PROJECT REPORT ON FISHERY FARMING (INLAND)

C O N T E N T S

CHAPTER - I

HIGHLIGHTS OF THE PROJECT REPORT

A. ABOUT THE PROMOTER

PARTICULARS	ABOUT THE PROMOTER
1. Name	: Ajay Kumar
2. Address	: Village-Jalalpur, Block-Baraut, Distt-Baghpat (U.P.) 250621
3. Contact number	: 8755555149
4. Date of birth	: 27
5. Educational qualification	: intermediate Agriculture
6. Project location	: Village-Jalalpur, Block-Baraut, Distt-Baghpat (U.P.) 250621
7. Professional Experience	: 1
8. Constitution	: Proprietorship

B. PROJECT PROFILE (FINANCIAL)

PARAMETERS		VALUES
1. Spacies		Catla, Rohu, Mrigal
2. Unit size (in ha.)		2
3. Product		Fish
4. Cost of the project		518,250
5. Bank loan		388,688
6. Margin money		129,562
7. Financial Indicators		
	BCR at 15% DF	1.75:1
	NPW 15% DF(Rs.)	705,085
	IRR (%)	75.00
	DSCR	3.2
8. Interest rate (% per annum)		12
9. Repayment period		5 years

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 size varying from 0.1 to 2.0 hectares 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 30ocentigrade. Obviously temperatures below 18o 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

EXTENSION ACTIVITIES

1. Starting a business of inland fish farming requires planning and preparation. Before starting fish farming the entrepreneurs/ farmers are generally advised to undergo training. I will provide them technical training on scientific harvesting, handling of fish, icing and smoking, and orientation and training on management skills like planning, enterprise management, negotiation and market facilitation skill.

2. For the farmers of nearby locality, visits will be arranged on my fish farm & they will be educated on scientific lines regarding various aspects of production practices. It will help them to improve their knowledge and skill regarding scientific production practices so as to enable them to adopt the same.

3. For farmers who have decided to avail bank loan for fish farming, assistance will be provided to prepare their bankable project report.

4. For the marketing of fishes, farmers will be provided necessary support & guidance.

5. Nowadays internet has become important tool to get latest information. There are various websites available on fish production, which provides useful content. This information will be shared to farmers.

6. Educational tours of farmers will be arranged to progressive farmers & research stations which will motivate them to adapt good production practices.

CHAPTER - V

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.

Opportunities:

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

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.

Threats

• Frequent occurrence of drought affect fish production negatively.

• Disease outbreak.

• Exploitation by middlemen in the market chain.

CHAPTER - VI

ECONOMICS OF THE PROJECT

A. BASIS & PRESUMPTIONS

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 1st 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

B. TOTAL COST OF PROJECT

PARTICULARS	UNIT	UNIT RATE Rs.	QUANTITY	AMOUNT Rs.
I. Capital Costs				
1. Land				Own
2. Site development	Ls.			10,000
3. Construction of pond including digging, bund construction and compaction and consolidation	Rs./ha.	70,000	2	140,000
4. Store room	Sq.ft.	150	100	15,000
5. Diesel pump set(3HP)	Ls.			30,000
6. Inlet/Outlet sluices	Ls.			10,000
7. Nets and other implements	Ls.			10,000
8. Contengencies	%	5		10,750
			TOTAL(A)	**225,750**
II. Working Capital (One Production Cycle)				
1. Fish seed (catla ,rohu and mrigal)	Fingerlings	5	14,000	70,000
2. Fish feed	Kg.	12	12,000	144,000
3. Lime	Kg.	5	1,000	5,000
4. Single super phosphate	Kg.	5	500	2,500
5. Urea	Kg.	5	1,000	5,000
6. Raw cow dung	Tons	500	20	10,000
7. Harvesting charges	Kg.	5	8,000	40,000
8. Drying, desilting and plouging	Ls.			6,000
9. Security of pond	Ls.			10,000
			TOTAL(B)	**292,500**
TOTAL COST OF PROJECT			TOTAL(A+B)	**518,250**

C. MEANS OF FINANCE

PARTICULARS	UNIT	UNIT RATE	AMOUNT Rs.
1. Term loan	%	75	388,688
2. Own contribution	%	25	129,562
		TOTAL	**518,250**
3. Subsidy entitlement @36% from NABARD under AC & ABC Scheme			**186,570**

D. PROJECTED PROFITABILITY

(Value in Rs.)

PARTICULARS	UNIT	UNIT RATE	QUANTITY	IYEAR	IIYEAR	IIIYEAR	IVYEAR	VYEAR
I. Income								
Fish	Kg.	50	10,000	400,000	500,000	500,000	500,000	500,000
3. Interest on subsidy @ 6%				11,194	11,194	11,194	11,194	-
4. Subsidy				-	-	-	-	186,570
			TOTAL (A)	**411,194**	**511,194**	**511,194**	**511,194**	**686,570**
II. Expenditure								
1. Fish seed (catla ,rohu and mrigal)	Fingerlings	5	14,000	70,000	70,000	70,000	70,000	70,000
2. Fish feed	Kg.	12	12,000	144,000	144,000	144,000	144,000	144,000
3. Lime	Kg.	5	1,000	5,000	5,000	5,000	5,000	5,000
4. Single super phosphate	Kg.	5	500	2,500	2,500	2,500	2,500	2,500
5. Urea	Kg.	5	1,000	5,000	5,000	5,000	5,000	5,000
6. Row cow dung	Tons	500	20	10,000	10,000	10,000	10,000	10,000
7. Harvesting charges	Kg.	5	8,000	40,000	40,000	40,000	40,000	40,000
8. Drying, desilting and plouging	Ls.			6,000	6,000	6,000	6,000	6,000
9. Security of pond	Ls.			10,000	10,000	10,000	10,000	10,000
			TOTAL (B)	**222,500**	**222,500**	**222,500**	**222,500**	**222,500**
III. NET INCOME			**TOTAL(A-B)**	**188,694**	**288,694**	**288,694**	**288,694**	**464,070**

E. FINANCIAL ANALYSIS

(Value in Rs.)

PARTICULARS	I YEAR	II YEAR	III YEAR	IV YEAR	V YEAR	TOTAL
Capital costs	225,750					
Recurring costs	222,500	222,500	222,500	222,500	222,500	
TOTAL COST	**448,250**	**222,500**	**222,500**	**222,500**	**222,500**	
Benefit	400,000	500,000	500,000	500,000	500,000	
Depreciated value of building, fencing, borewell etc @10%					90,753	
Depreciated value of machinery & equipments @15%					21,425	
TOTAL BENEFIT	**400,000**	**500,000**	**500,000**	**500,000**	**612,177**	
NET BENEFIT	**-48,250**	**277,500**	**277,500**	**277,500**	**389,677**	
Discounting factor @15%	0.87	0.76	0.66	0.57	0.5	
NPV cost at 15% DF	389,978	169,100	146,850	126,825	111,250	944,003
NPV benefits at 15% DF	348,000	380,000	330,000	285,000	306,089	1,649,088
NPW at 15% DF	**705,085**					
BCR at 15% DF	**1.75:1**					
IRR%	**75.00**					

G. TERM LOAN REPAYMENT

Rate of interst - % per annum : 12

Opening balance of term loan : 388,688

(Value in Rs.)

Year	Loan Outstanding	Net Income	Principal	Interest	Total Repayment	Net Surplus	DSCR
1	388,688	188,694	77,737	46,643	124,380	64,314	1.5
2	310,951	288,694	77,737	37,314	115,051	173,643	2.5
3	233,214	288,694	77,737	27,986	105,723	182,971	2.7
4	155,477	288,694	77,737	18,657	96,394	192,300	3.0
5	77,740	464,070	77,737	9,329	87,066	377,004	5.3
						Average DSCR	**3.2**