MODEL PROJECT REPORT

ON

COMMERCIAL FISH FARMING

(3 ACRES WATER AREA)

PISCICULTURE

Since time immemorial, Fish as 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. Fish is a rich source of Zinc, which reduces stunting in children and fights diarrhea, Iron, which is essential for brain development in children and increases maternal and childhood survival rates. Calcium in fish is essential for development of strong bones and teeth in growing children. Fish also is a rich source of Vitamin-A which is essential for prevention of blindness, helps fight infections and promotes healthy growth. Fish as a nutritious diet also prevents under nutrition, stunted growth and increased risk of diseases, prevents hidden hunger and micronutrient deficiencies in children. Fish is the cheapest and most easily digestible animal protein and was obtained from natural sources from time immemorial for consumption by human beings. Fish grows naturally in rivers and ponds but can also be produced under artificial conditions. However, due to over exploitation and pollution, the availability of fish in natural waters have declined considerably forcing scientists to adopt various methods to increase its production. Fish farming in controlled or under artificial conditions has become the easier way of increasing the fish production and its availability for consumption. Small entrepreneurs/farmers can easily take up fish culture in village ponds, tanks or any new water body and can improve their financial position substantially. It also creates gainful employment for skilled and unskilled youth.

The area under tanks and ponds available for warm fresh water aquaculture in Odisha is estimated to be 2.41 million ha. This shows the tremendous scope for fish culture in the country. Only 15 % of the potential area of tanks and ponds available is developed so far, showing immense possibilities for fish culture. Bargarh district also has a tremendous potential for development of fisheries activities including expansion of water area and commercial fish production due to its conducive climate and water availability.

Composite Pisciculture is adopted for getting maximum fish production from a pond or a tank through utilization of available food organisms supplemented by artificial feeding. Normally, the major species selected for composite fish culture are Catla, Rohu, Mrigal, other exotic varieties including minor carps and freshwater prawn.

A model economics for fish farming with 3 Acre water area is given below. This is indicative and applicable input and output costs and the parameters observed at the field level may be incorporated. An entrepreneur willing to establish a fish farm may refer this project report and customize the same asper the local condition, since the Techno-Economic parameters may differ on a case by case basis.

TECHNO-ECONOMIC NORMS			
Sl. No.	**Parameters**	**UoM**	**Value**
1	**CAPITAL INVESTMENT**		
I	***Land***	Acre	3
a	Cost of fencing / acre	Rs.	30000
II	***Civil Construction***		
a	Cost of office cum store room construction / sq.ft.	Rs.	250
b	Office-cum- store room	Sq.ft.	200
III	***Water Supply system***		
a	Borewell / Tubewell	Rs.	90000
b	Pump 3 HP	Rs.	15000
c	Tank	Rs.	240000
IV	***Electrification***		
a	Cost of electrification (as % of civil cost)	%	10
V	***Equipments***		
a	Fishing Nets in LS	Rs.	20000
b	Inlet & Outlets in LS	Rs.	20000
2	Water Area	Acre	3
3	Culture period	Months	11
4	Depth of the Tank (Mts)	meter	1.5
5	Length of the Tank (Mts)	meter	80
6	Breadth of the tank proposed (Mts)	meter	50
7	Total Cubic meter / Acre	cum	6000
8	Cost of Excavating of Pond / Cum	Rs.	40
9	**Fertilizers**		
i	Lime	Kgs	400
ii	Single super phosphate	Kgs	120
iii	Urea	Kgs	100
iv	Litter/ Raw Cow Dung (RCD)	MT	4
v	Cost of Lime/ Kg	Rs.	5
vi	Cost of Single super phosphate/kg	Rs.	10
vii	Cost of Urea/ kg	Rs.	10
viii	Cost of Litter/ Raw Cow dungs (RCD)/ton	Rs.	1000
10	**Seed**		
i	Fingerlings (80 mm above)	nos	2200
ii	Hatchery FW prawn seed	nos	2000
iii	Minor / exotic carp intercropping	nos	1000
iv	Cost of Fingerlings (80 mm above)	Rs	5
v	Cost of Hatchery FW prawn seed	Rs	2
vi	Cost of Minor / exotic carp intercropping	Rs	2

11	**Feed**		
i	Pellet feed	kgs	3000
ii	Prawn feed	kgs	225
iii	Cost of pellet feed	Rs	22
iv	Cost of prawn feed	Rs	30
12	**Miscellaneous**		
i	Medicines & Chemicals/Acre	LS	4000
ii	Harvesting expenses/Acre	LS	4000
iii	Miscellaneous expenses/Acre	LS	3000
13	Cost of horticulture crop plantation	LS	30000
14	Annual Yield of Fish	Kg/ Acre	2000
15	Annual yield of Minor / exotic carps	(Kg/ Acre)	400
16	Annual yield of FW prawn	(Kg/ Acre)	100
17	Sale price of fish	Rs./Kg.	110
18	Sale price of Minor / Exotic carps	Rs./Kg.	120
19	Sale price of FW prawn	Rs./Kg.	200
20	Sale of Horticulture Crop	Rs. In Lump Sum	50000

PROJECT COST						
A	**CAPITAL INVESTMENT**					
	Particulars	**Specifications**		**Units**	**Unit Cost Rs**	**Total cost Rs**
1	**Land**	3	Acre		Available	
b	Fencing	3	Acre		30000	90,000
					Sub Total	**90,000**
2	**Civil Construction**					
b	Office-cum-Store Room	200	sq. ft		250	50,000
					Sub Total	**50,000**
3	**Water Supply system**					
a	Borewell / Tubewell		LS	1	90000	90,000
b	Pump & Pipe line		LS	1	15000	15,000
c	Pond excavation	6000	cum	3	40	720,000
					Sub Total	**825,000**
4	**Electrification**					
a	Installation & Fitting	10%	of civil cost			5,000
					Sub Total	**5,000**
5	**Equipments**					
b	Fishing Nets		LS		20000	20,000
c	Inlet & Outlets		LS		20000	20,000
					Sub Total	**40,000**
	Total Capital Cost					**1,010,000**
B	**RECURRING EXPENDITURE**					
a	Fertiliser cost					24,600
b	Seed cost					51,000
c	Feed cost					218,250
d	Misc. cost					33,000
C	Cost of plantation of horticulture crop					30,000
	Total Recurring Expenditure					**356,850**
D	**TOTAL PROJECT COST**					**1,366,850**
E	**MARGIN MONEY**	**25%**	**Of Project Cost**			**341,712**
F	**BANK FINANCE**	**75%**	**Of Project Cost**			**1,025,138**

PROFITABILITY STATEMENT								
Sl.No	**Particulars**	**1st yr.**	**2nd yr.**	**3rd yr.**	**4th yr.**	**5th yr.**	**6th yr.**	**7th yr.**
I	**COSTS**							
A	**Recurring costs**							
a	Fertiliser cost	24,600	25,092	25,594	26,106	26,628	27,160	27,704
b	Seed cost	51,000	52,020	53,060	54,122	55,204	56,308	57,434
c	Feed cost	218,250	222,615	227,067	231,609	236,241	240,966	245,785
d	Misc. cost	33,000	33,660	34,333	35,020	35,720	36,435	37,163
e	Cost of horticulture plantation	30,000	30,600	31,212	31,836	32,473	33,122	33,785
		356,850	363,987	371,267	378,692	386,266	393,991	401,871
II	**BENEFITS**							
a	Sale price of fish	660,000	693,000	727,650	764,033	802,234	842,346	884,463
b	Sale price of Minor / Exotic carps	144,000	151,200	158,760	166,698	175,033	183,785	192,974
c	Sale price of FW prawn	60,000	63,000	66,150	69,458	72,930	76,577	80,406
d	Sale of Horticulture Crop	50,000	52,500	55,125	57,881	60,775	63,814	67,005
	TOTAL BENEFIT	**914,000**	**959,700**	**1,007,685**	**1,058,069**	**1,110,973**	**1,166,521**	**1,224,847**