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Mohan Maloth

Professor, Jayashankar
Telangana, Agricultural
University, Hyderabad,
Telangana, India

Swetha M

Krishi Vigyan Kendra, Rudrur,
Nizamabad, Telangana, India

Balazzii Naaik RVT

Krishi Vigyan Kendra, Rudrur,
Nizamabad, Telangana, India

Rajkumar BV

Krishi Vigyan Kendra, Rudrur,
Nizamabad, Telangana, India

Bhavyamanjari M

Krishi Vigyan Kendra, Rudrur,
Nizamabad, Telangana, India

Suresh M

Krishi Vigyan Kendra, Rudrur,
Nizamabad, Telangana, India

Vijay Kumar P

Krishi Vigyan Kendra, Rudrur,
Nizamabad, Telangana, India

Corresponding Author:**Mohan Maloth**

Professor, Jayashankar
Telangana, Agricultural
University, Hyderabad,
Telangana, India

Socio-economic profile of fish farmers of Nizamabad District, Telangana

Mohan Maloth, Swetha M, Balazzii Naaik RVT, Rajkumar BV, Bhavyamanjari M, Suresh M and Vijay Kumar P

Abstract

A study of the socioeconomic conditions is a prerequisite for the suitable design and successful implementation of any project, training, demonstration, or government developmental programs. The present study was conducted to assess the socioeconomic characteristics namely education, employment, income levels from aquaculture, and other farm and nonfarm activities of fish farmers of Nizamabad district, along with the status of fish farming and livelihood of the fish farmer. The fish farmers are the key stakeholders of the fisheries sector. Hence, to address the issues related to the development of the fisheries sector of the state, the status of fish farmers of the state needs to be understood. The present study is an effort in this direction. Using simple random sampling 50 fish farmers are selected from the Nizamabad district. The present study reveals that fish farmers in the state are economically poor with average per capita annual income (Rs. 30,000/-) significantly lower than the average per capita annual income. Though the literacy rate among the farmers reasonably good (72%) but the overall level of education is found to be very poor with the majority having a middle school level of education. The study, after examining all the indicators, concludes that the overall situation of the fish farmer stakeholders of the state is unhappy which needs to be improved with appropriate policy initiatives.

Keywords: Small-scale fish farmer, aquaculture, education, income, livelihood security

Introduction

Fisheries is an important sector in India and plays a significant role in livelihood security, and socioeconomic improvement of the country, by enhancing family income, generating gainful employment, and providing healthy food to the millions of rural people. India is the second major producer of fish and the second-largest aquaculture nation in the world with total fish production of 12.61 Million Metric tones in 2017-18. The gross value tallying of the fisheries and aquaculture sector during 2016-17 is 0.96% of the National Gross Value Added (GVA) and 5.37% to the agricultural GVA [1]. In India, regarding aquaculture, Andhra Pradesh is prominent in fish production tracked by West Bengal. The fish production trend in Andhra Pradesh in the year 2017-18 is 3.45 MMT [2]. However, in the newly formed state, Telangana is not lagging behind. Telangana ranks third in India in fishing resources and sixth largest regarding fish production. The fisheries sector in Telangana is a traditional and important occupation contributing about 0.5 percent to the GDP of agriculture and allied sectors during 2018-19 [3]. To strengthen the sector Government is introducing many fisheries development schemes to improve the productivity, reduce post-harvest losses, increase livelihood support, and welfare of fishers in capture and culture of fisheries.

Telangana presents a unique spectrum of fishermen profile with several traditional communities like Bestas, Gangaputras, and Mudiraj. They constitute major communities who claim fishing as a sole and monopolistic right in the water bodies owned by Government and Panchayats, though today there are inroads made into their domain by others here and there but only as exceptions. People of various castes and sub-castes viz., Agnikulakshatriya, Palli, Vadabalija, Bestha, Jalari, Gangavar, Gangaputra, Goondla, Vanyakulakshatriya (Vannekapu, Vannerreddi, Pallikapu, Pallireddi, Neyyala, Pattapu, etc.) are also actively pursuing the fisheries activities. The State has a fishermen population of 19.04 lakhs accounting for over 5% of demography. An estimated four lakh persons (>20%) are directly and indirectly engaged in various fisheries-related activities across the State (Base line survey govt. of Telangana). The livelihood of traditional fishermen, ethnic and community groups like Mudiraj, Gangaputras/Bestas who constitute major stakeholders is still dependent on fisheries.

Nizamabad is a city in state of Telangana. It is a major urban agglomeration and the third-largest city in the state. The total number of fisheries cooperative societies 283 with a member 19112, in which fishermen cooperative societies 249 and fisherwomen cooperative societies 29.

Materials and Methods

Sources of data

During the collection of data, both primary and secondary sources are considered. Primary data were collected from fish farmers whereas secondary information was procured from fishery offices.

Statistical analysis

Percentage calculated by using mean statistical tool like MS-Excel was used.

Sampling procedure

Total 50 fish farmers selected randomly from different villages of Nizamabad district where fisheries cooperative society members actively engaged in fishing activities.

Socioeconomic research variables

Different variables were identified in socio-domain viz., the profile of fish farmers - personal, socioeconomic, psychological, communication, and situational characteristics was included. A structured interview scheduled was developed integrating all the queries to achieve the objectives set for the study. The collected data was tabulated for statistical analysis

Results and Discussion

In the fisheries sector, the socio-economic status of fishermen plays a major role in productive activities. Socio-economic parameters like as a profile of fish farmers – Demographic, socio-economic, psychological, communication and situational characteristics, etc. were included. (Sarma and IrshadAli, 2005) [4] studies reveal that socio-economic variables not only to clarify the fish farmers conditions but also to admit the factors constraining the understanding of the full potential of the standard fishery and also the appropriate area for state intervention.

Demographic profile of the fish farmer

Age

Knowledge of the age of fish farmers is vital in estimating potential productive human resources (Hussain *et al.*, 2009) [5]. (Table 1 and Fig 1) reveals that in Nizamabad 48% of the fish farmers belonged to the middle age group (31 to 45 years of age) followed by 44% farmers are from (>45 years of age) old age farmers and 8% young generation (<30 years) farmers. (Silviyanun 2013) [6] Reported that 35-44 years of age group farmers were the foremost productive (39.36%). However, (Syandri 2015) [7] observed young farmers be productive and innovative, also brave to investment more.

Table 1: Age distribution of the fish farmers

Age groups	Percentage total (n=50)
Young (below 30 yrs.)	8%
Middle (31-45 yrs.)	48%
Old (46 yrs. & above)	44%

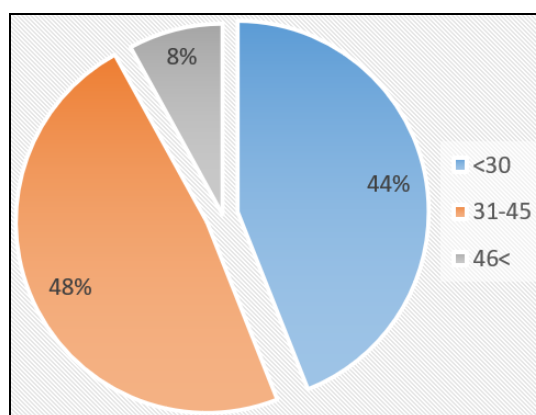


Fig 1: Age distribution of the fish farmers

Education

Education is a basic socioeconomic factor, fish culture could be a scientific one, and so, fish culturists need to must gather knowledge on different fish culture techniques. If the farmers have some institutional educational background they will easily understand the system. The literacy rate of pond fish farmers can play an important role in efficient management and operation still as within the successful production of fish. Education and farming efficiency are closely related and education generally encompasses a positive effect on farm productivity an informed farmer is more likely to adopt new technology than an uneducated one (Meena *et al.*, 2002) [8]. About the academic level of respondents, it may well be observed that 10% of the total respondents had attained primary education, 24% were middle school level of education, 20% were high school passed, 6% were intermediate, 10% were undergraduate while there no

postgraduates in the study area (Table 2 and Fig 2). Since the large number of fish, farmers were educated up to the middle school level and thereby representing a minimum level of education. However, a little percentage has incorporates a high level of education suggesting that even literate farmers were interested in fish farming.

Table 2: Educational status of fish farmers

Educational level	Percentage total (n=50)
Illiterate	28%
Can read and write	2%
Primary school	10%
Middle school	24%
High school	20%
Intermediate	6%
Graduation	10%

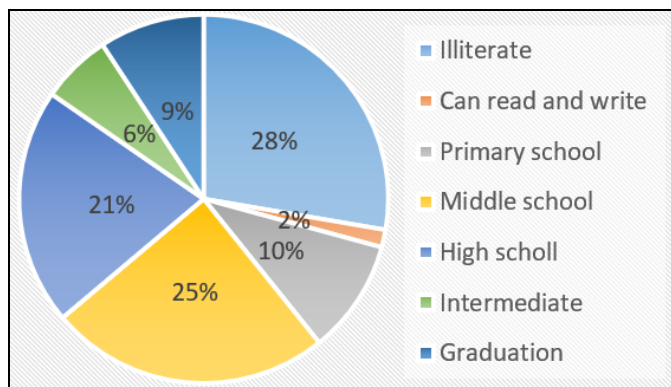


Fig 2: Educational status of fish farmers

Fish farming experience

It is a well-known fact that the experiences of fish farmers in aquaculture have an encouraging influence on fish production. (Table. 3 and Fig. 3) 58.46% of the respondents having medium experience (3-6 yrs.) in fish culture. While 33.08% of the respondents had high-level experience (7 yrs. & above). Remaining 8.46% of respondents had a lower level of experience (<2years) in fish culture. This indicates that

aquaculture took a flip in recent years.

Table 3: Fish farming experience of farmers

Fish farming experience	Percentage total (n=50)
Low (2 yrs.)	8%
Medium (3-6 yrs.)	58%
High (7 yrs. & above)	34%

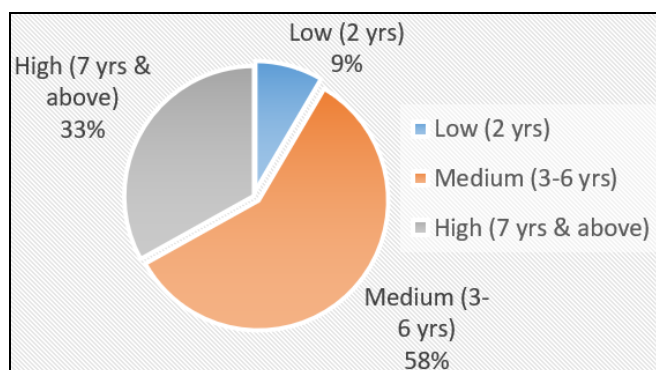


Fig 3: Fish farming experience of farmers

Family Size

Family size is a vital socio-economic indicator because it reflects the income, food consumption, and socio-economic well-being of the households [5]. On the opposite hand, family size reflects the availability of family Labour plays an important role in fish farming. Fish farmers under this study are categorized into three family size groups viz., small family (<4 members), medium family (4-6 members), and large family (>6 members). The majority (60%) of farmers belong

to the medium family (Table 4 and Fig. 4) which is followed by a large family (26%) and a small family (14%).

Table 4: Family size of the fish farmers

Family size	Percentage of the total (n=50)
<4 members	14%
4-6 members	60%
>6 members	26%

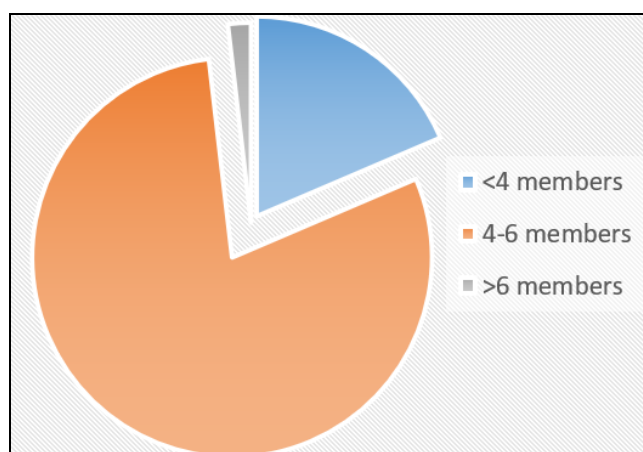


Fig 4: Family size of the fish farmers

Caste

Caste is one of the significant factors affecting the choice of the profession and possession of skill in diverse rural commercial activities (Singh 2003) [9]. Majority of farmers (72%) in the present study belong to BC-A, followed by general category (22%) and other backward class scheduled tribe (4%). No farmer is found under the present study belonging to Scheduled caste community (Table 5).

Table 5: Caste of the fish farmers

Castes	Percentage of the total (n=50)
General	22%
SC	0%
ST	6%
BC-A	72%

Family Status

In the present study, families were classified into two categories as nuclear family and joint family. About 71% farmers lived in nuclear families and the remaining 46% in joint families (Table 6). The family size has also influence on the revenue and expenditure of the family

Table 6: Family status of the fish farmer in the study area

Family Type	Percentage of the total (n=50)
Nuclear Family	71%
Joint Family	29%

Socio-Economic Variable

Social Participation

Social participation is important for sociocultural development and discussion on many issues including fish production and marketing. The bulk of the fish farmers (54%) have a medium level of social participation (Table. 7 and Fig. 5). However, only a little segment (18%) of the fish farming community had the high level of social participation. Farmers participated in social institutions like clubs, schools, libraries, co-operatives, and village welfare organizations.

Table 7: The social participation level of fish farmer

Level of social participation	Percentage of the total (n=50)
High	18%
Medium	54%
Low	28%

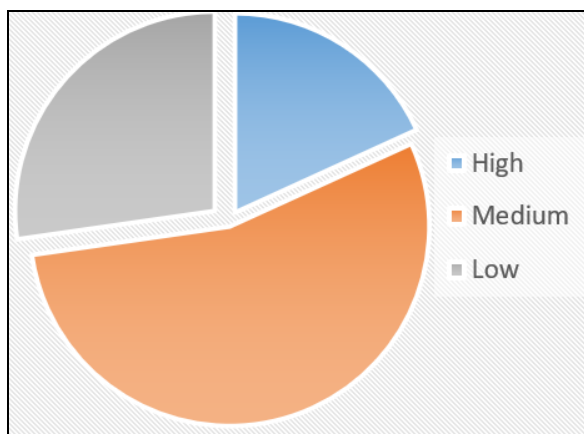


Fig 5: The social participation level of fish farmer

Annual Income

In general, employment and income are the dual decisive factors mostly used for determining the living standard of any community or region. The chosen fish farmers were grouped into five categories supported the extent of their income (Table 8 and Fig 6). The very best percentage (58%) fish farmers earned Rs. 15,000/- to Rs. 30,000/-. This low level of income reflects in their poor condition, which was not sufficient to take care of their normal livelihood. They cannot afford much for fish culture activities. These results of the

annual income of fish farmers resemble well with the results of (Goswami *et al.*, 2002) [10] and (Rahman *et al.*, 2012) [11].

Table 8: Annual Income level of the fish farmers

Income level (Rs)/yr.	Percentage of total (n=50)
up to 15,000	32%
15,000 to 30,000	58%
30,000 to 50,000	8%
Above 50,000	2%

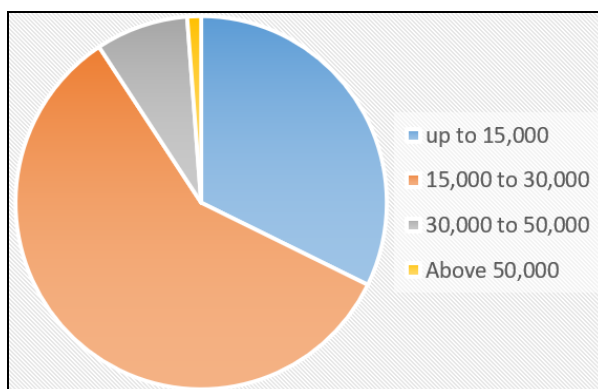


Fig. 6: Annual Income level of the fish farmers

Expenditure Pattern

Most of the fish farmer belongs to the low income group and found it difficult to maintain their requirements from their earnings. A perusal expenditure pattern shows that about 74% of the income of the farmers was spent on their food alone. The clothing was found to be the next major item for an expenditure point of view among the farmers (Table 9).

Table 9: Expenditure Pattern (% of earnings) of fish farmer households

Item	Percentage of the total (n=50)
Food	74%
Clothing	10%
Education	8%
Medical	6%
Entertainment	2%

Situational Variable

Area of the Pond

The pond area and water depth are the important determinants of fish productivity as it provides living space for fishes. In the study (Table 10 and Fig. 7) area, 32% of farmers were owned pond size 0.5 to 0.8 ha, whereas 50% and 18% farmers having small (0.2-0.5ha) and large (>1ha) size of pond respectively. This is indicative of the medium size of pond available with farmers of Nizamabad.

Table 10: Area of ponds in (ha)

Range (ha)	Percentage of the total (n=50)
0.2-0.5ha	50%
0.5 to 0.8ha	32%
>1ha	18%

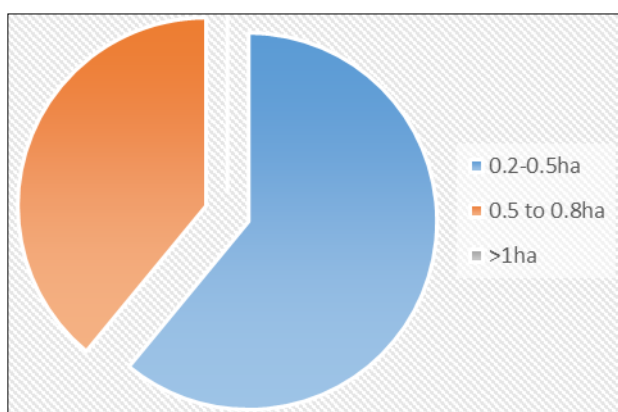


Fig 7: Area of ponds in (ha)

Pond Ownership

In the study area, it was found that the majority (60%) of the ponds were under multiple ownership whereas only 40% under single ownership (Table 11). (Hossain *et al.*, 2002) [12] Reported that multiple pond ownership was a major constrain for pond aquaculture.

Table 11: Type of pond ownership

Ownership	Percentage of the total (n=50)
Single	40%
Multiple	60%

Psychological Variable

Scientific Orientation

Present study reveals that, 60% fish farmers had medium level of scientific orientation, 10% had high level and 30% percent had low level of scientific orientation (Table 12). Related results was reported by (Immanuel 2004) [13] study 71.33 percent had medium level of scientific orientation, 21.34 percent had high level and 7.33 percent had low level of scientific orientation.

Table 12: Scientific orientation fish farmers

Scientific orientation	Percentage of the total (n=50)
Low	30%
Medium	60%
High	10%

Risk Orientation

Risk orientation is one of the important factors affecting the choice of fish farming. Majority of farmers 74% in the present

study medium risk orientation farmers followed by low risk orientation farmers 20% and high risk orientation farmers 6% (Table 13).

Table 13: Risk orientation Percentage

Risk orientation	Percentage of the total (n=50)
Low	20%
Medium	74%
High	6%

Communication Variable

Mass media Participation

In study 54% fish farmers were medium level mass media participation, 26% were found in low level and 20% were in high level (Table 14). Similar results was found by (Nagarajaiah 2002) [14] 42.31% of fish farmers belonged to medium level mass media participation, 33.85% were found in low level and 23.84% were in high level.

Table 14: Mass media participation of the fish farmers

Mass media participation	Percentage of the total (n=50)
Low	26%
Medium	54%
High	20%

Extension Agent Contact

The study reveals that majority of fish farmers have extension agent contact 54% followed by 30% (Table 15) similarly (Nagarajaiah 2002) [14] reported that 40% fish farmers had low level of extension agent contact tracked by medium level 30.77% and high level extension agency contact (29.33%).

(Shankar 2010) ^[15] Revealed that 57.33% of the fishermen had medium level extension agency contact followed by high level 28.00% and low level extension agency contact 14.66%.

Table 15: Extension agent contact

Extension agent contact	Percentage of the total (n=50)
Low	54%
Medium	30%
High	16%

Trainings Attended

Wetengere (2009) ^[16] reported that training is an effective tool of transfer of fish farming technology scientifically. According to (Smith 1992) ^[17] training is a scheduled process to modify attitude, knowledge or skill behavior through a learning experience to achieve effective performance in an activity and an education is an activity, which aim at developing the knowledge, skills and moral values. Present study majority of fish farmers did not receive any training for fish culture practices. The percentage of trained farmers was very less (only 5%).

Table 16: Fish culture trainings of fish farmers

Training	Percentage of the total (n=50)
Trained	5%
Non- Trained	95%

Conclusion

The present study was carried out to understand the socioeconomic characteristics of the pond fish culturists and their significance in fish production. To push aquaculture among farmers and therefore the development of entrepreneurship among fish farmers, socioeconomic aspects of the fish farming community should receive due attention in planning the schemes and Government subsidies for promoting aquaculture. While formulating, designing, and implementing developmental programs the socio-economic structures of fish farmers must be taken into attention. The above mentioned Socio-economic parameters like family size, age, social participation, income level, education, and nature of ownership of pond influence fish production. Studies on these parameters not only to elucidate the socio-economic conditions of the fish farmers but also to spot the factors inhibiting the realisation of the complete potential of traditional fishery and also the appropriate area for presidency intervention.

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