The Pharma Innovation

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A study on swine management practices in Telangana state

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Abstract
A study was carried out to find out socio-economic profile of piggery farmers and various swine management practices adopted by them covering 48 respondents from 12 urban areas and 96 respondents from 24 rural areas from six districts of Telangana state. In urban and rural sectors, maximum respondents (62.50% and 53.13%) were middle aged, illiterate (62.50% and 54.17%), landless farmers (93.75% and 71.88%) with a family size of less than 5 members (87.50% and 89.58%) and majority (80.56%) belonged to Scheduled Tribes. Semi-intensive system (39.58%) of rearing method was the most adopted one followed by extensive (37.50%) and intensive (22.92%) systems in urban sector, while in rural, extensive (52.08%), semi-intensive (38.54%) and intensive (9.38%) were recorded. Supplementation of ration in the form of swill along with scavenging was the widely practiced feeding system in urban (62.50%) and rural (54.17%) areas. Swill feed was procured directly (97.22%) consisting mixture of hostel and hotel waste (91.04%), fed twice a day without measuring (94.03%) and without any processing. Majority of farmers (53.47%) reared Non-descript swine, whereas 39.58% reared Crossbreds and 6.94% reared Yorkshire breeds in both urban and rural areas and natural service was the only practice adopted. Almost all the respondents castrated their boars except the one meant for breeding. Deworming of pigs was irregular by 37.50% and never by 35.42% respondents, whereas in rural areas, 54.17% never practice deworming in pigs. Vaccination was not a practice in pigs by 100% respondents in rural sector, while only 8.33% respondents of urban sector practicing vaccination against foot and mouth disease in pigs. Most of the farmers (89.58%) will not supplement iron to the piglets and do not cut needle teeth. Majority of the farmers (80.56%) have reported a market weight of < 50 kg recorded by 5-7 months of age. The present study revealed that, the piggery sector in Telangana state has not come up well, despite of advantages, benefits and huge demand for pork in the country, hence suitable policies and capacity building of stake holders are to be framed and conducted to educate and create awareness for doubling the farmers income.

Keywords: Socio-economic profile, Swine rearing, feeding, breeding, healthcare

1. Introduction
Animal husbandry and livestock sectors are critical for rural livelihood and economic development of the country. India possesses one of the largest livestock wealth in the world and a quarter of the agricultural gross domestic product is contributed by the livestock sector. Pig, as compared to other livestock species has a great potential to contribute to faster economic return to the farmers, because of certain inherent traits like high fecundity, better-feed conversion efficiency, early maturity and short generation interval. It has immense potential to ensure nutritional and economic security for the weaker sections of the society. In India, majority of pigs are reared in traditional small-scale subsistence-driven production systems. Pigs in such low-input systems provide value-added output for farmers by consuming feed that would otherwise be lost. In addition to providing protein for human consumption, pigs are often one of the main sources of cash income in rural areas and provide manure for cropping. Pig population in India has consistently showed a decreasing trend from 13.29 million (1997) to 10.29 million (2012) and as per 20th Livestock census (2019), India's pig population is 9.06 million (1.7 % of country's livestock). The 19th Livestock census (2012) report, Telangana state had 2,37,061 pigs (2.3% of India's pig population). Among 33 districts of Telangana state, Narayanpet district ranks 1st in pig population with 7.59% of state pigs followed by Nalgonda (7.21%), Warangal Urban (5.54%), Kamareddy (5.46%), Siddipet (4.54%) and Jagithyal (3.92%) districts. Pig production in particular, promoting greater self-sufficiency and providing food security to urban households, but so far, no systematic study has been conducted on swine management practices in Telangana state.

Hence, considering the importance of pig rearing, the present study is aimed to find out the existing management practices in pig farming in rural and urban dwellings with following objectives.
a) To study socio-economic characteristics of piggery farmers.
b) To study prevailing husbandry practices of pig farming in Telangana state.

2. Materials and methods
1. Study area and Sampling
The study was undertaken in six selected districts of Telangana state i.e. Jagithyal, Warangal Urban, Kamareddy, Siddipet, Narayanpet and Nalgonda. The selection of districts was done purposively, as they have highest pig population in Telangana state as per 19th livestock census, 2012 (http://dahd.nic.in/documents/statistics/livestock-census). The study area was categorized into urban and rural areas, mandal headquarters/towns treated as urban and remaining villages as rural areas. The research work was carried out in 12 urban areas with 48 respondents and 24 rural areas with 96 respondents of Telangana state. Two mandals from each district (according to available pig population), three villages from each mandal were selected making up a total of 36 villages. Four pig farmers were selected randomly from each village. The selected 144 respondents were interviewed and information was collected through interview schedule.

2. Development of questionnaire
A questionnaire incorporating all the variables were designed in consultation with experts, to study the socio-economic characters of the respondents, variety of management practices under which pigs are reared had been incorporated in the questionnaire.

2.1 Pre-testing
The questionnaire was pre-tested with some pig rearing farmers by explaining the purpose of the study to them and on the basis of experience, questions/statements were modified into the final format of the questionnaire. Ambiguous, dichotomous and non-variant items were deleted and necessary modification was made on the basis of responses and comments.

2.2 Data collection
The researcher visited the villages of the respondents. The respondents were interviewed one at a time by the researcher himself. Before collecting the data, the objectives of the study were lucidly explained and careful attempt was made to develop rapport with them. The questions in the schedule were presented to them in precise language to ensure that they perceived the questions correctly, so as to avoid any interpretational variation of the questions among the respondents and answers obtained were recorded instantly along with personal observations.

2.3 Tabulation and statistical analysis
The interview schedules were checked, verified and numbered after getting the responses from the respondents. The data were scored, compiled and tabulated according to the standard procedures keeping in view the objectives of the study and percentages were calculated.

3. Results & Discussion
Socio-economic characteristics of piggery farmers
3.1 Age of piggery farmers (in years)
The results represented in Table 1, revealed that the average age of piggery farmers in the study area was 43.85 ± 12.96 years and majority of the farmers belonged to middle age group (56.25%) followed by old age (26.39%) and young age (17.36%) group. The swine husbandry is mainly practiced by particular community of the farmers who have taken up the activity from the generations as tradition. But in the recent times due to the urbanization and industrialization, the younger generation is showing less interest in the pig farming and turning up into waged jobs which provide them with income security. However, the older generations still follow their traditional pig farming, contributing to their family income. These findings were corroborating with the results observed in the studies of Tochhawng and Rewani (2013) [21] and Nanda et al. (2018) [10].

Table 1: Distribution of farmers based on age in the study area

Personal Attributes	Category	Respondents (Per cent)		
		Urban (n=48)	Rural (n=96)	Overall (n=144)
Age in years	Less than 30	12.50	19.79	17.36
	30-50	62.50	53.13	56.25
	More than 50	25.00	27.08	26.39
	Mean	44	43.77	43.85
	SD	12.95	12.98	12.96

3.2 Education level of the respondents
From the results presented in Table 2, it was observed that the education level of the piggery farmers in urban and rural area was only 2.08% and 3.13% of the respondents were graduate and above while, 12.50% and 12.50% were up to high school level, 22.92% and 30.21% were up to primary level and 62.50% and 54.17% of respondents were illiterate, respectively.
Over all half of the piggery farmers were illiterate (56.94%) followed by primary level (27.78%), high school level (12.50%) and graduation & above (2.78%).

The findings of the present study denote that the piggery farmers were having poor financial resources, lower socio-economic status and poor standard of living when compared to others. Thus, the government and the concerned authorities should extend their helping hand in improving their educational status which may improve both their social and livelihood status in the society. Similar findings were observed in the studies of Haldar et al. (2017) [4], Ahmed et al. (2017) [2], Nanda et al. (2018) [10] whereas, in contrary with studies of Shadap et al. (2017) [19], Mekuriaw and Asmare (2014) [8] and Sasikala et al. (2012) [18].

Table 2: Distribution of farmers according to their education level in study area

Personal Attributes	Category	Respondents (Per cent)		
		Urban (n=48)	Rural (n=96)	Overall (n=144)
Education	Illiterate	62.50	54.17	56.94
	Up to Primary level	22.92	30.21	27.78
	Up to High School level	12.50	12.50	12.50
	Graduation and above	2.08	3.13	2.78

3.3 Caste
As per the results shown in Fig 1, the majority of respondents in urban and rural area belongs to Schedule Tribes (70.83% and 85.42%), followed by Scheduled Castes (16.67% and 5.21%) and Backward Classes (12.50% and 9.38%),

respectively. Overall the distribution of farmers in study area were ST(80.56%), SC(9.03%) and BC (10.42%) and none of other castes were rearing pigs observed in study area. These findings are on par with findings of Ahmed *et al.* (2017) [2].
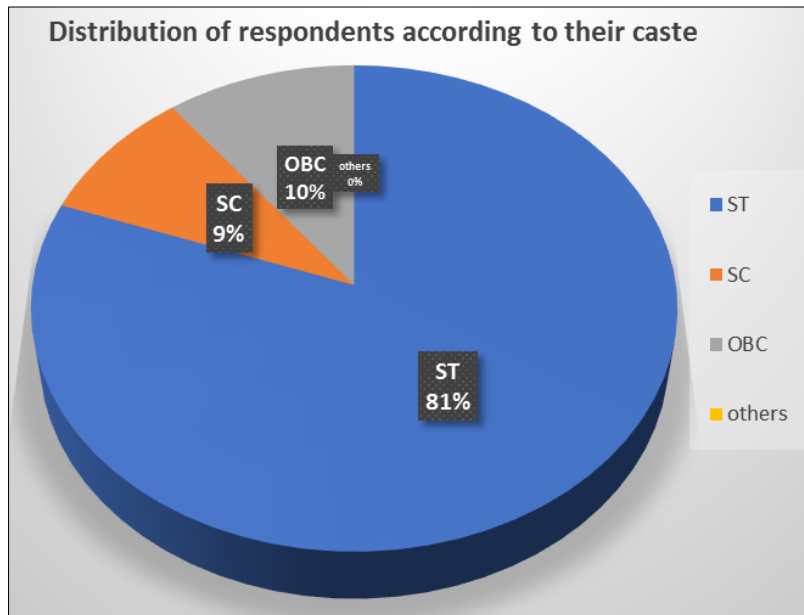

Fig 1: Pie diagram showing distribution of farmers according to their caste

3.4 Land holding
Most of the piggery farmers of urban and rural area were landless farmers (93.75% and 71.88%) followed by marginal farmers (4.17% and 28.13%), small farmers (2.08% and 0%), respectively. Overall 79.17%, 20.14% and 0.69% of respondents were found to be landless, marginal and small farmers, respectively, in the study area. The piggery farmers were mainly landless farmers who were resource poor and pig

farming was only source of livelihood for these farmers. The land holding size is decreasing due to fragmentation of land holding along the generations so major portion of the farmers were landless or marginal farmers. These findings are in accordance with the results of Ritchil *et al.* (2013) [16] and Mekuriaw and Asmare (2014) [8], who reported majority of piggery farmers were poor and landless.
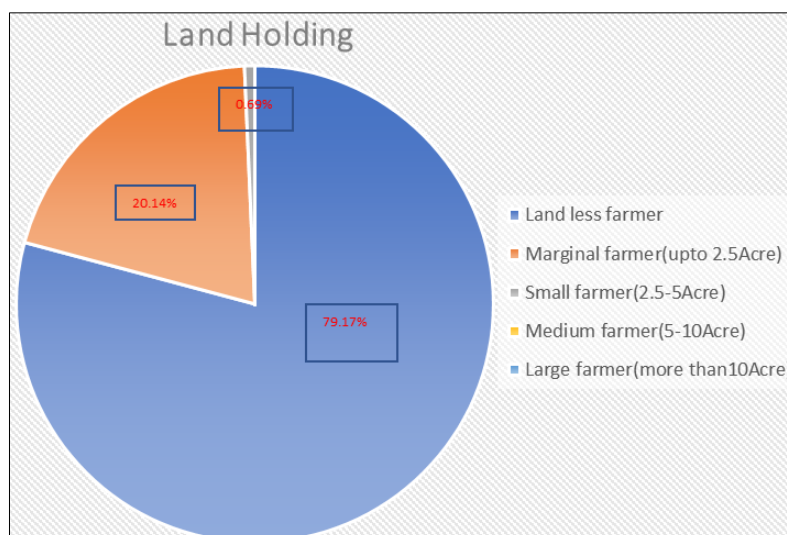

Fig 2: Pie diagram showing the land holding pattern in the study area

3.5 Annual income

It was evident from results of present study that majority of piggery farmers have family income of less than 1.0 lakh per annum in urban and rural areas (91.67% and 96.88%), 1.0 lakh to 2.5 lakh (6.25% and 2.08%), above 2.5 lakh (2.08% and 1.04%). Overall 95.14%, 3.47% and 1.39% of respondents had income of less than 1.0 lakh, 1.0 to 2.5 lakh and above 2.5 lakh per annum respectively and these results are in agreement with Tochhawng and Rewani (2013) [21], Haldar et al. (2017) [4] who reported majority of pig rearers belongs to low income group.

3.6 Occupation

The occupation of the pig rearing farmers where piggery as main occupation in urban and rural area was 31.25%, 17.71%. Whereas piggery as subsidiary occupation was 68.75%, 80.61% in urban and rural areas. Overall, 77.78% of farmers were engaged in piggery as their subsidiary occupation followed by 22.22% of farmers as main occupation in study area. As, the younger generations were seen to be venturing new employment opportunities for earning and improving their socio-economic status regardless their social status they keep piggery as secondary source of income. Njuki et al. (2010) [11], Tochhawng and Rewani (2013) [21], Shadap et al. (2017) [19] were also reported similar findings in their studies.

3.7 Family size

Majority of piggery farmers in urban and rural areas had small size families with less than 5 members in house (87.50% and 89.58%), followed by medium (10.42% and 10.42%) and large size families (2.08% and 0%), respectively. Overall family size of the piggery farmers in study area was small (88.89%), medium (10.42%) and large (0.69%). The results are in contrary with Payeng (2013) [13], Patr et al. (2014) [12], Haldar et al. (2017) [4], Nanda et al. (2018) [10] who reported majority of piggery farmers from medium sized family group.

3.8 Herd Size

As shown in the Table 3, the herd size in urban and rural areas with a range of 490 and 244, respectively, which varies with type of rearing and availability of swill feed. Tochhawng and Rewani (2013) [21] reported that 47.78% of farmers had pigs with herd size of 1-3.

3.9 Other Livestock possessed

In rural and urban areas, 9.30% and 4.20% of piggery farmers were also rearing few sheep, goats/cattle along with pigs. Similar findings observed by Ahmed et al. (2016) [1], who reported that in Assam state piggery farmers also own other livestock species like cattle, goat, poultry and others.

Table 3: Distribution of respondents according to their personal attributes

Personal Attributes		Respondents (Per cent)		
		Urban (n=48)	Rural (n=96)	Over all (n=144)
Income	Up to 100000	91.67	96.88	95.14
	100000 to 250000	6.25	2.08	3.47
	>250000	2.08	1.04	1.39
Occupation	Main (Pig rearing)	31.25	17.71	22.22
	Subsidiary (Pig rearing)	68.75	80.61	77.78
Family Size	Small (<5 members)	87.50	89.58	88.89
	Medium (6-9 members)	10.42	10.42	10.42
	Large (>9 members)	2.08	0.00	0.69
Herd Size	Range	490.00	244.00	494
Other Livestock Possessed		4.20	9.30	7.64

3.2 Prevailing husbandry practices in the study area
3.2.1 Rearing pattern and housing practices

Sheltering of piggery not only protects animals from extreme environmental hazards, but also eases some other husbandry practices. Therefore, sheds must be designed in such a way that routine activities like feeding, watering, handling, waste management and other activities can be easily and effectively handled.

The major rearing pattern observed in study area was semi-intensive system (39.58%) followed by extensive (37.50%) and intensive type of rearing (22.92%). Whereas, in rural areas the extensive type of rearing (52.08%), semi-intensive type (38.54%) and intensive (9.38%) were observed. Overall 47.22%, 38.89% and 13.89% of piggery farmers practicing extensive, semi-intensive and intensive type of rearing, respectively (Table 4). None of the farmers following girth tethering in study area, this clearly indicated that the type of rearing depends upon the economic condition of farmers. Similar findings were observed by Machebe et al. (2009) [6], Hossain et al. (2011) [5], Muhanguzi et al. (2012) [9], whereas in contrary with Phengsavanh et al. (2011) [14], who reported, the confinement system was mainly practiced in Lao-Tai (90%). Ritchil et al. (2013) [16], Ahmed et al. (2016) [1] also reported majority (97%, 83%) of farmers rearing their pigs by girth tethering.

Concrete (pacca) flooring in urban area and in rural area were 63.33% and 39.13%, respectively. Whereas kutcha flooring is practiced in urban area and rural area were 36.66% and 60.86%, respectively. Overall 51.32%, 48.68% of farmers had kutcha and pacca flooring, respectively, in the study area. These results are not matching with results of Nanda et al. (2018) [10], who reported the type of floor was concrete (pacca) in both organized and unorganized farms (100 % and 80%), respectively.

Roof type was flat (23.33%), sloped (53.33%), without roof (23.33%) in urban area, whereas in rural area flat roof (23.91%), single slope (52.17%) and without roof by 23.91%, respondents. The roof made up of tin shade were used by majority of respondents (47.80% and 55.55%) in urban and rural areas, followed by asbestos roof (39.13% and 33.33%) and thatched roof (13.04% and 5.55%) in urban and rural areas. Nanda et al. (2018) [10], reported that roof type was flat (100%) in unorganized farm whereas, single slope was provided by 70% of respondents.

The piggery farmers practicing the housing wall made up of brick with cement/lime in urban area and rural area were 60% and 41.30%, respectively, followed by iron mesh as wall by 23.33% and 39.13% and brick with mud by 16.66% and

19.50%, in urban and rural areas, which again depends on locally available cheap material and economic status of the farmer.

Pigs were offered feed in manger. This type of feeding was practiced by 96.67% respondents in urban area in comparison to rural area, where 95.74% respondents were practicing this type of feeding, which prevents contamination of feed and easy access to pigs. The type of mangers used are cement concrete made, rubber tyres and plastic tubs. These findings are analogues with the findings of Rahman *et al*. (2008) [15].

Majority of the respondents (73.33%) in urban area had optimum ventilation in housing system of piggery in comparison to rural farms, where the most of the respondents

(65.21%) followed the housing system with optimum ventilation, which is crucial for optimum living conditions for pigs.

It was noticed that, in both urban and rural sectors there is no usage of guard rail for farrowing sows. Consequently, mortality of new born piglets occurring due to crushing by their mothers. Similar results were reported by Nanda *et al*. (2018) [10].

Most of the respondents in urban and rural farms were not following the efficient drainage system (30% and 28.26%), practicing non-efficient drainage system (70% and 71.73%), which in turn leading to unhygienic surroundings and is the main predisposing cause of diseases in pigs.

Table 4: Rearing and Housing practices followed by piggery farmers

Variables		Respondents (Per cent)		
		Urban (n=48)	Rural (n=96)	Over all (n=144)
Rearing System	Intensive	22.92	9.38	13.89
	Semi-intensive	39.58	38.54	38.89
	Extensive	37.50	52.08	47.22
Floor	Kutcha	36.66	60.86	51.32
	Pacca	63.33	39.13	48.68
Type of roof	Flat	23.33	23.91	23.68
	Slope	53.33	52.17	52.63
	No roof	23.33	23.91	23.68
Roof material	RCC	0.00	5.55	3.39
	Tin	47.80	55.55	52.54
	Thatched	13.04	5.55	8.47
	Asbestos	39.13	33.33	35.59
Material used in Walls	Brick with lime/cement mortar	60.00	41.30	48.68
	Brick with mud mortar	16.66	19.50	18.42
	Iron mesh	23.33	39.13	32.89
Manger facility	Yes	96.67	95.74	96.10
	No	3.33	4.26	3.90
Ventilation	Low	26.66	34.78	31.58
	Optimum	73.33	65.21	68.42
Bedding Material Provided	Yes	0.00	6.52	3.19
	No	100.00	93.47	96.81
Light in the Farm	Low	30.00	30.43	30.26
	Optimum	70.00	69.56	69.74
Presence of Guard rail	Yes	0.00	0.00	0.00
	No	100.00	100.00	100.00
Drainage System	Efficient	30.00	28.26	28.95
	Non-efficient	70.00	71.73	71.05

3.2.2 Feeding practices in the area
Feeding is the most important aspect in pig farming and the performance of the pigs largely depends on how the farmers are managing the feeding in the farm. The results to the extent of this are presented in Table 05. The perusal of it shown that, stall feeding was practiced in urban and rural area respondents were 18.75% and 9.38%, due to less percentage (13.89%) of them are under intensive pig farming. Whereas, in urban sector most of the respondents (62.50%) and in rural sector (54.17%) were following the scavenging with morning and evening swill ration feeding practice and 18.75% and 36.46% of respondents following scavenging feeding to pigs, due to abundant source of swill in urban area. In urban sector, feeding of mix of hotel and hostel waste was provided as swill feed by 93.75% respondents and 88.40% in rural sector, and

those feeds were consist of damaged vegetables, bread, rice and mixture of leftover food. Though, this practice is found cost effective, farmers are facing many problems like incidence of diseases, nutritional deficiency, there by lowered performance of the dam. Regarding the procuring of the swill in urban sector, it was carried out by direct procuring (91.67%) and by involvement of the middle men (8.33%) but in rural sector, 100% respondents procure swill feed directly.

Almost all pig farmers following twice a day frequency of feeding in the study area. It was also noticed that, the quantity of the feed provided to the pigs was not measured by urban respondents (91.67%) and rural farmers (85.42%). Further, some additional feeds like vegetables, cereal grain, mill by products, and mixture of all were also provided by the respondents as presented in Table 05.

Table 5: Feeding practices followed by respondents of study area

Variables		Respondents (Per cent)		
		Urban (n=48)	Rural (n=96)	Overall (n=144)
Feeding of Animal	Stall feeding	18.75	9.38	12.50
	Scavenging feeding	18.75	36.46	30.56
	Scavenging with morning and evening ration	62.50	54.17	56.94
Type of Feed	Kitchen waste	0.00	7.00	4.48
	Hotel waste	2.08	2.30	2.24
	Hostel waste	2.08	2.30	2.24
	Mix. Of hotel and hostel waste	93.75	88.40	91.04
Process of Procuring	Direct Procuring	91.67	100.00	97.22
	Presence of middleman	8.33	0.00	2.78
Quantity of Feed Provided(In Kgs)	20-30	8.33	2.08	4.48
	40-50	0.00	0.00	0.00
	50-70	0.00	2.08	1.49
	Not measured	91.67	85.42	94.03
Additional feeding	Vegetables	0.00	0.00	0.00
	Cereal grain	6.25	0.00	2.08
	Mill by products	81.20	6.25	31.25
	Mixture of all	0.00	61.46	40.97
	Others (Fruits, fruit kernels)	0.00	2.08	1.39
	Not Practiced	12.50	30.21	24.31
Frequency of Feeding	Once	0.00	0.00	0.00
	Twice	100.00	100.00	100.00

3.2.3 Breeding practices

Breeding is one of the most important aspects for better productivity of the animals and the data pertaining to obtained in the present study is presented in Table 06. The respondents of study area in urban and rural sector rearing Yorkshire, Cross bred and Non-descript (ND) breeds were 10.42% and 5.21%, 41.67% and 38.54% and 47.92% and 56.25%, respectively. The farmers mostly reared non-descript/ indigenous breeds due to non-availability of improved germplasm and due to non-descript pig's disease resistance. It was shown that none of them practicing artificial insemination for breeding and only natural service was the mean of breeding in both urban and rural sectors. Due to lack of semen banks for pigs for artificial insemination in the Telangana state leading to insufficiency in improved germplasm. In urban sector 100% of the farmers were unable to detect the heat, while in rural sector, it is 98.96% (Table 06). Castration of the boar in urban and rural area was done by 100 % respondents. Farmers perceived that growth of the castrated pigs was more than non-castrated ones. They castrate their male pigs by indigenous traditional method.

Regarding farrowing, it was noticed that, most of the respondents (97.2%) had recorded the farrowing twice a year, with litter size of 4-6 and 6-8, recorded by 54.17% and 45.83% respondents in urban sector, whereas 75% and 25% respondents in rural sector, respectively. Weaning of piglets was not practiced in urban and rural sector (91.67%, 96.88%) and only it was done at 1-2 months age by 8.33% and 3.13% respondents of urban and rural piggeries. Over all 95.14% piggery farmers not practicing weaning (Table 06).

Table 6: Breeding practices followed in study area

Variables		Respondents (Per cent)		
		Urban (n=48)	Rural (n=96)	Overall (n=144)
Breed of Swine	Yorkshire	10.42	5.21	6.94
	Non – Descript	47.92	56.25	53.47
	Crossbred	41.67	38.54	39.58
Service of sow	Natural service with boars	100.00	100.00	100.00
	Artificial insemination	0.00	0.00	0.00
Heat detection	Yes	0.00	1.04	0.69
	No	100.00	98.96	99.31
Castration	Yes	100.00	100.00	100.00
	No	0.00	0.00	0.00
Farrowing's per sow in a year	Twice	97.92	97.92	97.92
	More than twice	2.08	2.08	2.08
Litter size	4-6	54.17	75.00	68.06
	6-8	45.83	25.00	31.94
Time of weaning	in 1 month	0.00	0.00	0.00
	in 1-2 month	8.33	3.13	4.86
	Not practiced	91.67	96.88	95.14

3.2.4 Health care practices

On the perusal of Table 07, it was observed that, 27.08% and 17.71% of farmers following the deworming practice regularly in urban and rural sectors, respectively. Irregular deworming practiced in urban and rural were 37.50% and 28.13% and deworming was not practiced were 35.42% and 54.17% in urban and rural areas. Overall, 20.83%, 31.25% and 47.92% of respondents practicing deworming regularly, irregularly and never, respectively. These results are in accordance with the reports of Deka *et al.* (2007) [3], Ritchil *et*

al. (2013) [16], Roy (2014) [17] and Sharma *et al.* (2015) [21]. Due to inadequate knowledge about importance of deworming in pigs and ignorance of farmers leading to reduced growth rate, FCR and increased mortality rates in pigs in the study area.

The vaccination was also not practiced by respondents of rural sector, but only 8.33% respondents of urban sector were practicing vaccination against foot and mouth disease. Due to lack of knowledge of vaccines against most harmful diseases of pigs, ignorance and non-availability of vaccines are the main reasons for not practicing vaccination in rural areas. Roy (2014) [17], Matabane *et al.* (2015) [7] and Ahmed *et al.* (2016) [1] also observed similar results in their studies. Deka *et al.* (2007) [3], Sharma *et al.* (2015) [20] noticed 38% of farmers vaccinate their pigs against swine fever in their study area.

Supplementation of iron was practiced in urban and rural sectors only by 14.58% and 8.33% of respondents (Table 13) to prevent piglet anaemia. Similar results observed by Roy (2014) [17], Sharma *et al.* (2015) [20] and Nanda *et al.* (2018) [10], who reported supplementation of iron injection was also practiced in organized sector only by 65% respondents. None of the farmer practicing removal of needle teeth to prevent teat injury to the dams in urban and rural areas of study area.

Similar results were also reported by Roy (2014) [17], Sharma *et al.* (2015) [20], and Nanda *et al.* (2018) [10].

Most of the respondents in urban (77.08%) and rural (40.63%) areas were reported about the satisfactory availability of veterinary aid in their area.

Mortality of piglets were recorded in below one month age, 1-3 months age and above 3 months age in urban and rural areas as 25% and 25%, 45.83% and 37.50% and 29.17% and 37.50%, respectively. Causes of piglet mortality in urban and rural areas recorded as piglet anaemia (10.42% and 5.21%), crushing under the sow (25% and 18.75%) and due to unknown diseases (97.92% and 98.96%). The most prevalent disease condition at urban and rural area was influenza (100%), diarrhoea (66.67% and 75%) and skin diseases (2.08% and 4.17%, Table 07). Isolation of sick/ailing animal was not followed by 87.50% respondents of urban sector and 95.83% respondents of rural sector.

The data revealed that, cleaning of pig sty in urban and rural sectors was practiced daily by 55.17% and 27.65%, alternate day by 24.10% and 25.55% and weekly by 20.60% and 46.80% respondents, respectively. Disposal of carcass by burial method was practiced by 16.67% of urban respondents and 13.54% and rural respondents.

Table 7: Health care practices followed in study area

Variables		Respondents (Per cent)		
		Urban (n=48)	Rural (n=96)	Overall (n=144)
Deworming	Regular	27.08	17.71	20.83
	Irregular	37.50	28.13	31.25
	Never	35.42	54.17	47.92
Vaccination	Yes	8.33	0.00	2.78
	No	91.67	100.00	97.22
Iron Inj./Tab	Yes	14.58	8.33	10.42
	No	85.42	91.67	89.58
Removal of needle teeth	Yes	0.00	0.00	0.00
	No	100.00	100.00	100.00
Veterinary aid available	Satisfactory	77.08	40.63	52.78
	Poor	22.92	59.38	47.22
Mortality in Pigs	Up to 1 month	25.00	25.00	25.00
	1-3 months	45.83	37.50	40.28
	Above 3 months	29.17	37.50	34.72
Piglet mortality causes	Piglet anaemia	10.42	5.21	6.94
	Crushing of piglets	25.00	18.75	20.83
	Unknown diseases	97.92	98.96	98.61
Prevalence of diseases	Diarrhoea	66.67	75.00	72.22
	Skin disease	2.08	4.17	3.47
	Influenza	100.00	100.00	100.00
Isolation of sick animals	Yes	12.50	4.17	6.94
	No	87.50	95.83	93.06
Cleaning of Pig sty	Daily	55.17	27.65	38.16
	Alternate Day	24.10	25.55	25.00
	Weekly	20.60	46.80	36.84
Burial of carcass	Yes	16.67	13.54	14.58
	No	83.33	86.46	85.42

Fig 3: Data Collection

Fig 4: Data Collection

Fig 5: Intensive system of rearing

Fig 6: Extensive system of rearing

Fig 7-8: Semi intensive system of housing with mud wall and iron fencing

Fig 9: Kutcha flooring

Fig 10: Pacca flooring

Fig 11: Pig sty with asbestos roof

Fig 12: Pig sty with tin roof

Fig 13: Pig sty with inefficient drainage

Fig 14: Pig sty with proper drainage

Fig 15 & 16: Feed bunks used to store Hotel and Hostel waste

Fig 17 & 18: Procurement of Hotel and Hostel food waste

Fig 19 & 20: Manger Feeding

Fig 21: Natural Service

Fig 22: Transportation of Pigs

Fig 23: Pig Slaughtering

Fig 24: Fresh Pork Sale

4. Recommendations

Basing on the findings of the present investigation, the following suggestions and recommendations were made in order to improve piggery farming conditions in urban and rural areas of Telangana state.

1) Proper veterinary care at farm level to decrease the mortality rate, training of farmers in taking additional care of pregnant sows through locally prepared nutritional supplements and routine check-ups could ensure by veterinarian for better care of piglets and to increase litter size.

2) Short term and long term training programmes (Capacity building) need to be organized to pig farmers in village level and then regular follow up of selected trained farmers helps to mitigate problems in promising meat producing animal like pigs.

3) Formulating need based government polices to uplift the piggery sector either by financial assistance or from advocating lending banks to come forward to extend credit facilities to the piggery farmers.

4) Establishment of Mega seed projects at regional/district level from Govt. sector, for producing required number of seed stock is very much helpful for supplying superior germ plasm of crossbred breeding stock.

5) Encouraging piggery farmers to form co-operative societies, unions and a federation at state level or organized self-help groups to counter exploitation of farmers by middlemen in marketing of pigs is essential.

6) Identification of marketing channels and processing units is the need of the hour to provide more remunerative returns to the farmers.

5. Acknowledgement

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