Socioeconomic Frame Work of Fish Farmers in Tamil Nadu

K Nagamani[*], *Deboral Vimala*[**]

Abstract

Livelihood generation through fish culture is an age old practice and especially so in places where fish forms an integral part of both social and cultural life. In sequence to socioeconomic framework of the fish farmer society forms a target for policy formulation to enlarge this economically backward sector. Few studies have been conducted on the socioeconomic aspect of fish farming. The study was conducted in two districts such as Thiruchirappali and Karur districts of Tamil Nadu. The data was collected for this study from 103 respondents of each district randomly sampled through questionnaire survey and a structured interview schedule. The study area is with abundant freshwater resources which can generate food and income if utilized to full potential. This study attempts to the socioeconomic variables of fish farmers on fish production. Socioeconomic profiles of Tamil Nadu fish farmers are presented. The socioeconomic status of fish farmers has to be improved by bringing the new innovative concepts of fish farming to the access way of farmers.

Keywords: Socioeconomics, Fish culture.

Introduction

Fisheries are an important sector in India-it provides employment to millions of people and contributes to food security of the country. With a coastline of over 8000 km, an Exclusive Economic Zone (EEZ) of over 2 million sq. km, and with extensive freshwater resources, fisheries play a vital role. Fish farming is an age-old activity and in practice from ancient times. Fish farming can be combined with agriculture and animal husbandry which can lead to better use of local resources. Fish is a component of the Indian diet and a source of animal protein. The socioeconomic characteristics pertaining to demography means of production and investment, income and expenditure of people living in a particular location strongly influence their response to technological changes and participation in development schemes [9].

Requirement of reliable information on socioeconomic condition of the target group is one of the serious barriers in the successful implementation of developmental programs. In fisheries sector, several socioeconomic surveys had been conducted by various agencies and research workers in different regions of our country to study one or the other problem of fish farmer community. In fisheries sector, information on socioeconomic frame work of fish farmers plays a key role as productive activities forms a good base for successful implementation of developmental program of the economically backward sector. This study attempts to the socioeconomic variables of fish farmers on fish production. Socioeconomic profiles of Tamil Nadu fresh water fish farmers are presented. A large section of the people depends on fishery as their livelihood. 900 fish ponds have been constructed and stocked with fish in Thiruchirapalli, Thanjavur and Karur district. Some of these are not utilized to their full potential.

Socioeconomic parameters such as age, educational status, marital status, family type, family size, occupational status, ownership of farm, experience in farming, social participation, income, influence in fish farming. Studies on these variables not only explained the overall socioeconomic conditions of the fish farmers, but also identified the constraints faced by them.

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Study Area

Tamil Nadu has bountiful natural resources with regard to fisheries development and, if properly managed and maintained, it can yield long-term sustainable production for the benefit of the people of the state. The state has both inland and marine fishery resources with 1076 km long coastline and 608 marine fishing villages. There is a vast extent of freshwater and brackish water resources constituting the inland fishery resources in the state. The area of the proposed study is Thiruchirapalli, Thanjavur and Karur districts (Fig. 1). Thiruchirapalli district is located in the central part of Tamil Nadu, Karur district in the west and Thanjavur district in the east. It lies between10°33' and 11°03' of the Northern latitudes and 77°11' and 79° 17'of the eastern longitude in the central part of Tamil Nadu.

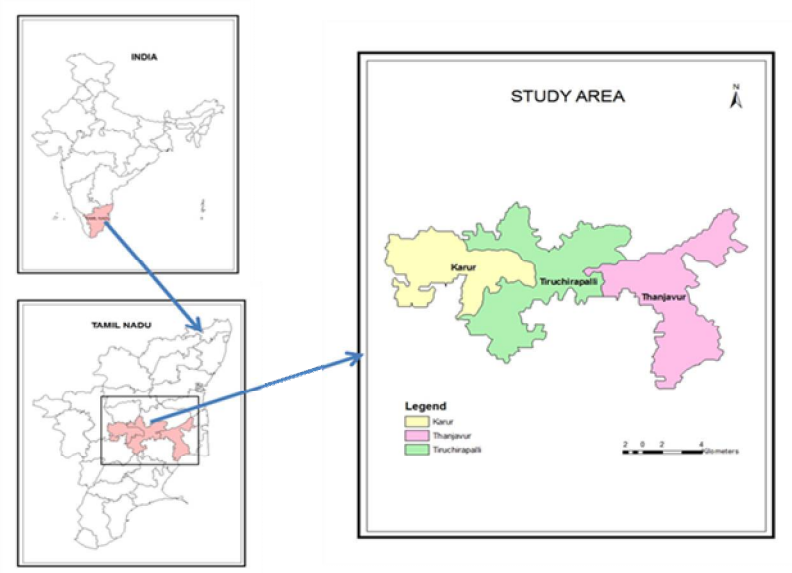

Figure 1.Location Map

Methodology

This study was conducted in Thiruchirappali, Thanjavur and Karur districts of Tamil Nadu. These districts were purposively selected, because of time and resource constraints. All the beneficiaries of Fish Farmers Development Agency (FFDA) during 2014-15 constitute the population of the study. List of farmers was obtained from department of fisheries and a random 39 farmers in Thiruchirappali, 58 farmers in Thanjavur and 6 farmers from Karur district were drawn randomly. The study was based on collection of primary and secondary data. Primary data was collected from fish farmers by the researcher. The secondary information was collected from fishery offices. Before collecting the primary data, a draft questionnaire was developed which was pre-tested with a few pond fish farmers. In the pre-testing, much attention was given to any new information in the draft questionnaire in order to reach the objectives of the study. According to the experience gained in pre-testing, the final questionnaire was improved, rearranged and modified. The final question questionnaire was rearranged and modified. The final questionnaire included the questions on the socioeconomic condition, age, educational status, marital status, family type, family size, and occupational status, ownership of farm, experience in farming, social participation, income, and influence in fish farming. For calculation of percentage, mean statistical tool like MS-Excel was used.

Results and Discussion

Demographic Profile of Fish Farmers

Age: The data presented in Table 1 shows that the percentage of fish farmers belong to middle-age group followed by young age group (94 per cent) and only 6 percent fish farmers belong to old age group (Fig. 2). This indicates more involvement of middle- and young-age group fish farmers in fish farming in the study area. It could, therefore, be inferred that fish farming practices fascinated the attention of the younger generation.

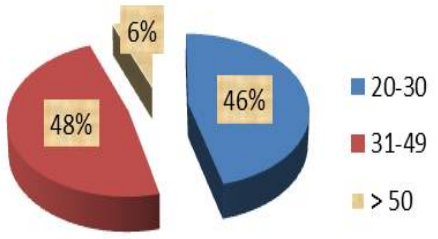

Figure 2.Age Distribution of Fish Farmers

Educational Status: Since the fish culture system is a technical one, the fish culturists require collecting knowledge on better fish culture technique. If the farmers have some institutional educational background, they can easily understand the system. Literacy rate of pond fish farmers can play a vital role in efficient management and operation as well as in successful production of fish. Education and farming efficiency are closely related and education generally has a positive effect on farm productivity. An educated farmer is more likely to adopt new technology than an uneducated one (Meena et al. 2002). With regard to the educational status, it could be observed that 29 percent had attained primary education, 20 percent were high school level of education, 46 percent were higher secondary and 5 percent were under-graduates as shown in graph clearly the variation of educational status (Fig. 3).

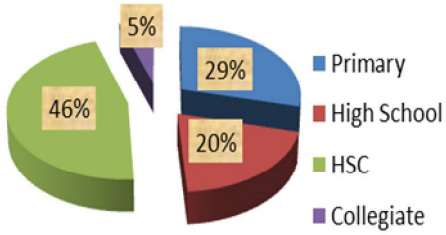

Figure 3.Educational Status of Fish Farmers

Religious Status: The caste pattern of the respondents shows that the majority of the respondents were Hindus. This category plays a very important role in social and cultural environment of people in the given area. In Fig. 4, it was found that maximum fish farmers were Hindus about 91percent while small proportions 6 percent were Christians and 3 percent were Muslims.

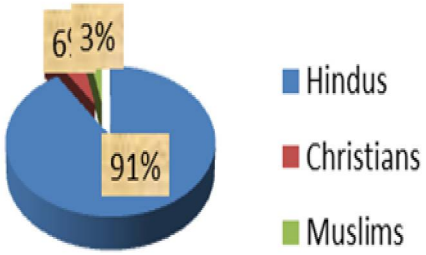

Figure 4.Religious Status of Fish Farmers

Marital Status

In case of marital status of fish farmers, 94 percent were married, 2 percent were divorced and 4 percent were widowed (Fig. 5). There is an important relationship between gender and marital status of fish farmers. This involves a clear confirmation to the fact that marital status is significant to the success of fish farming as family members of married male and female are likely to contribute in terms of labor for stocking, feeding, management, harvesting, and sale of fish.

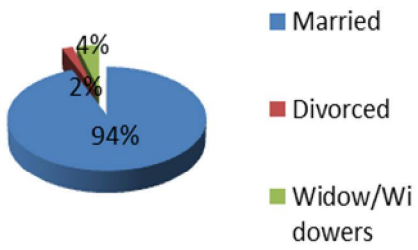

Figure 5.Marital Status of Fish Farmers

Gender: Gender deals with the social relationship between men and women and how these relationships are negotiated in the production of goods and services [3]. However, it is important to note that such gender relationships exist among rural fish farmers. Farmers' personal characteristic and socioeconomic status, which are determined by gender, constitute critical factors in technology utilization process [2]. Gender influences knowledge, perceptions and needs of farmers as well as their access to agricultural technologies [9]. Majority of the fish farmers were male (93%) while the female were 7% (Fig. 6). This is an indication that males participate more in fish farming than females. This is an agreement with the findings by USAID (2009) on the challenges facing women in Burkina Faso which established that women were constrained in terms of access to land, control of production, decision making on use of assets (e.g., livestock) and control over household income. This result can be justified by the assertion of Brummett et al. [1] that fisheries activities are mostly dominated by men (Fig. 6).

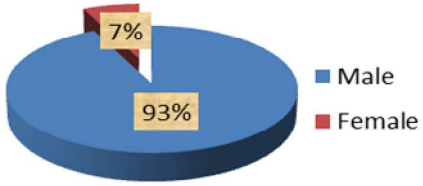

Figure 6.Gender Status of Fish Farmers

Family Type

From the survey, it was found that about 86 percent of farmers lived with nuclear families and 14 percent lived with joint families (Fig. 7).

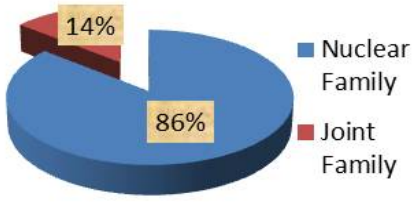

Figure 7.Family Type of Fish Farmers

Family Size

The family size was divided into two categories according to the number of members in the family. The data collected revealed that76 percent of the fish farmers had small size of family consisting of four to five members. And the rest 24% had large family size consisting of more than six members. Family size influences the fish production and the family members were domestic laborers as shown in Fig. 8. Present findings well correspond with Pandey and Upadhayay [5].

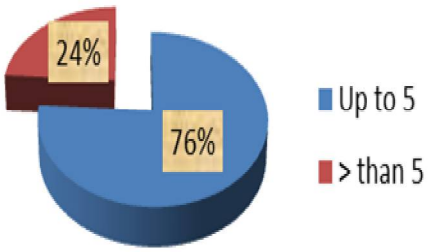

Figure 8.Family Size of Fish Farmers

Occupational Status

Results in Fig. 9 show that the majority of the fish farmers were involved in fish farming as a principal occupation (54 percent), followed by agriculture and business and other services 46 percent (Fig. 9).

It was reported that only primary occupation was insufficient for them to provide adequate means of livelihood. Some of the respondents stated that they were involved in fish farming as their secondary occupation to secure their livelihood in the year round manner while, 14, 26, and 6 percent were occupied in business, agriculture, services and poultry raising as the secondary occupation. Sarker [7] found that 17, 52, 3 and 28 percent farmers were related to agriculture fish culture, business and others as secondary occupation in Habigonj district. However, the results point out that a considerable number of people are carrying out fish farming in spite of being occupied by other occupations.

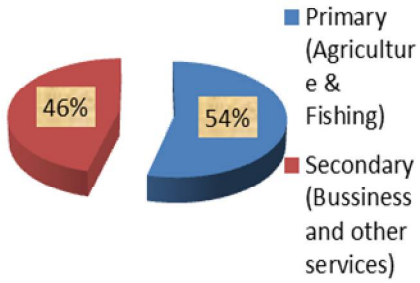

Figure 9.Occupational Status of Fish Farmers

Experience in Farming

The main source of fish farmers' income is in fish farming. 11 percent of response had over 12 years of experience followed by 52 percent had 5–10 years and 37 percent had less than five years of experience in fish farming (Fig. 10). As a result, the respondents with the highest number of years of experience should have good skill and better approaches to fish farming business. The respondents with longer years of the were also able to forecast market situation in which they sell their products at higher prices. Those with less years of experience, especially with less than 5 years faced many risks in the early days of their fish farming business and they were encouraged by Department of Fisheries, Thiruchirappali and Karur districts of Tamil Nadu.

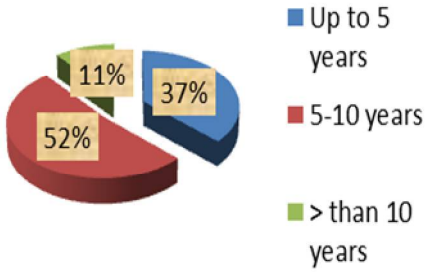

Figure 10.Gender Status of Fish Farmers

Constraints

Major constraints faced by the fish producers of Thiruchirapalli and Karur districts are presented in Table 1. Fish farmers routinely borrow from private money lenders at an exorbitant rate. On the other hand, most of the farmers are defaulters in loan repayment and hence nationalized banks do not give any loan to them. Lack of lending institutions like credit cooperative society has negligible presence in this area. On the other hand, most of the farmers are defaulters in loan repayment and hence nationalized banks do not give any loan to them. Non-availability of hatchery-bred fish seed was reported by 98% of farmers and exorbitant cost of company feed by 94% of farmers. Plurality of ownership is hampering for the progress of fish production as revealed by 21 percent of the respondents.

S. No.	Constraints	Percentage N=103
	Inadequate technical knowledge	
1	Non-availability of fish seed	91 (88%)
2	High cost of feed	97 (94%)
3	Plurality of ownership	21 (20%)
4	Poaching	19 (18%)
5	Poisoning	5 (5%)
6	Cost of inorganic fertilizers	79 (77%)
7	Lack of access to credit 101 (98%)	

*Multiple responses

Table 1.Major Constraints of Fish Farmers

Inadequate technical knowledge is the major constraint in adopting fishery as a profession. Lack of access to credit is reported by 88 percent of the respondents as the major constraint. Poaching and poisoning was also indicated by the farmers as social problems, hindering aquaculture operation. Chakaraborthy (1993) reported deliberate poisoning and illegal poaching being encountered by farmers of Burdwan, West Bengal. For fish farmers, they would need information on fish farming technologies, construction and management, breeds and spawning, processing, storage and marketing [4] and financing. Access to information is very essential for increased productivity by fish farmers and high price of inorg. Farmers wanted quality of soil, water, fish seed and fish food needs to be of reasonably good quality to have better yields. Rahman [9] stated that the major constraints of carp farming were lack of money and higher production cost. The problems encountered by the fish farmers in the surveyed area are almost similar to those of Biswas et al. (2001).

Conclusion

In view of different observations in the present study, the study area was found to be potential area for fish culture. In conclusion, it can be said that fish farmers are supposed to be given facilities on training program and input availabilities also be provided with credit facilities, aggravated to exploit all types of water bodies for fish culture as well as integrated culture must be adopted. In the study area, all the water resources should be exploited for fish culture, timely and regular trainings to be given to get maximum production by using suitable technology. Additional hatcheries should be established, so that the fish farmers can get quality seeds easily. If there is a technical support the farmers can shine and it could be fruitful for their livelihood.

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