Journal of Animal Research: v.14 n.01, p. 79-84. February 2024

DOI: 10.30954/2277-940X.01.2024.11

Socio-economic Status and Husbandry Practices of Local Pigs of Rayalaseema Region of Andhra Pradesh

T. Suma Sri[1], P. Panduranga Reddy[2*], R. Vinoo[1] and M. Kalyana Chakravarthi[4]

[1]Department of AGB, NTR College of Veterinary Science, Gannavaram, Andhra Pradesh, INDIA
[2]Department of AGB, College of Veterinary Science, Proddatur, Andhra Pradesh, INDIA
[4]Senior Scientist and Head, AICRP on Pigs, College of Veterinary Science, Tirupati, Andhra Pradesh, INDIA

**Corresponding author: PPP Rangareddy; E-mail: panduvet@gmail.com*

Received: 27 Nov., 2023 **Revised:** 08 Jan., 2024 **Accepted:** 14 Jan., 2024

ABSTRACT

A study on socio economic status of local black pig rearing farmers and husbandry practices was carried out in 108 pig rearers in Rayalaseema region of Andhra Pradesh. The study revealed that majority of the farmers was illiterates (73.14 %) followed by primary education (20.38%), secondary education (3.72 %) and remaining have degree qualification (2.76%) with an average of 5.44 members per family. The average land holding capacity was 1.79 acres and the mean annual income was 2,81,000 with a range of 75,000 to 4,00,000 and the mean drove size was 44.69 ± 1.18. The most common type of feeding was scavenging (85.19%). Majority of the pig rearers in the study area were not practicing deworming and vaccination. In most of the flocks, mortality of the adult pig was ranged from 6-10 %. Only 28.71 % of the pig rearers were providing houses. Kutcha floor (93.54%) and asbestos roofing (58.06%) were predominant.

HIGHLIGHTS

- Majority of the pig farmers were not providing housing.
- The predominant type of rearing was scavenging.
- Most of the pig rearers were illiterates in the study area.

Keywords: Socio-economic status, husbandry practices of pig, local black pig

In the majority of emerging and poor nations, indigenous pig breeds play a significant role in rural economy. They are essential to the poorer and less organised segments of society's ability to secure their food and means of subsistence. They are a vital part of an equitable farming system that contributes to woman emancipation, a source of high-quality animal protein, emergency cash flow, and a vital role in the sociocultural life of rural civilization.

Population of pigs in world is about 900 million (FAOSTAT, 2020). Pigs contribute 1.69 % of total livestock population in India. The total Pigs in the India is 9.06 million which are declined by 12.03 % over the previous Census. Particularly, Indigenous and Non-Descript Pigs population in India is 7.16 million in latest livestock Census which are declined by 8.66 % over the previous. Distribution of pig population across the country is not uniform for instance, thick population is recorded in Assam having 2.10 million which is 23.18 % of the total pig population in India. Andhra Pradesh is having 91958 pigs which is only about 1% total pig population in the country in which 82037 are Indigenous and Non-Descript, 9921 are exotic (DAHD, 2019).

A mission towards zero non-descript animal genetic resources campaign is going on in India aiming at

How to cite this article: Suma Sri, T., Panduranga Reddy, P., Vinoo, R. and Kalyana Chakravarthi, M. (2024). Socio-economic Status and Husbandry Practices of Local Pigs of Rayalaseema Region of Andhra Pradesh. *J. Anim. Res.,* **14**(01): 79-84.

Source of Support: None; **Conflict of Interest:** None

characterization of local genetic resources. Several local swine genetic resources exist in different parts of Andhra Pradesh; nevertheless, none of them are yet characterized. Hence, the present study was carried with an objective of documenting the socio-economic status and husbandry practices which are mandate for characterization local black pig of Rayalaseema region of Andhra Pradesh.

MATERIALS AND METHODS

The study was conducted to document the socio-economic status and husbandry practices of local black pigs of Rayalaseema region of Andhra Pradesh (Fig. 1). The data pertaining to 108 pig drove rearers were collected. The questionnaire includes flock size, housing, feeding, vaccination, deworming, mortality rate, disposal of dead animals, family size, education, annual income and age of the farmer.

STATISTICAL ANALYSIS

The data collected were scrutinized, edited, collated and grouped by the conventional tabular analysis in the form of mean, standard error and percentage using the methods suggested by Snedecor and Cochran (1994).

RESULTS AND DISCUSSION

Drove structure

The average and minimum drove size of local pig in the present study is 44.69±1.18 and 15 respectively. In general, local pigs are reared in medium to large droves by the farmers. In contrary, 90 to 150 was the drove size of Zovawk pigs (Zosangpuii *et al.,* 2020), two to three in Tenyi Vo pigs (Rutsa and Rutsa, 2019) and drove size in Wak Chambil pigs vary based on the type of housing provided (Kadirvel *et al.,* 2021).

The overall income directly depends on the drove size. The variation in drove size is controlled by the factors such as number of individuals in the family, disease prevalence, type of feeding, age of the farmer etc.

Housing

Majority of the farmers of the farmers do not provide any housing while only 28.7 % provide housing of which 90.32 % providing only during nights and remaining 9.68 % providing all the day. No housing was provided to Doom pigs (Banik *et al.*, 2022). In contrary, simple housing was provided to Ghoongroo pigs with bamboo and juite sticks (Pan *et al.,* 2011), Machang style housing was provided to Tenyi Vo pigs which was made with materials that were readily available (Rutsa and Rutsa, 2019). Tethering was preferred in Wak Chambil (Kadirvel *et al.,* 2021) and 72.3% of the farmers in Tripura (Ahmed *et al.,* 2017b). Much differently, straw sheds were most common (42.5%), followed by tethering (30.5%), fencing and grazing (18.5 and 8.5%) in village pigs of Unakoti in Tripura (Ahmed *et al.,* 2017b). Traditional rearing systems was followed in Mali pigs (Paul *et al.,* 2020).

Open housing system is observed in 64.52% and remaining are closed housing system where no open area was provided in Machang style houses for Tenyi Vo pigs (Rutsa and Rutsa, 2019).

Kutcha and *pucca* type of floors (93.54 and 6.46 %) are observed in the present study. Similar report was produced by Tudu *et al.* (2015) for pigs of West Bengal where 60.76% of the farmers provide *kutcha* floor, 32.3% of the provide partial *pucca* floor and remaining are *pucca* floors. Kadirvel *et al.* (2021) reported that floors were *kutcha*, slatted and concrete in Wak Chambil pigs. Wooden flooring was most preferred (59.5%) followed by mud, stone and concrete (18, 12.5 and 10%) in pigs of Unakoti district in Tripura (Ahmed *et al.,* 2017b).

In current study, roof was mainly made up of asbestos sheets (58.06 %) and thatched (41.94 %). Contrast report was produced by Ahmed *et al.* (2017b) in pigs of Tripura where roof was made up of thatch and asbestos (73.5 and 26.5 %).

Feeding

The most common practice of feeding of local pigs is solely scavenging (85.19 %) and scavenging with garbage feeding in 14.81 % of the farmers. The findings of present study are in conformity with results of and Kundu *et al.* (2020), Paul *et al.* (2020), Zosangpuii *et al. (*2020) and Banik *et al.* (2022) in Nicobari, Doom, Zovawk and Mali pigs respectively. In contrast stall feeding is predominant in Ghoongroo (Pan *et al.,* 2011) and Nagaland pigs (Patr *et al.,* 2014). Feeding of vegetables collected from kitchen,

fields, other herbs and grains after cooking is common in Tenyi Vo pigs (Rutsa and Rutsa, 2019).

Table 1: The housing pattern of local black pig of Rayalaseema region (n=108)

Sl. No.	Housing	Category	n	%
1	Provision of housing	Yes	31	28.71
		No	77	71.29
2	Housing provided during	Night time	28 2893.	90.32
		Both (day & night)	3	9.68
3	Type of housing provided	Open	20	64.52
		Closed	11	35.48
4	Floor type of the houses	*Kutcha*	29	93.54
		Pucca	2	6.46
5	Roof type of the houses	Asbestos	18	58.06
		Thatched	13	41.94

Table 2: Feeding pattern of local black pig of Rayalaseema region (n=108)

Sl. No.	Feeding	Category	n	%
1	Feeding practice adopted	Scavenging	92	85.19
		Garbage feeding and scavenging	16	14.81
		Scavenging		
2	Scavenging time per day	6-8 hr	25	23.14
		More than 8 hr	83	76.86
3	Watering	At housing	26	24.07
		At scavening	62	57.4
		Both	20	18.51
4	Practice of Weaning	Yes	19	17.59
		No	89	82.4

Table 3: Health management of local black pig of Rayalaseema region (n=108)

Sl. No.	Health	Category	n	%
1	Practice of Deworming	Yes	37	34.26
		No	71	65.74
2	Control of ecto-parasites	Yes	29	26.86
		No	79	73.14
3	Frequency of Deworming in a year	Once	30 36	81.08
		Twice	7	18.92
4	Vaccination done	Yes	40	37.04
		No	64	62.96
5	Type of treatment	Traditional	28	25.93
		Allopathy	80	74.07
6	Disposal of sick animals	By selling treatment	5	4.63
			103	95.37
7	Disposal of dead stock	By self-consumption	nil	—
		Throwing animals away from farm	108	100
8	Information on mortality (%)	**Among adult**		
		< 5 %	18	16.64
		6 – 10%	82	75.9
		>10%	8	7.46
		Among piglets		
		< 10 %	41	37.96
		11 – 20%	56	51.85
		> 20%	11	10.19
9	Prevalance of diseases	Swine erysipelas	5	4.62
		Classical swine fever	53	49.07
		Foot and mouth disease	3	2.78
		Pasturellosis	47	43.53

Table 4: Socio-economic attributes of local pig farmers of Rayalaseema region

Sl. No.	Socio-economic attribute	Category	n	%
1	Family size	Small (up to 3 members)	8	7.40
		Medium (4 to 6)	88	81.48
		Large (above 6)	12	11.12
2	Education	No education	79	73.14
		Primary school		
		Primary education	22	20.38
		Secondary school		
		Secondary education	4	3.72
		Degree	3	2.76
3	Adoption of pig husbandry	Main occupation	108	100
		Subsidiary occupation	Nil	—

4	Land holding (acres)	Landless Laborer	86	79.62
		Marginal Farmers (0-2.5)	12	11.12
		Small Farmers (2.5- 4)	8	7.41
		Medium Farmers (5-10)	2	1.85
		Large Farmers (above 10)	Nil	—
5	Type of land	Dry	86	79.62
		Wet	22	20.38
7	Source of income	Agriculture	Nil	—
		Pig Rearing	92	85.19
		Pig rearing & Agriculture	16	14.81
8	Annual Income (₹)	75000-200000	28	25.92
		200000-250000	76	70.37
		250000-400000	4	3.71
9	Management of Animals by	Own family Members	108	100
		Laborers	nil	—
10	Age of the farmer	Below 20 years	15	13.87
		20 – 50 years	86	79.64
		Above 50 years	7	6.49

Majority of the farmers (76.86 %) practiced more than 8 hrs of scavenging and remaining (23.14 %) farmers adopted 6-8 hours of scavenging. It could be due to poor social status of the pig rearer to provide good quality of the feed.

Garbage, dump yard, mud pit and drainages were the major areas for scavenging. In present study, it was observed that water was provided at housing (24.07%), at scavenging (57.4%) and at both (18.51%). Most of the farmers (82.4%) have not adopted the important weaning management practice.

Health management

Current study revealed that majority of the farmers were not interested in practicing of deworming (65.74%), control of ecto-parasites (73.14%) and vaccination (62.96%). Reports produced by Patr *et al.* (2014) and Ahmed *et al.* (2017a) are in close agreement with the present study where no farmer was practicing vaccination in native pigs of Nagaland and Assam respectively.

The main diseases observed in the study population are swine erysipelas (4.62%), classical swine fever (49.07%), foot and mouth disease (2.78%) and pasturellosis (43.53%) was not agreement with the incidence of diseases in pigs of Nagaland reported by Patr *et al.* (2014) where diarrhea (63.06%) is most common followed by swine fever (54.05%), endoparasites (45.04%), mange (44.14%) and respiratory problems (33.33%).

All the farmers (100 %) in present study throw the dead animals away from droves but in contrast most of the farmers of Nagaland burry (90.99%) the dead stock followed by throwing away from the premises (7.21%) and consumption (1.8%) (Patr *et al.,* 2014).

Breeding

The sows of local pigs generally observed to be farrowing round the year as the breeding boars always remain with the sows during scavenging and housed together. The male to female ratio in these droves was 1:15.48, keeping the optimum sex ratio of 1:3 was important to prevent the inbreeding and to maintain the reproductive health of pigs.

Lack of sufficient number of boars was reported in pigs of Nagaland (Patr *et al.,* 2014) and Assam (Ahmed *et al.,* 2017a) but collective breeding was reported in Doom pigs (Banik *et al.*, 2022).

Socio-economic attributes

Yerukula and Yanadi communities were majorly involved in rearing of local pigs in Rayalaseema region where as Individuals affiliated with the Doom caste primarily engaged in the raising of Doom pigs (Banik *et al*., 2016), Tribal communities are primarily engaged in rearing of Nicobari and Mali (Kundu *et al.,* 2020; Paul *et al.,* 2020) pigs.

The overall mean land holding status of the local pig rearers in the surveyed area was 1.79 acres. Most of the farmers were landless (79.62%) followed by marginal farmers (11.11%) having less than 2.5 acres of land. Similar report was produced by Tudu *et al.* (2015) regarding the land holding capacity of pig farmers in West Bengal i.e., majority of the farmers are landless (66.92%) followed by small (26.15%) and marginal (6.92%). In contrast, all the farmers involved in pig rearing have their own land in Tripura (Ahmed *et al.,* 2017b). Report produced by Tochhawng and Rewani (2013) regarding the land holding

status of pig farmers in Mizoram revealed that majority of the farmers have land less than 2.5 acres (48.89 %) i.e., marginal farmers followed by small, medium, landless and large farmers having 2.6 to 5 acres (23.33%), 5.1 to 10 acres (15.56%), no land (8.99%) and more than 10 acres (3.33%). 34.23 % of the pig farmers in Nagaland are medium farmers followed by small (26.12%), marginal (19.81%), large (13.51%) farmers and remaining are landless (6.3 %) (Patr *et al.,* 2014).

The present survey on farmers rearing local pig revealed that average family size of farmers is 5.44 members which concurs well with the findings of Patr *et al.* (2014) in Nagaland. Literacy rate plays a key role in adoption of new methods in pig rearing. Majority of the farmers under study are illiterate (73.14%), 20.38% of the farmers have primary education, 3.72% have secondary education and 2.76% of the farmers have degree qualification but in contrast, majority of the farmers had high school education in west Bengal (Kath *et al.,* 2013), primary education in Nagaland (Patr *et al.,* 2014) and Mizoram (Tochhawng and Rewani, 2013) and educated in Assam (Ahmed *et al.,* 2017a).

The present study revealed that ₹ 2,18,000 is the average income of the farmers in the breeding tract with the mean drove size of 44.69. Majority of the farmers (70.37%) generated an annual income between ₹ 2,00,000 to 2,50,000 while 25.92% farmers obtained ₹ 75,000-2,00,000 and only 3.71 % generated ₹ 2,50,000-4,00,000 but in contrast, lesser annual income i.e., below ₹ 1,00,000 in 90.09 % of the pig rearers in Nagaland (Patr *et al.,* 2014), below and above ₹ 25,000 in 87.68 and 12.3% of the farmers respectively in West Bengal (Tudu *et al.*, 2015).

CONCLUSION

The study on husbandry practices of the local black pigs of Rayalaseema region revealed that local black pig farming in this region was traditional and adoption of the improved technologies was low. Scientific pig management practices were generally not practiced by most of the rearers. Adoption of scientific methods in pig management and by following suggestion of veterinarians regarding health care would reduce mortality percentage in pig there by increasing the economic status of the pig farmers.

ACKNOWLEDGEMENTS

We thank Dean, Faculty of Veterinary Science, Sri Venkateswara Veterinary University, Tirupati, Andhra Pradesh, India, for providing necessary facilities to carry out this work**.**

REFERENCES

Ahmed, K., Ahmed, N. and Kalita, D. 2017a. Assessment of socio-economic status of pig rearers and management practices of pigs in Assam. *J. Anim. Res*., **7**(2): 4515-418.

Ahmed, N., Doley, S., Ahmed, K. and Das, B.B. 2017b. Socio-economic status of small-scale pig farmers in rural communities of Tripura. *Int. J. Chem. Stud*., **5**(3): 102-104.

Banik, S., Barman, K., Choudhary, H., Das, P.J., Thomas, R., Kumar, S. and Rajkhowa, S. 2022. Performance appraisal and conservation need of Doom pig of Assam. *The Indian J. Anim. Sci*., **92**(1): 132-135.

Banik, S., Naskar, S., Zaman, G., Sarma, D.K., Tamuly, M.K. and Gandhi, R.S. 2016. Doom pig, an indigenous pig germplasm of Assam. ICAR-National Research Centre on Pig, Rani, Guwahati, 781131.

Behl, R., Vij, P.K., Niranjan, S.K., Behl, J. and Vijh, R. 2020. Indigenous pig genetic resources of India: Distribution, types and their characteristics. *Indian J. Anim. Sci*., **90**(2): 127-133.

DAHD, 2019. http://dahd.nic.in/dahd/statistics.aspx

FAOSTAT, 2020. https://www.fao.org/faostat

Kadirvel, G., Kumar, R., Borah, S., Singh, N.S., Devi, Y.S., Jamitia, K. and Deori, S. 2021. Phenotypic characterization and performance evaluation of wak Chambil: A unique indigenous pigs of north east region of India. *Indian J. Hill Farming*, **34**: 75-81.

Kath, K., Rahman, S., Das, S., Chaudhary, J., Goswami, R., Tochhawng, L. and Chutia, B. 2019. Socio-economic status of Tenyi-vo Pig Farmers of Nagaland, India. *Int. J. Livest. Res*., **9**(11): 196-203.

Kundu, M.S., Perumal, P., Ravi, S.K., Sawhney, S., Bhattacharya, D., Kundu, A., Sundar, J., Muniswamy, K. and De, A.K. 2019. Evaluation of reproductive and production performance of Nicobari pig under humid tropical island ecosystem. *Indian J. Anim. Sci*., **89**(3): 73-78.

Pan, S., Misra, S.K. and Kundu, M.S. 2011. Ghoongroo pig: A new found animal genetic resource of sub-Himalayan West Bengal, *India Anim. Genet. Resou*., **37**: 91-96.

Patr, M.K., Begum, S. and Deka, B.C. 2014. Problems and prospects of traditional pig farming for tribal livelihood in Nagaland. *Indian Res. J. Ext. Educ*., **14**(4): 6-11.

Paul, A., Das, S., De, A., Debbarma, S., Roy, J., Sarkar, B.K. and Nandi, S. 2020. Physical and reproductive features of Mali: An indigenous pig breed of Tripura with special emphasis to impact of weaning on haemato-biochemical parameters. *J. Entomol. Zool. Stud*., **8**(5): 1531-1536.

Rutsa, M. C. and Rutsa, V. 2019. Characterization of population and production system of Tenyi-vo pig of Nagaland (India). *J. Livest. Biodiv*., **9**(1): 5-8.

Snedecor, G.W. and Cochran, W.G. 1994. Statistical Methods. (8th edition.) lowa state University Press, Ames, lowa. pp.xx+503.

Tochhawng, L. and Rewani, S.K. 2013. Constraint Analysis of Backyard Pig Farming in Tribal Areas of Mizoram. *Indian J Ext. Educ*., **13**(1): 123-125.

Tudu, N.K., Pyne, S.K., Goswami, K.K., Ghoshand, N. and Roy, D.C. 2015. Socio-economic status of pig farmers in Nadia District of West Bengal. *Int. J. Bioresou. Environ. Agric. Sci*., **1**: 1-4.

Zosangpuii, J.B., Lalliankimi, H., Hmar, L., Singh, N.S. and Leihang, E.L. 2020. Phenotypic characterization of local pigs (Zovawk) in Mizoram. *J. Entomol. Zool. Stud*., **8**(5): 336-338.