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Training Need of Fish Farmers in Bishnupur District of Manipur: An Analysis

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ABSTRACT

The present study was conducted in Bishnupur district of Manipur in order to ascertain the training need of fish farmers. The data was gathered using pre-tested structured interview schedule. Overall training need of the respondents was 58.71 percent. Maximum training need of fish farmers was observed towards fish diseases control, hatchery management/fish seed production/nursery management and Aquaculture. Culture of commercially important fish species in aquaculture, preparation of shidal in fish processing, identification of different causing factor of fish diseases, maintenance and use of portable plastic carp hatchery and design and construction of hatchery unit were identified as key areas for training need of the fish farmers. The study suggests that concerted training efforts on the part of Department of Fisheries and other stakeholders is needed for realizing the potential of fish farming in Manipur.

Key words: Fish farmers, training need, fish culture, capacity building.

INTRODUCTION

United Nations Conference on Environment and Development (UNCED) and its Agenda 21 recognized that the lack or shortage of national capacity is one of the main impediments to the sustainable development of fisheries. Capacity-building is needed to improve *inter alia* the qualifications of manpower (e.g. fishers as well as scientific advisers or fishery administrators), the technology and the institutions (including laws and regulations, organizations and processes). Training and extension are two important elements of capacity-building. Training for the fishery sector is no less a continuous process than in any other sectors, nor is the basic need for training. This applies to developed and developing countries alike. However, specific requirements differ greatly within the fishery sector and the opportunities as well as standards of training are often not yet consistent with the actual needs, particularly in many developing countries. This is partly due to the fact that the scope of training needs for the wide range of disciplines in the fisheries sector is not always clearly defined (*FAO, 2005*). Information and training are key to power in addressing food and nutrition security and access to adequate information and required training is very essential for fish farming productivity (*Mgbada, 2006*) and, information and training are indispensable factor in the practice of farming and there are bias in extension service delivery. The expansion of the small holder fish farming sector is hampered by low levels of knowledge of fish farmers on inputs and pond management (*Sarker et al, 2006*). This deficiency in information and training impedes the growth and productivity of small holder fish farmers. Information and relevant training needed by fish farmers are essentially generated and provided by research stations, cooperate bodies and the government, but when developed there is usually a gap between these providers and the fish farmers who are the end users. More importantly, small holder fish farmers are usually acquainted with different techniques and methods but there is a need to improve these techniques and methods. In view of the above facts and notions, the present study was conducted to ascertain the training needs of fish farmers in major and specific areas of fisheries and aquaculture.

METHODOLOGY

The present study was conducted during 2013-14 in purposively selected district of Bishnupur in Manipur which contributes highest fish production in the fish basket of the State. In addition, the district has maximum population of fish farmers. Further, out of three Sub-divisions (SD) of the district, one SD namely Nambol was selected randomly thereafter, 15 villages and 8 fish farmers from each village were selected randomly. Thus the sample comprises 120 respondents. The data was gathered using pre-tested structured interview schedule. Descriptive and diagnostic research design was formulated to conduct the investigation. Five broad areas of fisheries and aquaculture *viz.*, aquaculture, fish disease

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management, fish processing, fish seed production and aquaculture engineering were considered for training need assessment. Further, critical training need in sub-areas were identified by reviewing available literature, in consultation with experts, extension scientists and programme coordinators of KVKs. Responses of the respondents were rated on four point continuum *viz.*, most needed, needed, least needed and not needed by assigning a score of 4, 3, 2 and 1, respectively. Training Need Index (TNI) was computed with the help of following formula.

$$TNI = \frac{\text{Total score obtained}}{\text{Maximum score obtainable}} \times 100$$

RESULTS AND DISCUSSION

Table 1: Distribution of respondents according to their level of training need

n=120

Category	Frequency	Percentage
Low (< $\bar{x}$ – 1 SD)	14	11.67
Medium ($\bar{x}$ ± 1SD)	85	70.83
High (> $\bar{x}$ + 1SD)	21	17.50
Total		

Mean-35.25, SD-8.09

The findings of the Table 1 indicates that the majority (70.83%) of fish farmers in the study area had medium level of training need in fisheries and aquaculture, followed by 17.50 per cent have high level of training need and remaining 11.67 per cent farmers had low training need;. This may contributed due to low or medium level of entrepreneurial characteristics, level of aspiration, lack of economic motivation and scientific orientation towards farming as reported by Ram *et al,* (2008, 2013). Data in Table 2 indicates maximum training needs of fish farmers for fish diseases control (86.46%), hatchery management/fish seed production/nursery management (55.21%) and aquaculture (53.96%) which were ranked I, II and III, respectively.

Table 2: Training needs related to major areas in fisheries and aquaculture

Major raining need areas	Index*	Rank
Aquaculture	53.96	III
Fish processing	50.00	
Fish diseases control	86.46	I
Fish genetics & reproduction	55.21	II
Aquaculture engineering	47.92	

Overall Training Needs=58.71%
*Training Need Index

Fish processing (50%) and construction of pond and fabrication of net repairing of fishing craft (47.92%) were also identified for training by the significant percentage of fish farmers. The overall training need of the respondents was found to be high (58.71%). This suggests that fish farmers of the study area had high level of training needs on all the above subject matter areas. With the increasing demand for fish, practice of pisciculture has been intensified. Consequently, pisciculturist has been facing various hazards. One among such hazards is the diseases resulting from parasitic infections (*Puinyabati, 2010*). Hence, maximum training need was perceived for fish diseases control by the fish farmers. Hatchery management/fish seed production/nursery management requires specific skills and more profitable venture among fisheries therefore; majority of fish farmers expressed their training need in this area was perceived for fish diseases control by the fish farmers. Hatchery management/fish seed production/nursery management requires specific skills and more profitable venture among fisheries therefore; majority of fish farmers expressed their training need in this area.

Table 3: Training needs in specialized areas of fisheries & aquaculture

Training need areas	Percentage	Rank
Aquaculture		
Pond management	48.33	
Composite fish culture	48.33	
Carp culture	47.70	
Culture of commercially important fish species	53.75	III
Pre stocking & post stocking management	49.37	
Fish farm management practice	49.58	
Integrated fish farming practice	49.37	
Paddy cum fish culture	47.91	
Fish cum poultry	48.95	
Fish cum piggery	48.95	
Fish cum horticulture	56.04	II
Culture of indigenous fish species	57.50	I
Fish Processing		
Preparation of value added fish products.	51.67	II
Preparation of shidal	52.92	I
Draying of fish using artificial fish dryer	48.33	III
Packaging of fish and fish products	46.67	
Utilization of fish wastes	47.08	
Fish Disease		
Common fish diseases and its remedial measures	86.46	II
Identification of different causing factor of fish diseases	87.71	I
Pollution status of water bodies and its maintenance practice.	68.96	III
Water and soil quality management	68.75	
Fish seed production		
Development of cost effective hatchery and management practice	56.67	II
Maintenance and use of portable plastic carp hatchery	57.71	I
Nursery and rearing of juveniles	50.83	III
Culture and management of brood stock fish.	49.17	
Fish seed packaging & transportation technique	48.96	
Aquaculture engineering		
Design and construction of fish farms	49.17	II
Design and construction of hatchery unit	57.92	I
Mending of fish craft & gears	48.33	III
Management and operation practice of different fishing gears.	47.71	

Sub-areas of critical training need in fisheries and aquaculture were identified by reviewing available literature, in consultation with experts, extension scientists, line department officials and programme coordinator of KVK. Responses were rated and presented in Table 3.

Training needs on aquaculture: Table 3 reveals various training needs of fish famers on aquaculture and allied area *viz.* culture of indigenous fish species (57.50%), fish-cum horticulture (56.04%) and culture of commercially important fish species (53.75%) ,ranked as Ist, IInd and IIIrd positions, respectively. This were followed by fish farm management practice, pre-stocking & post-stocking management, pond management, composite fish culture, fish-cum piggery, fish-cum poultry and paddy-cum fish culture. Small indigenous fish species of freshwater origin are not only a source of vital protein to the rural poor but also of micro-nutrients such as calcium, zinc, iron and fatty acids (*Roos et al, 2007; Halwart, 2008*). Farmers of the study area were aware about this fact through their indigenous wisdom hence; majority had preferred need for training on culture of indigenous fish species. Sanjeev *et al*, (2012) reported that the farmers of Manipur need training on integrated fish farming practices and ranked I.

Training needs on fish processing: Table 3 reveals various training needs of fish famers on fish processing and allied area *viz.* preparation of shidal (52.92%), preparation of value added fish products (51.67%) and drying of fish using artificial fish dryer (48.33%), ranked as Ist, IInd and IIIrd positions, respectively. Similar findings were reported by Pandey and Prasad (2008).This was followed by packaging of fish and fish products and utilization of fish wastes with corresponding percentage of 47.08 and 46.67, respectively. *'Shidal'* is a salt-free fermented fish product indigenous to the Northeastern States of India. It is known as *Ngari* in Manipur and commonly consumed in all the seven Northeastern states of India (*Muzaddadi and Basu, 2012*). Hence, fish farmers of the study area were interested to acquire more knowledge and skill in this field.

Training needs related to fish disease: Table 3 indicates fish farmers accorded the highest need for training on identification of different causal factor of fish diseases (87.71%) and, common fish diseases and its remedial measures (86.46%). It was followed by pollution status of water bodies and its maintenance practice (68.96%), water and soil quality management (68.75%). While it may be difficult to avoid fish diseases completely, it is better to prevent their occurrence rather than to allow them to develop and then attempting to cure them once they start to cause problems. There are several causes of disease that may affect the fish directly or may continue to cause disease problems. Basically, any factor which causes stress or difficulty to the fish decreases its resistance to disease and increases the chance of disease problems occurring. Hence, identification of different causal factor of fish diseases was considered very important and the highest training need was perceived by the fish farmers.

Training needs related to fish seed production: In fish seed production, maintenance and use of portable plastic carp hatchery (57.71%); development of cost effective hatchery and management practice (56.67%) and nursery and rearing of juveniles (50.83%) were the major areas of training needed by the respondents. Further, they reported training need on culture and management of brood stock fish (49.17%) and fish seeds packaging & transportation technique (48.96%). Fiber reinforced plastic hatchery, as an alternative to concrete hatchery was used for production of healthy carp seed. This hatchery is easy to install, operate and it has an added advantage that the unit can be carried to different location as per the requirement of the farmer. This technology is of immense help in producing quality fish seed and ensuring availability of adequate quantity fish seeds to small and marginal farmers all over the country. Majority of fish farmers needed competency in this area.

Training needs on aquaculture engineering: Table 3 indicates training on design and construction of hatchery unit (57.92%) as priority area for training as perceived by the respondents. This was followed by need for design and construction of fish farms, mending of fish craft and gears and management and operation practice of different fishing gears. During the production season proper hatchery management requires uncommon skills and total dedication by well-trained personnel. Therefore, in designing a fish hatchery only those technical solutions that offer the best guarantees in terms of reliability, ease of use, production capacity, hygienic working conditions and cost effectiveness have to be used. Famers accorded priority in this area for capacity building.

CONCLUSION

The results of this study revealed that majority of fish farmers in the study area had medium level of training need in fisheries and aquaculture. The fish farmers' perceptions on training needs reflect that the diseases control, hatchery management/fish seed production/ nursery management and aquaculture are the key areas for training in fisheries and aquaculture. The training needs perceived by the farmers would be valuable information

for the institutions offering training. This would help developing need based training programmes for capacity building of fish farmers. In this direction KVK, FFDA, and other stakeholders of the district and State Department of Fisheries etc., could make use of this research finding. This would go a long way in increasing fish production and narrowing the gap of demand and supply of fish in the region.

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