DETAILED PROJECT REPORT ON

FISHERY FARMING

SUBMITTED BY:

Promoter Name

xxxxxxxxxxxxxxxxxxxxx

Project Location

xxxxxxxxxxxxxxxxxxxxxx

PREPARED BY:

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C O N T E N T S

CHAPTER - I

ABOUT THE PROMOTER

PARTICULARS	ABOUT THE PROMOTER

1. Name :xxxxxxxxxxxxxxxxxxx
2. Address :xxxxxxxxxxxxxxxxxx
3. Contact Number :xxxxxxxxxxxxxxxxxx
4. Date of Birth :xxxxxxxxxxxxxxxxx
5. Educational Qualification:xxxxxxxxxxx
6. Project Location : xxxxxxxxxxxxxxx
7. Experience :xxxxxxxxxxxxxxxx

CHAPTER – II

PROJECT DESCRIPTION

Introduction

Fish farming involves raising fish commercially in tanks or enclosures, usually for food.
The major freshwater farming environments in India are pond, cage, pen, rice field, sewage feed and air breathing. Polyculture is the dominant culture system practiced. The major species are carp, freshwater prawn and catfish. Basically India's aquaculture is carp-oriented and the contribution of other species is marginal. Fish culture in India can be classified as extensive, semi-intensive or intensive and stocking rate is high at 18,408 fish/ha. Both the central and state governments have come up with schemes to help the cause of the farmers.

India is a large producer of inland fish, ranking next only to Japan. Out of the total inland fish production of over 3.6 million metric tons, more than 60% is contributed by fish culture in ponds and reservoirs. Fish farming is adopted by farmers on commercial scale.

Production Technology:

I. Preparing the Pond

The optimum size of the pond is rectangular with a depth ranging from 2.0 -3.0 metres.

A. Soil and water

The soil type in the pond and its fertility status vary much in our country. However the best soil for the fish pond for the fresh water fishes especially the carps is alluvial soil with neutral pH ranging between 6.5 to 7.5. Though the soil type cannot be changed except in the long range plans, the pH has to be brought to neutral if the pond soil and water are saline, alkaline, sodic or acidic.

B. Aquatic weeds

Most of the aquatic weeds in the fish pond are undesirable. They not only take away the nutrients but also upset the oxygen balance in the water by releasing carbon dioxide into the pond during the night. Aquatic weeds also obstruct the movement of fishes as well as the netting operations. The aquatic weeds may be free floating surface weeds, submerged weeds, rooted emergent weeds, marginal shallow water weeds and algae. All these weeds have to be eradicated

C. Unwanted fishes

The unwanted fishes in the ponds may be predatory or weed fishes. They compete with cultured fish for feed, nutrients and space. These predatory and weed fishes can be eliminated through repeated netting of the pond. Another method of eradicating the above mentioned unwanted fishes is to drain out the whole water from the pond and eliminating all of them manually and refill the pond with water. In big fisheries the only effective method of eradicating the unwanted fishes is the use of fish toxicants.

II. Fertilizer Application in the Pond

Maximum fish production is achieved by the efficient soil and water management in the fish pond especially by maintaining the natural productivity of the pond. The natural productivity is maintained by the regular manuring and fertilizer application in the pond so that all essential nutrients for the growth of aquatic micro and small organisms (both plant and animal types) are supplied which directly or indirectly serve as feed for the fishes. Liming and manuring are the two main types of fertilization of the fish pond.

III. Selection and Stocking of Carps

About 15-20 days after the initial manuring selected species of the carps are introduced into the pond. When several species of fishes are reared together in the same pond in an intensive way it is called composite fish culture. Depending on the number of species the ratio of the species will vary. Generally six carp species are reared together. They are: Catla, Rohu, Mrigal, Silver Carp, Grass Carp and Common Carp.

1. Stocking size

The survival of the fingerlings introduced into a particular pond depends very much on their size: bigger the size greater will be the survival rate and vice versa. The fingerlings stocked should have a size of 10 to 15 cm.

2. Time of stocking

If any toxicant material for the eradication of the unwanted fish has been used then stocking /of the fish should be done only after the toxicant effect is completely over. Generally by two to three weeks the toxicant effect will be over. From the temperature point of view the best time to stock the pond will be- when the water in the pond is within the optimum range of 20 to 30^{o}centigrade. Obviously temperatures below 18^{o} C and above 30°C will affect the growth of the fish. Hence stocking is avoided in winter and summer months.

IV. Feeding of Carps

Feeds for the carps may be of two types: natural feeds and artificial feeds. The natural growth of flora and fauna in the pond can be increased by regular manuring. commmercial fish rearing cannot be successful if one depends only on the natural feed generation. Hence supplementary feeding should be provided to the carps. The feeding of carps also is easier as they can be fed on most of the by-products like rice polish, wheat bran, oil cakes, vegetable wastes and other farm wastes.

V. Water Management

In the water management first of all proper depth of the water should be maintained always in the pond. An average depth of 6.5 to 10ft depth should be maintained in the case of six species composite fish culture. Care should be taken to avoid decomposition of large amount of organic matter at the bottom of the pond. In intensive fish culture such accumulation of organic matter is inevitable. It can be removed every year after draining out the water, from the pond.

VI. Harvesting and marketing

Harvesting can be done either by partially draining water out of the pond through an outlet point, or by repeat netting. It is preferable when the fish attain an average weight of 750 grams, though common species can attain weight in excess of a few kilos. Farmers sell their catch in local markets. Fish is a perishable commodity and cannot be kept for a long period of time without proper arrangements of preserving them. Big farmers sell their catch to wholesalers, who pass it on to local suppliers from whom the retailers buy.

CHAPTER – III

MARKET POTENTIAL

Inland fish production provides significant contribution to animal protein supplies in rural areas. Most of the inland production is consumed locally and marketed domestically. Consumers generally prefer fresh fish. Inland fish market is quite informal in the country. Marketing channels are generally short.

The annual per capita availability of fish in the world is 12.1 kg. In context of India, it is 3.2 kg. The annual per capita consumption of fish is increasing every year. This is mainly because of increase in purchasing power, increase in non vegetarian eating population and preference for fish as low cost protein (compared to meat).

While the demand for fish is throughout the year, the supply is fluctuating in nature. Supply pattern do not match with demand pattern. Over the years, there has been a rise in demand for fresh water fishes. This has led to thrust on enhancing production through scientific cultivation practices.

The fisheries industry is growing at 5%. With an abundance of freshwater resources, India has still not been able to tap even 30% of the potential area for inland fish production. This sector has a potential to create huge market, provided fish cultivation is done on a scientific basis.

CHAPTER –IV

SWOT ANALYSIS

Strengths:

- It provides livelihood options to large proportion poor families in India.
- The Government is providing strong support through various policies and schemes.

WEAKNESS:

- The major constraints that stand in the way of introducing modern technology in inland fisheries to augment fish production are lack of capital and ignorance of improved technology amongst the fish farmers.
- Poor handling of fish during harvest
- As consumer prefers fresh fish and it fetches higher price, currently there is limited for value addition through preservation.

OPPORTUNITY:

- With an abundance of freshwater resources, India has still not been able to tap even 30% of the potential area for inland fish production.

THREATS:

- Frequent occurrence of drought affect fish production negatively
- Disease outbreak
- Exploitation by middlemen in the market chain.

CHAPTER- V

ECONOMICS OF THE PROJECT

A. PROJECT PROFILE (Financial)

Sr. No.	PARAMETERS	VALUE
1	Species	Catla, Rohu, Mrigal
2	Unit Size (in ha.)	0.5
3	Product	Fishes
4	Cost of the project	5,00,000
5	Bank loan	4,00,000
6	Margin money	1,00,000
7	Financial Indicators	
	BC R	1.72 :1
	N P W 15% (Rs.)	4,36,348
	I R R %	58.69
	Average DSCR	1.9
8	Interest Rate (% per annum)	12
9	Repayment	5 years

B. BASIS & PRESUMPTIONS

Sr. No.	Particular	Unit	Quantity

I. Techno-economic parameters

1 Species combination (ratio) Catla (40%), Rohu 30%), Mrigal (30%)

2 Harvesting is done fishes attain average weight of 800 gm to 1.25 kg. end of 1 st year

3 Organic manuring may be done in monthly instalments

4 Inorganic fertilisation may be done at monthly intervals alternating with organic manuring.

5 The recommended feeding rate is 5 - 6 % of the body weight upto 500gm size of fish and then reduce to 3.5% of body weight from 500- 1000gm size .

6 Fishes can be fed with a mixture of rice bran and oilcakes in the ratio 4:1.

7 Fish fingerlings of 50- 100 gm size (approx) should be used for stocking @ 5000 nos. per hectare.

8 The present model envisages stocking of advanced fingerlings and rearing for 10-12 months.

9 Rate of interst for bank loan %12

C. TOTAL COST OF PROJECT

Sr. No.	Particular	Unit	Unit Rate in Rs.	Quantity	Amount in Rs.
I.	**Capital Cost**				
1	Land				Own
2	Site development				25,000
3	Construction of Rectagular pond	Ls.			3,00,000
4	Store Room	sq.ft.	150	200	30,000
5	Diesel Pump Set (3 HP)				30,000
6	Nets and other implements				5,000
7	Inlet/Outlet sluices				5,000
8	Misc. expenses (eg. Project formulation, market survey,	%	5		18,000
					4,13,000
II.	**Working Capital Margin** (One Production Cycle)				
1	Fish SeedCatla (2000), Rohu(1500)and Mrigal(1500)	Nos.	5	2,500	12,500
2	Fish Feed	Kg.	15	3,000	45,000
3	Lime	Kg.	5	250	1,250
4	Single Super Phosphate	Kg.	5	250	1,250
5	Urea	Kg.	5	250	1,250
6	Raw Cow Dung	Tons	500	5	2,500
7	Harvesting charges	Kg.	4	2,500	10,000
8	Drying, desilting and plouging	Ls.			5,000
9	Security of pond				8250
					87,000
	TOTAL COST OF PROJECT				**5,00,000**

D. MEANS OF FINANCE

	Particular	Unit	Quantity	Amount in Rs.
1	Term loan	%	80	4,00,000
2	Own contribution	%	20	1,00,000
			TOTAL	**5,00,000**

E. PROJECTION OF PERFORMANCE & PROFITABILITY

Sr. No.	Particular	Unit	Unit rate in Rs.	Quantity	I year	II year	III year	IV year	V year
I.	**Income**								
	Fish	kg.	70	4,000	2,80,000	2,80,000	2,80,000	2,80,000	2,80,000
				TOTAL	**2,80,000**	**2,80,000**	**2,80,000**	**2,80,000**	**2,80,000**
II.	**Expenditure**								
1	Fish Seed Catla (2000), Rohu(1500) and Mrigal (1500)	Fingerlings	5	2,500	12,500	12,500	12,500	12,500	12,500
2	Fish Feed	Kg.	15	3,000	45,000	45,000	45,000	45,000	45,000
3	Lime	kg.	5	250	1,250	1,250	1,250	1,250	1,250
4	Single Super Phosphate	kg.	5	250	1,250	1,250	1,250	1,250	1,250
5	Urea	kg.	5	250	1,250	1,250	1,250	1,250	1,250
6	Raw Cow Dung	Tons	500	5	2,500	2,500	2,500	2,500	2,500
7	Harvesting charges	Kg.	4	2,500	10,000	10,000	10,000	10,000	10,000
8	Drying, desilting and plouging	Ls.			5,000	5,000	5,000	5,000	5,000
9	Secirity of pond				8250	8250	8250	8250	8250
				TOTAL	**74,500**	**74,500**	**74,500**	**74,500**	**74,500**
III.	**Net Income**			**TOTAL**	**2,05,500**	**2,05,500**	**2,05,500**	**2,05,500**	**2,05,500**

F. Financial Analysis

Particulars		I year	II year	III year	IV year	V year
Capital Costs		4,13,000				
Recurring cost		74,500	74,500	74,500	74,500	74,500
Total Cost		**4,87,500**	**74,500**	**74,500**	**74,500**	**74,500**
Benefit		2,80,000	2,80,000	2,80,000	2,80,000	2,80,000
Depreciated value of pond, store room etc. @ 10%						1,93,215
Depreciated value of machinery & equipments @ 15%						17,140
Total Benefit		**2,80,000**	**2,80,000**	**2,80,000**	**2,80,000**	**4,90,355**
Net Benefit		**-2,07,500**	**2,05,500**	**2,05,500**	**2,05,500**	**4,15,855**
Discounting Factor@ 15%		0.87	0.76	0.66	0.57	0.50
NPV cost at 15% DF		4,24,125	56,620	49,170	42,465	37,250
NPV benefits at 15% DF		2,43,600	2,12,800	1,84,800	1,59,600	2,45,178
NPW at 15% DF	**4,36,348**					
BCR at 15% DF	**1.72 :1**					
IRR %	**58.69**					

G. Term Loan Repayment

Rate of interst - % per annum **:** 12.0

Opening balance of term loan **:** 4,00,000

Year	Loan Outstanding	Net Income	Principal	Interest	Total Repayment	Net Surplus	DSCR
1	4,00,000	2,05,500	80000	48000	128000	77,500	1.6
2	3,20,000	2,05,500	80000	38400	118400	87,100	1.7
3	2,40,000	2,05,500	80000	28800	108800	96,700	1.9
4	1,60,000	2,05,500	80000	19200	99200	1,06,300	2.1
5	80,000	2,05,500	80000	9600	89600	1,15,900	2.3
						Avg. DSCR	**1.9**