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Identification of training needs of Niang Megha farmers in East Khasi Hills district of Meghalaya

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Abstract
Identification of training needs is a key component for any training programme for dissemination of information and for imparting the required knowledge to the farmers which would enhance their socio-economic profile. This study basically identifies those areas in scientific pig farming practices on which the farmers rearing Niang Megha would seek training for. The study was taken up purposively in East Khasi Hills district due to its sizeable portion of Niang Megha rearing farmers. Mawsynram and Pynursla block were selected randomly from this district for the present study. Two villages each were selected at random from the randomly selected blocks. Data were collected and recorded from a sample size of about 100 respondents by using a structured questionnaire. The analysed data revealed that animal health care was the most preferred area for training (TNI=77.95%) and was ranked 1st followed by feeding management (TNI=72.23%) and general management (TNI=65.70%). The study also disclose that the requirement for floor space, fodder production, sign and symptoms of pregnancy, vaccination against infectious diseases, special care of sow, preparation of value added products and knowledge of zoonotic diseases were the most preferred sub areas for training under housing, feeding, breeding, health care, general management, marketing and environmental control management. Therefore, it can be concluded that training agencies, institutions, organisations and extension workers need to focus on these training need areas while imparting training programmes to such farmers.

Keywords: Meghalaya, Niang Megha, training needs, pig farming, TNI

Introduction
The livestock is a force for economic upliftment of the country. It is a structural element of the farming system not only as a source for deriving meat protein but also as a major source of farm power services as well as for generating employment. Pigs comprise 1.70 percent to the total livestock population and the total pig population in the country was 9.06 million in numbers (Livestock Census, 2019) [3]. More or less than 3.8 million numbers of pigs are base in the North-East region which is over one quarter of the pigs in India, which bears testimony of importance of pig rearing in the livelihood systems of farmers in the region (Zaman *et al*., 2015) [15].

Pig farming is wide spread in the state of Meghalaya with a pig population of about 5, 69,301 of which crossed bred comprises 1, 37,984 and indigenous 4, 31,317 as per the livestock census report (ISS Report, 2018-19) [2]. The local indigenous pigs of the state are well known as Niang Megha. Niang Megha is a local pig breed from Garo, Khasi and Jaintia hills of Meghalaya reared for pork in most cases whereas some farmers rear it for breeding purpose (Sahoo *et al*., 2012) [9]. The indigenous breeds possessed unique features such as better heat tolerance, good meat quality, early sexual maturity and produces high quality bristles compared with exotic/ crossbreds (Karunakaran *et al*., 2009) [4]. The Niang Megha breed is registered by National Bureau of Animal Genetic Resources under Accession No. INDIA_PIG_1300_NIANG MEGHA_09002 (NBAGR, 2016) [5]. These pigs are reared in a traditional manner by the farmers but are in urgent need of scientific interventions to upscale the techniques of management and gain benefit from it (Suchiang *et al*., 2017) [12]. Hence, the development of training process with due regards to the training needs of the Niang Megha farmers is the need of the hour to improve the production and productivity of Niang Megha pigs, which in return will improve the farmer's socio-economic condition.

Training is a process of attaining new skills, attitude and knowledge so as to improve the productivity in an enterprise. In order to make training more effective, the training needs have to be identified prior to commencement of any training programmes so that the subject matter

of the training could be determined on the basis of the needs of the trainees (Singh and Gill, 1982) [11]. The main purpose of identification of training needs is to close the gap that may exist between actual and desired situations by signifying the discrepancies in outcomes, arranging them based on priority and selecting the most crucial for closure or reduction (Rothwell and Kazanas, 1998) [6].

Materials and Methods

Locale of the study

The study was conducted purposively in East Khasi Hills districts of Meghalaya. Two blocks namely Mawsynram block and Pynursla block were selected randomly from this district. From each randomly selected block, 2 villages each were selected for data collection making a total of 4 villages undertaken for the study.

Selection of respondents

A total of 25 respondents were selected at random from each randomly selected villages of Mawsynram and Pynursla block of Meghalaya. Therefore, the total respondents for the study were 100 respondents. Data was collected from these 100 respondents by using a structured questionnaire.

Measurement of dependable variables

The training needs schedule developed by Roy, (2015) [7] was followed with slight modifications. The training needs were measured in seven major farm operations, each consisting of minor operations. The major operations includes Housing management, Feeding management, Breeding management, Animal health care management, General management, Marketing strategies and Environmental control. Three points continuums was used and the training needs were quantified by assigning the score 3, 2 and 1 respectively for mostly needed, somewhat needed and least needed in minor operations. The summation of all the scores obtained gives the total training needs score for each particular minor operation / item within the major operations. The training need index for each major operation was calculated using a formula. The operations were ranked based on the TNI.

The Training Need Index (TNI) was computed by using the formula developed by Sharma *et al*. (2014) [13].

Training Need Index:

$$\text{For minor operation / item} = \frac{\text{Total training need score for the item}}{\text{Maximum possible score for that item}} \text{ X } 100$$

$$\text{For each major operation} = \frac{\text{Sum of the training need score for all items in that operation}}{\text{Sum of maximum possible scores of all items in that operation}} \text{X } 100$$

Results and Discussion

The data presented in Table 1 shows that animal health care was the most needed area (TNI=77.95%) under major operations for which Niang Megha farmers need training and was ranked 1st position. This might be because of economic losses incurreddue to infectious diseases and lack of proper information and knowledge aboutscientific healthcare management practices. Feeding management was the second most preferred area (TNI=72.23%) followed by general management practices with a TNI of 65.70 percent. Dhaka *et al.* (2017) [1] also stated similar findings in their study on training needs assessment of women farmers on livestock production management practices. The area of marketing management was the least preferred with TNI of 49.44 percent and ranked 7th position. This may be due to the reasonthat most butchers or the local traders used to buy the pigs directly from the famer's farm.

Table 1: Training needs of the respondents for major operations in scientific pig farming.

(N=100)

Sl. No.	Major operations	TNI (%)	Rank
1.	Housing management	60.46	VI
2.	Feeding management	72.23	II
3.	Breeding Management	65.14	IV
4.	Animal health care management	77.95	I
5.	General management	65.70	III
6.	Marketing strategies	49.44	VII
7.	Environmental control	62.53	V

The results from table 2 shows that floor space requirement was the most preferred area (78%) for training under housing management followed by types of housing (69.67%) and drainage requirement (59.67%). Roy, (2015) [7] also stated similar findings in his study on training needs of pig farmers in Darjeeling. Other areas such as orientation of housing and lighting management were the least preferred area for training and were ranked 4th and 5th position.

Table 2: Training needs for housing management.

(N=100)

Sl. No.	Particulars	Total score	Mean	TNI	Rank
1.	Types of housing	209	2.09	69.67	II
2.	Orientation of housing	174	1.74	58.00	IV
3.	Floor space requirement	234	2.34	78.00	I
4.	Lighting management	111	1.11	37.00	V
5.	Drainage requirement	179	1.79	59.67	III

Table 3 reveals that fodder production was perceived as most needed (90%) area for training under feeding management followed by preparation of low cost feed (86.67%) and types of feeding (80.67%). These findings are supported by Rajput *et al*. (2012)[8] who stated that fodder production was the most needed area for training under feeding management in their study on perceived training needs of dairy farmers regarding improved dairy farming practices.

Table 3: Training needs for feeding management

(N=100)

Sl. No.	Particulars	Total score	Mean	TNI	Rank
1.	Types of feeding	242	2.42	80.67	III
2.	Preparation of low cost feed	260	2.60	86.67	II
3.	Fodder production	270	2.70	90.00	I
4.	Daily requirement of ration	226	2.26	75.33	IV
5.	Daily requirement of water	147	1.47	49.00	VII
6.	Silage preparation	184	1.84	61.33	VI
7.	Provision of creep ration	188	1.88	62.66	V

Table 4 shows that sign and symptoms of pregnancy was the most needed area (97.67%) for training as per the preference given by the farmers followed by sign and symptoms of heat (92.33%) and recommended number of services (77.33%). Roy, (2015) [7] also stated similar findings in his study on training needs of pig farmers in Darjeeling. Rearing of cross breed was the least area needed for training.

Table 4: Training needs for breeding management.

(N=100)

Sl. No.	Particulars	Total score	Mean	TNI	Rank
1.	Rearing of cross breed	130	1.30	43.33	IX
2.	Use of flush ration before oestrus	162	1.62	54.00	VII
3.	Breeding age of pig	172	1.72	57.33	VI
4.	Recommended number of services	232	2.32	77.33	III
5.	Sign and symptoms of heat	277	2.77	92.33	II
6.	Insemination technique	173	1.73	57.66	V
7.	Sign and symptoms of pregnancy	293	2.93	97.67	I
8.	Twice furrowing in a year	179	1.79	59.67	IV
9.	Rearing of breeding boar	141	1.41	47.00	VIII

Table 5 reveals that vaccination against infectious diseases was the most preferred area (98.66%) and ranked 1st position under health care management practices on which farmers need training followed by deworming practices (96%) and iron injection (94.66%). Tekale *et al*. (2013) [14] in their study also reported that vaccination or prevention of diseases was perceived as most important by the goat farmers. Use of antibiotic drugs, use of ectoparasitic drugs, maintenance of personal hygiene and treatment of repeat breeding were the least needed areas for training.

Table 5: Training needs for animal health care management.

(N=100)

Sl. No.	Particulars	Total score	Mean	TNI	Rank
1.	Deworming practices	288	2.88	96.00	II
2.	Use of ectoparasitic drugs	243	2.43	81.00	V
3.	Use of antibiotic drugs	261	2.61	87.00	IV
4.	Vaccination against infectious diseases	296	2.96	98.66	I
5.	Iron injection for pigment anaemia	194	1.94	94.66	III
6.	Treatment of repeat breeding	176	1.76	58.67	VII
7.	Maintenance of personal hygiene	179	1.79	59.67	VI

It can be observed from Table 6 that special care of sow during pregnancy was opined as most needed area for training (97.66%), followed by care of sow after farrowing (84.67%) and bedding of farrowing pen (78.33%). Roy, (2015) [7] also stated similar findings in his study on training needs of pig farmers in Darjeeling. Among the areas under general management practices, animal welfare was the last area needed for training and was ranked 10th position.

Table 6: Training needs for general management.

Sl. No.	Particulars	Total score	Mean	TNI	Rank
1.	Special care of pregnant sow	293	2.93	97.66	I
2.	Special care to sow after farrowing	254	2.54	84.67	II
3.	Cutting of needle teeth	188	1.88	62.66	VI
4.	Weaning of piglets within two months	175	1.75	58.33	VIII
5.	Castration of piglets after weaning	195	1.95	65.00	IV
6.	Artificial provision of heat	182	1.82	60.67	VII
7.	Bedding of farrowing pen	235	2.35	78.33	III
8.	Regular cleaning of pig sty	193	1.93	64.33	V
9.	Record keeping	137	1.37	45.67	IX
10.	Animal welfare	119	1.19	39.67	X

Preparation of value added meat products was perceived as most needed (67.67%) area for training followed by procurement of cut meat products (54.33%) and hygienic meat production (53.33%). Selling of pork during festival was ranked 6th position for which farmers need training (Table 7).

Table 7: Training needs for marketing strategies

(N=100)

Sl. No.	Particulars	Total score	Mean	TNI	Rank
1.	Preparation of value added meat products	203	2.03	67.67	I
2.	Procurement of cut meat products	163	1.63	54.33	II
3.	Certification and branding of Pork	131	1.31	43.66	IV
4.	Hygienic meat production	166	1.66	53.33	III
5.	Selling of pork during festival	104	1.04	34.67	VI
6.	Formation of producer group	123	1.23	41.00	V

Table 8 shows that knowledge of transmission of zoonotic diseases was perceived as most needed area for training (86%) followed by site of carcass disposal (70.33%), methods of carcass disposal (70%), site for carcass disposal (43.44%) and method of waste disposal (43%).

Table 8: Training needs for environmental control.

(N=100)

Sl. No.	Particulars	Total score	Mean	TNI	Rank
1.	Methods for waste disposal	129	1.29	43.00	V
2.	Methods for carcass disposal	210	2.10	70.00	III
3.	Site for waste disposal	130	1.30	43.33	IV
4.	Site for carcass disposal	211	2.11	70.33	II
5.	Knowledge of transmission of zoonotic diseases.	258	2.58	86.00	I

Conclusion

From the findings we can understand that the farmers in Meghalaya who are rearing Niang Megha prefer to receive training basically in major areas of healthcare management, feeding management and general management practices. Adequate training in areas which were perceived as most needed by the farmers will help in strengthening their capacity building as well as improve their socio-economic profile. While imparting training programme, priorities should be given to our salient findings so as to improve the overall farming practice of the farmers.

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