FISH FARMING

1. Introduction

Composite Pisciculture is a scientific technology for getting maximum fish production from a pond or a tank through utilisation of available food organisms supplemented by artificial feeding. Normally, the major species selected for composite fish culture are Katla, Rohu, Mrigal, and exotic or common carps. In this project a combination of Katla, Rohu, Mrigal has been considered in the ratio of 4:3:3. This has been done considering the fact that Katla is a Surface Feeder, Rohu Column Feeder and Mrigal Bottom Feeder.

2. Market potential

Protein is an essential ingredient of human food. It is also particularly essential for growing children both for their physical and mental growth. Protein deficiency leads to several diseases in human beings particularly children. Among sources of protein, animal meat is a vital source and fish is the cheapest and most easily digestible animal protein. Fish grows naturally in rivers and ponds but can also be produced under artificial conditions. Small entrepreneurs (farmers) can easily take up pisciculture in ponds and take it up as a source of livelihood or to supplement the family income. It also provides employment to skilled and unskilled youth. The total fish production in the country was 56 lakh tons in 1999-2000. However, good demand exists to absorb additional production.

3. Technical details

(a) Requirement for Pond/Tank

The Pond/Tank should have perennial fresh water source and water level in the pond is to be maintained up to depth of 2m. The water level should not be allowed to go down below 1m. It could be a new pond or existing pond which could be de -silted and deepened.

(b) Pre – Stocking requirement

Liming & Manuring: Liming is to be done @ 2t/ha if the soil pH is 5 and for alkaline soil having higher pH, the lime may be reduced accordingly. Manuring both organic and inorganic is done after liming. Organic manuring is required 3 days after liming while inorganic manuring is done 15 days after organic manuring. Organic manuring in the form of Cow dung is applied @ 5t/ha while urea is applied @ 330 kg/ha and triple supper

phosphate @ 165/ha. After stocking, supplementary feed in the form of wheat bran and mustard oil cake may be fed @ 2.7 t/ha.

(c) Capacity

2- hectare pond stocking 1000 numbers with annual yield of 8 tons.

4. Cost of project

S.NO.	Items	Total Cost (in Rs.)
1.	Land Cost	Own/leased
2.	Civil Works	
(i)	Excavation and construction of bunds for the pond [excavation of soil: 600m^3 @ Rs.20 per m^3]	1,20,000.00
(ii)	Construction of Inlet & Outlet [water system] (L.S.)	15,000.00
3.	Equipment (L.S.)	5,000.00
4.	Miscellaneous, insurance & interest during implementation period & cost escalation etc.	5,000.00
5.	Working Capital	21,000.00
	TOTAL	**1,66,000.00**

5. Means of finance

S. No.	Items	Amount (in Rs.)	%age
1.	Promoter's Contribution	4,000.00	2.41
2.	NSTFDC - Term Loan	1,46,000.00	87.95
3.	SCA – Term loan/subsidy	16,000.00	9.64
	TOTAL	**1,66,000.00**	**100.00**

Note: State-channelising agencies shall provide subsidy as per norms of their corporation. Further, effort may be made to avail subsidy from other centrally sponsored schemes.

6. Raw material requirement (Per annum)

S. No.	Item	Quantity	Rate (in Rs.)	Annual value (in Rs.)
1.	Lime	1000 Kg	10 per kg	10,000.00
2.	Fingerlings	10000 Nos.	200 per thousand	2,000.00
3.	Organic Manure	30 ton	100 per ton	3,000.00
4.	Urea/Triple Super Phosphate	L.S.		2,000.00
5.	Mustard oil Cake	2700 Kg.	3 per Kg.	8,100.00
6.	Rice bran	2700 Kg.	1.5 per Kg.	4,050.00
			TOTAL	**29,150.00**
			SAY	**29,000.00**

7. Working capital

S. No.	Item	Period	Amount (in Rs.)
1.	Raw material viz. lime & fingerlings	Entire cost	12,000.00
2.	Working expenses viz. lime, mustard oil, cake, rice bram etc.	Six months	8,565.00
	TOTAL		**20,565.00**
	SAY		**21,000.00**

8. Project economics

A.	Sales Realisation	Amount (in Rs.)
	8 Ton @ Rs.25000 per Ton	2,00,000.00
	TOTAL	**2,00,000.00**
B.	**Cost of Production**	
(i)	Raw material	29,000.00
(ii)	Misc. Expenses	5,300.00
(iii)	Wages [part time one person]	18,000.00
(iv)	Repair & Maintenance	3,000.00
(v)	Interest	9,700.00
(vi)	Sustenance allowance @ Rs.2000 per month	24,000.00
	TOTAL	**89,000.00**
C.	**Profit**	**1,11,000.00**
D.	**Less depreciation/Amortization of expenses etc.**	**14,500.00**
E.	**Net Profit**	**96,500.00**

Note: It is considered that periodic water replacement for ponds would be carried out naturally i.e. by slope/difference in water level between pond and river. In case, such natural way of water re-filling is not possible, then mechanical way need to be employed and relevant cost provision may be made in the project report.

9. Viability indicators

S. No.	Particulars	Amount
1.	Repayment per annum (period - 5 years)	32,400.00
2.	Return on investment	58.%
3.	Debt service coverage ratio	2.87

10. Interest, moratorium & repayment period for the beneficiaries

(a) Interest : 6% p.a. on NSTFDC term loan.

(b) Moratorium period : 10 months from date of release of funds by the SCA.

(c) Repayment period : 5 years excluding moratorium period.

11. Points for consideration

(a) Location of pond

Soil should be water retentive, availability of assured water supply and the area, which is not prone to flood, may be identified.

(b) Pond management

- Before stocking, clear the pond of unwanted weeds and fish either by manual using fishnets or by using Mahua oil cake.
- Alkaline nature to be maintained by adequately adding lime in the ponds.
- Fertilize the ponds properly to improve the natural availability of phytoplantation.

(c) Stocking

- Ponds will be ready for stocking after 15 days of application of fertilizers.
- Fingerlings of 10 cm size should be used for stocking @ 5000 numbers per hectare.

(d) Post stocking

- Apart from natural food, fish may be fed by rice bran (or) oil cake.
- The feed may be placed on bomboo tray or it may be sprayed at corner of the ponds.
- Organic manuring may be done at monthly intervals @ 1000 kg/ha.

(e) Harvesting

- Generally done at the end of one year, when fish attain a weight of 750 gms to 1.25 kg.
- A production of 4-5 tons is possible in one-hectare pond.

12. General remarks

- The cost of project may vary in different States & Regions.

It is assumed that the Fish Farming is suitable in the given locality.