
International Journal of Advanced Research in Biological Sciences

ISSN : 2348-8069

www.ijarbs.com

Research Article



A study on correlation of adoption practices of tribal pig farmers of Manipur

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Abstract

The present study was conducted in Ukhrul district of Manipur. Two most tribal populated blocks namely Chingai and Kamjong were selected. From each block five villages were selected and a family from each selected villages were chosen. A total of 100 respondents were thus interviewed. The study revealed that majority of the respondents (89 %) had low to medium level of adoption followed by 11 per cent of the respondents having high adoption level. Stall feeding, twice feeding in a day and boiling of feeds were adopted by all the farmers. With regard to breeding, a very high majority adopted the practise of twice farrowing in a year followed by majority of the respondents adopting the practise of rearing cross bred respectively. Castration of piglets after weaning was adopted by majority of the respondents followed by about two third of the respondents adopting regular cleaning of pig sty. With respect to marketing, 43 per cent of the respondents adopted the practise of selling the animals and produce directly to the local market. The adoption of scientific pig management practices were found to be positive and highly significant with the independent variables like education, annual income from piggery, farming experience, land holdings, herd size, extensionagency contact and information source utilization. There was negative correlation between adoption of scientific pig management practices and the independent variables like age, sex and marital status. Occupation and family size were positively correlated with the adoption of scientific pig management practices

Keywords: Pig farmer, Adoption, Tribal

Introduction

The north-eastern region has an agrarian society with an average of 80 per cent tribal population. Agriculture and animal husbandry are the main source of income for majority of the population. Agriculture, however is of subsistence type characterized by monocropping and low cropping intensity, which is why it alone cannot support the livelihood need of the population unless animal husbandry is incorporated as a component in the overall farming system. Of the various livestock reared by the tribal farmers, pig plays an important role in the socio- economic upliftment of the farmers. It is the most popular and valued livestock in the region as almost 100 per cent of the tribal are pork eaters. Pigs are reared as a

backyard venture by most of the families in ukhrul. The indigenous system of management practiced by the tribal farmers is of low input and hence productivity is considerably low. The adoption of scientific pig farming practices needs to be understood for improving the socio- economic status and to bridge the gap between the demand- availability gap. This can be achieved only with the implementation of modern techniques by the farmers in the line of breeding, feeding, management, health care etc. Keeping the other facts in view, the present study was taken up to identify the relationship between personal and socio- economic characteristics and adoption of scientific pig management practices by tribal farmers.

Materials and Methods

Ukhrul district of Manipur was selected for the study as it was having the most tribal population. Of the five existing block of ukhrul district, two blocks viz- Chingnai and Kamjong have been selected based on higher tribal concentration and their association with pig farming. The nos. of villages under Chingai block was 35 out of which five villages namely Chingai, Kuingai, Kharasom, Chillo and Pai were selected. Kamjom block consist of 51 villages and five villages namely Kamjong, Bungpa khunou, Bungpa khullen, Grihang and Maku were selected by simple random sampling method. Ten pig farmers were selected randomly from each village thereby comprising a total of 100 respondents.

Extension agency contact refers to the degree to which a farmer interacts with extension agents for getting information on animal husbandry. Information source utilization refers to the type of information source utilized by the tribal famers for pig farming. Score of each individual and average of the total score for personal localite, personal cosmopolite and mass media source of information were summed up to analyse the preferential source of information of the respondents. The existing animal husbandry practices followed by the respondents have been noted by self observation and interview method. The animal husbandry practices variables were categorised into seven different aspects namely housing, breeding, feeding, health care, general care, marketing of pigs, decision making of the members of the family in daily operations of the farm. A score of one is given for each practise followed and a minimum of 'zero' score is given for every non adoption.

Results and Discussion

Relationship between personal and socio- economic characteristics and adoption of scientific pig management practices by tribal farmers.

Extent of adoption

In order to ascertain the extent of adoption of scientific pig management practices by the tribal farmers, information from the respondents on six practices, namely housing, feeding, breeding, health care, general management practices and marketing were collected. The responses were categorized into two

level of adoption i.e. adoption and non- adoption. The results on different practices were analyzed and presented in table 1,15,16,17, 18 and 19 and the overall adoption level was presented in table 20.

Housing

The adoption of recommended housing practices by the tribal pig farmers are presented in table 1.

The data in table 1 shows that all the respondents adopted construction of pig sty and adoption of close system of housing. The pig sty was constructed as per recommended practice in the north- south direction by 43 per cent of the respondents. No adoption in construction of scientific feeding and watering troughs were seen as the farmer's favours indigenous practices because of easily availability of cheap materials. Only 12 per cent and 4 per cent of the respondents respectively adopted provision of water storage and electricity for the animals. Only 5 per cent of the respondents provided adequate space for the animals.

Majority of the respondents has no idea about the recommended space requirement and floor space was provided by the owner's own measurement based on the breed and size of the animals. A very low (1 percent) of the respondent adopted construction of floor with concrete because construction of pucca floor requires higher capital investment which the farmers can hardly afford. Thus floors were usually constructed with locally available woods and the farmers also perceive that wood flooring is better for the animals.

Feeding

The adoption on scientific feeding practices is presented in table 2

Table 2 reveals that 100 percent of the tribal famers adopted recommended practices of stall feeding of animals, twice feeding in a day and cooking of feed. The pig feeds are properly boiled before feeding as it constitutes locally available weeds, kitchen wastes and vegetables. In terms of feeding of concentrates, 48 per cent of the respondents adopted the practice. Only a small no. of the respondents (16 %) adopted feeding of adequate quantity of concentrates. Large number of the respondents had no knowledge of scientific feeding of concentrates and also most of them could

not afford to provide recommended amount due to financial constraints.

Breeding

The adoption on scientific breeding practices is presented in table 3.

A perusal of table 3 shows that majority of the respondents (92 %) adopted the practice of twice farrowing in a year followed by 79 per cent of the respondents maintaining cross- bred pigs. More than two- third of the respondents (78 %) practiced rearing of breeding boars followed by 55 per cent of the respondents adopted the practice of first servicing of gilts at the age of 8- 10 months. Pregnancy diagnosis was adopted by 43 per cent of the respondents Only 37 per cent of the respondents adopted servicing twice at 12 hours interval after the onset of heat. No respondents adopted artificial insemination of animals. The tribal farmers mostly rear cross bred pigs as they attain faster body weight gain, larger litter size, and higher back fat thickness than the indigenous one. Rearing of breeding boar is widely practiced as artificial insemination facilities are not available and the farmers are unaware of A.I.

Health care practices

The adoption of scientific health care practices is presented in table 4.

In terms of health care practices, it is observed that a small no. of respondents (13 %) adopted the use of antibiotics for treatment of common infections encountered in the farm. 10 per cent of the respondents adopted deworming of animals using available drugs. None of the respondents adopted the use of ectoparasitic drugs and vaccination of the animals against contagious diseases.

The adoption level in health care practices are very low as majority of the farmers claimed that the animals rarely suffered from infections or hardly any fatalities were observed in the farms. Also most of the farmers use local herbs and plants for deworming and treating infections in the animals.

General care and management practices

The adoptions on scientific management practices are presented in table 5.

Table 5 reveals that the adoption of administration of iron injection was not followed by 100 per cent of the respondents. Majority of the respondents (90 %) adopted castration of piglets after weaning followed by 69 per cent of respondents adopted regular cleaning of pig sty. Special care of the pregnant sow was adopted by 56 per cent of the respondent followed by 50 per cent of the respondents adopted the practice of providing special care to the sow after farrowing. 49 per cent of the respondents were found adopting provision of artificial heat for the piglets during winter. Bedding of farrowing pen was adopted by 26 per cent of the respondents followed by 11 per cent of the farmers providing creeps for the piglets. The adoption of administration of iron injection was not followed by 100 per cent of the respondents.

All the farmers were not adopting administration of iron injection because they were not aware of it and its indication. Castration was practiced by majority of the respondents because the farmers observed that uncastrated boars were not preferred for Consumption as it gives an unpleasant odour to the pork and takes longer period to achieve its required body weight unlike castrated boars.

Marketing practices.

The adoption on scientific marketing practices are discussed in table 6.

Table 6 shows that 43 per cent of the respondents adopted the practice of selling the animals or pork directly to the local market. Only 11 and 9 per cent of the respondents adopted marketing of pigs attaining recommended body weight and age.

Majority of the respondents usually sold their animals after attaining a body weight of 90 and above and at one year and above of age because according to the farmers the animals contains much back fat thickness at this weight and age.

It is observed from table 20 that majority of the respondents (89 %) had low to medium level of adoption followed by marginal numbers of the respondents (11 %) having high level of adoption. This revelation of tribal pig farmers having low to medium level of adoption is mainly owing to their socio- economic condition, indigenous practices and inadequate knowledge of scientific practices.

Table 1: Distribution of respondents according to adoption of scientific housing practices.

N=100

SI.No	Housing practices	Adoption	Non adoption
		Per cent	Per cent
1	Construction of pig sty	100	00
2	Location of pig sty	43	57
3	Construction of concrete floor	01	99
4	system of housing(close)	100	00
5	Construction of feeding and watering troughs (concrete)	00	100
6	Water storage facility for the animal	12	88
7	Electric facility for the animals	04	96
8	Recommended floor space for the animals	05	95

Table 2: Distribution of respondents according to adoption of scientific feeding practices

N=100

SI.No	Feeding practices	Adoption	Non adoption
		Per cent	Per cent
1	Feeding system (stall feeding)	100	00
2	Feeding of concentrates feeds	48	52
3	Recommended frequency of feeding (twice in a day)	100	00
4	Recommended quantity of concentrate feed supply (1-2 kg)	16	84
5	Boiling of pig feed	100	00

Table 3: Distribution of respondents according to adoption of scientific breeding practices.

N=100

SI.No	Breeding practices	Adoption	Non adoption
		Per cent	Per cent
1	Rearing of cross bred	79	21
2	1 st service at 8- 10 months	55	45
3	Recommended time of service (twice after 12 hrs interval)	37	63
4	Practice of artificial insemination	00	100
5	Twice farrowing in a year	92	08
6.	Rearing of breeding boar	78	22
7.	Pregnancy diagnosis	43	57

Table 4: Distribution of respondents according to adoption of scientific health care practices.

N=100

SI.No	Health care practices	Adoption	Non adoption
		Per cent	Per cent
1	Use of antibiotics for treatment	13	87
2	Deworming practice (once every three months)	10	90
3	Use of ectoparasitic drugs	00	100
4	Vaccination against contagious diseases	00	100

Table 5: Distribution of the respondents according to adoption of scientific general care and management practices
N=100

SI.No	General management practices	Adoption	Non adoption
		Per cent	Per cent
1	Cutting of needle teeth	02	98
2	Weaning of piglets within two months	06	94
3	Castration of piglets after weaning	90	10
4	Special care to pregnant sow	56	44
5	Special care to sow after farrowing	50	50
6	Treatment of repeat breeding sows	00	100
7	Bedding of farrowing pen	26	74
8.	Artificial provision of heat	49	51
9.	Provision of creep	11	89
10	Cleaning of pig sty (regularly)	69	31
11	Administration of iron injection	00	100

Table 6: Distribution of respondents according to adoption of scientific marketing practices
N=100

SI.No	Marketing practices	Adoption	Non adoption
		Per cent	Per cent
1	Marketing of pigs at 8- 10 months	09	91
2	Weight of marketing pigs (70-80 kg)	11	89
3	Marketing directly to local market	43	57

Table 7: Distribution of respondents according to overall adoption level of pig farmers
N=100

S.No	Categories	Number	Per cent
1	Low (47 and below)	15	15
2	Medium (48- 58)	74	74
3	High (59 and above)	11	10

Mean ± S.D = 52.96 ± 5.07

max= 71

Table- 8: Correlation of adoption of scientific pig farming practices with twelve selected independent variables

SI.No.	Variables (independent)	Spearman's Rank correlation coefficient (r _s)
1.	Age (x ₁)	-.142 ^{NS}
2.	Sex (x ₂)	-.069 ^{NS}
3.	Education (x ₃)	.369**
4.	Occupation (x ₄)	.184 ^{NS}
5.	Marital status (x ₅)	-.069 ^{NS}
6.	Family size (x ₆)	.098 ^{NS}
7.	Annual income from piggery (x ₇)	.598**
8.	Farming experience (x ₈)	.502**
9.	Land holdings (x ₉)	.742**
10.	Herd size (x ₁₀)	.203**
11.	Extension agency contact (x ₁₁)	.512**
12.	Information source utilization (x ₁₂)	.565**

** Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level

Adoption behavior with socio- personal and economic characteristics of the respondents.

The relationship between the adoption behavior of scientific pig farming practices and twelve selected independent variables was assessed using spearman coefficient correlation. The results are shown in table 8.

1. Age: It is observed in table 21 that age was negatively correlated with adoption of scientific pig farming practices.

2. Sex: It is negatively related with the adoption of scientific pig farming practices.

3. Education: Education was positively and significantly related with adoption of scientific pig farming practices. The findings were similar with the findings of Rahman (2007) who reported that education had positive and significant relationship with adoption of scientific dairy practices.

4. Occupation: There is no significant relation with adoption of scientific pig farming practices and occupation of the respondents.

5. Marital status: It was found to be negatively and not significantly related to adoption of scientific pig farming practices.

6. Family size: There was no significant relation with adoption and family size.

7. Annual income from piggery: It had positive and highly significant relationship with the adoption of scientific pig farming practices. These findings are similar with the findings of Rahman (2007).

8. Farming experience: It was found that farming experience had positive and highly significant relationship with the adoption of scientific pig farming practices. These findings were in line with the findings of Rahman (2007) who reported similar findings.

9. Land holdings: It was observed that land holdings had positive and highly significant relationship with adoption. These agrees with the findings of Rahman (2007) and Chauhan *et al.* (2006) who reported similar findings.

10. Herd size: It was revealed that herd size to be positively and significantly correlated with adoption of scientific pig farming practices. These findings are in agreement with the findings of Rahman (2007).

11. Extension agency contact: It is found to be positively and significantly associated with the adoption level of the tribal farmers. Same line of finding was also observed by Rahman (2007).

12. Information source utilization: A perusal of table 8 shows that information source utilization had positive and highly significant relationship with adoption of scientific pig farming practices.

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