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Effect of scientific training in changing knowledge level among pig farmers of Dima Hasao District of Assam

¹Monosri Johari, ²Leema Bora, ³Koushik Kakoty, ⁴Sadananda Payeng and ⁵Janmoni Shyam

^{1, 4, 5}Assistant Professor, Department of Veterinary Extension Education, College of Veterinary Science, Khanapara, Ghy, Assam, India

²Senior Extension Specialist, Director of Extension Education, AAU, Khanapara, Guwahati, Assam, India

³Assistant Professor, Department of Veterinary Public Health and Epidemiology, Lakhimpur College of Veterinary Science, Joyhing, North Lakhimpur, Uttar Pradesh, India

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Corresponding Author: Monosri Johari

Abstract

The present study was carried out in Prapdisa village of Diyunbra ITDP block located in DimaHasao district of Assam which was purposively selected to assess the knowledge gain of farmers attending scientific training on pig farming. From the village 50 numbers of farmers who attended the training programme were selected. A well structured interview schedule was developed after discussion with experts, subject matter specialists and available review of literature. The farmers were interviewed before the intervention and the same respondents were interviewed after the intervention in the study area to evaluate the gain in knowledge level of the farmers. The results of the study revealed that the overall knowledge of farmers for the selected practices before starting the training was 30.55per cent, which reached upto 79.45per cent after completion of training and the overall knowledge gain was 48.91per cent with respect to different aspects of scientific piggery training. Organizing such type of training programmes can boost the adoption of scientific pig farming practices and improve the knowledge of villagers regarding housing, breeding, feeding and health care practices for earning more benefits from pig farming.

Keywords: Pig farming, knowledge, training

1. Introduction

Training is an essential tool for developing attitude, knowledge and skill in a specific field (Hossain *et al.*, 2021) [5]. Conducting regular training programmes can have a positive impact on farmers which can lead to better productivity and income, adoption of scientific farming practices and thereby leading to improved livelihood. Training programmes can equip the farmers with the requisite knowledge and skills required to run their enterprise enabling them to optimize their methods of farming and manage their resources effectively. Vocational training for the farmers proved to be significant input in increasing farm production, information regarding various inputs like breeding, feeding, management, etc (Rajak *et al.* 2022) [14]. However the amount of knowledge a participating farmer can acquire during training is not always uniform as it can be influenced by various factors viz. the resource person, physical facilities of the training institute, use of audio visual aids etc. So, such types of training programs requires periodic evaluation to know the level of knowledge and skills acquired by the participating farmers which will allow the requisite and suitable modifications to be incorporated in the training programmes to make it more effective in the near future. Keeping in view the above facts a study was undertaken to assess the knowledge gain of

farmers who attended the scientific training on pig farming in Dima Hasao district of Assam

The study was conducted in Dima Hasao district of Assam. The district has five developmental blocks out of which only one block was selected randomly for the study. Diyunbra ITDP block was selected for the study. From the selected block, Prapdisa village was purposively selected for the study. From the selected village 50 numbers of farmers were selected as respondents. In order to have an idea of the community and their livelihood systems in the project area, a preliminary visit was taken up targeting at conducting participatory extension activities. The visit was made on 15th July 2022 and the proposed participatory extension activities was conducted as Focus Group Discussions (FGDs) in Prapdisa Village, Diyunbra ITDP Development Block, Dima Hasao district. Focus Group Discussion was conducted on the theme "Existing pig rearing conditions and associated practices in Diyunbra ITDP Development Block" with a groups of people which comprised of village Headman, youth leaders, community works, officials working in agriculture and allied Departments. The FGD was started with brief introduction on the theme of the discussion by the researcher to the participants. The researcher explained the purpose of visit as per project objectives and encouraged all the stakeholders to take part

in the discussion to explore the current status of pig farming and associated issues like scale of operations, breeds reared and challenges faced by the pig farmers in the area. Discussion on the practices related to pig rearing, breeding, biosecurity measures, disease prevention and waste management were also taken up. Later the awareness programme was organised in the selected study area where the farmers were trained on advance scientific pig rearing pattern by lecture method with the help of audio visual aid to sustain the interest of the audience. In addition the respondents were constantly receiving information from the experts in the form soft copy which was disseminated through Whatsapp as well in the hard copy form like leaflet and technical bulletin during the period from 2022 to 2024. Pretest and post test study was done in the selected area. The respondents were interviewed before the intervention and the same respondents were interviewed after the intervention in the study area to evaluate the gain in knowledge level of the farmers. Fifty numbers of farmers before intervention and the same 50 numbers of farmers were intervened after the completion of the programme. Data were collected by using structured interview schedule which was prepared after discussion with experts, subject matter specialists and available review of literature which consisted of 11 statements on different aspects of scientific piggery farming. A score of '1' for correct response and '0' score for incorrect response was given for analysis of the knowledge level and gain in knowledge. Percentage calculation was done for analysis of the socio-personal characteristics, knowledge level and knowledge gain amongst the farmers attending the programme. Following formulae were used for evaluation:

$$\text{Knowledge per cent} = \frac{\text{Score Obtained}}{\text{Possible obtainable score}} \times 100$$

Knowledge Gain per cent = (Score obtained on before intervention - Score obtained after intervention / Total possible obtainable score) x100

Overall Knowledge = (Total score obtained on all aspects / Total possible obtainable score in all aspects) x100

To assess the socio-economic status of the pig farmers in the project area, a sample survey was conducted using a structured Interview Schedule on 50 respondents. It was observed from Table 1 that the average age of the farmers was around 41 years. Similar findings were also reported by Ume *et al.* (2020) ^[19] and Banta, (2012) ^[2]. With increase in members in a family, labour works required to manage pig farming activities can be managed by the family. Similar findings were also reported by Idoje *et al.*, 2012 ^[6] wherein the labour or workforce of the family were allocated to swine production since the workforce doing most of the work are from the home during the crop production season. Their social participation as member or office bearer of social organisations like youth club, religious society and Self-Help Group was low with participation accounting to once a year only. Their extension contact was also just once or twice a year. Contradictory finding was reported by Chah *et al.* (2016) ^[2] where the farmers made no extension contact. They spent around 3 hours a day for managing pigs.

Average annual income for them was approximately Rs.2,31,400.00 which included income from piggery amounting to an average of Rs. 50,520.00 from about 2.76 numbers of herd size. They also possessed other livestock equivalent to 0.50 cattle units.

Table 2 revealed that majority of the respondents involved himself/herself for managing pigs. Ume *et al.* (2020) ^[19] also found similar results in their study on pig farmers' socioeconomic characteristics wherein the sampled farmers were used more of family labour. Breeding practice adopted was natural service and fed the pigs with indigenously computed ration and kitchen waste. Similar findings were reported by Johari *et al.* (2015) ^[9], Johari & Saharia (2017) ^[8] and Shivakumar *et al.* (2024) ^[17]. The major source of feed was indigenously computed ration and kitchen waste, used by 100 per cent of the farmers. The findings were on par with observations of Radhakrishnan *et al.* (2018) ^[13], Sangli *et al.* (2018) ^[15] and Majunder *et al.* (2020) ^[11] in Telengana state, who revealed that swill feed (kitchen/hotel waste) and slaughter house offals were the major feed provided to the pigs. Shivakumar *et al.* (2022) ^[18] also reported that that all pig farmers (100 per cent) practiced stall feeding and kitchen / hotel waste was the major source of feed for their pigs in Bengaluru regions. Contradictory finding was reported by Motsa *et al.*, (2018) wherein 57.8per cent of farmers feed their pigs with compounded feed associated with kitchen and farm residues twice daily, morning and evening. In case of management/health care aspect they undertook castration or spaying of piglets almost regularly, provided clean water for the purpose of drinking and weaned piglets. Similar findings were reported by Johari *et al.* (2014) ^[10] and Johari & Saharia (2017) ^[8].

In perusal of Table 3, the overall knowledge of farmers for selected practices before starting the training was 30.55per cent, which reached upto 79.45per cent after completion of training and the overall knowledge gain was 48.91per cent with respect to different aspects of scientific piggery training. At initial stage of the training programme the respondents had little knowledge which ranged from 20-42 per cent among different practices and after training remarkable change was observed in knowledge level which ranged from 54-96 per cent. Similar results were reported by many researchers Shyam *et al.* (2024) ^[4], Sasikala *et al.* (2024) ^[16], Jena *et al.* (2022) ^[7], Chakraborty *et al.* (2021) ^[3], who found that there was significant increase in the knowledge level after attending such training programmes. Maximum knowledge gain was found in knowledge regarding improved breeds of swine (50per cent) followed by knowledge on biosecurity measures (48per cent). Knowledge gain regarding artificial insemination of pigs (44 per cent), Practice of flushing and providing special ration to pregnant sows (38per cent) followed by special feeding during gestation (36per cent) and scientific housing (36per cent). Knowledge gain on providing colostrums to newly born piglets (32 per cent). Other practices like feeding special ration to lactating sows (30per cent) followed by healthcare (28 per cent) and zoonotic diseases (26 per cent) also showed increase in the knowledge level. The results clearly indicated that training on scientific piggery farming was effective in enhancing the knowledge of farmers.

On the basis of the results of the study, it can be concluded that the training programmes can further boost the adoption

of scientific pig farming practices and improve the knowledge of villagers regarding housing, breeding, feeding and health care practices for earning more benefits from pig farming. Thus, through organizing such training programmes, the farmers can be acquainted with improved

management and feeding practices through appropriate extension programmes viz. awareness campaign, exhibitions, demonstration etc. to obtain more output from their enterprise in the near future.

Table 1: Frequency Distribution of the Respondents on the basis of their socio-economic variables

Variables	Mean	SD	Range	Low	Medium	High
Age	40.78	6.89	28-60	6(12)	36(72)	8(16)
Family size	4.52	0.86	2-7	1(2)	47(94)	2(4)
Social participation	1	0	1	0(0)	50(100)	0(0)
Extension contact	1.16	0.61	1-4	0(0)	48(96)	2(4)
Time spent in managing pigs	3.64	0.95	2-6	0(0)	46(92)	4(8)
Annual income	231400	328267	80,000-3,20,000	2(4)	48(96)	0(0)
Income from piggery	50520.00	5879.78	10,000-30,000	10(20)	33(66)	7(14)
Herd size	2.76	1.11	2-6	0(0)	47(94)	3(6)

Table 2: Frequency distribution of Respondents on the basis of labour involvement Breeding, Feeding And Management/Healthcare Practices

Variables	Degree of involvement		
	Mostly	Sometimes	Rarely
Type of labour involved in managing pig			
Himself/Herself	40(80)	1(2)	1(2)
Breeding practices			
Natural service	50(100)	0(0)	0(0)
Feeding practices			
Indigenously computed ration and kitchen waste	50(100)	0(0)	0(0)
Management/Health Care			
Providing clean water for the purpose of drinking	50(100)	0(0)	0(0)
Castration/spaying of piglets	50(100)	0(0)	0(0)
Weaning of piglets	50(100)	2(4)	0(0)

Table 3: Knowledge gain of farmers about scientific piggery farming

Sl. No.	Statements	Score obtained		Knowledge per cent		Knowledge gain per cent
		Pre-training evaluation	Post training evaluation	Pre-training evaluation	Post training evaluation	
1.	Scientific housing	16	48	32	96	36
2.	Improved breeds	18	45	36	90	50
3.	Artificial Insemination in pigs	13	35	26	70	44
4.	Special feed during gestation	12	35	24	70	36
5.	Flushing	10	27	20	54	38
6.	Colostrum feeding to newborn piglets	12	35	24	70	32
7.	Special ration to pregnant sows	18	40	36	80	38
8.	Special ration to lactating sows	17	35	34	70	30
9.	Health care	16	45	32	90	28
10.	Biosecurity measures	21	45	42	90	48
11.	Zoonotic diseases	15	47	30	94	26
		168	437	30.55	79.45	48.91

Conflict of Interest

The authors declare no conflict of interest.

Data Availability Statement

Data set generated during research need to be available from the corresponding author upon reasonable request.

Authors' Contributions

MJ: Involved in data Collection; MJ, KK, LB, SP: Involved in conceptualization, data Analysis, drafting Manuscript; JS: Engaged in review, editing, supervision

Ethical Approval

Approved by [Institutional Animal Ethics Committee],

reference no.

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Use of artificial intelligence tools

During the preparation of this work, the author(s) did not use any Artificial Intelligence tools.

Highlights

- Majority of the respondents were of middle age group with medium family size.
- Majority of the respondents had made medium social participation and extension contact.
- Breeding practice adopted was natural service

- Castration of piglets provided clean water for the purpose of drinking and weaned piglets.

Knowledge gain was 48.91 per cent with respect to different aspects of scientific piggery training

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