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Income generation activity through community based fish farming: A case study in Chikkaballapura District, Karnataka, India

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Abstract

Present study was conducted on community-based fish farming and its economy was carried out in community-based tank management project in Ganjikunte tank system. The study reveals traditional and extensive methods of carp culture, which may be termed as a community-based fish farming. The fish eating population in the study area is increasing with increase in population, so the increasing demand causes the increasing per kilogram price of the fish. The cost-benefit analysis shows that the fish farming in Ganjikunte tank, Chikkaballapura district is viable and profitable.

Keywords: cost-benefit analysis, community-based project, fish farming, fingerlings livelihoods, income generation

1. Introduction

Jala Samvardhane Yojana Sangha (JSYS), a project by the Government of Karnataka, choose Ganjikunte tank for developing and promoting community based fish culture. Karnataka Community Based Tank Management Project (KCBTMP) under JSYS funded by the World Bank was the first project in the country to take up tank rehabilitation through community-based participation. The project aimed to rehabilitate 3925 tanks in 95 taluks in 18 districts of the state with local communities as major stake holders (JSYS, 2015) [1].

Initially the project staff created awareness on the growing needs of water and the importance of maintaining tanks for meeting all the water needs of communities. They discussed the various interventions taken by the project in the neighboring districts like tank desiltation, creation of dead storage, tank renovation and shared its impact on fisheries. Understanding the benefits of maintaining the tank systems, the village communities showed interest in getting involved in the programme. The project extended both technical and monetary support to the members. Firstly, the capacities of the fishermen were strengthened by way of trainings. Members were provided financial support for obtaining fishing rights, procure advanced fish fingerlings, and for buying harvesting inputs like boats and nets. Besides, the members were also provided the technical, marketing, and legal support as required.

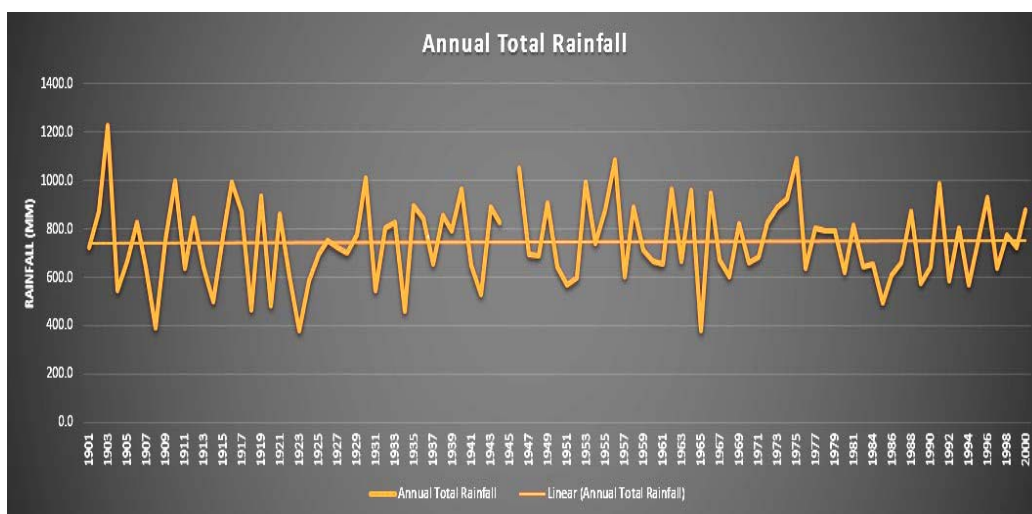
The objective of the present study is to improve rural livelihoods and to reduce poverty by managing selected tank systems in terms of community-based approaches. One of the important interventions is to promote fish farming in community-based tank management system and to provide opportunity for income generation for the local tank communities who have little or no access to land in tank command areas and indigenous fish farmers in the village. The fishing lease rights for tanks were obtained from Fisheries Department, by paying a lease rent of Rs150 per hectare. Afterwards the tank was prepared by application of lime, followed by organic manuring. A dead storage was created with a depth of 1.25 meter. Around 6000 advanced fish fingerlings of Indian major carps such as catla (60%), rohu (20%) and common carps (20%) of 2.0, 2.5 and 3.0 inches in size respectively were stocked in the tank. The stocking density was maintained at 3000 fishes per hectare. This was done during the monsoon season (July to September). Watch and ward were employed to avoid illegal poaching. After five months, partial harvesting was done and it is continued until final harvesting after six months. The labour charges of Rs3 to 4 per kilogram of fish harvested were paid to fish harvesters. Marketing was taken care by Tank Users Group of concerned Tank Management Institution (Goswami and Sathiadhas, 2000) [2].

2. Materials and methods

Ganjikunte is a big village of Shidlagatta taluk. Out of the total irrigated land, 25 hectares is under bore wells. The village has agriculture and allied activities as main source of livelihood. The tank is situated in the main road of Chintamani-Bagepalli. Shidlagatta is located in the southern region of the Karnataka State and happens to be the eastern-most taluk of the Karnataka State. Situated between 2° 46' - 13° 58' North Latitude and 77° 21' - 78° 35' East Longitude. The climate of the district is seasonally dry tropical savanna climate with four seasons. The dry season with clear bright weather is from December to February. The summer season from March to May and is followed by the south west monsoon from June to September. October and November constitute the post monsoon or retreating monsoon. The mean dry temperature is about 35 °C

in summer and 14 °C in winter. The maximum percentage of rainfall occurs between July and October with a mean annual rainfall of 700 mm (Fig 1).

The present work is based on the field visits conducted in Ganjikunte village, Chikkaballapura district in 2004 to 2005. Primary data was collected through focus group discussions and interviewing the resource persons, community leaders followed by thorough interaction with beneficiaries using a structured questionnaire. Gathered information about village tank, lease period, lease values, mode of water use, culture types, dead storage preparation, manure and fertilizer application, liming, fish food, fish fingerlings pattern, mode of transportation, periodical monitoring of fish and water, average cost of fish production and returns per hectare from community tank area in Ganjikunte village.



(Source: IMD, Graph SANDRIP)

Fig 1: Annual rainfall in Chikkaballapur district during 1901-2000

3. Results and Discussion

Geographically, the Ganjikunte village catchment is a hilly area suitable for constructing the water storage. The larger water bodies of the region have enough water throughout the year but the traditional practicing causes to lower per hectare production, and limits to intensive fish culture.

The economics of the fish farming in the in Ganjikunte village tank is as follows:

Cost of lease: In Chikkaballapura district, the water tanks are distributed on a lease period only to the fishing co-operative society. The lease rate for the contract per year is Rs150 per hectare per year (Table 1).

Transportation of fish fingerlings: In Ganjikunte village, Chikkaballapura district, the fishermen of fishing co-operative societies purchase the fish fingerlings from the fish seed center of Gowribidanur. The cost of fingerlings is Rs 2000 per hectare per year including transportation charges (Table 1).

Feeding and manuring: In Ganjikunte tank, Chikkaballapura district, the feeding material used is about 100 kgs of organic manure and 25 kgs of lime were used per hectare (Okunlola *et al.*, 2011) [3].

Watch and ward charges: The fish farming requires full time service at the fish tank for performing the fish farming activity

like feeding and manuring. The manually labours are also required at the time of harvesting. The total expenditure for the residential labour for one year was Rs 2700 per six months, whereas Rs1515 were expended for additional labours for harvesting the fish (Table 1).

Spot marketing on farm: The spot marketing on tank is observed in the region. The fishermen started harvesting his pond from five to six months from or after observing 1 kg in every weight of an individual fish. Such spot marketing is suitable for practicing and for getting more benefit. Such system helps to reduce packing and preserving cost. It does not need packing and storage facility. Sometimes the hawkers purchase the fish from the retailers and sell the fish to the consumers by door to door delivery.

Return from fish production: The fish farming in Ganjikunte tank, Chikkaballapura district is traditional in nature. The fisherman of the village belongs to the fishermen community like Bhaya. In the region, the fishes are harvested between 5 to 6 months or achieving the weight of above 1 kg of an individual fish. Per hectare production of the fish is 505 kg of different size and weight. The market price of the fish depends on the weight and size of the fish and it ranges between Rs 20 to Rs 25 (Table 1).

Table 1: Average cost of production and returns per ha from community tank area in Ganjikunte village.

Sl. No.	Components	Expenditure (in Rs)
Cost of Production - I		
1	Lease amount per annum	150.00
2	Cost of fish fingerlings (fingerlings 3000 x Rs0.50) including transportation charges	2000.00
3	Cost of organic manure (100 kg x Rs2/kg)	200.00
4	Cost of lime application (25 kg x Rs5/kg)	125.00
5	Harvest cost @Rs3/kg for 505 kg/ha	1515.00
6	Watch and ward (6 months x Rs450)	2700.00
7	Total expenditure	6690.00
Cost-Benefit Ratio - II		
1	Total fish weight in kg (505 kg/ha x @Rs25)	12625.00
2	Probable price fluctuation (about 10%)	1260.00
3	Gross returns (1 - 2)	11365.00
4	Total cost of production expended (input) from Component Cost-I	6690.00
5	Net profit per ha per year (3 - 4)	4675.00
6	Net profit per 2 ha	9350.00
7	Input - output	6690 - 4675

4. Conclusion

The fish eating population is increasing with increase in population, so the increasing demand causes the increasing per kilogram price of the fish. Total net return from the tank during 2004 to 2005 is Rs 9350 per two hectares. The production cost for producing one kilogram fish in southern part of the region is only Rs 13. The marketing price of the fish changes from time to time. Such price fluctuation is considered about 10 per cent which comes around Rs 1260 per ha. Hence, gross return per hectare (Rs 11,365) minus total expenditure of the production (Rs 6690) which comes to Rs 4675 was identified as the net profit. So, the calculated cost-benefit is Rs(6690-4675) which shows the fish farming in Ganjikunte tank, Chikkaballapura district is viable and profitable.

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6. References

1. Karnataka Community Based Tank Management Project Jalasamvardhane Yojana Sangha (JSYS). Available online at <http://www.jsys.kar.nic.in>. Accessed on, 2015.
2. Goswami M, Sathiadhas R. Fish Farming Through Community Participation in Assam. SOCSCIENCE, Naga, the ICLARM Quarterly. 2000, 23(3).
3. Okunlola JO, Oludare AO, Akinwalere BO. Adoption of new technologies by fish farmers in Akure, Ondo state, Nigeria. Journal of Agricultural Technology. 2011; 7(6):1539-1548.