MODEL PROJECT REPORT
ON
INTEGRATED FARMING
(1 ACRE PISCICULTURE + 50 NUMBERS GOAT)

PISCICULTURE

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 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 youths.

The area under tanks and ponds available for warm fresh water aquaculture 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.

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 Katla, Rohu, Mrigal, and other exotic varieties.

GOAT FARMING

Goat farming has become a profitable business and it requires a very low investment because of its multi-functional utility. Commercial goat farming business is contributing greatly to the economy and nutrition of a country. Goats are multi-functional animals. Goat meat is a great source of consumable meat which is very testy, nutritious and healthy. And goat's wool is being used in many purposes and skin of goat plays a vital role in leather industry.

Advantages of Goat Farming

There are many advantages of goat farming business. The main advantages of starting goat farming business are described below.

- Starting a goat farming business requires low initial investment or capital.
- Goats don't require huge area for housing because their body size is comparatively smaller than other livestock animals.
- Usually goats are very friendly in nature and very lovable.
- Goats are good breeders and they reach sexual maturity within their 7-12 months of age and give birth of kids within a short time. And some goat breed produce numerous kids per kidding.
- Risks are less for goat farming (even in drought prone areas) than any other livestock farming business.
- Both male and female goats have almost equal value/price in the market.
- No religious taboo against goat farming and meat consumption.
- Goat meat and milk are cholesterol free and easily digestible.
- Goat milk is used for making various types of foods and it's very easy to digest than milk of cows.
- Commercial goat farming business has created a potential way of employment for unemployed people.

- Goats are multi purpose animal. They can produce milk, meat, skin, fiber and manure at the same time.

Vaccination

Various types of viral diseases like PPR, goat pox, foot and mouth diseases and bacterial diseases like anthrax, brucelosis etc. are very harmful for goats. So, proper vaccination is a must to prevent this types of diseases. The does which was not vaccinated PPR, goat pox, brucellosis vaccines previously, vaccinate them at the fifth month of gestation period. Vaccinate the kids PPR vaccine when they reach 5 months of age. Always take good care of your animals and vaccinate them timely to prevent unwanted health hazard and diseases.

Vaccine Name	Applying Rate	Applying Method
PPR	1 ml	Injection Under Skin
Foot & Mouth Disease	2 ml	Injection Under Skin
Anthrax	1 ml	Injection Under Skin

ECONOMICS OF THE PROJECT

Integrated farming gives good returns for the amount invested, time and energy spent and labour involved. Small & marginal farmers, agricultural labourers, start-up entrepreneurs etc. can opt for integrated farming in a small & medium scale to earn a good amount of income from this source.

A model economics for integrated farming with 1 Acre Pisciculture & 50 numbers of Goatery unit 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 Integrated farm having such component 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.

PROJECT AT A GLANCE			
Sl No	PARTICULARS	UNIT	PARAMETERS
1	Category of the Project		ARD
2	Type of the Project	Integrated Farming	
3	Unit Size	1 Acre Pisciculture	50 Goats
4	Product	Fish	Meat
5	Total Cost of the Project	Rs.	1,111,610
6	Bank Loan	Rs.	833,708
7	Promoter's contribution	Rs.	277,903
8	Financial Indicators		
	BCR at 15% DF	Ratio	1.41
	NPW 15% DF (Rs)	Rs.	892,051
	IRR (%)	Percentage	25.27%
	DSCR		2.26
9	Interest Rate	Percentage	11%

A. ECONOMICS OF INTEGRATED PROJECT

PISCICULTURE (1 ACRE)

	Detailed estimate for Excavation/Renovation of Pond												
	Size of the Pond water area					1	acre	Total	1.2	acre			
1	**CAPITAL COST**												
		Details with specification										**Total Cost (Rs.)**	
	Earth work												
	In ordinary soil	80.00	Mt	x	50.00	Mt	x	0.30	Mt	1,200.00	CuM		
		78.80	Mt	x	48.80	Mt	x	0.30	Mt	1,153.63	CuM		
		77.60	Mt	x	47.60	Mt	x	0.30	Mt	1,108.13	CuM		
									Total	3,461.76	CuM		
		or Say	**3,462**	**Cum @ Rs.**		**40**	**per CuM**					**138,470**	
	In hard soil	76.40	Mt	x	46.40	Mt	x	0.30	Mt	1,063.49	CuM		
		75.20	Mt	x	45.20	Mt	x	0.30	Mt	1,019.71	CuM		
		74.00	Mt	x	44.00	Mt	x	0.30	Mt	976.80	CuM		
									Total	3,060.00	CuM		
		or Say	**3,060**	**Cum @ Rs.**		**40**	**per CuM**					**122,400**	
	Provision for inlet / outlet					LS						5,000	
	Farm equipments and miscellaneous					LS						10,000	
	Land development / Grass turfing					LS						5,000	
	TOTAL											**280,870**	
2	**RECURRING COST (CAPITALIZED FOR ONE YEAR)**												
	Articles				**Unit**	**Specifications**			**Unit Cost (Rs. / Unit)**			**Total Cost (Rs.)**	
	Fertilizers												
	Lime				Kgs	400			6			2,400	
	Single super phosphate				Kgs	125			8			1,000	

	Urea				Kgs	90			8			720	
	Litter/ Raw Cow dungs (RCD)				Tones	4			1000			4,000	
	Sub Total											8,120	
	Seed												
	Fingerlings (80 mm above)				nos	2200			5			11,000	
	Hatchery FW prawn seed				nos	2000			1			2,000	
	Minor / exotic carp intercropping				nos	1000			1			1,000	
	Sub Total											14,000	
	Feed												
	Pellet feed				kgs	3000			22			66,000	
	Prawn feed				kgs	225			30			6,750	
	Sub Total											72,750	
	Miscellaneous												
	Medicines & Chemicals				Ha	0.4			5000			2,000	
	Harvesting expenses				Ha	0.4			5000			2,000	
	Miscelleneous expenses				Ha	0.4			5000			2,000	
	Sub Total											6,000	
	TOTAL											**100,870**	
3	**HORTICULTURE (PAPAYA, BANANA, DRUMSTICK AND OTHER CASH CROPS)**									**LS**		**20,000**	
	GRAND TOTAL											**401,740**	

INCOME												
Articles	**Specification**				**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Total**
Sale of Fish @ 2000 kg per acre	2000	kg	110	1	-	220,000	220,000	220,000	220,000	220,000	220,000	1,320,000
Sale of Minor/Exotic carps 400 Kg./acre	400	kg	120	1	-	48,000	48,000	48,000	48,000	48,000	48,000	288,000
Sale of Prawn @ 100 Kg./acre	100	kg	200	1	-	20,000	20,000	20,000	20,000	20,000	20,000	120,000
Receipts from Horticulture in Embankments		LS			30,000	30,000	30,000	30,000	30,000	30,000	30,000	180,000
TOTAL					**30,000**	**318,000**	**318,000**	**318,000**	**318,000**	**318,000**	**318,000**	**1,908,000**
EXPENDITURE												
Annual expenses for pisciculture					-	100,870	100,870	100,870	100,870	100,870	100,870	605,220
Annual costs of horticultural crop on embankment					20,000	20,000	20,000	20,000	20,000	20,000	20,000	120,000
TOTAL					**20,000**	**120,870**	**120,870**	**120,870**	**120,870**	**120,870**	**120,870**	**725,220**

GOAT (50 + 2 Numbers)

TECHNO ECONOMIC PARAMETERS				
Sl No	**PARTICULARS**	**ITEMS**	**UoM**	**SPECIFICATION**
A	GENERAL SPECIFICATIONS			
1	Breed			Black Bengal
2	Age		Year	About 1 year
3	Health condition			Apparently healthy
4	Rearing system			Semi intensive
5	Kidding interval		Month	8
6	No. of kiddings		Year	1.5
7	Kidding		%	90
8	Kid mortality		%	15
9	Adult mortality		%	5
10	Average litter size (average of single, twinning, triplet, quadruplet)		No	2
11	Cost of	Adult Doe	Rs.	4500
12	Cost of	Adult Buck	Rs.	6000
13	Adult Does		No	50
14	Adult Bucks		No	2
15	Total of adult animals		No	52
16	Average Kids / Year (90 1st year + 180 in 2nd year)		No	135
17	Total Animals		No	187
18	Male:Female kids		Ratio	1:1
19	Average Male kids born / year		No	68
20	Average Female kids born / year		No	68
21	Saleable age of young animals		Month	11
22	Area for fodder cultivation		Acre	0.5
23	Cost of	Fodder cultivation/acre/season	Rs.	6000
24	Labourer		No	1
25	Labour wage / month		Rs.	6000
26	Space requirement / Buck		Sq.ft	15
27	Space requirement / Doe		Sq.ft	10
28	Space requirement / Kid		Sq.ft	4
29	Cost of	Shed construction	Sq.ft	200
30	Cost of	PVC Over Head Tank with stand (1000 ltr capacity)	Rs.	10000
31	Cost of	Borewell	Rs.	90000
32	Cost of	Pump & Pipeline	Rs.	10000
33	Cost of	Electricity Installation & fitting of civil cost	%	5

34	Conc.feed / doe / month / kidding (one month before breeding and one month after kidding)		Kg	6.75
35	Conc.feed / buck / month (two months per breeding season)		Kg	7.5
36	Conc.feed / kid / month (for 1 month)		Kg	3.75
37	Total feed quantity / year	Conc.feed	MT	2.5
38	Cost of	Conc.feed	Rs.	20
39	Conc. Feed / Bag		Kg	50
40	Insurance premium / annum (on cost of adult buck)		%	5
41	Insurance premium / annum (on cost of adult doe)		%	5
42	Total cost of Insurance premium / annum		Rs.	11,850
43	Cost of	Veterinary aid /adult animal /year	Rs.	50
44	Cost of	Veterinary aid / kid / year	Rs.	20
45	Total cost of Electricity charge / year		Rs.	3000
46	Cost of	Equipment / Animal	Rs.	60
47	Sale price of	Young male	Rs.	4000
48	Sale price of	Young female	Rs.	3000
49	Manure		Rs.	To be used for fodder cultivation
50	Sale price of	Gunny bag	Rs.	15
51	Sale price of	Culled animal	Rs.	2000
52	Culled animals / year		%	5

	FLOCK PROJECTION CHART							
		Year						
	Particulars	**1st**	**2nd**	**3rd**	**4th**	**5th**	**6th**	**7th**
1	No. of does purchased	50	0	0	0	0	0	0
2	No. of bucks purchased	2	0	0	0	0	0	0
3	Kidding (%)	90	90	90	90	90	90	90
4	Average litter size	2	2	2	2	2	2	2
5	No. of kidding/year	1	2	1	2	1	2	1
6	No. of male kids	45	90	45	90	45	90	45
7	No. of female kids	45	90	45	90	45	90	45
8	Total Kids	90	180	90	180	90	180	90
9	Mortality (%)	15	15	15	15	15	15	15
10	No of male kids died	7	14	7	14	7	14	7
11	No of female kids died	7	14	7	14	7	14	7
12	No. of male kids available for sale	0	115	38	77	38	77	38
13	No. of female kids available for sale	0	115	38	77	38	77	38

PROJECT COST		
A	**CAPITAL INVESTMENT**	
	Particulars	**Total cost Rs**
1	**Civil Construction**	
a	Goat Shed	214,000
		214,000
2	**Water Supply system**	
a	Pump & Pipelines	10,000
b	Borewell	90,000
c	Sump / Over head Tank	10,000
		110,000
3	**Electrification**	
a	Installation & Fitting	10,700
		10,700
4	**Plant & Machinery**	
a	Equipment	11,220
		11,220
6	**Animal & Plant cost**	
	Livestocks :--- (including Transportation, Tax, & Insurance)	-
	Goat	248,850
		248,850
	Total Capital Cost	**594,770**
B	**RECURRING EXPENDITURE**	
a	Raw Materials	40,100
b	Salary & Wages	72,000
c	Repairs & Miscellaneous	3,000
	Total Recurring Expenditure	**115,100**
C	**TOTAL PROJECT COST**	**709,870**

PROJECTED PROFIT & LOSS ACCOUNT							
Year	**1st**	**2nd**	**3rd**	**4th**	**5th**	**6th**	**7th**
Income:							
Sale of young males	-	459,000	153,000	306,000	153,000	306,000	153,000
Sale of young females	-	344,250	114,750	229,500	114,750	229,500	114,750
Sale og gunny bags	750	750	750	750	750	750	750
Sale of culled animals	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Total Income	**5,750**	**809,000**	**273,500**	**541,250**	**273,500**	**541,250**	**273,500**
Expenditure:							
Cost of conc.feed for does	13,500	13,500	13,500	13,500	13,500	13,500	13,500
Cost of conc.feed for bucks	600	600	600	600	600	600	600
Cost of conc.feed for kids	6,750	13,500	6,750	13,500	6,750	13,500	6,750
Cost of fodder cultivation	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Electricity charges	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Cost of veterinary aid	4,400	6,200	4,400	6,200	4,400	6,200	4,400
Insurance premium	11,850	11,850	11,850	11,850	11,850	11,850	11,850
Wages	72,000	72,000	72,000	72,000	72,000	72,000	72,000
Sub Total	115,100	123,650	115,100	123,650	115,100	123,650	115,100

INTEGRATED PROJECT

TOTAL PROJECT COST OF ALL ENTERPRISES				
A	**CAPITAL INVESTMENT**			
	Particulars/sector	**Goat**	**Pisciculture**	**Total**
1	**Land**			
a	Land Development	-	5,000	5,000
		-	**5,000**	**5,000**
2	**Civil Construction**			
a	Shed	214,000		214,000
		214,000	**-**	**214,000**
3	**Water Supply system**			
a	Pump & Pipe line	10,000		10,000
a	Borewell	90,000		90,000
b	Tank / Over head Tank	10,000	260,870	270,870
c	Foggers / Sprinkler	-		-
		110,000	**260,870**	**370,870**
4	**Electrification**			
a	Installation & Fitting	10,700		10,700
		10,700	**-**	**10,700**
5	**Plant & Machinery**			
a	Equipment & machinery	11,220	15,000	26,220
		11,220	**15,000**	**26,220**
6	**Animal Cost**			
a	Goat	248,850		248,850
		248,850		**248,850**
	Total Capital Cost	**594,770**	**280,870**	**875,640**
B	**Recurring Expenditure upto trial Production (not Eligible for CIS)**			
a	Raw Material (Food, Seeds, Medicines, Fertilizers, Chemicals, etc)	40,100	120,870	160,970
b	Salary / labour	72,000	0	72,000
c	Repairing & Maintenance	3,000	0	3,000
	Total Recurring Expenditure	**115,100**	**120,870**	**235,970**
C	**TOTAL PROJECT COST**	**709,870**	**401,740**	**1,111,610**

MEANS OF FINANCE			
Projects	**Project Cost**	**Bank Loan**	**Owner's Contribution**
	Amount	75%	25%
Pisciculture			
Fixed Expense	280,870		
Recurring Expense	120,870		
TOTAL	401,740	301,305	100,435
Goat			
Fixed Expense	594,770		
Recurring Expense	115,100		
TOTAL	709,870	532,403	177,468
Grand TOTAL	**1,111,610**	**833,708**	**277,903**

PROJECTED PROFITABILITY STATEMENT								
	YR-1	YR-2	YR-3	YR-4	YR-5	YR-6	YR-7	Total
A. Revenue								
Pisciculture	30,000	318,000	318,000	318,000	318,000	318,000	318,000	1,938,000
Goatery	5,750	809,000	273,500	541,250	273,500	541,250	273,500	2,717,750
Total	**35,750**	**1,127,000**	**591,500**	**859,250**	**591,500**	**859,250**	**591,500**	**4,655,750**
B. Operating costs								
Pisciculture	20,000	120,870	120,870	120,870	120,870	120,870	120,870	745,220
Goatery	115,100	123,650	115,100	123,650	115,100	123,650	115,100	831,350
Total	**135,100**	**244,520**	**235,970**	**244,520**	**235,970**	**244,520**	**235,970**	**1,576,570**
C. Operating profit/PBDIT								
Pisciculture	10,000	197,130	197,130	197,130	197,130	197,130	197,130	1,192,780
Goatery	(109,350)	685,350	158,400	417,600	158,400	417,600	158,400	1,886,400
Total	**(99,350)**	**882,480**	**355,530**	**614,730**	**355,530**	**614,730**	**355,530**	**3,079,180**
D. Interest	68,781	82,155	66,870	51,586	36,301	21,016	5,732	332,441
E. Depreciation	24,892	22,963	21,199	19,584	18,106	16,751	15,510	139,004
PBT (C-(D+E))	**(193,023)**	**777,362**	**267,461**	**543,560**	**301,123**	**576,962**	**334,289**	**2,607,735**
Total PAT	**(193,023)**	**777,362**	**267,461**	**543,560**	**301,123**	**576,962**	**334,289**	**2,607,735**