

SUCCESS STORIES
SCAD Krishi Vigyan Kendra (SCAD-KVK), Tuticorin District

**PROMOTION OF INLAND FISH CULTURE IN THOOTHUKUDI DISTRICT
SEASONAL VILLAGE PONDS: THROUGH WATER COMMITTEE PARTICIPATION**

Introduction

Aquaculture has been globally recognized as the fastest growing food production sector. Aquaculture also ensures nutritional security, employment opportunity and improves the economic status of the country. The average rain fall of Thoothukudi district in southern Tamilnadu is 655.7 mm which is mainly collected during the north east monsoon period (October to December -410.1 mm).The district has 4152 hectare of seasonal tanks which are mainly used for domestic and live stock animals rearing purpose. If these water resources are utilized for composite fish culture by using extensive or semi intensive or appropriate resource bases through water committee, increased fish production and economic status of village can be expected. During the time of village level field visit and discussion with the village peoples we had indentified the following problems with respect to maintenances of village ponds and the fish cultivation 1.Un-utilization of potential common property water bodies for fish culture 2.Lack of awareness in fish culture technology 3.Non availability of quality fish seeds at correct time 4.Inadequate financial support.

Materials and methods

The front line demonstration (FLD) was conducted in seasonal village ponds in the district of Thoothukudi in southern Tamilnadu by Social Change and Development-Krishi Vigyan Kendra (SCAD-KVK) with the support of village water committee members.

Intervention of SCAD-Krishi vigyan kentra

- Formation of water committee in fish culture demonstration villages
- Dissemination of knowledge on composite fish culture technology
- Supply of seeds (advanced fry-3.5 to 6 cm/fingerling-7.5 to 10 cm)
- Monitoring and follow up

Formation of water committee

The local community people were motivated to form water committee consisting 10-12 members representing different sections of the village including women, youth and men. They were given with awareness training on fish cultivation, group formation and financial management.

Selection of ponds

Ponds retaining sufficient water for 7-8 months were selected for fish culture activity. The size of selected ponds ranged from 0.5 to 5.0 with 2-3 meter depth (1.5 meter minimum depth). The P^H of selected ponds ranged between 7.5 and 8.5.

Pond Management

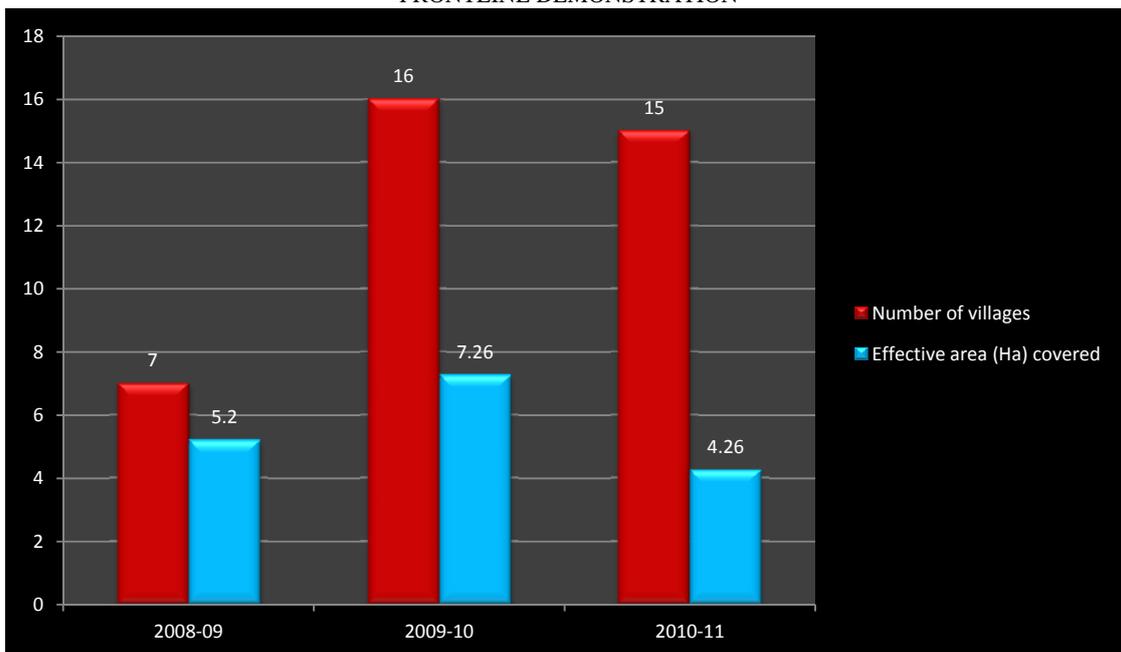
At least 15-20 days waiting period was observed to reduce the water turbidity and increase the primary productivity after the pond was filled with monsoon rain. The goats (500-1000 numbers/day) were allowed normally into ponds for drinking purpose two times daily. The

excreta deposited in the pond which helps to increase the primary productivity in pond. The fish seeds were stocked at the rate of 7500 numbers per hectare. Occasionally villagers fed with unconventional feed stuff such as paddy husk, broken black gram and green gram in irregular feeding schedule. Harvest was done before the water level falls below the critical level in seasonal ponds. Local community people were organized on the fish harvest field day after 6-8 months and the fishes are harvested partially or fully by using gill net/drag net/scoop net. Primarily the harvested fishes were sold to local community people at low prices and surplus amount of fishes were sold in the local market at its local market prices.

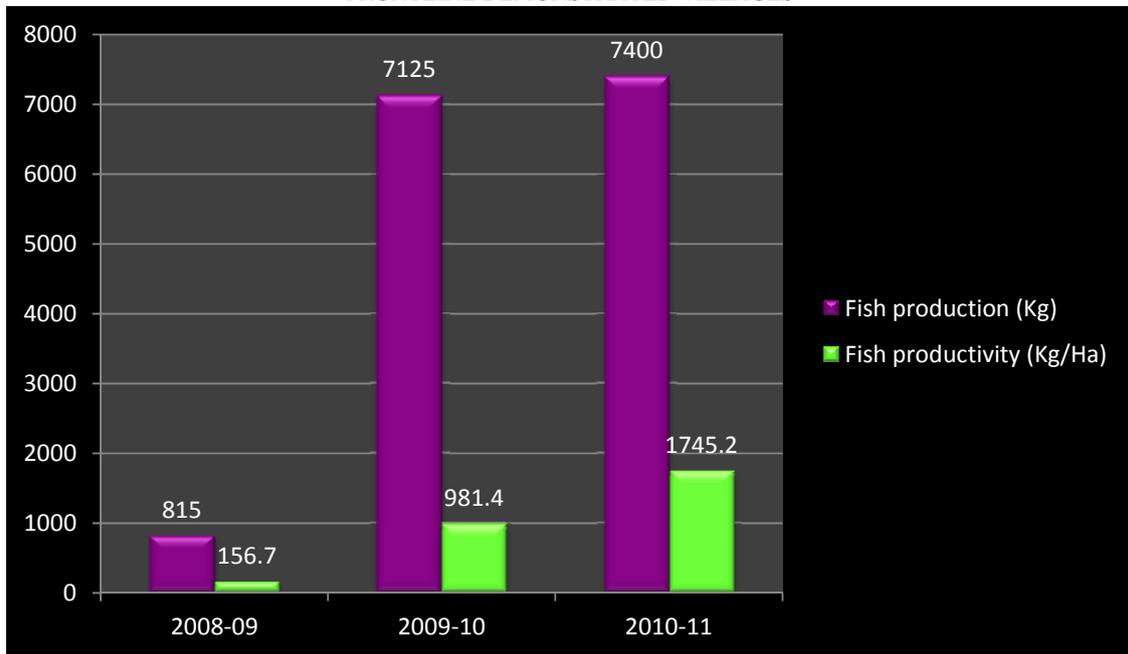
Result

The demonstration was started from 2008-09 in seven village ponds and produced 815 kg of fishes in 5.2 hectare of effective water spread area. During 2009-10 period the demonstration was conducted in sixteen village ponds and produced 7125 kg of fishes in 7.26 hectare of effective water spread area and in 2010-11 period we conducted demonstration in fifteen village ponds and produced 7400 kg of fishes in 4.26 hectare of area . Based on the observation in the demonstration fish productivity were 156.7 kg/ha, 981.4 kg/ha, and 1745.2 kg/ha during 2008-09, 2009-10 and 2010-11 respectively.

NUMBER OF SELECTED VILLAGES AND EFFECTIVE AREA COVERED FOR COMPOSITE FISH CULTURE FRONTLINE DEMONSTRATION



FISH PRODUCTION (Kg) AND FISH PRODUCTIVITY (Kg/Ha) IN COMPOSITE FISH CULTURE FRONTLINE DEMONSTRATED VILLAGES



Conclusion

This inland fish culture demonstration programme has played significant role in improving the economic status of villages and supply of protein to village community people at low cost. Now the inland fish culture has slowly spreading to the other villages as an entrepreneurial activity and the success achieved by the villagers through water committee has conveyed the message to the neighboring villages. Based on the experience gained, demonstration is being conducted in 56 village ponds during 2012-13 periods.

CASE STUDY

Comparison of composite fish culture with advanced fry and four month reared fingerling in seasonal village tank

Introduction

Soorangudi is village of Thoothukudi district in southern Tamilnadu this village has four hectare of two seasonal ponds which are mainly used for harvesting rain water and domestic purpose. Fish culture is a good venture in these village ponds which provides nutrition and income to the village without much external input and expenditure. During the 2009-10 periods the local community people were motivated by SCAD KVK to form water committee, they were given with awareness training on fish cultivation, group formation and financial management.

2009-10 periods

On 13.01.2010 SCAD KVK stocked 7000 number (Catla-2500, Rohu-2500, Mrigal -1000 and Common carp-1000) of fish seeds in one hectare of pond with support of water committee members. During the stocking time the average seed size of Catla 6-9 cm, Rohu 6-8 cm, Mrigal 6-8 cm and Common carp 3-5 cm these fish seeds were purchased from private fish farm. The P^H and transparency of water were measured monthly once in this pond. The range of P^H: 7.6-8.7 and transparency: 27-34. Local community people were organized on the fish harvest field day after 8 months and 1250 kg the fishes were harvested. The average weight of Catla 1.25-1.50 kg, Rohu 1-1.25 kg, Mrigal 1-1.25 kg and Common carp 0.75-1kg

2010-11 periods

On 12.01.2011 SCAD KVK stocked 2500 number (Catla-1000, Rohu-500, Mrigal -500 and Common carp-500) of fish fingerlings in one hectare of pond with support of water committee members. Before stocking of fingerlings they were grown for four months at SCAD KVK nursery pond with stunting method, at the time of stocking the average weight of fingerlings was 50-60 gram. The P^H and transparency of water were measured monthly once in this pond. The range of P^H: 7.6-8.7 and transparency: 27-34. Local community people were organized on the fish harvest field day after 7 months and 1200 kg the fishes were harvested. The average weight of Catla 1.25-1.50 kg, Rohu 1-1.25 kg, Mrigal 1-1.25 kg and Common carp 0.75-1kg.

Periods	Effective area (Ha)	Number of stocking	Stocking stage	Culture period	Fish production(Kg)	Production cost (Rs)
2009-10	1.0	7000	Advanced fry	8 months	1250	7000
2010-11	1.0	2500	Fingerling (four months reared)	7 months	1200	5000

Conclusion

Based on the observation in the demonstration the fish production were almost equal which were 1250 kg, 1200 kg during 2009-10 and 2010-11 respectively. So we can achieve high fish production with less production cost and less number of stocking in shorter culture period.

Integrated farming system a boon for organic farming to maximize the farm income

Sawyerpuram is a small town predominantly consist of farmers who cultivate banana and paddy as the major crop using the water from river Tamirabarani . Paddy and Bannana both are water loving and labour intensive high nutrient requirement crops and equally the benefit cost ratio are also very narrow . At this situation many farmers reduce the area of cultivation in order to overcome the challenges of labour shortage and high cost of cultivation

Mr.Ilangovan aged 42 is a graduate in botany having a love and affection for agriculture was started doing banana and paddy cultivation in about 15 acres of which he owns only 4 acres from 1992 onwards using mainly chemical fertilizer and pesticides and he invariably met with loss from these crops due to high cost of cultivation and at this situation he became a member of a Farmers group in his village and started attending the training programmes conducted by SCADKVK and from 2006 onwards he converted his farming into organic cultivation and started rearing cattle , goat , chicken, rabbit and made his farming as an integrated system.

He produces all the inputs needed for his farm and livestock in situ and does not purchase much from outside except for some concentrate feed for his animals and seeds for his farm and he started marketing his produces on his own from his home. He adopted all scientific methods of livestock rearing and gives balanced feeding consist of good quality green and dry fodder . He makes a good return from the sale of milk (he is selling the milk at the rate of Rs.40 per litre , the highest premium prize) at his door step and he make use of the excess milk for the production of curd , ghee, buttermilk and panchakavya production which he uses as a growth promoter for the crop. He meet out all his daily expenses from the livestock component of his farming system and keep the income from the crop to make investment for the future. He never allows any organic waste to be get rid of his farm and make insitu compost of the crop residues and we can find earth worms all along his farm which itself is proof for the quality of good soil which he able to develop over the years. He obtains equally good yield with less expenses compared to his counterparts who still use only inorganic agriculture.

By including the integrated farming system he could able to convert all his 4 acres of land into organic farming and able to get 30 per cent more yield using 30 per cent less expenditure apart from the additional income obtained from the livestock components in his farming system and he now become a role model farmers for others to see and replicate his practices. Know Where ever he goes he is proud enough to say that he is a farmer and makes good returns from agriculture and able to give good education, housing and living conditions for his family and children.

