

CHARACTERISTICS AND CONSTRAINTS OF PIG PRODUCTION UNDER RURAL CONDITION IN SIKKIM

B.G. NATH^{1,*}, R. CHANDRA², S. TOPPO³, L.R. CHATLOD¹, A.K. MOHANTY⁴

¹ ICAR Research Complex for NEH Region, Sikkim Centre, Tadong-737102, Sikkim, India

² National Dairy Research Institute, Karnal, Haryana, India

³ Central Institute of Freshwater Aquaculture (ICAR), Kausalyaganga, Bhubaneswar, Orissa, India

⁴ Krishi Vigyan Kendra, East Sikkim, Ranipool, ICAR Sikkim Centre, Sikkim, India

*Email: drbichitra.nath@gmail.com

ABSTRACT: The present study was undertaken to know the production and management practices followed by the farmers and the common constraint of pig production in rural area of Sikkim. The data were collected from 100 respondents through personal interview with the help of questionnaire on different aspects namely housing, breeding, feeding, health care, management practices, economics and the common problems for pig production. In the present study it was observed that 95% farmers constructed their pigsty with locally available wood/bamboo with traditional system. Majority (60%) of the farmers reared cross-bred pigs and offered kitchen waste to their pigs while only 5% of them offered concentrate feeds. Vaccination and deworming was followed by 30 per cent and 35 per cent of farmers respectively. Daily cleaning of pigsty was followed by 50 percent of the farmers and castration and weaning was to be practiced by majority of farmers. Special attention to the pregnant sows and care after farrowing was followed by 69 and 75 per cent respectively. Farmers market their pigs at the age of 1 year or above when they attained the body weight of 85-90 kg or more. Lack of adequate credit facilities, inadequate scientific knowledge on pig farming, lack of veterinary facility, lack of breeding and lack of marketing facilities were observed to be the major constraints perceived by the farmers. The study revealed that the development of pig production is necessary in this area as it will not only fulfill the demand but also help to uplift the economic status of farmers.

ORIGINAL ARTICLE

Key words: Production, Constraint, Pig, Breeding, Economic, Feeding, Health, Housing, Sikkim

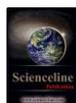
INTRODUCTION

Sikkim with its small total geographic area of 7096 km², lying within 27° 04' to 28° 07' 48" N latitude and 88° 00' 58" to 88° 55' 25" E longitudes, is administratively divided into four districts viz. North, East, West and South. Due to increase in population and the limited availability of land in the state there is already great pressure on the cultivable land, forest and on the environment as well. Livestock farming which requires minimal use of land, labour and capital would be ideal sustainable model for development in such difficult mountainous terrain. The development of livestock would not only provide supplementary source of income but would provide high protein rich food items such as milk, eggs, meat and organic manure for crop production.

Amongst the livestock, pig is most important and every family rear pig as backyard venture in rural area of Sikkim. There is huge demand of pig as people of the state prefer pork than that of other meat. In order to fill the gap of demand and supply of pork, piggery may be encouraged in rural areas. The requirement of piglets under various programmes in the tribal rural area of Sikkim is substantial. In the past piggery had gained momentum as an important economic activity in the state but because of problems related to diseases, and transportation the pace gained has subsided to some extent. Therefore, the present study was undertaken to understand the prevailing production and management practices followed by the farmers and the common problem during pig production in rural tribal area of Sikkim.

MATERIALS AND METHODS

The study area Dzongu, is one of the remotest area of the state lies in the North District is reserved for only Lepcha (Tribal) people. A total of five villages of Dzongu area viz. Gor, Hee-Gyathang, Lingdong, Passingdang and Tingyong were selected for the study. Selection of farmers/respondents was done on the basis of Simple Random Technique. In this way 20 farmers from each village were selected so that the total study sample consisted of 100



respondents from the entire five selected villages. The data were collected from each respondent through personal interview with the help of pre tested questionnaire and self-observation methods were employed. The production and management practices were studied in respect of housing system, breeding, feeding, health care, management and economics and the common problems faced by the farmers during pig production was also studied. The data collected were compiled, tabulated and analyzed to draw meaningful conclusion.

RESULTS AND DISCUSSION

Production and management practices

The production and management practices followed by the farmers of Dzongu area, North Sikkim are presented in Table 1. In housing practices, it was observed that 95% of the pig farmers constructed their pigsty with locally available wood/bamboo with tin roofing and wooden flooring above 2-3 feet from the ground. The floor space per adult was found to be inadequate (average 3x4 sq.ft) in majority (95%) of the farms. The raising of floor is above ground level to prevent entering of rats, mice and other small wild predators. Besides these, all farmers have their opinion that raising the floor above ground level help for easy to clean and prevented dampening of floor due to rain. The farm equipments included mainly cut piece of woods as feeding and water trough. Farmers depend on pipe line water for supplying water and no electricity facility is used in the farms.

Breeding is important to improve the productivity of the animals. The majority (60%) farmers were reared cross-bred pigs in their farm. Farmers preferred to rear cross-bred pigs as crossbred pigs have better growth performance and larger litter size. The farmers preferred Hampshire, Large Black, Saddle Back and White York Shire breed of pig. No artificial insemination practice for breeding is found in this area. Only 20 percent farmers were reared breeding boars. The average litter size at birth was 7 while that for weaning was 6. Kumar et al. (2002) and Rahman et al. (2008) reported that the average litter size at birth was 6-8.

The production of pigs mostly depends on feeding practices in the farm. Majority (95%) of the farmers feed kitchen wastes along with cooked mixture comprising of maize bhusa, mustard oil cake, pseudo-stem of banana, tuber, stem and leaves of *Canna indica*. Some of the farmers (70%) boiled the feed before given to pig. Pandey (2000) reported that farmers of Haryana supplied hotel wastes to pig for feeding. Kitchen and rice fermented waste increased the growth performance of pigs and reduced the cost of feeding (Kumar et al, 2010). Varma et al. (1982) and Kumar et al. (2002) reported that most of the farmers of North-Eastern region boiled the feeds before giving to pigs. Feed supplement like mineral mixture, vitamins etc were added to the feeds by 5 percent of the farmers. Majority (93%) of the farmers offered feed thrice daily, in morning, noon and evening.

In health care practices, all farmers did not give attention to the health of their pigs. Majority (60%) of the farmers approached local Veterinarian or Para Veterinarian for consultation on treating ailing animals and rest(40%) farmers applied traditional knowledge for treatment of animals. Vaccination and deworming was followed by 30 per cent and 35 per cent of the farmers respectively. Only 2 per cent of the respondents were given iron injection to the piglets to prevent piglet anemia whereas 39 per cent of the farmers used drugs for skin diseases and ectoparasite control.

The management practices like cleaning of pigsty, cutting of needle teeth, castration, weaning, care of pregnant sow, care after farrowing etc are studied and observed in the area. The study revealed that no farmer used to practice cutting of needle teeth of the piglets to prevent infection of wounds from fighting or causing injuries to the teat of the mother. Castration and weaning was to be practiced by 68% and 70% farmers respectively. The farmers had the opinion that growths of the castrated pigs were more than non-castrated ones. Kumar et al. (2002) also found that the practice of castration of pigs was very common.

It was found that 69 per cent of the respondents took proper care of their pregnant sows and 75 per cent of them took special care of their sows after farrowing. Majority of the farmers (85%) never treated the non-conceiving/repeat breeding sows and preferred to slaughter them. The reason cited by the farmers was that the treatment was too costly. Half of the farmers cleaned their pigsty daily and majority (90%) of the farmers used pig wastes in agriculture crops. Economics is important for livestock production. No farmer will take up piggery unless it is economically viable (Bujarbaruah, 2005). In the study it was observed that 70% farmers got benefit of Rs 15000-25000/year from pig production. Majority (90%) of the farmers market their pigs at the age of 1 year or above when they reached the body weight of 85 kg or above. In Dzongu, the market price of pork was Rs.100 at the time of study.

Common constraint in pig production:

The common constraints in pig production and their rank in Dzongu, North Sikkim are given in Table 2. The overall analysis of the study area revealed that lack of credit facility as the major constraint during pig production ranked 1st. For this reason, majority of farmers reared pig without properly constructed pig shed. Inadequate knowledge of pig production and management and lack of veterinary facilities were the 2nd and 3rd major constraints respectively. The high cost of balanced concentrate feed as the 4th constraint. A technical constraint reported repeatedly by farmers was the lack of quality breeding stock and the absence of systematic breeding programs.

Singh (2000) identified that the breeding was the foremost constraints for the tribal pig farming. Lack of marketing facilities was a common constraint by the pig farmers in Dzongu, since in hilly region; the road and other marketing facilities were limited.



Table 1 - Production and management practices as followed by respondents

Sl. No.	Production and Management practice	Percentage (N=100)
A) Housing practices		
1.	<i>Construction of pigsty with</i> i woods/bamboos	95
	ii Others	5
2.	<i>Feeding/ water trough</i> i.Woods, iron vessels etc	95
	ii. Others	5
3.	<i>Water storage facility</i> i. Present	90
	ii. Not Present	10
B) Breeding practices		
1.	<i>Types of pig in the farm</i> i. Cross-bred	60
	ii. Local	40
2.	<i>Service of sow</i> i. Natural service with boars	100
	ii. Artificial insemination	0
3.	<i>Rearing of boars for breeding purpose</i> i. Reared	20
	ii. Not reared	80
4.	<i>Litter size at birth and at weaning</i> i. 5 or below and 4 or below	10
	ii. 6-8 and 5-7	60
	iii. Above 8 and Above 7	30
C) Feeding practices		
1.	<i>Types of ration used</i> i. Kitchen waste	95
	ii. Concentrated feed only	0
	iii.Kitchen waste with concentrated feed	5
2.	<i>Boiling of feeds</i> i. Boiled	70
	ii. Not boiled	30
3.	<i>Time of feeds supplied to pigs</i> i. Once in a day	2
	ii. Twice i.e. Morning and Evening	5
	iii.Thrice i.e. Morning , Noon and Evening	93
D) Health care practices		
1.	<i>Use of antibiotic</i> i. Used	25
	ii.Not used	75
2.	<i>Iron injection to prevent piglet anaemia</i> i.Practiced	2
	ii.Not practiced	98
3.	<i>Vaccine against Swine fever/FMD</i> i. Practiced	30
	ii. Not Practiced	70
4.	<i>Deworming of pigs</i> i. Used	35
	ii. Not used	65
E) Management practices		
1.	<i>Clean of pigsty</i> i.Daily	50
	ii.2 days interval	40
	iii. Once in a week	10
2.	<i>Castration of Male piglets</i> i. Practiced	68
	ii. Not practiced	32
3.	<i>Weaning of piglets within 2 months</i> i. Practiced	70
	ii. Not practiced	30
4.	<i>Cutting of needle teeth of piglets</i> i.Practiced	0
	ii. Not practiced	100
5.	<i>Treatment of repeat breeding sows</i> i. Treated	15
	ii. Not treated	85
F) Economics		
1.	<i>From pig farming get benefit(Rs/year)</i> i. less than 15000	20
	ii.15000-25000	70
	iii.above 25000	10
2.	<i>Market the pig when they are</i> i. 1 year or below/ 80 kg or below	40
	ii.above1 year /85kg or above 85 kg body weight	60

Table 2 - Common constraints in pig production and their rank in Dzongu area

Sl. No	Constraints / Problems	N	Percentage (%)	Rank
1	Lack of credit facility	90	90	I
2	Non availability of breeding stock	77	77	V
3	High cost of balance feed ration	81	81	IV
4	Lack of breeding program (Artificial insemination)	65	65	VIII
5	Lack of veterinary facility	83	83	III
6	Improper knowledge of pig production and management	87	87	II
7	High medicine/vaccine cost	64	64	IX
8	High disease susceptibility	63	63	X
9	Lack of market facility	69	69	VII
10	High transportation cost for marketing	59	59	XI
11	Poor Government support	70	70	VI

CONCLUSIONS

It was concluded from the study that majority of the farmers had medium socio-economic status as well as medium knowledge about the production and management of pig concerned. Most of the farmers faced inputs and technical as a problem during pig production. It is necessary to identify the constraints, evaluating options to resolve the constraints and assessing the benefits increases the capacity of the pig farmers to improve their production. The development of pig production is necessary in this area as it will not only fulfill the demand but also help to uplift the economic status of farmers. The study reveals that there is good scope for improving pig production since farmers are eager to learn and aware of the benefits from pig production and management.

REFERENCES

- Bujarbaruah KM (2005). Step Towards Increasing Livestock Production in North Eastern Region. ICAR Research Complex for North-Eastern Hill Region, Umiam, Meghalaya, India. Research Bulletin No. 45: 16.
- Kumar S, Sinha AP, Thakur S, Singh RN and Singh SK (2010). Growth performance of indigenous pigs reared on kitchen waste. *Animal Nutrition and Feed Technology*, 10: 139-142.
- Kumar R, Pal PP, Prasad K and Prakash N (2002). Modernizing Tribal Piggery A Delineated Approach. Division of Agricultural Extension, ICAR Research Complex for North-Eastern Hill Region, Umiam, Meghalaya, India. Research Bulletin No. 47: 22-29.
- Pandey UK (2000). Livestock in the household economy. Proceedings of viiith Annual Conference of the Agricultural Economic Association on Livestock in Different Farming Systems held at Tamil Nadu Veterinary and Animal Sciences University, Chennai, India, November 2000. Pp. 1-13.
- Rahman S, Barthakur S and Kalita G (2008). Pig production and management system in Aizawl District of Mizoram, India, *Livestock Research for Rural Development*, 20(9): www.lrrd.org/lrrd20/9/rahm20139.htm.
- Singh JP (2000). An econometric analysis of factors influencing milk production and supply response of milk to change in price at the producer's level: A study in Ranga Reddy district, Andhra Pradesh. *Manage Extension Research Review*, 1(1): 112-118.
- Varma A, Yadav BPS, Sampath KT and Roy DJ (1982). Livestock feeds feeding habits in north eastern hill of India. Division of Animal Nutrition, ICAR Research Complex for North Eastern Hill Region, Umiam, Meghalaya, India. Research Bulletin No. 17: 22-29.

