proved to be critical factors that hindered the overall piggery development in the state of Meghalaya and the North-East region as a whole.

Other problems included were lack of quality breeds (36.00%), less training on scientific farming (31.00%), shortage of water supply (25.00%), less profit (22.00%), lack of easy approach to veterinarians (16.00%) which were ranked at eleventh, twelfth, thirteenth, fourteenth and fifteenth respectively. The last rank was found to be social taboo (3.00%). Picking up from the last, it could very well be said that there was a huge acceptability for pork in the state. The reason that pig farming in the state still continued to be in practice could be because of the generous attitude of farmers towards pigs. Otherwise with so many problems and bottlenecks around, it would have been next to impossible to run livestock farming especially of pigs. The above findings were also in accordance with those of Zadeng (2012), Bime *et al.* (2014) and Johari (2014).

**Table 3: Frequency distribution of respondents on areas needing intervention for improvement**

| Sl. No. | Settings | Pooled (N=100) | | | | |
|---------|---|----------------|---------------|-----------------|------------|--------------|
| | | Always | Almost always | Most frequently | Sometimes | Occasionally |
| 1 | More government subsidies | 39 (39.00) | 42 (42.00) | 14 (14.00) | 5 (5.00) | 0 (0.00) |
| 2 | Credit facilities | 7 (7.00) | 25 (25.00) | 28 (28.00) | 37 (37.00) | 3 (3.00) |
| 3 | Marketing system development | 12 (12.00) | 32 (32.00) | 38 (38.00) | 17 (17.00) | 1 (1.00) |
| 4 | Promoting exports | 9 (9.00) | 32 (32.00) | 35 (35.00) | 23 (23.00) | 1 (1.00) |
| 5 | Regular training and demonstration programs | 27 (27.00) | 32 (32.00) | 33 (33.00) | 8 (8.00) | 0 (0.00) |
| 6 | Disease control and free or subsidized veterinary practices | 68 (68.00) | 21 (21.00) | 9 (9.00) | 2 (2.00) | 0 (0.00) |
| 7 | Research and development | 12 (12.00) | 53 (53.00) | 22 (22.00) | 12 (12.00) | 1 (1.00) |
| 8 | Price fixation | 34 (34.00) | 47 (47.00) | 11 (11.00) | 8 (8.00) | 0 (0.00) |
| 9 | Feed availability | 86 (86.00) | 11 (11.00) | 2 (2.00) | 1 (1.00) | 0 (0.00) |
| 10 | Water availability | 83 (83.00) | 11 (11.00) | 2 (2.00) | 3 (3.00) | 1 (1.00) |
| 11 | Cultivable Land availability | 31 (31.00) | 56 (56.00) | 9 (9.00) | 4 (4.00) | 0 (0.00) |

Note: Figures in parentheses () indicate percentage.

Prospects

As per Table 3 it could be seen that among the listed areas needing intervention for improvement, majority of the respondents agreed that 'feed availability' (86.00%), 'water availability' (83.00%), and 'disease control and free or subsidized veterinary practices' (68.00%) were 'always' important for improvement of livestock production, management and marketing. Whereas other areas such as 'cultivable land availability' (56.00%), 'research and development' (53.00%), 'price fixation' (47.00%) and 'more government subsidies' (42.00%) were 'almost always' needed for intervention for improvement of livestock production, management and marketing. The findings revealed that the farmers had good realization of the need of intervention for making the piggery a prosperous sector in Meghalaya. This might have been due to their frequent exposure with the Government officials on one hand and the intensive manner of pig rearing on the other hand. Better understanding of the intervention realization by the pig-rearing farmers in commercial level was also reported by Payeng (2011) and Shyam (2011) in order to bring about better prospect in the sector.

CONCLUSION

The present study on purposes, problems and prospects of piggery development in West Jaintia Hills district of Meghalaya revealed that recycling waste food, having

additional income, mark of insurance, better profit in short time and primary income were identified as the major purposes of pig rearing. Problems of concentrate feed, medicines and vaccines, input supply, economic problem, non-availability of feed and fodder, lack of transportation facilities, accessibility to market, absence of cooperatives/ self-help groups (SHGs) and bank linkages were the major constraints perceived by the respondents. Making provisions of feed, water, treatment, linkages and marketing could facilitate the piggery sector to prosper in the region. The results issued that interdisciplinary approaches could do well with farming, marketing, linkage, convergence and other related issues. As the state has already shown better growth of livestock in the recent past, cooperated, coordinated and convergent efforts in terms of above mentioned areas would definitely yield much faster and positive results.

ACKNOWLEDGEMENTS

The authors are greatly indebted to the Director, Department of Animal Husbandry and Veterinary, Meghalaya, Shillong, for providing the opportunity to carry out the present study.

REFERENCES

Basic Animal Husbandry and Fisheries Statistics. 2014. Department of Animal Husbandry, Dairying and Fisheries.

- Ministry of Agriculture, Govt. India, Krishi Bhavan, New Delhi. <http://dahd.nic.in/sites/default/files/Final%20BAHS%202014%2011.03.2015%20%202.pdf>
- Bime, M.J., Fon, D.E., Manu, I., Kamajou, F. and Chi, B.F. 2014. Pig production and marketing in North West Region Cameroon: An economic assessment. *Res. J. Agr. Environ. Manage.*, **3**(11): 542-546.
- Biradar, N., Desai, M., Manjunath, L. and Doddamani, M.T. 2013. Assessing contribution of livestock to the livelihood of farmers of Western Maharashtra. *J. Hum. Ecol.*, **41**(2): 107-112.
- Feroze, S.M., Raju, V.T., Singh, R. and Tripathi, A.K. 2010. Status of livestock sector: A micro-study of North Eastern India. *Ind. J. Hill.Farm.*, **23**(2): 43-51.
- International Labour Organization. 2014. Global Employment Trends. International Labour Office, Geneva. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_233953.pdf
- Johari, M. 2013. System of rearing and marketing of pig in Dima Hasao district of Assam. M.V.Sc. Thesis submitted in College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati, Assam, India.
- Kambahi, B., Picron, P., Boudry, C., Théwis, A., Kiatoko, H. and Bindelle, J. 2014. Smallholder pig production systems along a periurban-rural gradient in the Western provinces of the Democratic Republic of the Congo. *J. Agr. Rural. Dev. Trop. Subtrop.*, **115**(1): 9-22.
- Mandal, R.K. 2011. Changing agricultural scenario and its impact on food habit in North East states of India. *Food. Biol.*, **1**(1): 14-21.
- Payeng, S. 2011. Economics of pig farming in organized and unorganized systems in Kamrup district of Assam. M.V.Sc. Thesis submitted in College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati-781022, Assam, India.
- Petrus, N.P., Mpofu, I., Schneider, M.B. and Nepembe, M. 2011. The constraints and potentials of pig production among communal farmers in Etayi Constituency of Namibia. *Livest. Res.Rur. Dev.*, **23**(7): <http://www.lrrd.org/lrrd23/7/petr23159.htm>
- Shyam, J. 2011. A study on the entrepreneurial behaviour of pig farmers in Kamrup district of Assam. M.V.Sc. Thesis submitted in College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati, Assam, India.
- Stern, S., Sonesson, U., Gunnarsson, S., Oborn, I., Kumm, K.I. and Nybrant, T. 2005. Sustainable development of food production: A case study on scenarios for pig production. *AMBIO*, **34**(4): 402-407.
- Wright, I.A., Deka, R., Thorpe, W. and Lapar, M.L. 2010. The pig sector in North East India: status, constraints and opportunities. Conference paper presented at International symposium ‘Sustainable Land Use and Rural Development in Mountainous Regions of Southeast Asia’, Hanoi, <https://cgspace.cgiar.org/handle/10568/2233>
- Zadeng, L. 2012. Pig farming by above poverty line (APL) families in Mizoram. M.V.Sc. Thesis submitted in College of Veterinary Science, Assam Agricultural University, Guwahati, Assam, India.

