



ADDITIONAL 126 CASE STUDIES OF COMPOSITE FISH CULTURE IN INDIA, INCORPORATING SECON BATCH OF STUDIES PERFORMED DURING 1974-1978 IN DIFFERENT PARTS OF THE COUNTRY

BULLETIN NO. 29, February-1979



CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

(INDIAN COUNCIL OF AGRICULTURAL RESEARCH)

BARRACKPORE - 743101 • WEST BENGAL

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Foreword

With this lot of 126 case studies presented herewith and another 157 conducted by West Bengal Government already available, which will be brought out soon in the form of another technical bulletin, the total number of case studies of composite fish culture in India brought to light have crossed 500 mark.

It is observed that the average yields per hectare has increased in all the four regions of the country during the period 1972-76, reported in the first 138 case studies, and 1974-78 reported here. The average yields per hectare per annum rose from 3,543 kg to 4,448 kg in the Eastern region, from 2,582 kg to 2,927 kg in the Southern region, from 5,527 kg to 5,621 kg in the Western region, and from 3,457 kg to 3,754 kg in the Central region.

About 900 fish farmers in West Bengal spread in almost all the districts of the State took up composite fish culture during 1975-79. In some of these centres in West Bengal during 1976-77 high yield rates of the order of 7,124 kg/ha in Chanchal block of Malda District, 7,222 kg/ha in Raina block of Burdwan District, and 8,150 kg/ha in Mohisadal block of Midnapur District were attained in field conditions by some of the fish farmers, the highest experimental yield attained in research being about 10,000 kg/ha/ yr. The performance of certain West Bengal fish culturists narrowed down the adaptive gap to the extent of about 3,000 kg/ha between current scientific levels of attainability and its feasibility in field conditions. The achievements of the composite fish culture technology in farmers' pond conditions have strengthened the belief that the technology is well set and will hold its ground firmly in future.

Despite increase in average price levels of all the material inputs during 1972-76 and 1974-78, the cost per kilogram of fish produced came down from Rs.2.15 to Rs.1.96 in the Eastern Zone, from Rs.2.38 to Rs.1.44 in the Central Zone, and remained stationery

in the Southern and the Western regions at Rs.2.50 and Rs.2.60 respectively. This is attributable to increase in per hectare production levels attained during the period 1974-78 reported here.

The emergence of the proposed fish culture developmental plans with the help of the World Bank in the Eastern and Central regions covering about 25% of rural areas will usher in an era of plenty, ensuring higher availability of fish to the mal-nourished millions.

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ABBREVIATIONS USED IN THE TEXT

C	-	Catla
Cc	-	Common carp
Gc	-	Grass carp
G.O.C.	-	Ground nut oil cake
M	-	Mrigal
M.O.C	-	Mustard oil cake
R.B.	-	Rice bran
R.P.	-	Rice polish
R	-	Rohu
Sc	-	Silver carp

EASTERN REGION
ORISSA, WEST BENGAL, ASSAM
A N D
ARUNACHAL PRADESH

CASE STUDIES FROM 1 TO 70

Number of case studies : 70

Total area : 31.59 ha

TABLE - 1

WEIGHTED AVERAGES OF MATERIAL INPUTS AND COSTS OF COMPOSITE
FISH CULTURE IN THE EASTERN REGION OF INDIA CONSISTING OF
ORISSA, WEST BENGAL, ASSAM AND ARUNACHAL PRADESH

Number of case studies : 70
Total area. : 31.59 ha
Average area per pond : 0.4513

Item of material inputs	Quantity/ ha/yr.	Average rate of about Rs.	Expenditure/ ha/yr
Mahua oil cake	2901 Kg	0.42/Kg	1228
L i m o	249 Kg	0.37/Kg	93
Cowdung	8078 Kg	40.73/tonnes	329
Ammonium sulphate	104 Kg	0.84/Kg	87
Super phosphate	151 Kg	0.80/Kg	121
Muriate of potash	3 Kg	1.00/Kg	3
U r e a	68 Kg	1.63/Kg	111
Fingerlings	5906 no.	168.30/1000	994
Mustard oil cake or ground nut oil cake }	3263 Kg	1.23/Kg	4007
Rice bran	3696 Kg	0.47/Kg	1724
Total -			8697

Average yield/ha/year = 4448 Kg

Average cost/ha/year = Rs. 8697

* Cost of production per Kg of fish = Rs. 1.96
(based on material inputs alone)

* Does not include rental value, wages & salaries, interest on
working capital, depreciation of farm equipment & netting
charges.

SOUTHERN REGION

(TAMIL NADU, PONDICHERRY, ANDHRA PRADESH, KARNATAKA,
 &
 KERALA)

CASE STUDIES FROM 71 TO 84

Number of case studies : 14

Total area : 2.76 ha

TABLE - 2

WEIGHTED AVERAGES OF MATERIAL INPUTS AND COSTS OF COMPOSITE
FISH CULTURE IN THE SOUTHERN REGION OF INDIA CONSISTING OF
TAMIL NADU, PONDICHERRY, ANDHRA PRADESH,
KARNATAKA & KERALA

Number of case studies : 14

Total area : 2.76 ha

Average area per pond : 0.1971 ha

Item of material inputs	Quantity/ ha/year	Average rate of about Rs	Expenditure/ ha/yr. (Rs)
Mahua oil cake	461 Kg	0.31/Kg	143
Lime	226 Kg	0.33/Kg	74
Cowdung	13456 Kg	36.71/tonnes	494
Ammonium sulphate	20 Kg	1.05/Kg	21
Single super phosphate	146 Kg	0.92/Kg	134
Muriate of potash	21 Kg	1.48/Kg	31
Urea	79 Kg	1.91/Kg	151
Fingerlings	10276 no.	72.30/1000	743
Ground nut oil cake or mustard oil cake or coconut oil cake	2195 Kg	1.55/Kg	3401
Rice bran	3235 Kg	0.68/Kg	2190
Total -			<u>7382</u>

Average yield/ha/year = 2927 Kg

Average cost/ha/year = Rs.7382

*Cost of production per Kg of fish = Rs.2.52
(based on material inputs alone)

*Does not include rental value, wages & salaries, interest on
working capital, depreciation of farm equipment & netting
charges.

WESTERN REGION
(MAHARASHTRA, GUJARAT & HARYANA)

CASE STUDIES FROM 85 - 95

Number of case studies : 11

Total area : 1.86 ha

TABLE -3

WEIGHTED AVERAGES OF MATERIAL INPUTS AND COSTS OF COMPOSITE
FISH CULTURE IN THE WESTERN REGION OF INDIA CONSISTING OF
MAHARASTRA, GUJARAT AND HARYANA

Number of case studies : 11

Total area : 1.86 ha

Average area per pond : 0.1691 ha

Item of material inputs	Quantity/ ha/year	Average rate of about (Rs)	Expenditure/ ha/yr. (Rs)
Lime	719 Kg	0.42/Kg	304
Cowdung	9499 Kg	46.43/tonnes	441
Ammonium sulphate	89 Kg	0.73/Kg	65
Single super phosphate	197 Kg	0.79/Kg	156
Muriate of potash	22 Kg	0.91/Kg	20
Urea	78 Kg	1.74/Kg	136
Fingerlings	6930 no.	98.56/1000	683
Ground nut oil cake } or mustard oil cake }	6482 Kg	1.39/Kg	9040
Rice bran	6561 Kg	0.58/Kg	3798
Total -			<u>14643</u>

Average yield/ha/year = 5621 Kg

Average cost/ha/year = Rs14643

* Cost of production per Kg of fish = Rs.2.61
(based on material inputs alone)

* Does not include rental value, wages & salaries, interest on
working capital, depreciation of farm equipment, netting charges.

CENTRAL REGION
(UTTAR PRADESH & BIHAR)

CASE STUDIES FROM 96 to 126

Number of case studies : 31

Total area : 8.78 ha

TABLE - 4

WEIGHTED AVERAGES OF MATERIAL INPUTS AND COSTS OF COMPOSITE
FISH CULTURE IN THE CENTRAL REGION OF INDIA CONSISTING OF
UTTAR PRADESH & BIHAR

Number of case studies : 31

Total area : 8.78 ha

Average area per pond : 0.2832 ha

Item of material inputs	Quantity/ ha/yr	Average rate of about (Rs)	Expenditure/ ha/yr (Rs)
Mahua oil cake	1006 Kg	0.44/Kg	446
L i m e	793 Kg	0.26/Kg	210
Cowdung	10865 Kg	32.31/tonnes	351
Ammonium sulphate	283 Kg	0.78/Kg	220
Single super phosphate	166 Kg	0.88/Kg	146
Muriate of potash	7 Kg	1.14/Kg	8
U r e a	15 Kg	1.80/Kg	27
Fingerlings	10030 no.	16.21/1000	167
Mustard oil cake or ground nut oil cake	2493 Kg	0.95/Kg	2379
Rice bran	2411 Kg	0.59/Kg	1434
		Total - <u>5388</u>	

Average yield/ha/year = 3754 Kg
Average cost/ha/year = Rs.5388

*Cost of production per Kg of fish = Rs.1.44
(based on material inputs alone)

*Does not include rental value, wages & salaries, interest on
working capital, depreciation of farm equipment, netting charges.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

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BARRACKPORE : WEST BENGAL

INPUTS, YIELD EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT ASKA CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUA-CULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond	:	Baragaon			
Area of the pond	:	0.17			
Culture period	:	11-16 months			
Items of input	Actual quantity applied	Quantity/ha	Purchased at an average rate of about	Actual expenditure	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	-	-	-	-	-
Lime	50.999	300	0.24/Kg	12.47	73.35
Cowdung	85.00	500	30.00/t	2.55	15.00
Urea	12.75	75	2.08/Kg	26.52	156.00
Super phosphate	15.30	90	0.75/Kg	11.48	67.53
Fish seed (no.)	837	4924	35.00/1000	29.30	172.35
<u>Fish Feed</u>					
Rice polish	838.00	4029	0.58/Kg	486.04	2859.06
Ground nut oil cake	562.00	3306	1.69/Kg	949.78	5586.94
Wages	-	-	-	498.05	2929.70
Contingencies	-	-	-	150.99	888.18
Total	-	-	-	2167.18	12748.12
Actual production	=	559.25			
Production/ha	=	3289			
Income from sale	=	Rs 2786.25			
Actual gross profit	=	Rs 619.07			
Gross profit/ha	=	Rs 3641.59			
Cost of production/Kg	=	Rs 3.87			
Cost of production/Kg (based on material inputs alone)	=	Rs 2.71			

The above economics do not include annual capital costs and interest on working capital.

CASE STUDY - 2

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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT ASKA CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77. (PRIVATE CIFRI/IDRC COLLABORATION)

Name/ location of the pond	:	Debabhumi			
Area of the pond	:	0.74 ha			
Culture period	:	11-16 months			
Items of inputs	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	-	-	-	-	-
Lime	68.80	120	0.25/kg	22.20	30.00
Gowdyng	1240.00	1676	30.00/t	37.20	50.27
Urea	143.10	193	2.08/kg	297.65	402.22
Super phosphate	156.60	212	0.75/kg	117.45	158.72
Fish seed (no.)	5550	7500	35.00/1000	194.25	262.50
Fish Feed					
Rice polish	3497.00	4726	0.58/kg	2028.26	2740.89
Ground nut oil cake	2178.00	2943	1.69/kg	3680.82	4974.08
Wages	-	-	-	2167.98	2929.70
Contingencies	-	-	-	6577.27	888.20
Total	-	-	-	9203.08	12436.59

Actual production	=	4330.10	kg
Production/ha	=	5851.	kg
Income from sale	=	Rs. 21532.90	
Actual gross profit	=	Rs. 12329.82	
Gross profit/ha	=	Rs. 16561.92	
Cost of production/kg	=	Rs. 2.13	
Cost of production/kg (based on material inputs alone)	=	Rs. 1.47	

The above economics do not include annual capital costs and interest on working capital.

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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH FISH CULTURE CONDUCTED AT ASKA CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77. (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond	:	Jambanath			
Area of the pond	:	0.74 ha			
Culture period	:	11-16 months			
Items of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	3500.00	4730	0.40/kg	1400.00	1891.89
Lime	-	-	-	-	-
Cowdung	-	-	-	-	-
Urea	166.50	225	2.08/kg	346.32	468.00
Super phosphate	220.30	298	0.75/kg	165.24	223.30
Fish seed (no.)	8899	12026	35.00/1000	311.47	420.91
<u>Fish Feed</u>					
Rice polish	1650.00	2230	0.58/kg	957.00	1293.24
Ground nut oil cake	1125.00	1520	1.69/kg	1901.25	2569.26
Wages	-	-	-	2167.98	2929.70
Contingencies	-	-	-	657.28	888.21
Total	-	-	-	7906.54	10684.51
Actual production	=	3540.05	Kg		
Production/ha	=	4784	Kg		
Income from sale	=	Rs. 15671.25			
Actual gross profit	=	Rs. 7764.71			
Gross profit/ha	=	Rs. 10492.85			
Cost of production/Kg	=	Rs. 2.23			
Cost of production/Kg (based on material inputs alone)	=	Rs. 1.44			

The above economics do not include annual capital costs and interest on working capital.

CASE STUDY - 4

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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT ASKA CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77.(PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond	:	Jaypur			
Area of the pond	:	0.56 ha			
Culture period	:	11-15 months			
Items of inputs	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	-	-	-	-	-
Lime	22.40	40	0.25/kg	5.60	10.00
Cowdung	1120.00	2000	30.00/t	33.60	60.00
Urea	78.40	140	2.08/kg	163.07	291.20
Super phosphate	84.00	150	0.75/kg	63.00	112.50
Fish Seed (no.)	2844	5079	35.00/1000	99.54	177.75
<u>Fish Feed</u>					
Rice polish	2589.00	4623	0.58/kg	1501.62	2681.46
Ground nut oil cake	1775.00	3170	1.69/kg	2999.75	5356.69
Wages	-	-	-	1640.43	2929.70
Contingencies	-	-	-	597.39	1066.77
Total	-	-	-	7104.20	12686.07
Actual production	=	3132.25 kg			
Production/ha	=	5593 kg			
Income from sale	=	Rs. 15438.05			
Actual gross profit	=	Rs. 0333.95			
Gross profit/ha	=	Rs. 14881.88			
Cost of production/kg	=	Rs. 2.27			
Cost of production/kg (based on material inputs alone)	=	Rs. 1.55			

The above economics do not include annual capital costs and interest on working capital.

CASE STUDY-5

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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT ASKA CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond : Kalasandapur

Area of the pond : 0.93 ha

Culture period : 11-16 months

Items of inputs	Actual quantity applied (Kg)	Quantity/ha (Kg)	Purchased at an av. rate of about (Rs)	Actual expenditure (Rs)	Expenditure/ha (Rs)
Mahua oil cake	-	-	-	-	-
Lime	117.40	126	0.25/Kg	29.35	31.56
Cowdung	-	-	-	-	-
Urea	91.00	98	2.08/Kg	189.28	203.53
Super phosphate	111.60	120	0.75/Kg	83.70	90.00
Fish seed (no.)	5789	6225	35.54/1000	205.77	221.26
<u>Fish Feed</u>					
Rice polish	3522.00	3787	0.58/Kg	2042.76	2196.51
Ground nut oil cake	2370.00	2548	1.69/Kg	4005.30	4306.77
Wages	-	-	-	2724.62	2929.70
Contingencies	-	-	-	826.03	888.20
Total	-	-	-	10106.81	10867.53

Actual production	=	4233.05	Kg
Production/ha	=	4552.	Kg
Income from sale	:	Rs. 20591.45	
Actual gross profit	=	Rs. 10484.64	
Gross profit/ha	=	Rs. 11273.81	
Cost of production/ha	=	Rs. 2.39	
Cost of production/Kg	=	Rs. 1.55	
(based on material inputs alone)			

The above economics do not include annual capital costs and interest on working capital.

CASE STUDY - 6

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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT ASKA CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL PROJECT ON RURAL AQUACULTURE DURING 1976-77.(PRIVATE CIFRI/IDRC COLLABORATION)

Name /location of the pond	:	Khadabagh			
Area of the pond	:	0.37 ha			
Culture period	:	11-16 months			
Items of input	Actual quantity applied (kg)	Quantity/ ha (kg)	purchased at an av- rate of about(Rs)	Actual expen- diture (Rs)	Expenditure/ha (Rs)
Mahua oil cake	-	-	-	-	-
Lime	59.60	161	0.25/kg	14.90	40.27
Cow-dung	785.00	2122	30.00/t	23.55	63.65
Urea	18.50	50	2.08/kg	38.48	104.00
Super phosphate	22.20	60	0.75/kg	16.65	45.00
Fish seed (no.)	2134	5768	35.00/1000	74.69	201.86
<u>Fish Feed</u>					
Rice polish	1553.00	4197	0.58/kg	980.74	2434.43
Ground nut	1063.00	2873	1.69/kg	1796.47	4855.32
Oil cake	-	-	-	1083.99	2929.70
Wages	-	-	-	328.63	888.19
Contingencies	-	-	-	-	-
Total	-	-	-	4278.10	11562.42

Actual production	=	1388.85	Kg
Production/ha	=	3754.	Kg
Income from sale	=	Rs. 5743.25	
Actual gross profit	=	Rs. 2465.15	
Gross profit/ha	=	Rs. 6662.57	
Cost of production/kg	=	Rs. 3.08	
Cost of production/kg (based on material inputs above)	=	Rs. 2.06	

The above economics do not include annual capital costs and interest on working capital.

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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT ASKA CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUA-CULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond	:	Nalabanta			
Area of the pond	:	0.74 ha			
Culture period	:	11-16 months			
Items of inputs	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about (Rs)	Actual expenditure	Expenditure/ha
	(Kg)	(Kg)		(Rs)	(Rs)
Mahua oil cake	-	-	-	-	-
Lime	59.20	80	0.25/Kg	14.80	20.00
Cowdung	1000.00	1351	30.00/t	30.00	40.54
Urea	159.10	215	2.08/Kg	330.92	447.19
Super phosphate	178.80	242	0.75/Kg	134.10	181.22
Fish seed (no.)	5066	6846	35.00/1000	177.31	239.61
<u>Fish Feed</u>					
Rice polish	3550.00	44797	0.58/Kg	2059.00	2782.43
Ground nut oil cake	2426.00	3278	1.69/Kg	4099.94	5540.46
Wages	-	-	-	2167.98	2929.70
Contingencies	-	-	-	6577.27	888.20
Total	-	-	-	9671132	13069.35
Actual production	=	2279.95 Kg			
Production/ha	=	3081. Kg			
Income from sale	=	Rs 11387.55			
Actual gross profit	=	Rs 2216.23			
Gross profit/ha	=	Rs 2994.91			
Cost of production/Kg	=	Rs 4.24			
Cost of production/Kg = (Based on material inputs alone)	=	Rs 3.00			

The above economics do not include annual capital costs and interest on working capital

* Harvest incomplete

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<u>Name</u> / location of the pond	:	Nekti Bendha (H.Pada)			
<u>Area</u> of the pond	:	0.23 ha			
<u>Culture period</u>	:	11-16 months			
Items of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure/ha	Expenditure/
(a)	(b)	(kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	-	-	-	-	-
Lime	18.40	80	0.25/kg	4.60	20.00
Cowdung	360.00	1565	30.00/t	10.80	46.96
Urea	11.50	50	2.08/kg	23.92	104.00
Super phosphate	13.80	60	0.75/kg	10.35	45.00
Fish seed (no.)	1203	5230	35.00/1000	42.10	183.04
<u>Fish Feed</u>					
Rice polish	827.00	3596	0.58/kg	479.66	2085.48
Ground nut oil cake	565.00	2457	1.69/kg	954.85	4151.52
Wages	-	-	-	673.83	2929.70
Contingencies	-	-	-	204.28	888.17
Total	-	-	-	2404.39	10453.87
Actual production	=	1093.25 Kg			
Production/ha	=	4753. Kg			
Income from sale	=	Rs. 5199.25			
Actual gross profit	=	Rs. 2794.86			
Gross profit/ha	=	Rs. 12151.57			
Cost of production/kg	=	Rs. 2.20			
Cost of production/kg (based on material inputs alone)	=	Rs. 1.40			

The above economics do not include annual capital costs and interest on working capital.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AS ASKA CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond	Padhal			
Area of the pond	0.26 ha			
Culture period	11-16 months			
Items of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure/ha
	(kg)	(kg)	(Rs)	(Rs)
Mahua oil cake	-	-	-	-
Lime	10.60	41	0.25/kg	2.65
Cowdung	650.00	2500	30.00/t	19.50
Urea	43.10	166	2.08/kg	89.65
Super phosphate	47.20	182	0.75/kg	35.40
Fish Seed (no.)	1334	5131	35.00/1000	46.69
<u>Fish Feed</u>				
Rice polish	1346.00	5177	0.58/kg	780.68
Ground nut oil cake	859.00	3304	1.69/kg	1451.71
Wages	-	-	-	761.72
Contingencies	-	-	-	230.93
Total	-	-	-	3418.93
Actual production	=	1029.90	Kg	
Production/ha	=	3961	Kg	
Income from sale	=	Rs. 5149.50		
Actual gross profit	=	Rs. 1730.57		
Gross profit/ha	=	Rs. 6656.04		
Cost of production/Kg	=	Rs. 3.32		
Cost of production/Kg (based on material inputs alone)	=	Rs. 2.36		

The above economics do not include annual capital costs and interest on working capital.

CASE STUDY -10

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT ASKA CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUA-CULTURE DURING 1976-77. (PRIVATE CIFRI/IDRC COLLABORATION)

Name & location of the pond	:	Pandhy Bandha		
Area of the pond	:	0.40 ha		
Culture period	:	11-16 months		
Items of input	Actual quantity applied	Quantity/ha Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)
Mahua oil cake	1125.00	2612	0.40/Kg	450.00
Lime	-	-	-	-
Cowdung	-	-	-	-
Urea	90.00	225	2.08/Kg	187.20
Super phosphate	108.00	270	0.75/Kg	81.00
Fish Seed (no.)	3031	7578	35.00/1000	106.08
<u>Fish Feed</u>				
Rice polish	798.00	1995	0.58/Kg	462.84
Ground nut oil cake	562.00	1405	1.69/Kg	949.78
Wages	-	-	-	1171.88
Contingencies	-	-	-	355.28
Total	-	-	-	3764.06

Actual production	=	1250.45 Kg
Production/ha	=	3151 Kg
Income from sale	=	Rs. 6180.95
Actual gross profit	=	Rs. 2425.89
Gross profit/ha	=	Rs. 6064.72
Cost of production/Kg	=	Rs. 2.95
Cost of production/Kg (based on material inputs alone)	=	Rs. 1.77

The above economics do not include annual capital costs and interest on working capital.

CASE STUDY-11

CENTRAL INLAND FISHERIES RESEARCH STATION - CUTTACK

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF
COMPOSITE FISH CULTURE CONDUCTED AT CUTTACK DURING 1974-75

Location of the pond : Killa fish farm, Cuttack (Orissa)

Water area of pond : 0.17 ha

Culture period : One year

Items of inputs	Quantity/ha	Purchased at the rate of (Rs)	Expenditure/ha (Rs)
Mahua oil cake	2000 Kg	0.30/Kg	600.00
Lime	121 Kg	0.40/Kg	48.40
Cowdung	6838 Kg	0.18/Kg	1230.84
Urea	59 Kg	1.00/Kg	59.00
Triple superphosphate	147 Kg	0.67/Kg	98.49
Amm. sulphate	59 Kg	0.58/Kg	34.22
Fingerlings	6000 (C 3: R 4: M3)	@ Rs.100 per thousand	600.00
Supplementary feed:			
G.O.C.	4988	1.35/Kg	6733.80
R.P.	4988	0.49/Kg	2444.12
			<u>11840.87</u>

Species	Density/ha	In Wt.(g)	Final wt. (g)	Survival %	Production Kg/ha
Catla	1800	145.90	842.2	94.78	1442.61
Rohu	2400	33.50	641.3	56.44	878.93
Mrigal	1800	36.25	544.2	71.01	695.84

Gross production - 3017.08 Kg/ha/yr.

Net production - 2607.32 Kg/ha/yr.

Production cost per Kg - Rs.3.92

Does not include rental value, wages and salaries, interest on working capital depreciation of farm equipment, cost of repairs and maintenance, cost of netting.

CASE STUDY - 12

CENTRAL INLAND FISHERIES RESEARCH STATION - CUTTACK

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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT CUTTACK DURING 1974-1975

Location of the pond : Killa Fish Farm, Cuttack (Orissa)

Water area of the pond: 0.19 ha

Culture period : One year

Items of inputs	Quantity/ha	Purchased at the rate of (Rs)	Expenditure/ha (Rs)
Mahua oil cake	2000 Kg	0.30/Kg	600.00
Lime	105 Kg	0.40/Kg	42.00
Cowdung	6117 Kg	0.18/Kg	1101.06
Urea	53 Kg	1.00/Kg	53.00
Triple superphosphate	132 Kg	0.67/Kg	88.44
Amm. sulphate	53 Kg	0.58/Kg	30.71
Fingerlings	6000 Kg	(C 3:R 4:M 3) @ Rs.100 per thousand	600.00
Supplementary feed:			
G. O. C.	4463	1.35/Kg	6025.05
R. P.	4463	0.49/Kg	2186.87
			10727.13

Species	Density/ha	In. wt.(g)	Final wt.	Survival	Production
	# individuals	(g)	(g)	%	Kg/ha
Catla	1800	156.8	791.6	96.80	1442.62
Rohu	2400	35.0	723.3	82.78	1443.01
Mrigal	1800	32.5	610.9	99.12	1100.03
					3985.66

Gross production - 3985.66 Kg/ha/yr.

Net production - 3500.68 Kg/ha/yr.

* Production cost per Kg - 2.69 (based on gross production)

* Does not include rental value, wages and salaries, interest on working capital, depreciation of farm equipment, cost of repairs and maintenance, cost of netting.

CASE STUDY-13

CENTRAL INLAND FISHERIES RESEARCH STATION - CUTTACK
INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF
COMPOSITE FISH CULTURE CONDUCTED AT CUTTACK DURING 1974-75

Location of the pond : Killa Fish farm, Cuttack (Orissa)

Water area of pond : 0.5 ha

Culture period : One year

Items of inputs	quantity/ha	Purchased at rate of per Kg (Rs.)	Expenditure/ha (Rs.)
Mahua oil cake	2000 Kg	0.25/Kg	500.00
Lime	190 Kg	0.40/Kg	76.00
Cowdung	7000 Kg	0.18/Kg	1260.00
Urea	110 Kg	1.00/Kg	110.00
Triple super-phosphate	94 Kg	0.67/Kg	62.98
Amm. sulphate	-	-	-
Fingerlings	10000 (C 1:Sc 2.5 : R2 : Gc 1.5 :Cc2: M1 + few chitla + few prawns)	700.00 @ Rs.70 per thousand	

Supplementary feed -

G.O.C.	7110 Kg	1.35/Kg	9598.50
R.P.	7650 Kg	0.49/Kg	3748.50
Weeds	6250 Kg	8 x 25 days (@ 250 Kg/day)	200.00
			<u>16255.90</u>

Species	Density/ha	In wt.(g)	Final wt.(g)	Survival %	Production Kg/ha
Silver carp	2500	8.25	1105.38	52.72	1456.90
Catla	1000	43.24	828.76	100.00	835.40
Rohu	2000	36.37	582.44	82.60	962.20
Mrigal	1000	34.60	843.77	96.60	810.02
Common carp	2000	24.90	1019.14	79.90	1628.60
Grass carp	1500	90.02	1259.28	93.33	1763.00
Chitala	26	719.00	1096.15	100.00	28.50
Prawn	70	44.00	295.15	88.56	18.30
			Total	<u>7502.92</u>	

Gross production - 7502.92 Kg/ha/yr

Net production - 7090.00 Kg/ha/yr

*Production cost per Kg Rs.2.16.

*Does not include rental value, wages and salaries, interest on working capital, depreciation of farm equipment, cost of repairs and maintenance, cost of netting.

CASE STUDY-14

CENTRAL INLAND FISHERIES RESEARCH STATION - CUTTACK

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT CUTTACK DURING 1972 - 1973

Location of the pond : Marsghai, Cuttack District 75 K.M. from Cuttack

Owner : Shri Dhruva Charan Swain

Water area of pond : 0.15 ha

Culture period : One year

Items of input	Quantity/ha.	Purchased at the rate of (Rs)	Expenditure/ha (Rs)
Tafdrin-20	1000 CC	16.67/ha	16.67
Lime	200 Kg.	0.20/kg	40.00
Cowdung	9500 Kg.	1.40/quintal	133.40
Urea	700 Kg.	1.00/kg	700.00
Triple superphosphate	750 Kg.	0.65/kg.	487.71
Amm. sulphate	-	-	-
Fingerlings	13320 (C 1: Sc2 : R 3: Gc1 : Ce 2:M1) @ Rs.35/- per 1000	466.20	
	Packing & transport charges	333.50	
Supplementary feed:			
G.O.C.	7857 Kg.	1.10/kg	8717.69
R. bran	3205 Kg.	0.20/kg	1854.26
			12749.43

Species	Density/ha	In.wt.(g)	Final wt.(g)	Survival %	Production Kg/ha
Silver carp	2664	2.5	1100.0	73.7	2185.812
Catla	1332	6.0	673.00	78.5	728.604
Rohu	3996	24.0	551.0	92.6	2055.942
Mrigal	1332	38.0	934.0	98.0	1219.779
Common carp	2664	7.5	789.0	29.2	712.420
Grass Carp	1332	5.5	1282.0	46.3	690.509
Miscellaneous	-	-	-	-	114.552
Gross production	-	7707.618	Kg/ha/yr.		7707.618
Net production	-	7530.431	Kg/ha/yr		
* Production cost per Kg	-	Rs. 1.65			

* Other items of expenditure like labour charges, watch and ward etc. not included.

CENTRAL INLAND FISHERIES RESEARCH STATION - CUTTACK

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT CUTTACK DURING 1972-73

Location of the pond : Marsaghai, Cuttack District, 75 KM. from Cuttack.

Owner : Shri Dhruva Charan Swain

Water area of pond : 0.15 ha

Culture period : One year.

Items of inputs	Quantity/ha.	Purchased at the rate of(Rs)	Expenditure/ha (Rs)
Tafdrin - 20	1000 CC	16.67/ha	16.67
L i m s	200 Kg	0.20/Kg	40.00
Cowdung	9500 Kg	1.40/quintal	133.40
Urea	-	-	-
Triple superphosphate	850 Kg	0.66/Kg	563.61
Amm. sulphate	850 Kg	0.49/Kg	415.20
Fingerlings	13320 (C1:SC 2 :R3:Gc1:Cc2:M1) @ Rs.35/- per 1000	Packing & transport charges	466.20 333.50
Supplementary feeds:			
G.O.C.	7857 Kg	1.11/Kg	8717.69
R.bean	9845 Kg	0.20/Kg	1987.66
			<u>12673.93</u>

Species	Density/ha	In.ut.(g)	Final wt.(g)	Survival %	Production Kg/ha
Silver carp	2664	2.5	1020.0	97.7	2652.012
Catla	1332	6.0	576.0	48.5	374.492
Rohu	3996	24.0	455.0	98.5	1790.541
Mrigal	1332	38.0	793.0	82.5	875.457
Common carp	2664	7.5	315.0	58.0	491.175
Grass carp	1332	5.5	1120.0	85.0	1244.934
Chital	-	-	-	-	88.839

Gross production - 7517.45 Kg/ha/yr.

Net production - 7359.079 Kg/ha/yr.

* Production cost per Kg - Rs.1.68

* Other items of expenditure like labour charges, watch and ward etc not included.

All India Coordinated Research Project on Composite Fish Culture and
 Fish Seed Production
 Central Inland Fisheries Research Institute
 Sub-Centre: Gauhati (Assam)
 (Central State Collaboration)

Inputs, yield, expenditure and other related details of Composite Fish Culture
 Experiment conducted during 1976-77

Location of the pond : Uluberi fish farm, Gauhati, Dist. Kamrup, Assam.

Pond Number : RP 3

Area : 0.25 ha

Items of input	Quantity (kg/ha)	Actual quantity (kg)	Purchased at an av. rate of (Rs.)	Actual expen- diture (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	2940	735.00	74.00/q	543.90	2175.60
Lime	800	200.00	21.40/q	42.80	171.20
Cowdung	30000	7500.00	4.00/q	300.00	1200.00
Urea	250	62.50	185.00/q	115.62	462.48
Single sup. phosphate	343	85.50	106.00/q	90.95	363.80
Mg. of potash	55	13.750	120.00/q	16.50	66.00
Fingerlings (nos.)	6000	1500	50.00/1000	75.00	300.00
			(C 1.5: R 2.0 : M 1.5: Sc 2.0 : Ge 1.0 : Cc 2.0)		
Supplementary feeding at the rate of 1-2% of body weight					
Rice bran	8989	2247.20	63.00/q 85.00/q	1690.12	6760.48
Mustard oilcake	7746	1936.50	73.00/q 120.00/q	1855.80	7415.20
Aquatic grasses (Dol grass)	15380	3845.00	-	-	
			available in the field surrounding the farm.		
Netting	..	..	..	300.00	1200.00
Dewatering	..	..	..	150.00	600.00
			Total:	5178.69	20714.76

Growth of fishes	Initial weight (g)	Period of rearing (months)	Av. weight attained (gm)	Total weight harvested (kg)
Catla	51.1	12	795.7	169.5
Rohu	5.0	12	666.1	196.5
Mrigal	15.0	12	991.6	214.2
Silver carp	26.4	12	1570.2	438.1
Grass carp	15.0	12	1800.0	266.0
Common carp	18.3	12	800.0	235.0
Miscellaneous				17.0
				1536.3

Total quantity of fish harvested = 1536.3 kg
 Gross production = 6145.2 kg/ha/yr
 Net production = 6015.80 kg/ha/yr.

* Cost of production of per kg fish = Rs. 3.37

Total estimated receipt for 1536.3 kg fishes
 at the rate of Rs. 10/- per kg = Rs. 15363.00
 Total fish seed production = 70.455 lakhs

*Does not include rental value, wages & salaries, interest on working capital, depreciation of farm equipment, cost of repairs and maintenance

All India Coordinated Research Project on Composite Fish Culture and
 Fish Seed Production
 Central Inland Fisheries Research Institute
 Sub-Centres GAUHATI (Assam)
 (Central State Collaboration)

Inputs, yield, expenditure and other related details in Composite Fish Culture conducted during 1976-77

Location of the Pond : Ulubari fish farm, Gauhati Dist. Kamrup, Assam
 Pond number : RP 4
 Area : 0.25 ha

Items of inputs	Quantity kg/ha	Actual quantity applied kg	Purchased at an av. rate of Rs.	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
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Lime	800	200.00	21.40/q	42.80	171.20
Cowdung	30000	7500.00	4.00/q	300.00	1200.00
Urea	279	69.75	185.00/q	129.05	516.20
Single sup. phosphate	375	93.70	106.00/q	99.32	397.28
Mu. of potash	60	15.00	120.00/q	18.00	72.00
Fingerlings (nos.)	6000	1500	50.00/1000 nos.	75.00	300.00

C 1.0 : R 2.0 : M 1.5 : Sc 2.0 : Gc 2.0 : Cc 1.5
 Supplementary feeding at the rate of 1-2% of body weight.

Rice bran	8998	2249.50	63.00/q (1000 kg)		
			1692.10	6768.40	
			85.00/q (1249.5 kg)		
Mustard oilcake	7391	1847.65	73.00/q	1747.10	6988.40
			120.00/q		

<u>Hydrilla</u>	Cultured in the pond	-	-		
Aquatic grasses (Dol grass)	13800	3450.00	-	-	
	(available in the beel surrounding the farm)				
Netting	..	..	..	300.00	1200.00
Dewatering	..	..	..	150.00	600.00
			Total:	4553.37	18213.48

Growth of fishes:

Species	Initial weight (g)	Period of rearing (m)	Av. weight attained (g)	Total weight harvested (kg)
Catla	90.00	12	1177.3	168.5
Rohu	59.7	12	735.9	214.9
Mrigal	75.0	12	838.7	172.0
Silver carp	50.0	12	1734.0	516.7
Grass carp	27.0	12	1418.0	417.4
Common carp	13.7	12	689.0	144.7
				1634.2

Total quantity of fish harvested = 1634.2 kg
 Gross production = 6536.8 kg/ha/yr
 Net production = 6238.8 kg/ha/yr

*Expenditure for production of per kg fish = Rs. 2.79
 Total estimated receipt for 1634.25 kg
 of fishes at the rate of Rs. 10.00/kg = Rs. 16,342.50

*Does not include rental value, wages & salaries, interest on working capital, depreciation of farm equipment, cost of repairs and maintenance.

Case Study - 18

GOVERNMENT OF ARUNACHAL PRADESH

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Gumte by the superintendent of fisheries Subansiri District

Location of the pond : Govt. Fish Seed Multiplication Centre, Gumte, Subansiri District, Arunachal Pradesh

Area : 0.1116 ha

Items of inputs	Quantity/ ha (kg)	Actual quantity applied	Purchased at an av. rate of (kg)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mustard oilcake (for manure)	439	49.00	125.00/q	61.25	548.83
Lime	1,111	124.00	105.55/q	130.88	1172.76
Cowdung	10,753	1,200.00	10/t	12.00	107.53
Urea	114	12.75	1,652.24/t	21.04	188.53
Super phosphate	457	51.00	63.00/q	32.13	287.90
Muriate of potash	75	8.50	92.94/q	7.90	70.79
Fingerlings (nos.)	22,931	2,548	49.53/1000	126.20	1130.82
Supplementary feeding done @ 20-25% of the body weight					
Mustard oilcake (for feed)	4,704	525.00	125.48/q	658.75	5902.78
Rice bran	9,176	1,024.00	25.44/q	260.50	2334.23
Weeds	24,193	2,700.00	-	-	-
				1310.65	11744.17

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
C. catla	35	19	650 x 200	130.0
L. rohita	25	19	700 x 200	140.0
C. mrigala	25	19	600 x 300	180.0
Labeo gonius	25	19	500 x 300	150.0
Silver carp	30	18	750 x 70	52.51
Grass carp	35	18	1800 x 30	54.0
				706.5

Total quantity of fish harvested = 706.5/1½ yrs

Gross production = 5330.6/ha/1½ yrs

*Cost of production per kg of fish = Rs. 1.86

*Does not include annual capital costs, wages and salaries and interest on working capital.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Hanspukur under CIFRI/IDRC project on rural aquaculture during 1976-77-

(Private CIFRI/IDRC collaboration)

Location of the pond : Amgachhia
Name : Bhanjram Sardar
Area : 0.1 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	1670	167.0	0.41/kg	68.47	684.70
Lime	350	35.0	0.50/kg	17.50	175.00
Cowdung	3400	340.0	0.50/q	1.70	17.00
Amm. sulphate	38	3.8	1.01/kg	3.86	38.60
Single superphosphate	21	2.1	0.92/kg	1.93	19.30
Muriate of potash					
Compost					
Fingerlings(nos.)	7570	657 + 100 (337 IMC & 320 exastic carp)		65.47 25.00	654.70 250.00
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	2793	279.3	0.97 & 1.39/kg	362.23	3622.30
Rice bran	3077	307.7	0.50 & 0.62/kg	184.83	1848.30
Aq. weed	18750	1875.0	-	-	-
Terr. weed	3550	355.0	-	-	-
Netting					
Labour	-	-	-	238.68 969.67	2386.80 9696.70

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	25.2		435.8	47.50
Rohu	11.1		398.6	56.60
Mrigal	16.5	9	490.8	31.90
Silver carp	4.3		1096.8	34.00
	8.5		374.5	35.95
Grass carp	437.0		1473.7	28.00
Common carp	1.1		188.6	14.90
Misc.	-		-	9.90
				258.75

Total quantity of fish harvested

Gross production/ha/period = 2588.0/9 months

*Cost of production/kg of fish = Rs. 3.75

*Does not include annual capital costs and interest on working capital

Case Study-20

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details of Composite Fish culture conducted at Hanspukur under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : Amgachhia
Name : Inool Seikh
Area : 0.1 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	900	90.0	0.41/kg	36.90	369.00
Lime	300	30.0	0.50/kg	15.00	150.00
Cowdung	3000	300.0	0.50/q	1.50	15.00
Amm. sulphate	38	3.8	0.99/kg	3.76	37.60
Single super-phosphate	21	2.1	0.92/kg	1.93	19.30
Muriate of potash					
Compost					
Fingerlings(nos.)	7570	657 + 100 (337 IMC & 320 exotic carps)		65.47 25.00	654.70 250.00
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	1682	168.2	0.97 & 1.39/kg	209.94	2099.40
Rice bran	1861	186.1	0.50 & 0.62/kg	110.36	1103.60
Aq. weed	17900	1790.0	-	-	-
Terr. weed	2900	290.0	-	-	-
Netting Labour				251.94 721.80	2519.40 7218.00

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	22.2		1109.6	81.00
Rohu	7.1		360.2	40.70
Mrigal	11.6		336.0	16.80
Silver carp	3.4	9 ¹ / ₂	847.8	19.50
	8.2		404.3	32.75
Grass carp	437.5		1415.8	26.90
Common carp	1.3		386.9	23.60
Magur				
Associated by angling				241.25

Total quantity of fish harvested

Gross production/ha/period = 2412.5/9¹/₂ months

*Cost of production/kg of fish = Rs. 2.99

*Does not include annual capital costs and interest on working capital

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Hanspukur under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : Bagerhat
Name : Thakurpukur
Area : 0.4 ha

Items of input	Quantity /ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	5718	2287.0	0.41/kg	937.67	2344.18
Lime	450	180.0	0.50/kg	90.00	225.00
Cowdung	8750	3500.0	0.50/q	17.50	43.75
Amm. sulphate	75	30.0	0.99/kg	29.70	74.25
Single super-phosphate	62	24.9	0.92/kg	22.90	57.25
Muriate of potash					
Compost					
Fingerlings(nos.)	7500	3000 (1350 IMC & 1650 exotic carps)		354.00	885.00
Suppl. feeding done at the rate 1-4% of body weight.					
Ground nut oilcake	3875	1549.8	0.97 & 1.39/kg	2084.74	5211.85
Rice bran	5000	2000.1	0.50 & 0.62/kg	1229.62	3074.05
Aq. weed	14878	5951.0			
Terr. weed	2960	1184.0			
Netting					
Labour				1060.00	2650.00
				5826.13	14565.33

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	15.9		975.0	598.89
Rohu	20.9		821.0	475.10
Mrigal	20.0		765.0	225.00
Silver carp	12.7 } 5.1 }	10 months	1568.5 844.4	125.90 487.10
Grass carp	10.7		600.0	416.00
Common carp	31.0		424.8	143.40
Misc.	-		-	26.30

Associated by angling

Total quantity of fish harvested = 2197.69 Kg.

Gross production/ha/period = 5494.2/10 months (in kg)

*Cost of production/Kg of fish = Rs. 2.65

*Does not include annual capital costs and interest on working capital.

Case Study-22

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Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Hanspukur under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : Bagi
 Name : Samir Ali
 Area : 0.1 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased rate of av. (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	3300	380.0	0.41/kg	155.80	1558.00
Lime	400	40.0	0.50/kg	20.00	200.00
Cowdung	3300	330.0	0.50/q	1.65	16.50
Amm. sulphate	38	3.8	0.99/kg	3.76	37.60
Single superphosphate	21	2.1	0.92/kg	1.93	19.30
Muriate of potash					
Composts					
Fringerlings(nos.)	6570	657	65.47 (337 IMC & 320 exotic carps)	654.70	
Supplementary feeding done at the rate 1-4% of body weight					
Ground nut oilcake	2611	261.1	0.97+1.39/kg	342.04	3420.40
Rice bran	2957	285.7	0.50 & 0.62/kg	171.29	1712.90
Aq. weed	4200	420.0	-	-	-
Terr. weed	2950	295.0	-	-	-
Netting					
Labour	-	-	-	265.20	2652.00
				1027.14	10271.40

Growth of fishes :

Species	Initial weight (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	10.4		994.4	107.40
Rohu	10.4		506.5	62.75
Mrigal	10.3	10 months	506.8	30.10
Silver carp	6.2		528.5	91.19
Grass carp	437.0		563.2	10.70
Common carp	26.0		554.9	42.66
Miscellaneous	-		-	2.00
				346.80

Associated by angling

Total quantity of fish harvested = 346.80 kg
 Gross production/ha/period = 3468.0/10 months (in Kg.)
 *Cost of production/kg of fish = Rs. 2.96

*Does not include annual capital costs and interest on working capital.

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Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Hanspukur under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond: Bhasa
Name : Mukulsangha
Area : 0.09 ha

Items of input	Quantity /ha (g)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake		Not applied			
Lime	400	36.0	0.50/Kg	18.00	200.00
Cowdung	3000	270.0	0.50/q	1.35	15.00
Amm. sulphate	-	-	-	-	-
Single super-phosphate	21	1.9	0.92/Kg	1.75	19.44
Muriate of potash					
Compost					
Fingerlings(nos.)	36756	3308	*	55.20	613.33
	(339 IMC + 269 Ex. carp + 2700 magur)		299.00		3322.22
			magur (29.9)		
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	2626	236.3	1.39/Kg	328.45	3649.44
Rice bran	3519	316.7	0.62/Kg	196.35	2181.67
Fishmeal	2134	192.1	0.70/Kg	134.47	1494.11
Terr. weed					
Netting					
Labour				166.95	1855.00
				1201.52	13350.22

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (Kg)
Catla	33.5		356.5	31.53
Rohu	26.4		135.0	35.93
Mrigal	18.2		214.5	23.49
Silver carp	8.5	7 months	440.0	68.90
Grass carp	x		x	x
Common carp	1.6		108.3	5.55
Magur	11.1		23.58	40.44
Associated by angling (misc.)				5.00
Total quantity of fish harvested				210.84

Gross production/ha/period = 2342.7/7 months (in Kg.)

*Cost of production/Kg of fish= Rs. 5.69

* Does not include annual capital costs and interest on working capital

* Magur was purchased @ Rs. 10/- per Kg.

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(Private CIFRI/IDRC collaboration)

Location of the pond : Bishnupur

Name : Santi

Area : 0.45 ha

Items of input	Quantity /ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	6400	2880	0.41/kg	1180.80	2624.00
Lime	572	257.5	0.50/kg	128.75	286.11
Cowdung	8156	3670.0	0.50/kg	18.35	40.78
Amm. sulphate	75	33.8	0.99/kg	33.46	74.36
Single super-phosphate	84	37.6	0.92/kg	34.59	76.87
Muriate of potash					
Compost		*			
Fingerlings (nos.)	7500	3375		398.95	886.56
		(1516 IMC, 1857 exotic carps)			
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	4594	2067.3	0.97 & 1.39/kg	2719.07	6042.38
Rice bran	4754	2139.4	0.50 & 0.62/kg	1282.30	2849.55
Aq. weed	6287	2829.0	-	-	-
Terr. weed	222	100.0	-	-	-
Netting				1192.50	2650.00
Labour				6988.77	15530.60

Growth of fishes:

Species	Initial wt.	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	12.0		1046.7	455.30
Rohu	10.5		1238.9	662.80
Mrigal	14.7		436.3	228.60
Silver carp	2.8	10 months	1043.2	380.77
Grass carp	10.7		1111.8	56.70
Common carp	1.3		311.1	2.80
Misc.	-		-	86.70
				1873.67

Associated by angling

Total quantity of fish harvested = 1873.67 Kg.

Gross production/ha/period = 4163.8/10 months (in kg.)

*Cost of production/kg of fish = Rs. 5.73

*Does not include annual capital costs and interest on working capital

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(Private/CIFRI/IDRC collaboration)

Location of the pond : Bratacharigram
Name : Bratachari
Area : 0.16 ha

Items of input	Quantity /ha (Kg)	Actual quantity applied (Kg)	Purchased rate of (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	3600	576.0	0.41/Kg	236.16	1476.00
Lime	550	88.0	0.50/Kg	44.00	275.00
Cowdung	4000	640.0	0.50/q	3.20	20.00
Amm. sulphate	-	-	-	-	-
Single super-phosphate	41	6.6	0.92/Kg	6.07	37.94
Muriate of potash					
Compost					
Fingerlings(nos.)	7500	1200		141.60	885.00
		(560 exotic carps +540 IMC)			
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	1286	205.7	1.39/Kg	285.92	1787.00
Rice bran	1370	219.2	0.62/Kg	135.90	849.37
Aq. weed	26469	4235.0	-	-	-
Terr. weed	65844	10535.0	-	-	-
Netting Labour				275.60	1722.50
				1128.45	7052.81

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	58.6		459.7	68.04
Rohu	23.0		234.3	45.69
Mrigal	51.0		376.0	40.25
Silver carp	43.0	6/2 months	688.3	243.25
Grass carp	25.0		722.9	128.68
Common carp	1.3		808.1	69.60
Misc.				12.25

Associated by angling

Total quantity of fish harvested

Gross production/ha/period = 3798.5/6/2 months

*Cost of production/kg of fish = Rs. 1.86

*Does not include annual capital costs and interest on working capital.

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Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Hanspukur under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private/CIFRI/IDRC collaboration)

Location of the pond : Daulatpur
Name : Child-in-need Institution
Area : 0.15 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake		Not applied			
Lime	617	92.5	0.50/kg	46.25	308.33
Cowdung	22067	3310.0	0.50/q	16.55	110.33
Amm. sulphate	152	22.8	0.99/kg	22.57	150.47
Single superphosphate	117	17.6	0.92/kg	16.19	107.93
Muriate of potash					
Compost					
Fingerlings(nos.)	7480	1122		132.44	882.93
		(505 IMC & 617 exotic carps)			
Supplementary feeding done at the rate 1-4% of body weight.					
Ground nut oilcake	4308	646.2	0.97&1.39/kg	877.38	5849.20
Rice bran	4257	638.6	0.50&0.62/kg	389.37	2595.80
Aq. weed	75033	11255.0	-	-	-
Terr. weed					
Netting					
Labour				477.00	3180.00
				1977.75	13185.00

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	17.6		586.0	39.94
Rohu	22.4		1100.0	73.42
Mrigal	150.0		509.0	
Silver carp	15.4	1 year	652.0	54.75
Grass carp			414.1	88.05
Common carp	53.5		900.6	74.76
Misc.	10.0		453.0	46.35
				377.27

Associated by angling

Total quantity of fish harvested = 377.27 kg 1 year
Gross production /ha/period = 2515.1/ha/

*Cost of production/kg of fish = Rs. 5.24

*Does not include annual capital costs and interest on working capital

Case Study-27

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BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Hanspukur under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : (Joka) Hanspukur
Name : Ghoshpukur
Area : 0.34 ha

Items of input	Quantity /ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	4235	1440.0	0.41/kg	590.40	1736.47
Lime	368	125.0	0.50/kg	62.50	183.82
Cowdung	14529	4940.0	0.50/q	24.70	72.65
Amm. sulphate	38	12.8	0.99/kg	12.67	37.26
Single superphosphate	63	21.3	0.92/kg	19.59	57.62
Muriate of potash					
Compost					
Fingerlings (nos.)	7500	2550		384.94	1132.18
		(1148 of IMC & 1402 exotic carps)			
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	9009	3063.1	0.97 & 1.39/kg	4154.96	12220.47
Rice bran	8429	2865.9	0.50 & 0.62/kg	1758.54	5172.18
Aq. weed	62279	21175.0			
Terr. weed	10294	3500.0			
Netting					
Labour				1082.02	3182.41
				8090.32	23795.06

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	18.2		733.8	253.2
Rohu	14.8		400.0	183.6
Mrigal	14.1	12	460.0	105.8
Silver carp	24.2		1225.2	700.8
Grass carp	10.7		673.7	232.4
Common carp	5.4		830.0	286.4
				1762.2

Total quantity of fish harvested = 1762.2 kg / year

Gross production/ha/period = 5182.9 kg / year

*Cost of production/Kg of fish = Rs.4.59

* Does not include annual capital costs and interest on working capital

Remarks: Cost of fingerlings has been estimated based on the rates of the Govt. of West Bengal (Rs. 30/- per 1000 fingerlings of Indian major carps + common carp and Rs. 250/- per 1000 fingerlings of exotic carps).

Case Study -28

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Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Hanspukur under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : Joka
Name : Indian Institute of Management, Calcutta
Area : 1.2 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	12500	15,000.0	0.41/Kg	6150.00	5125.00
Lime	450	540.0	0.50/Kg	270.00	225.00
Cowdung	25667	30,800.0	0.50/q	154.00	128.33
Amm. sulphate	421	505.0	0.99/Kg	499.95	416.62
Single super- phosphate	240	267.5	0.92/Kg	264.50	220.42
Muriate of potash					
Compost					
Fingerlings(nos.)	10000	12,000 (7800 IMC + 4200 SC + GC)		1284.00	1070.00
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	6212	7,454.0	0.97&1.39/Kg	9300.90	7750.75
Mustard oilcake	90	107.5			
Rice bran oil	90	10,394.0	0.50&0.62/Kg	5957.23	4964.35
Ragwoodn	26322	32,198.0	-	-	-
Terr. weed	61037	73,245.0	-	-	-
Netting					
Labour				7632.00	6360.00
				31512.58	26260.47

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla				4533.6 (actually harvested)
Rohu				5325.6 (Estimated)
Mrigal		2 years		2356.7 2 yr. old
Silver carp				(Estimated 1 yr old)
Grass carp				
Common carp				
Magur				12215.9
Associated by angling				
Total quantity of fish harvested	=	12215.9 Kg.		
Gross production/ha/period	=	10179.9 kg/ha/2 yrs		
*Cost of production/kg of fish	=	Rs. 2.58		

* Does not include annual capital costs and interest on working capital

Remarks : The pond was restocked @ 5000 fingerlings/ha without application of mahua oilcake as the fishes of the last year were not harvested fully.

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(Private CIFRI/IDRC collaboration)

Location of the pond : Joka
Name : Shyamali II
Area : 0.2 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	6000	1200.0	0.41/Kg	492.00	2460.00
Lime	360	72.0	0.50/Kg	36.00	180.00
Cowdung	1000	200.0	0.50/q	1.00	5.00
Amm. sulphate	88	17.6	0.99/Kg	17.42	87.10
Single superphosphate	41	8.2	0.92/Kg	7.54	37.70
Muriate of potash					
Compost					
Fingerlings(nos.)	5000 (450 IMC & 550 exotic carps)			107.00	535.00
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	2766	553.3	0.97/Kg	536.70	2683.50
Rice bran	3212	642.5	0.50/Kg	321.25	1606.25
Aq. weed	235	470.0			
Terr. weed	34250	6850.0			
Netting					
Labour				636.48	3182.40
				2155.39	10776.95

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	16.0		1137.3	72.45
Rohu	81.7		757.7	88.65
Mrigal	10.8		699.5	90.24
Silver carp	2.5	1 year	1615.6	339.27
Grass carp	58.0		2240.3	161.30
Common carp	5.0		1957.1	82.20
Misc.	-		630.7	104.70
			-	62.00
				1000.81

Associated by angling

total quantity of fish harvested

Gross production/ha/period 5004.05/ha/year

*Cost of production/kg of fish = Rs. 2.15

*Does not include annual capital costs and interest on working capital

Remarks : Cost of fingerlings has been estimated based on the rates of the Govt. of West Bengal (Rs.30/- per 1000 fingerlings of Indian major carps + common carp and Rs.250/- per 1000 fingerlings of exotic carps).

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Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Hanspukur under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : Kharibaria
 Name : Chittaranjan Mondal
 Area : 0.11 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	5455	600	0.41/kg	246.00	2236.36
Lime	436	48	0.50/kg	24.00	218.18
Cowdung	5000	550	0.50/q	2.75	25.00
Amm. sulphate	37	4.1	0.99/kg	4.05	36.82
Single super-phosphate	63	6.9	0.92/kg	6.35	57.73
Muriate of potash					
Compost					
Fingerlings(nos.)	8210	969		80.57) 51.50)	732.45 468.18
Suppl. feeding done at the rate 1-4% of body weight.					
Ground nut oilcake	1744	191.8	0.97&1.39/Kg	252.78	2298.00
Rice bran	1901	209.1	0.50&0.62/Kg	125.71	1142.82
Aq. weed	21655	2382			
Terr. weed					
Netting					
Labour				262.35 1056.06	2385.00 9600.54

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	18.6		641.4	74.40
Rohu	20.5		305.8	59.20
Mrigal	20.0		497.6	40.80
Silver carp	14.1	9	258.5	26.88
Grass carp	8.5		363.5	65.06
Common carp	10.7		717.6	36.60
	31.1		226.1	25.10
				328.04

Total quantity of fish harvested = 328.04 Kg.

Gross production/ha/period = 2982.2/9 months

*Cost of production/kg of fish = Rs. 3.22

*Does not include annual capital costs and interest on working capital

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(Private CIFRI/IDRC collaboration)

Location of the pond : Khariberia
Name : Saroj Kayal
Area : 0.19 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	2449	465.3	0.41/Kg	190.77	1004.05
Lime	300	57.0	0.50/Kg	28.50	150.00
Cowdung	2053	390.0	0.50/q	1.95	10.26
Amm. sulphate	37	7.1	0.99/Kg	7.02	36.95
Single super-phosphate	42	8.0	0.92/Kg	7.36	38.74
Muriate of potash					
Compost					
Fingerlings (nos.)	7616	200 + 1247 (240 IMC & 607 exotic carps)		148.87 50.00	783.53 263.16
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	4548	864.2	0.97 & 1.39/Kg	1139.74	5998.63
Rice bran	4642	881.9	0.50 & 0.62/Kg	538.62	2834.84
Aq. weed	8374	1591.0	-	-	-
Terr. weed	4237	805.0	-	-	-
Netting Labour				503.80	2651.58
				2616.63	13771.73

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	23.3		901.6	191.14
Rohu	10.0		488.9	137.40
Mrigal	15.1		605.4	79.91
Silver carp	3.6	10 months	1333.8	94.70
Black carp	18.2		545.4	88.90
Grass carp	427.7		1635.6	58.88
Common carp	30.8		438.7	93.00
Magur				743.93

Associated by angling

Total quantity of fish harvested = 743.93

Gross production /ha/period = 3915.4/10 months (in kg.)

*Cost of production/Kg of fish = Rs. 3.52

* Does not include annual capital costs and interest on working capital

Case Study -32

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Hanspukur under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : Khariberia
Name : Satis Gayan
Area : 0.1 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	5000	500	0.41/Kg	205.00	2050.00
Lime	400	40	0.50/Kg	20.00	200.00
Cowdung	2000	200	0.50/q	1.00	10.00
Amm. sulphate	38	3.8	0.99/Kg	3.76	37.60
Single super-phosphate	42	4.2	0.87/Kg	3.64	36.40
Muriate of potash					
Compost					
Fingerlings(nos.)	7570	657 + 100 (337 IMC & 320 exotic carps)		25.00 65.47	250.00 654.70
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	4263	426.3	0.97&1.39/Kg	563.15	5631.50
Rice bran	3882	388.2	0.50&0.62/Kg	232.28	2322.80
Aq. weed	10250	1025.0			
Terr. weed	11060	1106.0			
Netting					
Labour				265.00	2650.00
				1384.30	13843.00

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	9.9		765.2	73.46
Rohu	9.5		436.6	58.50
Mrigal	6.5		369.0	26.20
Silver carp	5.7	10 months	863.8	69.10
Grass carp	86.0		641.7	41.71
Common carp	428.9		1772.2	31.90
Misc.	31.0		357.0	35.70
Associated by angling				4.00

Total quantity of fish harvested = 340.57 Kg. 340.57

Gross production/ha/period = 3405.7/10 months (in kg.)

*Cost of production/Kg of fish = Rs.4.06

*Does not include annual capital costs and interest on working capital

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at L under CIFRI/IDRC project on rural aquaculture during 1976-77

Hanspukur

(Private CIFRI/IDRC collaboration)

Location of the pond : Jokha
Name : Shyamali I
Area : 0.54 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	8296	4480.0	0.41/Kg	1836.80	3401.48
Lime	549	296.5	0.50/Kg	148.25	274.54
Cowdung	2000	1080.0	0.50/q	5.40	10.00
Amm. sulphate	688	47.3	0.99/Kg	46.82	86.70
Single super- phosphate	941	22.1	0.92/Kg	20.33	37.64
Muriate of potash					
Compost					
Fingerlings (nos.)	5185	2700	*	288.90	535.00
		(1215 IMC & 1485 exotic carps)			
Suppl. feeding done at the rate 1-4% of body wt.					
Ground nut oilcake	7634	4122.6	0.97 & 1.39/Kg	4930.50	9130.55
Rice bran	7322	3954.0	0.50 & 0.62/Kg	2233.60	4136.29
Aq. weed	7556	4080.0			
Terr. weed	90185	48700.0			
Netting					
Labour				1718.50	3182.40
				11229.10	20794.61

Growth of fishes :

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (Kg)
Catla	15.7		1175.7	293.10
Rohu	11.9		1169.1	64.30
Mrigal	19.2		187.0	75.35
Silver carp	10.8		769.5	201.60
			1182.2	1404.40
Grass carp	12.3		2988.4	361.60
Common carp	54.4		845.3	316.15
Magur	5.2			2716.5

Associated by angling

Total quantity of fish harvested = 2716.5 Kg

Gross production/ha/period = 5030.6 Kg.

*Cost of production/Kg of fish = Rs. 4.13

*Does not include annual capital costs and interest on working capital.

*Cost of fingerlings has been estimated based on the rates of the Govt. of West Bengal (Rs.30/- per 1000 fingerlings of Indian major carps + common carp and Rs. 250/- per 1000 fingerlings of exotic carps)

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL
INLAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE, INCOME AND OTHER RELATED DETAILS OF COMPOSITE
FISH CULTURE EXPERIMENT CONDUCTED AT KALYANI CENTRE DURING 1976-1977

(STATE - ICAR COLLABORATION)

Location of the Pond: Kulia Fish Farm, Kalyani, Dist. Nadia, West Bengal

Area : 0.13 ha

Items of Input	Quantity/ha	Actual quantity applied	Purchased at an average rate of about	Actual expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)	(Rs)	(Rs)
Lime	338	44.00	32.00/q	14.08	108.31
Cowdung	17654	2295.00	1.50/q	34.40	264.62
Urea	62	0.00	168.00/q	13.50	103.85
Single Super Phosphate	125	16.25	60.00/q	9.75	75.00
Fingerlings	5000 nos	650 Nos	-	161.00	
(C 0.95:R 0.80: M2.50:Scl.1.08:GC 1.39:Cc 2.48)				1238.46	
Mustard Oilcake	4037	524.75	110.00/q	577.25	4440.38
Rice bran	3338	434.00	25.64/q	111.31	856.23
Diesel	-	175 litres	1.30/L	241.50	1857.69
		Total -		1162.79	8944.54

Growth of fishes

SPECIES	Initial wt.(g)	Period of rearing (months)	Av.wt. attained(g)	Total weight harvested(kg)
Catla	30	12	568	28.95
Rohu	30	12	445	19.15
Mrigal	40	12	568	80.15
Silver carp	12	12	1124	93.85
Grass carp	10	12	1869	92.55
Common carp	10	12	762	98.40
	(a)	(b)	(c)	Total 413.05

Total quantity of fish harvested: 413.05 kg
 Gross production : 3177.3 kg/ha/yr
 Net production : 3063.4 kg/ha/yr
 Cost of production per kg of fish: Rs.2.81

* Does not include annual capital costs, wages and salaries cost of weeds, and interest on working capital.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL
INLAND FISHERIES RESEARCH INSTITUTE

CASE
STUDY- 35

INPUTS, YIELD, EXPENDITURE, INCOME AND OTHER RELATED DETAILS OF COMPOSITE
FISH CULTURE EXPERIMENT CONDUCTED AT KALYANI CENTRE DURING 1976 - 1977 -

(STATE - ICAR COLLABORATION)

Location of the pond :- Kulia Fish Farm, Kalyani, Dist. Nadia, W.B.
Area : 0.15 ha

Items of input:	Quantity/ha	Actual quantity applied	Purchased at an average rate of about	Actual expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)	(Rs)	(Rs)
Lime	213	32.00	37.00/q	11.85	79.00
Cowdung	11200	1600.00	1.50/q	25.20	168.00
Urea	80	12.00	168.00/q	20.25	135.00
Single super Phosphate	160 kg	24.00	60.00/q	14.40	96.00
Fingerlings	5000 nos	750 Nos	(C 1.57:R 0.54:M 2.14:S 0.07:Gc 2.26:Cc 2.62)	173.84	1150.93
Mustard oilcake	4420 kg	663.00	113.44/q	752.10	5014.00
Rice bran	3743 kg	561.50	26.00/q	146.00	973.33
Diesel.	-	87 lit	1.30/l	120.06	800.40
			Total - 1263.70		8424.65

Growth of fishes

SPECIES	Initial av.wt.(g)	Period of rearing (months)	Av.wt.attained (g)	Total wt. harvested (kg)
Catla	30	12	732	83.45
Rohu	30	12	960	36.50
Mrigal	40	12	811	130.65
Silver carp	12	12	1675	107.20
Grass carp	10	12	1588	139.00
Common carp	10	12	-	140.00
			Total - 637.60	

Total quantity of fish harvested : 637.60 kg

Gross production : 4250.66 kg/ha/yr

Net production : 4159.40 kg/ha/yr

Cost of production per kg of fish : Rs.1.98

* Does not include annual capital costs, wages and salaries cost of weeds and interest on working capital

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL
INLAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE, INCOME AND OTHER RELATED DETAILS OF COMPOSITE
FISH CULTURE EXPERIMENT CONDUCTED AT KALYANI CENTRE DURING 1977-1978

(STATE - ICAR COLLABORATION)

Location of the pond: Kulia Fish Farm, Kalyani, Distt. Nadia, West Bengal

Area : 0.13 ha

Item of input	Quantity/ha (kg)	Actual quantity applied (kg)	Purchased at an aver-	Actual Expenditure Expenditure about (Rs)	Expenditure/ha (Rs)
			age rate of about (Rs)		
Lime	431	56.00	32.00/q	17.92	137.05
Cowdung	11115	1445.00	1.50/q	21.67	166.69
Urea	120	15.60	160.00/q	26.20	201.54
Single Super Phosphate	150	19.50	60.00/q	11.70	90.00
Fingerlings	5000 nos/ha	650 Nos	-	120.00	923.08
	(C 1.0 : R 0.5 : M 1.5 : Sc 2.0 : Gc 3.0 : Cd 2.0)				
Mustard Oilcake	2511	326.50	125.00/q	408.12	3139.30
Rice bran	485	63.00	26.00/q	16.38	126.00
'Epic' fish feed	11054	1437.00	57.00/q	819.09	6300.69
Diesel	-	105 litres	1.40/L	147.00	1130.76
			Total :	1588.08	12215.99

Growth of fishes:

SPECIES	Initial wt.(g)	Period of rearing (months)	Av.wt. attained(g)	Total wt. harvested (kg)
Catla	10	9	320	20.77
Rohu	50	12	870	20.66
Mrigal	44	12	730	72.00
Silver carp	25	7	1270	165.90
	70	4	340	42.05
Grass carp	40	12	1750	203.00
Common carp	80	12	-	228.50
			Total :	761.68

Total quantity of fish harvested: 761.68 kg.

Gross production : 5059 kg/ha/yr

Net production : 5580 kg/ha/yr

Cost of production per kg of fish: Rs.2.00

* Does not include annual capital costs, wages and salaries, cost of weed and interest on working capital

CASE STUDY - 37

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL
INLAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE, INCOME AND OTHER RELATED DETAILS OF COMPOSITE
FISH CULTURE EXPERIMENT CONDUCTED AT KALYANI CENTRE DURING 1977-1978

(STATE - ICAR COLLABORATION)

Location of the pond : Kulia Fish Farm, Kalyani, Distt. Nadia, West Bengal

Area : 0.15 ha

Item of input	Quantity/ha	Actual quantity applied	Purchased at an average rate of about	Actual Expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)	(Rs)	(Rs)
Lime	267	48.00	32.00/q	12.80	85.33
Cowdung	20067	3010.00	1.50/q	45.15	301.00
Urea	217	32.50	160.00/q	54.60	364.00
Single Super Phosphate	240	36.00	60.00/q	21.60	144.00
Fingerlings	5000 nos/ha	750 Nos	-	102.50	683.33
		(C 1.0; R 1.0; M 2.0; Sc 2.5; Gc 1.5; Cc 2.0)			
Mustard Oilcake	5052	757.75	125.00/q	947.20	6314.67
Rice bran	1055	158.25	26.00/q	41.15	274.33
'Epic' fish feed	5967	895.00	62.00/q	554.90	3699.33
Diesel	-	145 litres	1.30/l	200.10	1334.00
			Total :	1980.00	13199.99

Growth of fishes:

SPECIES	Initial wt.(g)	Period of rearing (months)	Av.wt.attained(g)	Total wt. harvested (kg)
Catla	29	12	327	24.15
Rohu	15	12	374	24.40
Mrigal	20	12	695	95.20
Silver carp	63	12	773	142.20
Grass carp	41	12	1923	202.90
Common carp	42	12	608	152.70
			Total :	641.55

Total quantity of fish harvested : 641.55 kg
 Gross production : 4277 kg/ha/yr
 Net production : 4075 kg/ha/yr
 Cost of production per kg of fish : Rs.3.00

* Does not include annual capital costs, wages and salaries, cost of weeds and interest on working capital

CASE STUDY -38

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL
INLAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE, INCOME AND OTHER RELATED DETAILS OF COMPOSITE
FISH CULTURE EXPERIMENT CONDUCTED AT KALYANI CENTRE DURING 1977-1978

(STATE - ICAR COLLABORATION)

Location of the pond: Kulia Fish Farm, Kalyani, Distt. Nadia, West Bengal

Area of the Pond: 0.23 ha

Items of input	Quantity/ha (kg)	Actual quantity applied (kg)	Purchased at an aver-	Actual Expenditure (Rs)	Expendi-
			age rate of about		t u r e/ha (Rs)
Lime	200	46.00	32.00/q	14.72	64.00
Cowdung	15565	3580.00	1.50/q	53.70	233.47
Urea	157	36.00	160.00/q	60.48	262.95
Single Super Phosphate	197	45.25	60.00/q	27.15	118.04
Fingerlings	5000 nos/ha	1150 Nos (C 1.5 : R 2.0 : M 2.0 : Sc 2.0 : Co 2.5)	-	-	115.00
Mustard Oilcake	3809	876.00	125.00/q	1095.00	4760.00
Rice bran	798	183.50	26.00/q	47.71	207.43
Epic fish feed	4393	1010.50	62.00/q	626.51	2723.95
Diesel	-	00 litres	1.30/L	110.40	480.00
Total :				2150.67	9349.84

Growth of fishes

SPECIES	Initial wt.(g)	Period of rearing (months)	Av.wt. attained (g)	Total wt. harvested (kg)
Catla	47	12	401	50.10
Rohu	15	12	495	15.35
Mrigal	24	12	694	161.00
Silver carp	57	12	1032	254.95
Common carp	18	12	474	137.45
Total :				618.85

Total quantity of fish harvested: 618.85 kg

Gross production : 2690 kg/ha/yr

Net production : 2530 kg/ha/yr

Cost of production per kg of fish: Rs.3.48

Remarks: Since the pond was overflooded in between the experiment for 5 months allowing entry of trash fishes and escape of stocked fish, the growth of fish and percentage of recovery were badly affected.

* Does not include annual capital costs, wages and salaries cost of weeds and interest on working capital

CASE STUDY-39

ALL INDIA COORDINATED PROJECT ON COMPOSITE FISH CULTURE
CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE SITE FISH CULTURE CONDUCTED AT JEYPORE FISH FARM (KORAPUT), ORISSA DURING 1976-1977

(State/Central collaboration)

Location of pond : Jaypore, Koraput (Orissa)

Area of the pond : 0.3 ha Pond No. S.P. 6 Period of rearing 6 months

Items of inputs	Quantity (kg)/ha	Actual quantity (kg)	Purchased at the rate of (Rs)	Expenditure (Rs)	Expenditure/ha (Rs)
Mahua oil cake	50.60 (2 mtr. water)	1518	600/- p.t.	910.80	3036.00
Lime	610	193	600/- p.t.	110.00	366.67
Raw cattle dung	11350	3405	17.50 p.t.	59.58	198.60
Amm. sulphate	197	59.1	0.94 p.kg	55.55	185.17
Single superphosphate	170	.51	0.79 p.kg	40.29	134.30
Muriate of potash	23	6.8	0.95 p.kg	6.46	21.53
Urea	62	18.55	1.25 p.kg	23.18	77.27
Mustard oil cake	-	-	-	-	-
Groundnut oil cake	633	190.3	1375 p.t.	261.66	872.20
Rice bran/rice polish	633	190.3	650 p.t.	123.50	411.67
Weeds(Aquatic/terrestrial)-	-	-	-	-	-
Fingerlings					
i) Indian carps	61	18.2	-	91.25	304.16
ii) Exotic carps	-	-	-	-	-
Other items					
i) Diesel oil	-	-	-	-	-
ii) Mobil oil	-	-	-	-	-
iii) Harvesting/ netting charges	-	16 man days 4/- p.m.d.	-	64.00	213.33
TOTAL				1746.27	5820.90

Growth of fishes:

Species	Stocking details		Harvesting details		Total wt. harvested (kg)
	No.	Av. wt. (g)	No.	Av. wt. (g)	
Catla	475}	21}	216}	540}	154.0
	246}	10}	95}	392}	
Rohu	454	4	242	232	56.2
Mrigal	210}	9}	210}	244}	59.2
	65)	3)	65)	122)	
Silver carp	-	-	-	-	-
Grass carp	-	-	-	-	-
Common carp	375	5	165	345	56.9
Miscellaneous	-	-	-	-	-
TOTAL	1825		993		326.3

Gross production/ha = 1080 Kg/ha/6 months

Net production/ha = 1027 Kg/ha/6 months.

* Cost of production per Kg of fish = Rs.5.35

* Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE, WEST BENGAL

Case study-40

Inputs, yield, expenditure, and other related details in composite fish culture operational research project Krishnagar during 1975-76

Location of the pond : Anjana Fish Farm; Saktinagar, Krishnagar
Dist. Nadia, West Bengal

Area : 1.48 ha

Items of inputs	Actual quantity applied (kg)	Quantity/ha	Purchased at the rate of Rs./quintal	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	7500	5068 ppm	43.93	3294.83	2226.23
Lime	720	486 kg	24.10	173.55	117.26
Cowdung	26950	18209 kg	4.36	1175.45	794.22
Amm. sulphate	182	89	97.60	128.95	87.13
Single super-phosphate	76	50	103.40	76.52	51.70
Muriate of potash	12	8	125.08	15.04	10.16
Fingerlings				3900.21	2635.27
Supplementary feeding done @ 1-2% of body wt.					
Mustard oilcake	2488	1681	83.51	2077.97	1404.03
Rice bran	2189	1479	19.15	419.10	283.18
Netting charges				708.72	478.86
Wages of watchman & Fisherman etc.				3896.18	2632.55
Miscellaneous				334.83	226.24
Total				16201.35	10946.85

Growth of fishes

Species	Initial av. wt. (g)	Period of rear ing(months)		Av.wt. attained (g)		Total wt. harvested (kg)
		1st stock	2nd stock	1st stock	2nd stock	
Catla	44.4	44.8	10	2/8	514.1	317.30/222 *
Rohu	21.6	41.1	10/12/18/14	2/8	339.9/654.2	1023.4
Mrigal	16.1	31.6	10/12/18	8	286.9/434.7	259
Silver carp	05.00	05.0	10/18		1269.3/3808	1661.6
Common carp	09.0	09.0	6/8/14		186.7/430/725	658.1
Misc.						305.4
						6039.2

Total fish harvested = 6039.2 kg
 Gross production = 4080 kg/ha/18 months
 Net production = 3730 kg/ha/18 months

* Cost of production per kg fish = Rs. 2.68

* Does not include annual capital costs and interest on working capital (In growth table, average wts. in oblique are given correspondingly to the period of rearing in oblique).

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
 (I.C.A.R.)
 BARRACKPORE, WEST BENGAL

Case study - 41

Lat Inputs, yield, expenditure, and other related details in Composite Fish Culture Operational Research Project Krishnagar during 1975-76. (State Central Collaboration)

Location of the pond : Anjana Fish Farm, Saktinagar, Krishnagar, Nadia, (W.B)

Area : 2.15 ha

Items of inputs	Actual quantity applied (kg)	Quantity/ha (kg)	Purchased at the rate of (Rs. / quintal)	Actual Expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	10800	5023	43.93	4744.45	2206.72
Lime	500	233	24.10	120.60	56.09
Cowdung	29228	13594	4.36	1274.82	592.94
Amm. sulphate	192	89	97.60	187.56	87.24
Single superphosphate	108	50	103.40	111.67	51.94
Muriate of potash	18	8	125.08	22.46	10.45
Fingerlings				5665.85	2635.28
Mustard oilcake	3732	1736	83.51	3117.09	1449.81
Rice bran	3289	1530	19.15	629.78	292.32
Netting				1029.56	478.87
Misc. & pond maintenance				486.42	226.24
Wages of watchman/Fisherman				5660.00	2632.56
				23050.26	10721.05

Growth of fishes

Species	Initial av. wt. (g)		Period of rearing (months)		Av. wt. attained (g)		Total wt. harvested (kg)
	1st stocking	IIInd stocking	1st stocking	IIInd stocking	1st stocking	IIInd stocking	
Catla	44.4	44.8	10	3/7	555.7	290/400	2444.8
Rohu	21.6	41.1	10/14/18	3/7	374.8/415/554	153.8/312	1287.9
Mrigal	16.1	31.6	10/14/18	7	332.6/589/827	398	2429.8
Common carp	09.0	09.0	6/10/14	7	228.6/432.3/951	-	1365.9
Misc.							0722.5
Total :							8250.9

Total quantity of fish harvested	= 8250.9 kg
Gross production	= 3837.6 kg/ha/18 months
Net production	= 3466.0 kg/ha/18 months
* Cost of production per kg fish	= Rs. 2.79

* Does not include annual capital costs and interest on working capital

CASE STUDY - 42

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS IN COMPOSITE FISH CULTURE AT OPERATIONAL RESEARCH PROJECT, KRISHNAGAR, DURING 1975-1976

(CENTRAL-STATE COLLABORATION)

Location of the pond: Pond No.R.III, Anjana Fish Farm, Saktinagar, Krishnagar, Dist. Nadia West Bengal - - - -

Area : 1.93 hectares

Items of input	Quantity/ha	Actual quantity applied	Purchased at an average rate of	Expenditure	Expenditure/ha
(kg)	(kg)	(kg)	(Rs)	(Rs)	(Rs)
Mahua Oil Cake	1001.	21000.00	43.93/q	9225.60	4780.10
Lime	497	960.00	24.10/q	231.40	119.90
Cowdung	16051	30979.00	4.36/q	1351.19	700.10
Amm.sulphate	89	172.00	97.60/q	168.03	87.06
Single super phosphate	50	96.00	103.40/q	99.26	51.43
Muriate of potash	0	16.00	125.00/q	20.05	10.39
Fingerlings	-	-	-	5086.09	2635.28
Mustard Oil cake	1544	2979.40	33.51/q	2400.19	1209.22
Rice bran	1120	2176.70	10.15/q	416.72	215.92
Netting charges	-	-	-	924.22	470.07
Miscellaneous	-	-	-	436.64	226.24
Wages of watchman and Fisherman	-	-	-	5000.02	2632.55
Total	-	-	-	26520.21	13227.05

Growth of fishes:

SPECIES	Initial av.wt.(g)		Period of rearing		Av.Wt.attained(g)		Total Wt. (kg)
	1st Stocking	2nd Stocking	1st Stocking	2nd Stocking	1st Stocking	2nd Stocking	
Catla	44.4	44.0	9	2/0	521.0	281.0/227	1943.0
Rohu	21.6	41.1	9/11/10	2/0	323.4/	103.3/200	1247.0
					573.3/865		
Mrigal	16.1	31.5	9/11/10	0	307.4/440/	250	1713.0
					600		
Silver carp	05.0	-	9/10	-	1670/2100	-	0414.0
Grass carp	05.0	-	9/10	-	576.3/2153	-	0245.1
Common carp	09.0	09.0	6/10/15	-	142.9/610/	-	0592.4
					1150		
Miscellaneous	-	-	-	-	-	-	0699.4
Total	-	-	-	-	-	-	6055.5

Total quantity of fish harvested : 6055.5 kg

Gross production : 3552.07 kg/ha/10 months

Net production : 3247.16 kg/ha/10 months

Cost of production per kg. fish : Rs.3.72

* Does not include annual capital costs and interest on working capital

Case Study - 43

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
 (I.C.A.R.)
 BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS IN COMPOSITE FISH CULTURE AT OPERATIONAL RESEARCH PROJECT, KRISHNAGAR DURING 1977 - 1978

(CENTRAL-STATE COLLABORATION)

Location of the pond: Pond No.R-I, Amjana fish farm, Saktinagar,
 Krishnagar, Dist. Nadia, West Bengal - - -

Area : 2.15 ha

Items of inputs	Quantity/ha	Actual quantity applied	Purchased at an average rate of	Expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)	(Rs)	(Rs)
Mahua Oil cake	4372	9400	38.00/q	3572.00	1661.39
Lime	251	540	30.00/q	162.00	75.35
Cowdung	11814	25400	3.49/q	885.70	411.95
Amm. Sulphate	-	-	-	-	-
Single super Phosphate	-	-	-	-	-
Muriate of potash	-	-	-	-	-
Fingerlings @ 6000/ha	12900	-	-	5955.20	2769.06
	(C 2.75, R 1.5, M 3.5, Sc 0.25, Co 2.0)				
Mustard Oil cake	1420	3070	93.96/q	2804.57	1341.66
Rice bran	1325	2850	13.25/q	377.62	175.64
Misc.expenditure & maintenance of pond	-	-	-	1017.41	473.21
Netting charges	-	-	-	397.70	184.90
Wages of Watchman & Fisherman	-	-	-	3066.42	1790.33
Total	-	-	-	19118.62	8892.30

Growth of fishes:

SPECIES	Initial av.wt.(g)		Period of rearing		Av.wt.attained(g)		Totalwt. harvested (kg)
	1st Stocking	2nd Stocking	1st Stocking	2nd Stocking	1st Stocking	2nd Stocking	
Catla	48.0	119.0	7	3	550	405	2508.0
Rohu	20.0	-	7/12	-	393/610	-	939.2
Mrigal	23.0	-	7/12	-	441/451	-	1606.3
Silver carp	05.0	-	6/12	-	964/1605	-	507.8
Common carp	03.0	-	12	-	216	-	191.2
Miscellaneous	-	-	-	-	-	-	208.6
Total	-	-	-	-	-	-	6041.1

Total quantity of fish harvested : 6041.1 kg
 Gross production : 2809.81 kg/ha/yr
 Net production : 2524.37 kg/ha/yr
 Cost of production per kg fish : 3.16

* Does not include annual capital costs and interest on working capital

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE, WEST BENGAL

Case study-44

Cost of study of composite fish culture conducted at Operational Research Project, Krishnagar during June 77-Jan 78

Location of the pond : Village Arang Sarissa P.S. Chapra Dist. Nadia, W.B.

Area of the pond : 0.6 ha

Items of inputs	Actual quantity applied (kg)	Quantity/ha (kg)	Purchased at an av. rate of about (Rs.)	Expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	1500	2500	38.00/q	570.00	950.00
Lime	-	-	-	-	-
Cowdung	5600	9333	350/t	196.00	326.67
Amm. sulphate	-	-	-	-	-
Single superphosphate	-	-	-	-	-
Muriate of potash	-	-	-	-	-
Fingerlings 5000 nos./ha C2; R 3.5; M 2.5; Sc 1.0; Ce 1.0				822.00	1370.00
Mustard oilcake	990	1650	125.00/q	1237.50	2062.50
Rice bran	1220	2033	22.00/q	268.40	447.33
Hydrilla	-	-	-	-	-
Napier grass	-	-	-	-	-
Netting	-	-	-	200.00	333.33
			Total:	3293.90	5489.83

Growth of fishes:

Species	Initial av. wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total wt. harvested (kg)
Catla	100	6	978	586.0
Rohu	20	6	524	550.2
Mrigal	25	6	511	383.3
Silver carp	65	3	515	154.5
Common carp	5	6	412	123.6
Miscellaneous	-	-	-	5.4
			Total :	1803.0

Total quantity of fish harvested

= 1803.0 kg

Gross production

= 3005.0 kg/ha/6 months

Net production

= 2833.67 kg/ha/6 months

* Cost of production per kg of fish

= Rs. 1.83

* Does not include annual capital costs and interest on working capital

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
 (I.C.A.R.)
 BARRACKPORE, WEST BENGAL

Case study - 45

Inputs, yield, expenditure, and other related details in Composite Fish Culture/Operational Research Project Krishnagar during 1977-1978

Location of the pond : Village Joynagar, P.S. Hanskhali Dist. Nadia, W.B.

Area : 0.2 ha

Items of inputs	Actual quantity applied (kg)	Quantity/ha (kg)	Purchased at an av. rate of about (Rs.)	Expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	560	2800	35.00/q	196.00	980.00
Lime	-	-	-	-	-
Cowdung	3250	16250	3.00/q	97.50	487.50
Amm. sulphate	-	-	-	-	-
Muriate of potash	-	-	-	-	-
Single superphosphate	-	-	-	-	-
Fingerlings @ 6000/ha C 2.0; R 2.0; M 2.75; Sc 1.5; Gc 1.75				114.98	574.80
Mustard oilcake	235	1175	125.00/q	293.75	1468.75
Rice bran	350	1750	15.00/q	52.50	262.50
Hydrilla	-	-	-	-	-
Napier grass	-	-	-	-	-
Netting	-	-	-	240.00	1200.00
Miscellaneous	-	-	-	135.00	675.00
Total :				1129.71	5648.55

Growth of fishes :

Species	Initial av. wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total harvested (kg)
Catla	20.0	12	935	224.4
Rohu	18.0	12	509	122.2
Mrigal	10.0	12	405	133.6
Silver carp	05.0	10	1110	199.8
Grass carp	05.0	10	625	131.3
Total :				811.3

$$\begin{aligned}
 \text{Total quantity of fish harvested} &= 811.3 \text{ kg} \\
 \text{Gross production rate} &= 4056.5 \text{ kg/ha/yr} \\
 \text{Net production rate} &= 3984.4 \text{ kg/ha/yr}
 \end{aligned}$$

$$* \text{Cost of production per kg of fish} = \text{Rs. } 1.39$$

* Does not include annual capital costs and interest on working capital.

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BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details in Composite Fish Culture conducted at Malda under CIFRI/IDRC Project on rural Aquaculture during 1976-77

Location of the pond : Gaur

Name : Banstoli

Area : 0.37 ha

Items of input	Actual quantity applied (kg)	Quantity/ha (kg)	Purchased at an av. rate of about(Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	700.00	1822	40.50/q	283.50	766.12
Lime	133.25	360	34.22/q	45.60	123.24
Cow-dung	3425.00	9257	49.92/t	171.00	462.16
Amm. sulphate	131.00	354	93.00/q	121.83	329.27
Single super-phosphate	101.00	273	100/q	101.00	272.97
Muriate of potash					
Compost					
Fingerlings (in numbers)	2779	7511		342.97	926.95
Suppl. feeding done at the rate 1-4% of body wt.					
G. Nut oilcake	1235.50	3339	97.00/q	1198.44	3239.02
Rice bran	1448.00	3914	50.00/q	724.00	1956.75
Aq. weed)	13215.00	35716	-	-	
Terr. weed)					
Netting labour	-	-	-	1253.21	3333.00
			Total :	4221.55	11409.58

Growth of fishes:

Species	Initial weight (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	20.0	9	1200	272.4
Rohu	7.8	9	600	220.5
Mrigal	2.0	9	500	148.4
Silver carp	8.8	9	1300	794.8
Grass carp	16.0	9	1400	236.0
Common carp	12.0	5	800	165.5
Magur				Total: 1837.6

Associated by angling

Total quantity of fish harvested = 1837.6 kg

Gross production/ha/period = 4966 kg/ha/9 months

* Cost of production per kg of fish = Rs. 2.30

* Does not include annual capital costs and interest on working capital.

(The cost of Indian and Chinese major carps has been calculated @ Rs.50.00 and Rs. 250.00/thousand respectively.)

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BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Malda under CIFRI/IDRC project on rural aquaculture during 1976-77
(Private CIFRI/IDRC collaboration)

Location of the pond : Gaur

Name : Bharbharia

Area : 0.29 ha

Items of input	Actual quantity applied (kg)	Quantity/ha/kg	Purchased at an av. rate of about (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	813.00	2821	40.50/q	331.20	1142.07
Lime	131.00	452	26.41/q	34.60	119.31
Cow-dung	2020.00	6966	50.00/t	101.03	348.28
Amm. sulphate	58.00	200	93.00/q	53.91	186.00
Single super-phosphate	43.50	150	100.00/q	43.50	150.00
Muriate of potash					
Compost					
Fingerlings(numbers)	2179	7514		268.89	927.21
Suppl. feeding done at the rate 1-4% of body wt.					
G. Nut oil cake	1614.10	5566	97.00/q	1565.60	5398.62
Rice bran	1672.00	5766	50.00/q	836.00	2882.76
Aq. weed | Terr. weed |	17,015	56672	-		
Netting Labour				966.57	3333.00
				4201.30	14487.24

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	20	10	1640.0	282.5
Rohu	78	10	700.00	283.3
Mrigal	20	10	640.0	185.6
Silver carp	1.6	10	1610.0	761.0
Grass carp	16.0	10	2100.0	308.7
Common carp	12.0	5	900.0	270.0
Magur				
Associated by angling				Total 2091.1

Total quantity of fish harvested = 2091.1 kg

Gross production/ha/period = 7210 kg/ha/10 months

*Cost of production per kg of fish = Rs. 2.01

*Does not include annual capital costs and interest on working capital

(The cost of Indian and Chinese major carps has been calculated @ Rs.50.00 and Rs. 250.00/thousand respectively)

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Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Malda under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : Gaur
 Name : Chiriahaga
 Area : 0.38 ha

Items of input	Actual quantity/ quantity applied (kg)	Quantity/ ha (kg)	Purchased at an av. rate of about(Rs.)	Actual Expen- diture (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	715.00	1882	40.49/q	289.50	761.84
Lime	111.90	294	36.10/q	40.40	106.32
Cow-dung	3620.00	9526	50.00/t	181.00	476.32
Amm. sulphate	67.00	176	93.00/q	62.31	163.97
Single super-phosphate	62.00	163	100.00/q	62.00	163.16
Muriate of potash					
Compost					
Fingerlings(numbers)	2851.00	7503	-	372.03	979.03
Suppl. feeding done at the rate 1-4% of body wt.					
G. nut oilcake	1971.30	5188	97.00/q	1912.15	5031.97
Rice bran	1998.20	5258	50.00/q	999.10	2629.21
Aq. weed	30,745	80908	-	-	-
Terr. weed					
Netting					
Labour				1256.10	3331.84
				5184.59	13643.66

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	8.2	10	1600	409.6
Rohu	7.8	10	700	357.0
Mrigal	2.0	10	630	327.7
Silver carp	1.6	10	1500	948.0
Grass carp	16.0	10	1860	450.0
Common carp	12.0	5	700	315.0
Magur				Total: 2807.3
Associated by angling				
Total quantity of fish harvested	=	2807.3 kg		

Gross production/ha/period = 7388 kg/ha/10 months

*Cost of production per kg of fish = Rs. 1.85

*Does not include annual capital costs and interest on working capital.

(The cost of Indian and Chinese major carps has been calculated @ Rs.50.00 and Rs. 250.00/thousand respectively)

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Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Malda under CIFRI/IDRC project a rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : Gaur
Name : Chotiasunbandha
Area : 0.20 ha

Items of input	Actual quantity applied (kg)	Quantity/ha (kg)	Purchased at an av. rate of about (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	400.00	2000	40.50/q	162.00	810.00
Lime	12.00	60	36.00/q	4.32	221.60
Cow-dung	1705.00	8525	49.91/t	85.10	425.50
Amm. sulphate	40.00	200	93.00/q	37.20	186.00
Single super-phosphate	30.00	150	100.00/q	30.00	150.00
Muriate of potash					
Compost					
Fingerlings (numbers)	1500	7500		185.20	926.00
Suppl. feeding done at the rate 1-4% of body wt.					
G. Nut oilcake	1054.70	5274	97.00/q	1023.00	5115.00
Rice bran	1147.70	5738	49.97/q	573.50	2867.50
Ac. weed				-	
Terr. weed	10,040				
Netting Labour				666.60	3333.00
				2766.92	13834.60

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	8.2	9	800	126.4
Rohu	6.0	9	472.5	244.5
Mrigal	2.0	9	490.0	108.0
Silver carp	1.6	9	350.0	290.4
Grass carp	16.0	9	2340.0	160.7
Common carp	12.0	5	740.0	142.0
Magur				Total 1072.0
Associated by angling				

Total quantity of fish harvested = 1072.0 kg

Gross production/ha/period = 5360 kg/ha/9 months

* Cost of production per kg of fish = Rs. 2.58

* Does not include annual capital costs and interest on working capital

(The cost of Indian and Chinese major carps has been calculated @ Rs. 50.00 and Rs. 250.00/thousand respectively)

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(I.C.A.R.)
BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details in Composite Fish Culture conducted at Malda under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : Gaur
Name : Nimtoli
Area : 0.68 ha

Items of input	Actual quantity applied (kg)	Quantity/ha (kg)	Purchased at an av. rate of about(Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	1200.00	1765	40.50/q	486.00	714.71
Lime	101.00	149	33.60/q	33.93	49.90
Cow-dung	5200.00	7647	50.00/t	260.00	382.35
Amm. sulphate	204.00	300	53.00/q	189.72	279.00
Single super-phosphate	153.00	225	100.00/q	153.00	225.00
Muriate of potash					
Compost					
Fingerlings (Nos)	5100	7500		579.00	851.59
Suppl. feeding done at the rate 1-4% of body wt.					
G.Nut oilcake	3071.00	4516	97.00/q	2978.87	4380.69
Rice bran	3081.50	4532	50.00/q	1540.75	2265.81
Ac. weed	20,360	291		-	-
Terr. weed					
Netting				2266.44	3333.00
Labour				8487.79	12482.04

Growth of fishes:

Species	Initial weight (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	9.4	10	1200	539.0
Rohu	7.8	10	625	590.1
Mrigal	2.0	10	675	374.4
Silver carp	1.6	10	1472	1627.5
Grass carp	14.0	10	1100	600.5
Common carp	12.0	5	700	358.0
			Total:	4089.5

Associated by angling

Total quantity of fish harvested = 4089.5 kg

Gross production /ha/period = 6014 kg/ha/10 months

*Cost of production per kg of fish= Rs. 2.08

*Does not include annual capital costs and interest on working capital

(The cost of Indian and Chinese major carps has been calculated @ Rs.50.00 and Rs. 250.00/thousand respectively)

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
 (I.C.A.R.)
 BARRACKPORE, WEST BENGAL

Case study - 51

Inputs, yield, expenditure and other related details in Composite Fish culture conducted at Malda under CIFRI/IDRC project on rural aquaculture during 1976-77

(Private CIFRI/IDRC collaboration)

Location of the pond : Gaur

Name : Partoli
 Area : 1.09 ha

Items of input	Actual quantity applied (kg)	Quantity/ha (kg)	Purchased at an av. rate of about (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	2900.00	2661	32.12/q	931.50	854.59
Lime	404.75	371	33.56/q	135.82	124.61
Cowdung	6045.00	5546	50.02/t	302.40	277.43
Amm. sulphate	327.00	300	93.00/q	304.11	279.00
Single super-phosphate	245.25	225	100/q	245.25	225.00
Muriate of potash					
Compost:					
Fingerlings (numbers) 8178		7503		1010.59	927.15
Suppl. feeding done at the rate 1-4% of body wt.					
G. nut oilcake	5331.75	4892	97.00/q	5171.76	4744.73
Rice bran	6068.75	5558	50.00/q	3039.36	2788.40
Ag. weed } Terr. weed }	57875.00	53096	-	-	-
Netting labour				3632.97	333.00
				14,773.76	13,553.91

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	9.4	10	1480	1078.9
Rohu	30.0	10	680	1144.2
Mrigal	13.0	10	610	562.0
Silver carp	1.6	10	1520	2754.6
Grass carp	14.0	10	1540	1171.0
Common carp	19.60	10	1880 }	1523.4
Magur	12.0	5	700 }	
				Total: 8234.1

Total quantity of fish harvested = 8234.1 kg

Gross production/ha/period = 7550 kg/ha/10 months

* Cost of production per kg of fish = Rs. 1.79

* Does not include annual capital costs and interest on working capital.

(The cost of Indian and Chinese major carps has been calculated @ Rs.50.00

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 BARRACKPORE, WEST BENGAL

Case study-52

Inputs, yield, expenditure, and other related details in Composite Fish Culture conducted at Malda under CIFRI/IDRC Project on rural Aquaculture during 1976-77

(Private C.I.F.R.I./I.D.R.C. collaboration)

Location of the pond : Gaur

Name : Tajkhali

Area : 0.89 ha

Items of input	Actual quantity applied (kg)	Quantity per ha (kg)	Purchased at an av. rate of about (Rs.)	Actual Expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	1110.00	1247	40.50/q	449.55	505.11
Lime	180.00	202	35.60/q	60.48	67.96
Cowdung	6925.00	7781	50.00/t	346.25	389.04
Amm. sulphate	267.00	300	93.00/q	248.31	279.00
Single super-phosphate	200.25	225	100.00/q	200.25	225.00
Muriate of potash	-	-	-	-	-
Compost	-	-	-	-	-
Fingerlings (nos.)	6679	7504	-	822.79	924.48
Suppl. feeding done at the rate 1-4% of body wt.					
G. Nut oil cakes	3736.00	4198	96.74/q	3612.22	4060.92
Rice bran	4302.70	4834	50.00/q	2151.35	2417.25
Aq. weed Terr. weed	43910.00	49337	-	-	-
Netting labour	-	-	-	2966.37	3333.00
				<u>10859.57</u>	<u>12201.76</u>

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	7.8	10	11600	735.4
Rohu	7.8	10	450	528.0
Mrigal	2.0	10	350	360.3
Silver carp	8.0	10	1350	1963.4
Grass carp	16.0	10	1920	1175.0
Common carp	12.0	5	750	729.0
			Total :	<u>5491.1</u>

Total quantity of fish harvested = 5,491.1 kg

Gross production/ha/period = 6170 kg/ha/10 months

* Cost of production per kg of fish = Rs. 1.98

* Does not include annual capital costs and interest on working capital
 (The cost of Indian and Chinese major carps has been calculated @ Rs. 50.00

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
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 BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details Composite Fish Culture
 conducted at Malda under CIFRI/IDRC project on rural aquaculture during 1976-77
 (Private CIFRI/IDRC collaboration)

Location of the pond :

Name : Dhopapukur
 Area : 0.45 ha

Items of input	Actual quantity applied (kg)	Quantity/ha (kg)	Purchased at an av. rate of about (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	1248.00	2600	40.48/q	505.20	1052.50
Lime	110.25	230	33.74/q	37.20	77.50
Cow-dung	4100.00	8542	50.00/t	205.00	427.08
Amm. sulphate	144.00	300	93.00/q	133.92	279.00
Single super-phosphate	108.00	225	100.00/q	108.00	225.00
Muriate of potash					
Compost					
Fingerlings (Nos.)	3890	8104		516.98	1077.04
Suppl. feeding done at the rate 1-4% of body wt.					
G. Nut oilcake	1342.00	2796	97.00/q	1301.74	2711.96
Rice bran	1381.00	2877	50.00/q	690.50	1438.54
Aq. weed					
Terr. weed					
Netting				1600.84	3335.08
Labour				5099.38	10623.71

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	9.4	9	1160.0	327.4
Rohu	7.8	9	640.0	376.4
Mrigal	6.4	9	700.0	308.4
Silver carp	8.8	9	1260.0	629.5
Grass carp	Not stocked		350.0	
Common carp	12	5	987.0	614.2
Magur				Total 2255.9
Associated by angling				

Total quantity of fish harvested = 2255.9 kg

Gross production/ha/period = 4700 kg/ha/9 months

*Cost of production per kg. of fish = Rs. 2.26

*Does not include annual capital costs and interest on working capital.

(The cost of Indian and Chinese major carps has been calculated @ Rs.50.00 and Rs. 250.00/thousand respectively. Due to non-availability of fingerlings grass carp could not be stocked)

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Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Malda under CIFRI/IDRC project on rural aquaculture during 1976-77
(Private CIFRI/IDRC collaboration)

Location of the Pond :

Name : Jahali
Area : 0.77 ha

Items of input	Actual quantity applied (kg)	Quantity/ha (kg)	Purchased at an av. rate of about(Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mahua oilcake	1800.00	2338	40.50/q	729.00	946.75
Lime	196.25	255	33.60/q	65.92	85.61
Cow-dung	6560.00	8519	50.00/t	328.00	425.97
Amm. sulphate	281.00	365	93.00/q	251.33	339.39
Single super-phosphate	222.00	286	100.00/q	222.00	288.31
Muriate of potash					
Compost					
Fingerlings (nos.)	6179	8025		813.37	1056.32
Suppl. feeding done at the rate 1-4% of body wt.					
G. Nut oilcake	3034.50	3941	97.00/q	2943.43	3822.64
Rice bran	3113.50	4044	50.00/q	1556.75	2021.75
Aq. weed	4460	5792	-	-	-
Terr. weed					
Netting					
Labour				2556.41	3333.00
				9486.21	12319.75

Growth of fishes :

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	7.8	10	980	499.8
Rohu	9.8	10	800	829.5
Mrigal	8.8	10	600	432.0
Silver carp	1.6 & 33.6	10	1150	1490.0
Grass carp	15	10	1300	54.4
Common carp	135	10	800	798.4
Magur				Total 4104.1
Associated by angling				

Total quantity of fish harvested = 4104.1 kg

Gross production/ha/period = 5330 kg/ha/10 months

*Cost of production per kg of fish = Rs. 2.31

*Does not include annual capital costs and interest on working capital

(The cost of Indian and Chinese major carps has been calculated @ Rs.50.00 and Rs. 250.00/thousand respectively).

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
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 BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure, and other related details in
 Composite Fish Culture operation conducted at Nilganj during 1974-76
 (Extension Section of CIFRI/JARI collaboration)

Location of the pond : Nilganj, Dist. 24-Parganas (within the campus of
 the Jute Agricultural Research Institute, West Bengal)

Area : 0.32 ha

Items of inputs	Actual quantity applied (kg)	Quantity/ha (kg)	Purchased at the rate of (Rs.)/quintal	Actual Expenditure (Rs.)	Expenditure/ha
Lime	187	584	37.86	70.81	221.28
Cowdung	2,080	6,500	1.00	20.80	65.00
Amm. sulphate	130	405	79.40	103.00	321.88
Single superphosphate	89	277	58.42	51.70	161.56
Muriate of potash	47	53	79.41	13.60	42.50
Fingerlings (in number) supplementary feeding done. at the rate of 1-2% of body weight of standing crop (C 3.5: R 3.5: M 3.0)		7,500		1,135.00	3,546.88
Mustard oilcake	2,187	6,834	98.90	2,163.26	6,760.19
Rice bran	1,952	6,100	28.50	557.10	1,746.94
Netting etc.	-	-	-	525.00	1,646.62
			Total-	4,640.27	14,500.84

Growth of fishes

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Actual quantity harvested (kg)
<u>Catla catla</u>	80	16	803	648.84
<u>Labeo rohita</u>	24	16	748	505.69
<u>Cirrhinus mrigala</u>	53	16	743	512.18
Miscellaneous	-	-	-	121.15
				1,787.86 kg

Total quantity of fish harvested = 1787.86 kg
 Gross production obtained = 5587 kg/ha/16 months
 Net production obtained = 5174 kg/ha/16 months

Cost of production per kg Rs. 2.59

The expenditure does not include rental value, wages and salaries
 interest on working capital, depreciation of farm equipment, cost of
 maintenance.

ALL INDIA COORDINATED PROJECT ON COMPOSITE FISH CULTURE
 CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
 BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF
 COMPOSITE FISH CULTURE CONDUCTED AT KAUSALYAGANGA FISH
 FARM, PURI (ORISSA) DURING 1978 (STATE/CENTRAL COLLABORA-
 TION)

Location of pond : Kausalyagang Fish Farm, Puri (Orissa)

Area of the pond : 0.22 ha. Pond No.B.T. 8 Period of
 rearing : 6 months

Item of inputs	Quantity (Kg)/ha	Actual quantity applied (Kg)	Purchased at the rate of (Rs)	Expendi- ture (Rs)	Expendi- ture/ha (Rs)
Mahua oil cake	1618	356.0	600/- p.t.	213.60	970.91
Lime	795	175.0	750/- p.t.	131.25	596.59
Raw cattle dung	18031	3967.0	22.50p.t.	89.25	405.68
Ammonium sulphate(CAN)	50	11.0	1/- p.Kg.	11.00	50.00
Single superphosphate	308	67.8	0.79p.Kg.	53.56	243.45
Muriate of potash	29	6.3	0.95p.Kg.	5.98	27.18
Urea	200	44.0	1.25p.Kg.	55.00	250.00
Mustard oil cake	-	-	-	-	-
Groundnut oil cake	2913	641.0	1375.0 p.t.	881.37	4006.23
Rice bran/rice polish	2913	641.0	500/- p.t.	320.50	1456.82
Weeds(Aquatic/terres- trial)	42614	9375.0	-	-	-
Fingerlings	58	12.7			
i) Indian carps	32	7.0			
ii) Exotic carps	26	5.7			
Other items					
i) Diesel oil	200 lit.	44 lit	1.33/L	58.52	266.00
ii) Mobil oil	7 lit.	1.5 lit	9.50/L	14.25	64.77
iii) Harvesting/ netting charges	-	16 man-days	4/- p. day	64.00	290.91
TOTAL				1982.65	9012.04

Growth of fishes:

species	Stocking details		Harvesting details		Total weight harvested (Kg)
	No.	Av. wt. (g)	No.	Av. wt. (g)	
Catla	169	17.0	155	959	148.70
Rohu	169	13.0	163	505	82.25
Mrigal	169	12.0	165	473	78.10
Silver carp	281	15.0	281	1018	286.00
Grass carp	168	7.0	105	1579	165.30
Common carp	169	0.7	169	821	138.00
Miscellaneous (Hybrid CXR)	12	13.0	8	562	4.50
TOTAL					902.85

Gross production/ha = 4,104 Kg/ha/6 months

Net production/ha = 4,049 Kg/ha/6 months

* Cost of production per Kg of fish = Rs.2.19

* Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance.

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CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUA-CULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond : V. Das 4

Area of the pond : 0.19 ha

Culture period : One year

Items of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	980.00	5158	0.56/Kg	548.80	2888.42
Lime	20.00	105	42.40/g	8.48	44.63
Cowdung	98.48	-	-	-	-
Urea	34.2	-	-	00.00	-
Super-phosphate	66.32	-	-	00.00	-
Fish seed (no.)	1088	5726	35.00/1000	38.10	200.53
<u>Fish Feed</u>					
Rice polish	410.80	2162	0.57/Kg	234.15	1232.37
Ground nut oil cake	332.20	1748	1.68/Kg	558.09	2937.31
Wages	57.00	-	-	58.40	2547.47
Contingencies	86.00	-	-	-	-
Total	-	-	-	1871.64	9850.73

Actual production	=	341.81 Kg
Production/ha	=	1799.00 Kg
Income from sale	=	Rs. 2387.00
Actual gross profit	=	Rs. 515.35
Gross profit/ha	=	Rs. 2712.42
Cost of production/Kg	=	Rs. 5.48
Cost of production/Kg (based on material inputs alone)	=	Rs. 4.06

The above economics do not include annual capital costs and interest on working capital.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
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BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name of the pond		Jena II			
Area of the pond		0.75 ha			
Culture period		One year			
Items of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	-	-	-	-	-
Lime	200.00	267	42.40/q	84.80	113.07
Cowdung	180.00	240	30.00/t	5.40	7.20
Urea	45.00	60	2.10/Kg	94.50	126.00
Super phosphate	45.00	60	78.40/q	35.28	47.04
Fish seed (no.)	4350	5600	35.00/1000	152.25	203.00
<u>Fish Feed</u>					
Rice polish	1674.80	2233	0.57/Kg	954.63	1272.84
Ground nut oil cake	1309.50	1746	1.60/Kg	2200.12	2933.49
Wages	-	-	-	1910.58	2547.44
Contingencies	-	-	-	-	-
Total	-	-	-	5437.57	7250.09
Actual production	= Kg	3487.90			
Production/ha	= Kg	4650.53			
Income from sale	= Rs	26409.00			
Actual gross profit	= Rs	20971.43			
Cost of production/Kg =	Rs	1.56			
Cost of production/Kg =	Rs	1.01			
(based on material inputs alone)					
Gross profit/ha =	Rs.	27961.91			

The above economics do not include annual capital costs and interest on working capital.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUA-CULTURE DURING 1976-77. (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond	:	P. Routh			
Area of the pond	:	0.15 ha			
Culture period	:	One year			
Items of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
(Kg)	(Kg)	(kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	-	-	-	-	-
Lime	40.00	267	50.00/q	19.96	133.07
Cowdung	45.	-	-	-	-
Urea	15.00	100	2.10/kg	31.50	210.00
Super phosphate	15.00	100	78.40/q	11.76	78.40
Fish seed (no.)	1633	10887	35.00/1000	57.15	381.00
<u>Fish Feed</u>					
Rice polish	900.00	6000	0.57/kg	533.00	3420.00
Ground nut oil cake	600.00	4000	1.68/kg	1008.00	6720.00
Wages	38.80	-	-	382.12	2547.46
Contingencies	31.20	-	-	3.00	20.00
Total	-	-	-	2026.49	13509.93
Actual production	=	624.63 kg			
Production/ha	=	4164.20 kg			
Income from sale	=	Rs 4368.00			
Actual gross profit	=	Rs 2341.51			
Gross profit/ha	=	Rs 15610.07			
Cost of production/Kg	=	Rs 3.24			
Cost of production/Kg (based on material inputs alone)	=	Rs 2.63			

The above economics do not include annual capital costs and interest on working capital.

CASE STUDY-60

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
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BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUA-CULTURE DURING 1976-77. (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond	:	V. Das 2			
Area of the pond	:	0.34			
Culture period	:	One year			
Items of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)	(Rs)	(Rs)
Endrine	360 ml.	1059 ml.	52.92/litre	19.05	56.03
Lime	50.00	147	42.40/q	21.20	62.35
Cowdung	-	-	-	-	-
Urea	-	-	-	-	-
Super phosphate	-	-	-	-	-
Fish seed (no.)	1840	5412	35.00/1000	64.40	189.41
<u>Fish Feed</u>					
Rice polish	730.00	2147	0.57/kg	416.10	1223.82
Ground nut oil cake	535.00	1574	1.68/kg	898.80	2643.53
Wages	-	-	-	866.13	2547.44
Contingencies	-	-	-	-	-
Total	-	-	-	2285.68	6722.59
Actual production	=	741.17	Kg		
Production/ha	=	2179.91	Kg		
Income from sale	=	Rs. 5187.00			
Actual gross profit	=	Rs. 2901.32			
Gross profit/ha	=	Rs. 8533.29			
Cost of production/kg	=	Rs. 3.08			
Cost of production/kg (based on material inputs alone)	=	Rs. 1.92			

The above economics do not include annual capital costs and interest on working capital.

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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUA-CULTURE DURING 1976-77. (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond	:	V. Das 3			
Area of the pond	:	0.30			
Culture period	:	One year			
Items of inputs	Actual quantity applied (Kg)	Quantity/ha (Kg)	Purchased at an av. rate of about (Rs)	Actual expenditure (Rs)	Expenditure/ha (Rs)
Mahua oil cake	-	-	-	-	-
Lime	50.00	167	42.40/q	21.20	70.67
Cowdung	-	-	-	-	-
Urea	-	-	-	-	-
Super phosphate	-	-	-	-	-
Fish Seed (no.)	1694	5647	35.00/1000	59.30	197.67
<u>Fish Feed</u>					
Rice polish	588.80	19.63	0.57/Kg	335.61	1118.70
Ground nut oil cake	446.20	1487	1.68/Kg	749.61	2498.70
Wages	-	-	-	764.23	2547.43
Contingencies	-	-	-	-	-
Total	-	-	-	1929.95	6433.17
Actual production	=	743.15	Kg		
Production/ha	=	2477.17	Kg		
Income from sale	=	Rs. 5201.00			
Actual gross profit	=	Rs. 3271.05			
Gross of production/	=	Rs. 10903.50			
Cost of production/Kg=	Rs.	2.60			
Cost of production/Kg = (based on material inputs alone)	Rs.	1.57			

The above economics do not include annual capital costs and interest on working capital.

ALL INDIA COORDINATED PROJECT ON COMPOSITE FISH CULTURE
 CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
 BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE
 FISH CULTURE CONDUCTED AT KAUSALYAGANGA FISH FARM, PURI (ORISSA)
 DURING 1977-78

(State/Central collaboration)

Location of pond : Kausalyaganga Fish Farm, Puri (Orissa)

Area of the pond : 0.69 ha. Pond No. 8.T.14 & 15 Period of
 (combined) rearing : 11 months

Item of inputs	Quantity (Kg)/ha.	Actual quantity applied (Kg)	Purchased at the rate of (Rs)	Expenditure (Rs)	Expen- diture/ha (Rs)
Mahua oil cake	4188	2890	636/- p.t.	1838.04	2663.83
L i m e	370	255	735.29 p.t.	187.50	271.74
Raw cattle dung	18174	12540	25/- p.t.	313.50	454.35
Ammonium sulphate	172	118.5	0.94/Kg	111.39	161.43
Single superphosphate	187	129.0	0.79/Kg	101.91	147.70
Muriate of potash	5	3.4	0.95/Kg	3.23	4.68
U r e a	84	58.0	1.25/Kg	72.50	105.07
Mustard oil cake	1709	1179.4	1370/- p.t.	1615.78	2341.71
Groundnut oil cake	1709	1179.4	650/- p.t.	766.61	1111.03
Weeds(Aquatic/ terrestrial)	10435	7200.0	-	-	-
Fingerlings					
i) Indian carps	112	77.0	-	312.00	452.17
ii) Exotic carps	13	8.7			
Other items					
i) Diesel oil	...	...		135.60	196.52
ii) Mobil oil	...	...	
iii) Harvesting/ netting charges	...	...16 man days	46-man-days	64.00	92.75
TOTAL				5522.06	8002.98

Growth of fishes :

Species	Stocking details		Harvesting details		Total weight (Kg)
	No.	Av. wt. (g)	No.	Av. wt. (g)	
Catla	486	169.0 } 24.0 }	315	1216 } 670 }	232.00
R o h u	1700	18	1139	348	396.95
Mrigal	1200	29	681	402	273.80
Silver carp	193	13	156	872	136.00
Grass carp	60	71 } 10 }	30	4820 } 2300 }	107.30
Common carp	527	5	223	528	117.85
Miscellaneous	350	1	(133+91)	106	67.33
TOTAL	4516		(2759+9)		1331.23

Gross production/ha = 1929 Kg/ha/11 months

Net production/ha = 1839 Kg/ha/11 months

* Cost of production per Kg of fish = Rs.4.15

* Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

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BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77. (PRIVATE CIFRI/IDRC COLLABORATION)

Name of the pond : Ghama
 Area of the pond : 0.50 ha
 Culture period : One year

Items of inputs	Actual quantity applied (Kg)	Quantity/ha (Kg)	Purchased at an av. rate of about (Rs)	Actual expenditure (Rs)	Expenditure/ha (Rs)
Mahua oil cake	-	-	-	-	-
Lime	25.00	50	42.40/q	10.60	21.20
Cowdung	1560.00	3120	30.00/t	46.80	93.60
Urea	100.00	200	2.10/kg	210.00	420.00
Super phosphate	-	-	-	-	-
Fish seed (no.)	2560	5120	35.00/1000	89.60	179.20
<u>Fish Feed</u>					
Rice polish	1649.00	3298	0.57/kg	939.93	1879.86
Ground nut oil cake	1302.00	2604	1.68/kg	2187.35	4374.70
Wages	-	-	-	1273.72	2547.44
Contingencies	-	-	-	137.20	274.40
Total	4953.00	-	-	4895.20	9790.40
Actual production	=	1669.00 Kg			
Production/ha	=	3338.00 Kg			
Income from sale	=	Rs. 11683.00			
Actual gross profit	=	Rs. 6787.80			
Gross profit/ha	=	Rs. 13575.60			
Cost of production/kg	=	Rs. 2.93			
Cost of production/kg (based on material inputs alone)	=	Rs. 2.09			

The above economics do not include annual capital costs and interest on working capital.

CASE STUDY - 64

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
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 BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77 PRIVATE CIFRI/IDRC COLLABORATION

Name/location of the pond	:	Dandanua			
Area of the pond	:	0.16 ha			
Culture period	:	One year			
Item of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	600.00	3750	0.56/Kg	336.00	2100.00
Lime	25.00	156	42.40/q	10.60	66.25
Gowdung	620.00	3875	30.00/t	18.60	116.25
Urea 15.4% N	50.00	312	2.10/Kg	105.00	656.25
Super phosphate	50.00	312	7.28/q	39.19	244.94
Fish seed (no.)	1564	9775	35.00/1000	54.75	342.19
<u>Fish Feed</u>					
Rice polish	900.00	5625	0.57/Kg	513.00	3206.25
Ground nut oil cake	700.20	4376	1.68/Kg	1176.31	7351.94
Wages	-	-	-	407.59	2547.44
Contingencies	-	-	-	33.90	211.87
Total	-	-	-	2694.94	16843.38

Actual production	=	510.60 Kg
Production/ha	=	3191.25 Kg
Income from sale	=	Rs. 3570.00
Actual gross profit	=	Rs. 875.06
Gross profit/ha	=	Rs. 5469.12
Cost of production/Kg	=	Rs. 5.28
Cost of production/Kg (based on material inputs alone)	=	Rs. 4.41

The above economics do not include annual capital costs and interest on working capital.

~~EDUCATIONAL BEAD~~

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

(I.C.I.F.R.)

BARRACKPORE : WEST BENGAL (O.I.)

BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IORD PROJECT ON RURAL AQUACULTURE DURING 1976-77 (PRIVATE CIFRI/IORD COLLABORATION)

Name of the pond : K.C. Nayak
 Area of the pond : 0.50 ha
 Culture period : One year

Items of input	Actual quantity applied	Quantity/ha	Purchased at an av.	Actual expenditure/
			rate of application	(Rs)
Mahua oil cake	-	-	-	-
Lime	50.00	100	Rs. 42.40/q	21.20
Cowdung	-	-	-	-
Urea	200.00	400	Rs. 2.10/kg	420.00
Super phosphate	100.00	200	Rs. 78.38/q	78.38
Fish seed (no.)	3645	7290	Rs. 35.00/1000	127.57

Fish Feed

Rice polish	1533.00	3066	Rs. 63.52/q	973.81	1947.62
Groundnut oil cake	1087.00	2174	Rs. 1.68/kg	1826.10	3652.20
Wages	-	-	-	1273.72	2547.44
Contingencies	-	-	-	48.50	97.00
Total	-	-	-	4769.28	9538.56

Actual production	=	1369.80 Kg
Production/ha	=	2739.60 Kg
Income from sale	= Rs.	9583.00
Actual gross profit	= Rs.	4813.72
Gross profit/ha	= Rs.	9627.44
Cost of production/Rs.	= Rs.	3.48
Cost of production/Kg	= Rs.	2.52
(based on material inputs alone)		

The above economics do not include annual capital costs and interest on working capital.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUA-CULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name of the pond : Bataville
 Area of the pond : 0.49 ha
 Culture period : One year

Items of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	1375.00	3827	0.56/kg	1050.00	2142.86
Lime	50.00	102	42.40/q	21.20	43.26
Cowdung	1780.00	3633	30.00/t	53.40	108.98
Urea	50.00	102	2.10/kg	105.00	214.28
Super phosphate	25.00	51	78.40/q	19.60	40.00
Fish seed (no.)	3305	6745	37.11/1000	122.65	250.31

Fish Feed

Rice polish	1251.00	2553	0.57/kg	713.07	1455.24
Ground nut oil cake	1061.20	2166	1.68/kg	1782.81	3638.39
Wages	-	-	-	1248.25	2547.45
Contingencies	-	-	-	134.46	274.41
Total	-	-	-	5250.44	10715.18

Actual production	=	1552.14	kg
Production/ha	=	3167.63	kg
Income from sale	=	Rs. 10854.00	
Actual gross profit	=	Rs. 5613.56	
Gross profit/ha	=	Rs. 11456.24	
Cost of production/ha	=	Rs. 5.38	
Cost of production/kg (based on material inputs alone)	=	Rs. 2.49	

The above economics do not include annual capital costs and interest on working capital.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name of the pond				L. Behera
Area of the pond				0.09 ha
Culture period				One year
Items of input	Actual quantity applied (kg)	Quantity/ha	Purchased at an av. rate of expenditure about (Rs)	Expenditure/ha (Rs)
	(kg)	(kg)	(Rs)	(Rs)
Mahua oil cake	-	-	-	-
Lime	20.00	222	42.40/q	8.48
Cowdung	-	-	-	-
Urea	10.00	111	2.10/kg	233.33
Super phosphate	10.00	111	78.40/q	7.84
Fish seed (no.)	842	9356	35.00/1000	29.47
<u>Fish Feed</u>				
Rice polish	357.80	3976	0.57/kg	2266.00
Ground nut oil cake	267.20	2969	1.68/kg	4987.67
Wages	-	-	-	229.27
Contingencies	-	-	-	-
Total	-	-	-	948.89 10543.22
Actual production	=	211.06 kg		
Production/ha	=	2345.11 kg		
Income from sale	=	Rs 1477.00		
Actual gross profit	=	Rs 526.11		
Gross profit/ha	=	Rs 5867.89		
Cost of production/Rs	=	Rs 4.50		
Cost of production/Kg	=	Rs 3.41		
(based on material inputs alone)				

The above economics do not include annual capital costs and interest on working capital.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond	:	Jena 1			
Area of the pond	:	0.50 ha			
Culture period	:	One year			
Items of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	-	-	-	-	-
Lime	150.00	300	42.40/q	63.60	127.20
Cowdung	-	-	-	-	-
Urea	30.00	60	2.10/Kg	63.00	126.00
Super phosphate	30.00	60	78.40/q	23.52	47.04
Fish seed (no.)	4206	8412	35.00/1000	147.20	294.40
<u>Fish Feed</u>					
Rice polish	1170.60	2341	0.57/Kg	667.24	1334.48
Ground nut oil cake	918.00	1836	1.68/Kg	1542.24	3084.48
Wages	-	-	-	1273.72	2547.44
Contingencies	-	-	-	-	-
Total	-	-	-	3760.52	7561.04
Actual production	=	2375.86 Kg			
Production/ha	=	4751.72 Kg			
Income from sale	=	Rs 16625.00			
Actual gross profit	=	Rs 12844.48			
Gross profit/ha	=	Rs 25688.96			
Cost of production/Kg	=	Rs 1.59			
Cost of production/Kg (based on material inputs alone)	=	Rs 1.06			

The above economics do not include annual capital costs and interest on working capital.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUACULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name/location of the pond	:	V. Das
Area of the pond	:	0.18 ha
Culture period	:	One year
Items of input	Actual quantity applied	Quantity/ha Purchased at an av. rate of expenditure about
	(kg)	(kg) (Rs) (Rs)
Mahua oil cake	-	-
Lime	20.00	111 42.40/kg 8.48
Cowdung	-	-
Urea	-	-
Super phosphate	-	-
Fish seed (no.)	1620	9000 35.00/1000 56.70 (per kg) 315.00
<u>Fish Feed</u>		
Rice polish	797.80	4432 0.57/kg 454.74
Ground nut oil cake	590.20	3279 1.68/kg 991.53
Wages	-	- 458.54
Contingencies	-	-
Total	-	- 1969.99 10944.39

Actual production	=	757.50 Kg	=	reducing labour
Production/ha	=	4208.33 Kg	=	reducing labour
Incomes from sale	=	Rs 5299.00	=	less man power
Actual gross profit	=	Rs 3329.01	=	less fuel cost
Gross profit/ha	=	Rs 18494.50	=	less feed cost
Cost of production/Kg =	Rs	2.60	=	less labor cost
Cost of production/Kg =	Rs	2.00	=	less capital cost
(based on material inputs alone)				(more labour)

The above economics do not include annual capital costs and interest on working capital.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
 (I.C.A.R.)
 BARRACKPORE : WEST BENGAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT PURI CENTRE UNDER CIFRI/IDRC PROJECT ON RURAL AQUA-CULTURE DURING 1976-77 (PRIVATE CIFRI/IDRC COLLABORATION)

Name of the pond	:	V. Das	5		
Area of the pond	:	0.32 ha			
Culture period	:	One year			
<hr/>					
Items of input	Actual quantity applied	Quantity/ha	Purchased at an av. rate of about	Actual expenditure	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)	(Rs)
Mahua oil cake	-	-	-	-	-
Lime	30.00	94	42.40/q	12.72	39.75
Cowdung	-	-	-	-	-
Urea	-	-	-	-	-
Super phosphate	-	-	-	-	-
Fish Seed (no.)	1610	5031	35.00/1000	56.35	176.09
<hr/>				<hr/>	
<u>Fish Feed</u>				<hr/>	
Rice polish	761.80	2381	0.57/kg	434.22	1356.94
Ground nut oil cake	552.20	1726	1.68/kg	927.59	2898.72
Wages	-	-	-	815.18	2547.44
Contingencies	-	-	-	-	-
Total	-	-	-	2246.06	7018.94
<hr/>				<hr/>	

Actual production =	Kg	901.10	Kg
Production/he =		2815.94	Kg
Income from sale =	Rs	6307.00	
Actual gross profit =	Rs	4060.94	
Gross profit/ha =	Rs	12600.44	
Cost of production/kg=	Rs	2.49	
Cost of production/kg= (based on material inputs alone)	Rs	1.59	

The above economics do not include annual capital costs and interest on working capital

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE FISH CULTURE
AND FISH SEED PRODUCTION (CIFRI)
Sub-centre: Badampudi (Andhra Pradesh)
(State/Central Collaboration)

Location of the pond : Badampudi Fish Farm, West Godavari District. A.P.

Area of the pond : 0.12 ha (Pond III) Date of stocking: 22.3.1976

Experiment No. IV Date to end (1977) Date of conclusion: 21.3.1977

Duration : One year

Items of input	Quantity (kg)/ha	Actual quantity at an av. applied rate of (kg)	Purchased quantity at an av. expen- sive (Rs.)	Actual diture (Rs.)	expendi- ture/ha (Rs.)
Lime	200.00	24.0	60.00/q	14.40	120.00
Cattle dung	10000.00	1200.0	8.00/q	96.00	800.00
Mahua oilcake	2208.00	265.0	31.04/q	82.25	685.42
Urea	235.00	28.2	187.87/q	52.98	441.50
Single super-phosphate	275.0	33.0	101.79/q	33.52	279.33
Muriate of potash	44.00	5.28	175.00/q	9.24	77.00
Fingerlings(nos.)	5663/ha (C 1.06: R 0.7: M 0.92: Sc 1.75: Go 2.33: Co 3.17)			38.56	321.33
Prawns (<u>Macrobrachium malcolmsonii</u>)	10000/ha in numbers				
Supplementary feeding done at 1 to 2% body weight					
Ground nut oilcake	1750	210.0	176.19/q	370.00	3083.33
Rice bran	4427	531.2	104.12/q	553.11	4609.25
Hydrilla	116258	13951.0	--	--	--
			Total:	1250.06	10417.17

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	13.2 & 40.0	12	467.0	26.15
Rohu	22.5	12	1030.0	51.50
Mrigal	21.9	12	957.2	56.50
Silver carp	110.6	12	875.0	94.50
Grass carp	50.0	12	1790.9	197.00
Common carp	7.6	12	562.5	67.50
<u>Macrobrachium</u> <u>malcolmsonii</u>	0.61	4	20.2	2.50
Miscellaneous fishes				22.00
			Total:	517.65

Total quantity of fish harvested = 517.65 kg

Gross production = 4313.6 kg/ha/yr

Net production = 4072.4 kg/ha/yr

*Cost of production per kg of fish = Rs. 2.41

*Does not include annual capital costs, wages and salaries cost of hydrilla, interest on working capital, cost of farm maintenance and repairs.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE FISH CULTURE AND FISH SEED PRODUCTION

Sub-centre : Badampudi (Andhra Pradesh)
 (State/Central collaboration)

Location of the pond: Badampudi Fish Farm, West Godavari District, A.P.
 Area of the pond : 0.24 ha (Pond II) Date of stocking: April 1976
 Experiment No. IV Date of conclusion: August/
 September, 1977

Duration : 16 months

Items of inputs	Quantity (kg)/ha	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Lime	200	48	60.00/q	28.80	120.00
Cattle dung	9167	2200	8.00/q	176.00	733.33
Mahua oilcake	2208	530	31.04/q	164.50	685.42
Urea	240	57.6	190.72/q	109.87	457.79
Single superphosphate	300	72	101.79/q	73.31	305.46
Muriate of potash	48	11.52	175.00/q	20.16	48.00
Fingerlings(nos.)	5625/ha (C 2.13 : R 1.60 : M 1.60 : Sc 1.30 : Co 3.37)			52.97	220.71

Prawn juveniles (Macrobrachium malcolmsonii) 2500/ha

Supplementary feeding done at 1% body weight	is and	and	and	and
Ground nut oilcake	1750	420	152.38/q	640.00
Rice bran	4427	1062.4	102.24/q	1086.22
			Total:	2351.83
				9799.29

Growth of fishes:

Species	Initial weight (g)	Period of rearing (months)	Average wt. attained (g)	Total weight harvested (kg)
Catla	13.8	9	228.4	18.5
Rohu	20.8	16	369.2	79.0
Mrigal	19.7	16	796.5	158.5
Silver carp	134.3	16	730.4	121.25
Common carp	14.9 & 3.05	15/16	328.4	77.50
<u>Macrobrachium malcolmsonii</u>	0.81	9	46.3	23.50
Miscellaneous fishes				20.50
			Total:	498.75

Total quantity of fish harvested = 498.75 kg
 Gross production = 2078.1 kg/ha/16 months
 Net production = 1903.2 kg/ha/16 months

*Cost of production per kg of fish = Rs. 4.71

*Does not include annual capital costs, wages and salaries, interest on working capital, cost of farm maintenance and repairs.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE FISH CULTURE AND
FISH SEED PRODUCTION (CIFRI)
Sub-centre: Badampudi (Andhra Pradesh)
(State/Central Collaboration)

Location of the pond : Badampudi Fish Farm, West Godavari District, A.P.
Area of the pond : 0.12 ha (Pond IV) Date of stocking: 22.3.1976
Duration: one year Date of conclusion: 21.3.1978

Items of inputs	Quantity (kg)/ha	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Lime	500	60.0	60.00/q	36.00	300.00
Cattle dung	13750	1650.0	8.00/q	132.00	1100.00
Urea	220	26.4	190.72/q	50.33	419.42
Single superphosphate	275	33.0	101.79/q	33.52	279.33
Muriate of potash	44	5.28	175.00/q	9.24	77.00
Fingerlings(fish)	5200/ha (C 1.15: R 0.64 : M 1.20: Sc 1.96: Gc 1.59 Ce 3.46)			32.51	270.92
Prawns (<i>Macrobrachium malcolmsonii</i>)	10000/ha				
Supplementary feeding done at 1 to 2% of the body weight					
Ground nut oilcake	1750	210.0	176.19/q	370.00	3083.33
Rice bran	4427	531.2	104.12/q	553.11	4609.25
Hydrilla	116656	14000.0	-	-	-
			Total:	1216.71	10139.25

Growth of fishes:

Species	Initial weight (g)	Period of rearing (months)	Av. weight attained (g)	Total weight harvested (kg)
Catla	13.8	5.2	1221.9	19.55
Rohu	18.75	12.0	1357.5	54.30
Mrigal	23.9	12	1052.7	36.95
Silver carp	108.3	12	1183.8	131.40
Grass carp	27.8	12	1775.2	175.75
Common carp	19.4	12	626.9	122.25
<i>Macrobrachium malcolmsonii</i>	0.81	5	25.5	2.00
Miscellaneous fishes				13.50
			Total:	557.70

Total quantity of fish harvested = 557.7 kg

Gross production = 4647.5 kg/ha/yr

Net production = 4436.9 kg/ha/yr

*Cost of production per kg of fish = Rs.2.18

*Does not include annual capital costs, wages and salaries, cost of hydrilla, interest on working capitals, cost of farm maintenance and repairs.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(ICAR) : BANGALORE : KARNATAKA

Inputs, expenditure, yield and other related details of the first composite fish culture experiment conducted at Bangalore, Tank Fisheries Research Unit during 1975-76

Location of the pond : Army Supply Corps (ASC) Centre (South Tank, Bangalore-56007 (Karnataka)

Area : 1.5 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake					
Lime	100	150	25.00/q	37.50	25.00
Cowdung	8670	13,000	25.00/t	325.00	216.67
Poultry manure	2000	3,000	240.00/t	720.00	480.00
Ammonium sulphate	-	-	-	-	-
Single superphosphate	-	-	-	-	-
Muriate of potash	-	-	-	-	-
Fingerlings (nos.)	6700	10,050/		940.00	626.67
		1.5 ha			
		(C-3.5; R 4.25; M 1.25 ; Co 0.50; Sc 0.45; Ce 0.10)			

Supplementary feeding done at 0.5 to 2.25% of the body weight of fish

Mustard oilcake	-	-	-	-	-
Groundnut oilcake	1133	1,700	(price ranged) between 0.75 to 1.60/kg-GOC)	2895.28	1930.19
Rice bran	1267	1,900	0.50 to 0.75/kg-RB)		
Decoiled silkworm					
Pupae powder	240	360	142.08/q	511.50	341.00
Miscellaneous	-	-	-	102.10	68.07
Hydrilla	500	750	-	-	-
Napier grass					
Netting		Once a month for sampling			
				5531.38	3687.59

Growth of fishes:

Species	Initial wt. (g)	Period of Av. wt. rearing months	Total wt. attained (g) nths.	Percen- tage (kg)	Remarks
Catla	4.00	12	864.00	606.00 20.0	Gangetic carps Overall
Rohu	2.04	12	205.00	425.21 48.9	56.3% reco-
Mrigal	1.61	10/2	247.00	308.65 100.0	very
Silver carp	3.10	10/4	1239.00	410.25 80.0	Exotic 73.0%
Grass carp	1.02	12	759.00	62.89 90.0	carps
Common carp	2.30	10/2	1064.00	531.75 100.0	90.0%
				2344.75 + 55.25 kg in tank =	2400 kg

Total quantity of fish harvested = 2400 kg

Gross production 2400 kg for the tank 1600 kg/ha/11 months

Net production 2373 kg for the tank 1582 kg/ha/11 months

*Cost of production per kg of fish = Rs. 2.30 (Sold to the Jawans at a subsidised rate of Rs. 4/- per kg)

All the inputs cost was met by the Defence establishment ASC authority. Does not include the wages and salaries, cost of netting, cost of repairs and maintenance; annual capital costs and interest on working capital. No inorganic manure was used for the experiment. Silver carp fingerlings were supplied from Cuttack without cost.

Case Study-75

All India Coordinated Research Project on Composite Fish Culture and
Fish Seed Production
CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Bhavanisagar during 1976-77
(Central State collaboration)

Location of the pond : Bhavanisagar, Coimbatore Dist., Tamil Nadu.
Area : 0.1 ha

Experiment No. Vimek Pond No. III

Items of inputs	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of about(Rs.)	Actual expen- diture (Rs.)	Expen- diture/ha (Rs.)
Lime	500	50.00	8.50/q	4.25	42.50
Cowdung	14750	1475.00	2.50/t	3.60	36.00
Amm. sulphate	150	15.00	100.00/q	15.00	150.00
Single superphosphate	29	29.00	100.00/q	29.00	290.00
Muriate of potash	60	6.00	100.00/q	6.00	60.00
Urea	140	10.40	200.00/q	20.80	208.00
Fingerlings(mos.)		(Sc 2.5, C 0.5, R 2.5, M 2, Gc 2.0, Ge 0.5)			400.00
Supplementary feeding done @ 1-2% of the body weight					
Ground nut oil cake	4090	409.00	219.20/q	896.52	8965.20
Rice bran	4131	431.00	30.00/q	129.30	1293.00
			Total :		11444.70

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	2.0	9	314.0	7.5
Rohu	16.1	9	276.1	27.1
Mrigal	16.5	9	524.1	36.8
Silver carp	3.6	9	876.6	18.4
Grass carp	5.0	9	172.3	2.3
Common carp	16.2	9	846.2	64.3
Others (Tilapia etc.)			127.3	
			Total: 283.7	

Total quantity of fish harvested = 283.7 / 9 months

Gross production = 2837.0 kg/ha/9 months

*Cost of production per kg of fish = Rs. 4.03

*Does not include annual capital costs, wages and salaries, and interest on working capital.

Remarks: The experiment was vitiated due to very poor survival of silver carp (21%) and also due to the inadvertent entry of Tilapia and other minnows which bred and multiplied prolifically contributing to 45% to the total production.

CASE STUDY - 76

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH
CULTURE CONDUCTED AT BHAVANISAGAR DURING 1976 - 1977 - - - -

(CENTRAL-STATE COLLABORATION)

Location of the pond : Bhavanisagar, Coimbatore Dist., Tamil Nadu

Area : 0.1 ha

Experiment No.V

Pond No.II

Items of inputs	Quantity/ha	Actual quantity applied	Purchased at an average rate of about	Actual expenditure	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)	(Rs)
Lime	500	50.00	8.50/q	4.25	42.50
Cowdung	14750	1475.00	2.44/q	3.60	36.00
Amn.sulphate	150	15.00	100/q	15.00	150.00
Single super phosphate	300	30.00	100/q	30.00	300.00
Muriate of potash	70	7.00	100/q	7.00	70.00
Urea	112	11.20	200/q	22.40	224.00
Fingerlings (numbers)	4000	400	-	42.00	420.00
Supplementary feeding done @ 1-2% of the body weight		(Sc 3; R 2.5; M; Cc2; Sc 0.5)			
Ground nut oil cake	4010	401.00	219.20/q	879.00	8790.00
Rice bran	4235	423.50	30.00/q	127.00	1270.00
Total -			<u>1130.25</u>	<u>11302.50</u>	

Growth of fishes

SPECIES	Initial wt. (g)	Period of rearing (months)	Average wt. attained (g)	Total weight harvested (Kg)
Catla	+	-	-	-
Rohu	16.2	9 m	330.4	30.6
Mrigal	11.0	-	670.0	36.9
Silver carp	3.8	-	852.0	45.5
Grass carp	5.5	-	207.3	3.9
Common carp	33.7	-	1148.8	88.5
Others (Tilapia etc)			-	16.4
Total -			<u>221.8</u>	

Total quantity of fish harvested - 2218.

* Cost of production per Kg of fish - Rs.5.10

* Does not include annual capital costs, wages and salaries, and interest on working capital.

CASE STUDY - 77

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE FISH
CULTURE & FISH SEED PRODUCTION OF CENTRAL INLAND FISHERIES RESEARCH
INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH
CULTURE CONDUCTED AT BHAVANISAGAR DURING 1977 - 1978 - - - - -

(CENTRAL STATE COLLABORATION)

Location of the pond : Bhavanisagar, Coimbatore Dist. Tamil Nadu

Area : 0.1 ha

Experiment No. VI

Pond No.III

Items of inputs	Quantity/ha (kg)	Actual quantity (kg)	Purchased at an average rate of about (Rs)	Actual expenditure (Rs)	Expenditure/ha (Rs)
Agn. Sulphate	20	2.00	1.60/kg	3.20	32.00
Single super phosphate	20	2.00	0.75/kg	1.50	15.00
Muriate of potash	5.0	0.50	1.10/kg	0.55	5.50
Urea	10	1.00	1.80/kg	1.80	18.00
Fingerlings	5000	500	-	47750	475.00
		(Sc 2.5; C.1; R 2, M 2.5; Co 2)			
Supplementary feeding done @ 1-2% of the body weight					
Ground nut oil cake	524	52.40	160.00/q	83.84	838.40
Rice bran	524	52.40	30.00/q	15.72	157.20
			Total -	<u>154.11</u>	<u>1541.10</u>

Growth of fishes

SPECIES	Initial wt. (g)	Period of rearing (months)	Average wt. attained(g)	Total weight harvested (kg)
Catla	4.5	3	170.7	7.7
Rohu (yearlings)	184.4	-	368.7	35.7
Mrigal	15.3	-	99.4	9.8
Silver carp	10.0	-	211.3	26.4
Common carp	35.8	-	239.0	19.6
Others	-	-	-	19.2
			Total -	<u>118.4</u>

Total quantity of fish harvested - 118.4 / 3 months

Gross production - 1184 Kg/ha/3 months

Net production - 873.5 Kg/ha/3 months

*Cost of production per Kg of fish - Rs.1.30

* Does not include annual capital costs, wages and salaries, and interest on working capital.

CASE STUDY - 78

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL
INLAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH
CULTURE CONDUCTED AT BHAVANISAGAR DURING 1977-78

(CENTRAL-STATE COLLABORATION)

Location of the pond : Bhavanisagar, Coimbatore Dist. Tamil Nadu

Area : 0.1 ha

Experiment No : VI Pond No. IV

Items of inputs	Quantity/ha	Actual quantity applied	Purchased at an average rate of about	Actual Expenditure	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)	(Rs)
A.M.P.sulphate	20	2.00	1.60	3.20	32.00
Single super phosphate	20	2.00	0.75	1.50	15.00
Muriate of potash	5	0.50	1.10	0.55	5.50
Urea	10	1.00	1.80	1.80	18.00
Fingerlings (Numbers)	5000	5.00	-	47.50	475.00
Supplementary feeding done @ 1-2% of the body weight			(Sc 2.5 C1.0; R20 M.2.5; Cc2.0)		
Ground nut oil cake	554	55.40	160.00/q	88.64	886.40
Rice bran	554	55.40	30.00/q	16.62	166.20
			Total -	159.81	1598.10

Growth of fishes:

S P E C I E S	Initial wt. (g)	Period of rearing (months)	Average wt. attained(g)	Total weight harvested (kg)
Catla	10	3 m	202.5	6.9
Rohu	12.7	-	110.2	11.0
Mrigal	20.4	-	131.4	16.4
Silver carp	10	-	404.2	19.4
Common carp	30.4	-	210.7	17.5
Others	-	-	-	34.5
			Total -	105.7

Total quantity of fish harvested-105.7 Kg/ha/3 months

Gross production - 1057.0 Kg/ha/3 months

Net production - 958.4 Kg/ha/3 months

Cost of production per Kg of fish - Rs.1.51

* Does not include annual capital costs, wages and salaries, and interest on working capital

UNIVERSITY OF AGRICULTURAL SCIENCES
FISHERIES COLLEGE : MANGALORE

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT MANGALORE FISHERIES COLLEGE DURING 1977 - - -

Location of the pond : College of Fisheries, Mangalore, Karnataka

Area (in ha) : 0.0053

Items of inputs	Quantity/ha (kg)	Actual	Purchased	Expendi-	Expendi-
		quantity at the applied rate of (kg)	at the rate of (Rs)	t u r e (Rs)	ture/ha (Rs)
Lime	377	2.00	0.40/kg	0.80	150.94
Cowdung	10000	53.00	0.06/kg	4.20	792.45
Poultry manure	2000	10.50	0.20/kg	2.10	396.23
Fingerlings	9434 Nos	50 Nos	10.00/100	5.00	943.40
Supplementary feeding done @ 1-2% of body weight					
G.N. oil cake	3962	21.00	1.20/kg	25.20	4754.72
Rice bran	3962	21.00	0.30/kg	6.30	1188.68
Hydrilla	40000	212.00	-	2.00	377.36
TOTAL -				45.60	8603.77

Growth of fishes:

S P E C I E S	Initial weight (g)	Period of rearing (months)	Average weight attained (g)	Total weight harvested (kg)
Catla	31.42	4/2	250.00	1.75
Rohu	38.75	"	270.00	3.62
Mrigal	74.00	"	305.00	3.05
Silver carp	54.28	"	340.00	2.38
Grass carp	26.66	"	393.00	2.36
Common carp	75.00	"	755.00	3.02
Total quantity of fish harvested				16.18

Gross production - 3052 kg/ha/4/2 months (Estimated 8527 kg/ha/year)

Net production - 7305 kg/ha/year (Estimated)

*Cost of production per kg of fish - Rs.2.82

Does not include annual capital costs, wages and salaries, interest on working capital and cost of repairs.

CASE STUDY- 80

UNIVERSITY OF AGRICULTURAL SCIENCES
FISHERIES COLLEGE : MANGALORE

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT MANGALORE FISHERIES COLLEGE DURING 1977

Location of the Pond : College of Fisheries, Mangalore, Karnataka.

Area (in ha) : 0.0053

Items of inputs	Quantity/ha	Actual quantity applied	Purchased at the rate of	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)
Lime	377	2.00	0.40/Kg	0.80
Cowdung	10000	53.00	0.08/Kg	4.20
Poultry manure	2000	10.50	0.20/Kg	2.10
Carp fingerlings	9434 Nos	50 Nos	10.00/100	5.00
<u>Clarias</u> fingerlings	4717 Nos	25 Nos	10.00/100	2.50
Supplementary feeding done @ 1-2% of body weight				
G.N. oil cake	3962 Kg	21.00	1.20/Kg	25.20
Rice bran	3962	21.00	0.30/Kg	6.30
<u>Hydrilla</u>	40000	212.00	-	2.00
T O T A L -			48.10	9075.47

Growth of fishes:

S-P-E-C-I-E-S	Initial weight	Period of rearing (months)	Average weight attained	Total weight harvested
	(g)		(g)	(Kg)
Catla	45.71	4/2	345.00	2.41
Rohu	33.75	"	290.00	4.64
Mrigal	68.00	"	390.00	3.90
Silver carp	30.00	"	585.00	4.09
Grass carp	33.33	"	413.00	2.48
Common carp	77.50	"	600.00	2.40
<u>Clarias</u>	89.20	"	160.00	4.00
Total quantity of fish harvested			23.92	

Gross production - 4513 Kg/ha/4½ months (Estimated 12,138 Kg/ha/year)

Net production - 9869 Kg/ha/year (Estimated)

*Cost of production per Kg of fish - Rs.2.01

*Does not include annual capital costs, wages and salaries, interest on working capital, and cost of repairs.

*The experiment was conducted in a cement cistern.

CASE STUDY -81

UNIVERSITY OF AGRICULTURAL SCIENCES
FISHERIES COLLEGE : MANGALORE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT MANGALORE FISHERIES COLLEGE DURING 1977

Location of pond : College of Fisheries, Mangalore, Karnataka

Area in ha : 0.0053

Items of inputs	Quantity/ha (kg)	Actual quantity (kg)	Purchased at the rate of (Rs)	Expenditure/ha (Rs)	Expen- diture/ha (Rs)
Lime	377	2.00	0.40/kg	0.80	150.94
Cowdung	10000	63.00	0.08/kg	4.20	792.45
Poultry manure	2000	10.50	0.20/kg	2.10	396.23
Fingerlings	9434 Nos	50 Nos	10.00/100	5.00	943.40
Supplementary feeding done @ 1-2% of body wt.					
G.N. oil cake	3962	21.00	1.20/kg	25.20	4754.72
Rice bran	3962	21.00	0.30/kg	6.30	1188.68
<u>Hydrilla</u>	40000	212.00	-	2.00	377.36
T O T A L -				45.60	8603.77

Growth of fishes

S P E C I E S	Initial weight (g)	Period of rearing (months)	Average weight attained (g)	Total weight harvested (kg)
Catla	31.42	4½ months	276.00	1.93
Rohu	36.87	"	250.00	4.00
Mrigal	61.00	"	427.00	4.27
Silver carp	36.57	"	717.00	5.02
Grass carp	35.33	"	405.00	2.43
Common carp	100.00	"	304.00	1.22
Total quantity of fish harvested				18.87

Gross production = 3560 kg/ha/4½ months (Estimated 9532 kg/ha/yr)

Net production = 3375 kg/ha/year (Estimated)

*Cost of production per kg of fish = Rs.2.42

Does not include annual capital costs, wages and salaries, interest on working capital, and cost of repairs.

UNIVERSITY OF AGRICULTURAL SCIENCES
FISHERIES COLLEGE : MANGALORE

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT MANGALORE FISHERIES COLLEGE DURING 1977

Location of the pond : College of Fisheries, Mangalore Karnataka

Area (in ha) : 0.0053

Items of inputs	Quantity/ha	Actual quantity applied	Purchased at the	Expenditure	Expenditure/ha
			rate of	(Rs)	(Rs)
Lime	377	2.00	0.40/kg	0.80	150.94
Cowdung	10000	53.00	0.08/kg	4.20	792.45
Poultry manure	2000	10.50	0.20/kg	2.10	396.23
Carp fingerlings	9434 Nos	50 Nos	10.00/100	5.00	943.40
<u>Clarias</u> fingerlings	4717 Nos	25 Nos	110.00/100	2.50	471.70
Supplementary feeding done @ 1-2% of body weight					
G.N. oil cake	3962	21.00	1.20/kg	25.20	4754.72
Rice bran	3962	21.00	0.30/kg	6.30	1188.68
<u>Hydrilla</u>	40000	212.00	-	2.00	377.36
TOTAL -				48.10	9075.47

Growth of fishes:

SPECIES	Initial weight	Period of rearing (months)	Average weight attained	Total weight harvested
	(g)		(g)	(Kg)
Catla	34.28	4/2	230.00	1.61
Rohu	31.87	"	164.00	2.62
Mrigal	51.00	"	294.00	2.94
Silver carp	51.42	"	380.00	2.56
Grass carp	33.33	"	367.00	2.20
Common carp	150.00	"	310.00	1.24
<u>Clarias</u>	72.40	"	100.00	2.50

Total quantity of fish harvested 15.77

Gross production : 2975 Kg/ha/4½ months (Estimated 7,969 Kg/ha/year)

Net production : 5834 Kg/ha/year (Estimated)

*Cost of production per Kg of fish : Rs.3.05.

*The experiment was conducted in a cement cistern. The cost of production does not include annual capital costs, wages and salaries, interest on working capital, and cost of repairs.

FRESHWATER BIOLOGICAL RESEARCH STATION, MALAMPUZHA DAM, PALGHAT, KERALA

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Malampuzha fish breeding centre during the period from October 1976 to March 1977

Location of the pond : Malampuzha dam, Palghat District (In the stocking pond, No.I of the fish farm, Freshwater Biological Station, Malampuzha).

Area of the pond : 0.06 ha

Item of inputs	Quantity /ha (kg)	Actual quantity applied	Purchased rate of (kg)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Coconut oilcake					
Lime					
Cowdung					
Amm.. Sulphate					
Single superphosphate					
Muriate of potash					
Fingerlings (nos.)	70	-	-	15.30	255.00
Supplementary feeding done @ 3% of their body weight					
Coconut oil cake	418	25.062	1.70	42.60	710.00
				57.90	965.00

Growth of fishes:

Species	Initial weight (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla catla	7.8	6	131.40	3,285
Labeo fimbriatus	24.75	6	176.66	3,533
Cy. carpio	11.33	6	140.00	2,100
Dsp. Gourami	26.50	6	120.00	1,200
				10.118

Total quantity of fish that can be harvested in 6 months = 10.118 kg

Gross production/ha = 168.6 kg

* Cost of production per kg of fish = Rs. 5.63

* Does not include annual capital costs, wages and salaries and interest on working capital

Remarks: The project is of two years duration. Expenditure and yield for 6 months are given to indicate the trends.

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Govt. Fish Farm Yanam during 1976-77

Location of the pond : Government fish farm, Yanam Commune
(Union Territory of Pondicherry)

Area : 0.3 ha

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased rate of expenditure (Rs.)	Actual expenditure (Rs.)	Expenditure (Rs.)
Cowdung	6667	2000	50.00/t	100.00	333.33
Superphosphate	157	60	58.00/100Kg	29.00	96.67
Fingerlings	9667	2900	collected departmentally	-Nil-	-
Supplementary feeding done at the rate 1-2% of body weight.					
Rice bran	1700	510	0.65/Kg	331.50	1105.00
Oilcake	733	220	2.00/Kg	440.00	1467.67
				960.50	3001.67

Growth of fishes :

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	35	6 months	300	100
Mrigal	20	"	100	60
Labeo	15	"	100	60
Thynnictys	10	"	700	40
				260

Total quantity of fish harvested = 260 kg

Gross production = 867 kg/ha/6months

* Expenditure for production of per Kg fish= Rs. 3.46

*Does not include annual capital costs, interest on working capital, wages and salaries.

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE, WEST BENGAL

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Godhra centre during the period from January, 1977 to February, 1978

Location of the pond : Fish seed farm, Godhra
Area : 0.06 ha

Items of inputs	Quantity/ ha/yr (kg)	Actual quantity applied (kg)	Purchased quantity at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake					
Lime	500	35	40/100 Kg	14.00	233.33
Cowdung	10000	700	15/600 Kg	17.50	291.67
Amm. sulphate	422	29.500	98/100 Kg	28.91	431.83
Single superphosphate	250	17.500	98/100 Kg	17.15	285.83
Muriate of potash	40	2.800	121.30/100 Kg	93.39	56.50
Fingerlings (nos.)	5000	300	125/1000	37.50	625.00
Suppl. feeding done 1% of body wt. (1% for 10 months 2% for 4 months) (1:1)					
Ground nut oilcake	425	100/65 Kg	653.85	10897.50	
Rice bran	425	6/20 Kg	127.50	2125.00	
Hydrilla	-	-	-	-	
Netting	Rs.300/- per m.ton		76.45	1274.17	
			976.25	16270.83	

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	2068		974	28.220
Rohu	2258		649.44	19.483
Mrigal	8199	14 months	690	51.750
Silver carp	11220		390	23.400
Common carp	8604		800	36.000
Grass carp	9000		1600	96.000
				254.853

Total quantity of fish harvested = 254.853 kg

Gross production = 4247 kg/ha/14 months

Net production = 3858 kg/ha/14 months

*Cost of production per kg of fish = Rs. 3.83

* Does not include annual capital cost & interest on working capital

Case Study-86

Central Inland Fisheries Research Institute
 (I.C.A.R.)
 Barrackpore, West Bengal

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Godhra centre during the period from January, 1977 to February, 1978

Location of the pond : Fish Seed Farm Godhra
 Area : 0.05 ha

Items of inputs	Quantity/ ha/yr (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (kg)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	-	-	-	-	-
Lime	500	29	40/100 Kg	11.60	232.00
Cowdung	10,000	584	15/600 Kg	14.60	292.00
Amm. sulphate	450	26	96.06/100 Kg	24.96	499.20
Single super-phosphate	250	15	98/100 Kg	14.70	294.00
Muriate of potash	40	2.32	121.30/100 Kg	02.80	56.00
Fingerlings (nos.)	5000	250	125/1000	31.25	625.00
Ground nut oilcake 1% for 10 months	239	100/65 Kg	367.69	7353.80	
Rice bran 2% for 4 months	239	6/20 Kg	71.72	1434.40	
Hydrilla - do -	-	-	-	-	
Netting Rs. 300/m. ton			59.22	1184.40	
			598.54	11970.80	

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total wt. harvested (kg)
Catla	2325		945	23.625
Rohu	519		720.5	18.013
Mrigal	333	14 months	605	38.115
Silver carp	5600		432	21.600
Common carp	703		597	22.089
Grass carp	7500		1500	75.000
				198.422 kg

Total quantity of fish harvested = 198.422 kg
 Gross production = 3968 kg/ha/14 months
 Net production = 3629 kg/ha/14 months
 * Cost of production per kg of fish = Rs. 3.02

*Does not include annual capital cost & interest on working capital

(Supplementary feed done at 1% for 10 months and 2% for 4 months)

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE FISH CULTURE AND
FISH SEED PRODUCTION

(Central State Collaboration)

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Karnal Centre during 1976-77

Location of the pond : Govt. Fish Seed Farm, Karnal, Haryana
 Area : 0.08 ha
 Period of experiment : 12 months (2.4.76 to 31.3.77)
 with multiple harvesting and replenishment of harvested stock.

Items of inputs	Quantity /ha (kg)	Actual quantity applied	Purchased at an av. rate of	Actual expenditure	Expenditure/ha (Rs.)
Lime	500	40.00	36/q	14.40	130.00
Cowdung	9375	750.00	40/t	30.00	375.00
Amm. sulphate	158	12.64	56/q	7.08	88.50
Urea	113	9.00	179.30/q	16.14	201.75
Single super-phosphate	400	32.00	68/q	21.76	272.00
Muriate of potash	31	2.50	96.30/q	2.41	30.12
Fingerlings (nos.)	8625/	360+330	50/1000 (C 1, R 1, M1, Sc 2, Sc 2.5, Co 2.5)	34.50	431.25
Supplementary feeding 1-3% body weight					
Fish meal	250	20.00	150/q	30.00	375.00
Ground nut oilcake	6839	547.10	112/q	612.75	7659.38
Rice bran	7795	623.60	59/q	367.92	4599.00
Hydrilla/Napier etc.	89612	7169.00	-	-	-
Drainage charges (for harvesting)	10 hrs.		5/- per hr	50.00	625.00
				1186.96	14837.00

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained	Total weight harvested (kg)
Catla	19.4	8(Ap.-Nov.)	1541.4	55.5
	5.0	4(Dec.-Mar.)	303.0	10.9
Rohu	68.3	8(Ap.-Nov.)	947.2	34.1
	10.0	4(Dec.-Mar.)	61.0	2.2
Mrigal	6.9	8 (Ap.-Nov.)	1100.0	9.9
	6.9	12 (Ap.-Mar.)	1230.0	12.3
	5.0	4(Dec.-Mar.)	20.3	0.2
Silver carp	35.6	6(Ap.-Sept.)	1331.0	22.7
	35.6	8(Ap.-Nov.)	2090.7	112.9
	2.5	6 (Oct.-Mar.)	306.0	5.2
	4.0	4 (Dec.-Mar.)	83.0	4.6
Grass carp	24.4	6(Ap.-Sept.)	1447.2	132.0
	117.0	6 (Oct.-Mar.)	922.2	83.0
Common carp	2.2	6(Ap.-Sept.)	818.4	53.2
	2.2	8 (Ap.-Nov.)	1680.0	42.0
	18.7	6 (Oct.-Mar.)	568.0	36.9
	20.0	4 (Dec.-Mar.)	444.0	11.1
				628.7

Total quantity of fish harvested (in 12 months) = 628.7 kg

Gross production = 7859 kg/ha/12 months

Net production = 7613.25 kg/ha/12 months

* Cost of production per kg of fish = Rs. 1.89/-

*Does not include annual capital costs, wages and salaries cost of weeds and

Case Study-88

All India Coordinated Research Project on Composite Fish Culture and
Fish Seed Production

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(Central State collaboration)

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Karnal centre during 1976

Location of the pond : Govt. Fish Seed Farm, Karnal, Haryana

Area : 0.1 ha

Period of experiment : 8 months (2.4.76 to 3.12.76)

Items of inputs	Quantity/ ha / yr (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expen- iture (Rs.)	Expendi- ture/ha (Rs.)
Lime	500	50.00	36.00/q	18.00	180.00
Cowdung	10000	1000.00	40.00/t	40.00	400.00
Ammonium sulphate	155	15.54	56.00/q	8.70	87.00
Urea	112	11.25	89.65/q	10.08	100.80
Single superphosphate	325	32.48	68.00/q	22.08	220.80
Muriate of potash	35	3.50	96.30/q	3.37	33.70
Fingerlings(nos.)	4500/ha	450	50/1000 (C 2.0, R 2.5, M 2.0, Gc 0.5, Cc 3.0)	22.50	225.00
Supplementary feeding 1-3% body weight					
Fish meal	200	20.00	150.00/q	30.00	300.00
Ground nut oilcake	3376	337.60	112.00/q	378.11	3781.10
Rice bran	3471	347.10	59.00/q	204.79	2047.90
Drainage charges		10 1/2 hrs 5/-per hr.	52.50		525.00
		Total:	790.13		7901.30

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total wt. harvested (kg)
Catla	10.2	8	848.9	76.4
Rohu	8.8	8	457.8	49.9
Mrigal	6.6	8	559.8	45.9
Grass carp	80.0	8	1437.5	34.5
Common carp	1.5	8	479.1	100.1
				306.8

Total quantity of fish harvested = 306.8 kg

Gross production = 3068.0 kg/ha/8 months

Net production = 3023.0 kg/ha/8 months

*Cost of production per kg of fish = Rs. 2.58

*Does not include annual capital costs, wages and salaries and interest on working capital.

All India Coordinated Research Project on Composite Fish Culture and
Fish Seed Production

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

(Central State Collaboration)

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Karnal Centre during 1976

Location of the pond : Govt. Fish Seed Farm, Karnal, Haryana

Area : 0.23 ha

Period of experiment : 8 months (2.4.76 to 3.12.76)

Items of inputs	Quantity/ ha (kg)	Actual quantity at an av. applied (kg)	Purchased rate of expen- diture (Rs.)	Actual expen- diture (Rs.)	Expendi- ture/ha (Rs.)
Lime	522	120.00	36.00/q	43.20	187.83
Cowdung	8696	2000.00	40.00/t	80.00	347.83
Ammonium sulphate	142	32.64	56.00/q	18.28	79.48
Urea	100	23.09	179.30/q	41.40	180.00
Single superphosphate	310	71.34	68.00/q	48.51	210.91
Muriate of potash	34	7.80	96.30/q	7.50	32.61
Fingerlings(numbers)	4504	1036	50/1000 (C 1, R 1.5, M 1, Sc 2.5, Gc 1.5, Cc 2.5)	51.80	225.22
Supplementary feeding 1-3% body weight					
Fish meal	130	30.00	150.00/q	45.00	195.65
Ground nut oilcake	4478	1030.00	112.00/q	1153.60	5015.65
Rice bran	4609	1060.00	59.00/q	625.40	2719.13
Hydrilla/Napier grass	59167	13613	-	-	-
Drainage charges		22 1/2 hrs.5/- per hr	<u>112.50</u>	489.13	
		Total:	<u>2227.19</u>	<u>9683.43</u>	

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	20.1	8	1046.0	180.0
Rohu	5.7	8	922.0	142.0
Mrigal	7.2	8	640.5	66.5
Silver carp	33.6	8	1865.7	479.5
Grass carp	17.9	8	2746.1	422.9
Common carp	2.0	8	820.9	211.8
Miscellaneous (N. chitala)	-	-	-	10.8
				<u>1441.5</u>

Total quantity of fish harvested (in 8 months) = 1441.5 kg

Gross production = 6267.4 kg/ha/8 months

Net production = 6198.8 kg/ha/8 months

*Cost of production per kg of fish = Rs. 1.54

*Does not include annual capital costs, wages and salaries, cost of weeds, and interest on working capital.

Case Study - 90

All India Coordinated Research Project on Composite Fish Culture and
Fish Seed Production

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

(Central State Collaboration)

Inputs, yield, expenditure and other related details of Composite Fish culture conducted at Karnal Centre during 1977

Location of the pond : Govt. Fish Seed Farm, Karnal, Haryana

Area : 0.08 ha

Period of experiment : 6 months (30.5.77 to 7.12.77)

Items of inputs	Quantity/ ha (kg)	Actual Quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expenditure (Rs.)	Expen- diture/ ha (Rs.)
Lime	750	60.00	38.00/q	22.80	285.00
Cowdung	4250	340.00	40.00/t	13.60	170.00
Ammonium sulphate	75	6.00	56.00/q	3.36	442.00
Urea	112	9.00	165.00/q	14.85	185.62
Single super-phosphate	181	14.50	66.00/q	9.57	119.63
Muriate of potash	25	2.00	96.00/q	1.92	24.00
Fingerlings(nos.)	4750	380	50/1000 (C 1.5, R 1, M 0.5, Sc 2.0, Gc 2.5, Gc 2.5)	19.00	237.50
<hr/>					
Supplementary feeding 2-6% body weight.					
Ground nut oilcake	6700	536.00	160.00	857.60	10720.00
Rice bran	6700	536.00	70.00	375.20	4690.00
Hydrilla/Napier etc	142125	11370.00	-	-	-
<hr/>					
		Total exp.	1317.90	16473.75	

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	143.0	6	745.4	43.0
Rohu	32.0	6	823.7	31.3
Mrigal	63.0	6	1158.0	22.0
Silver carp	122.0	6	1665.8	126.6
Grass carp	50.0	6	1877.4	157.7
Common carp	10.0	6	970.0	92.1
Total:				472.7

Total quantity of fish harvested = 472.7 kg

Gross production = 5908.75 kg/ha/6 months

Net production = 5602.62 kg/ha/6 months

*Cost of production per kg of fish = Rs. 2.79

*Does not include annual capital costs, wages and salaries, cost of weeds and interest on working capital.

Case Study- 91

All India Coordinated Research Project on Composite Fish Culture
and Fish Seed Production
CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(Central State Collaboration)

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Karnal Centre during 1977

Location of the pond : Govt. Fish Seed Farm, Karnal, Haryana
Area : 0.1 ha

Period of experiment : 6 months (30.5.77 to 3.12.77)

Items of inputs	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expen- diture (Rs.)	Expendi- ture/ha (Rs.)
Lime	700	70.00	36.00/q	26.60	266.00
Cowdung	3250	325.00	40.00/t	13.00	130.00
Ammonium sulphate	34	3.40	56.00/q	1.90	19.00
Urea	100	10.00	165.00/q	16.50	165.00
Single superphosphate	355	35.50	66.00/q	23.43	234.30
Muriate of potash	15	1.50	96.00/q	1.44	14.40
Fingerlings (nos.)	4750	475	50/1000	23.75	237.50
			(C 1, R 1.5, M 1.5, Se 3, Co 3)		
Supplementary feeding 1-3% body wt.					
Ground nut oilcake	2848	284.80	160.00/q	455.68	4556.80
Rice bran	3448	344.80	70.00/q	241.36	2413.60
Drainage charges (for harvesting)				60.00	600.00
			Total:	<u>863.66</u>	<u>8636.60</u>

Growth of fishes :

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total wt. harvested (kg)
Catla	15.8	6	981.0	36.3
Rohu	13.0	6	408.3	29.4
Mrigal	10.2	6	550.0	35.2
Silver carp	20.0	6	870.6	123.6
Common carp	8.0	6	606.0	53.3
				<u>277.8</u>

Total quantity of fish harvested = 277.8 kg/6 months

Gross production = 2778.0 kg/ha/6 months

Net production = 2709.1 kg/ha/6 months

*Cost of production per kg of fish = Rs.3.11

*Does not include annual capital costs, wages and salaries and interest on working capital.

Case study- 92

All India Coordinated Research Project on Composite Fish Culture and
Fish Seed Production
Central Inland Fisheries Research Institute
(Central State Collaboration)

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Karnal Centre during 1977

Location of the pond : Govt. Fish Seed Farm, Karnal, Haryana
Area : 0.23 ha
Period of experiment : 6 months (30.5.77 to 7.12.77)

Items of inputs	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased rate of expen- diture (Rs.)	Actual expen- diture (Rs.)	Expendi- ture/ha (Rs.)
Lime	870	200.00	38.00/q	76.00	330.43
Cowdung	4348	1000.00	40.00/t	40.00	173.91
Amm. sulphate	24	5.40	56.00/q	3.02	13.13
Urea	48	11.00	165.00/q	18.15	778.91
Single super phosphate	76	17.50	66.00/q	11.55	50.22
Muriate of potash	7	1.50	96.00/q	1.44	6.26
Fingerlings (nos.)	4752	1093	50/1000 (CQ.5, R 1, M 1, Sc 2.5, Gc 2.5, Cc 2.5)	54.65	237.61
Supplementary feeding 2-4% body weight					
Ground nut oilcake	2226	512	160.00	819.20	3561.14
Rice bran	2226	512	70.00	358.40	1558.26
Hydrilla/Napier etc.	38696	8900	-	-	-
Drainage charges (for harvesting)	3	-	-	128.75	559.78
			Total:	1511.16	6570.26

Growth of fishes :

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	25.0	6	634.0	35.5
Rohu	28.0	6	578.7	59.6
Mrigal	50.0	6	793.6	86.5
Silver carp	35.0	6	893.4	243.9
Grass carp	20.0	6	829.0	218.7
Common carp	10.0	6	132.6	96.9
			Total:	741.1

Total quantity of fish harvested = 741.1 kg/6 months
Gross production = 3222.2 kg/ha/6 months
Net production = 3102.0 kg/ha/6 months

*Cost of production per kg of fish = Rs. 2.04

*Does not include annual capital costs, wages and salaries, cost of weeds and interest on working capital

Remarks: (Wild breeding of common carp occurred in pond. As a result 730 nos. were harvested against 273 stocked)

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE FISH CULTURE AND FISH SEED PRODUCTION

(Central State collaboration)

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Pune Centre during 1976-77

Location of the pond : Hadapsar Fish Farm, Pune, Maharashtra

Area : 0.31 ha (Pond-1, Expt. VI)

Items of inputs	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Lime	484	150	50.00/q	75.00	241.94
Cowdung	9,677	3,000	55.00/t	165.00	532.26
Suphalal	135	42.	200.00/q	84.00	270.97
Single super- phosphate	180	56	112.00/q	62.72	202.32
Muriate of potash	29	9	60.00/q	5.46	17.61
Fingerlings(nos.)	6,000/ha	0.0.5: R 0.5: M1 155 Ce 3.0: Sc 3.0 : Gc 1.5	283.65	915.00	
Supplementary feeding done @ 1-2% of body weight					
Groundnut cake	6,316	1,958	125.00/q 195.00/q	2976.16	9600.51
Rice wheats bran	6,435	1,995			
Rice/Wheat bran	6,435	1,995	35.00/q 110.00/q	1695.75	5470.16
Weeds	61,161	18,960	19.50/t	370.00	1193.88
				5717.74	18444.32

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	55	12	1,091	101.4
Rohu	35	"	989	92.0
Mrigal	26	"	1,020	223.6
Common carp	25	"	774	431.9
Silver carp	12	"	1,004	560.1
Cross carp	10	"	1,657	366.2
				1,775.2

Total Quantity of fish harvested = 1,775.2 kg

Gross production = 5,726 kg/ha/yr

Net production = 5,600 kg/ha/yr

* Expenditure for production of per kg of fish = Rs. 3.22*

*Does not include annual capital costs, wages and salaries, and interest on working capital.

(1860 fingerlings stocked actually)

Case Study-94

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE FISH CULTURE AND
FISH SEED PRODUCTION (CENTRAL INLAND FISHERIES RESEARCH INSTITUTE)

(Central State collaboration)

Inputs, expenditure, yield and other related details of Composite
fish culture conducted at Pune Centre during 1975-76

Location of the pond : Hadapsar Fish Farm, Pune, Maharashtra

Area : 0.31 ha (Pond -1, Expt. V)

Items of input	Quantity/ ha (kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Lime	484	150	45.0/q	67.50	217.74
Cowdung	5983	1,855	55.0/t	102.00	329.03
Fingerlings(nos.)	6000	1,810 C 1.0; R 0.5; M 1.0; Cc 3.0; Sc 3.0; Gc 1.5		241.80	780.00
Supplementary feeding done @ 1-2% of body weight					
Groundnut oilcake	5752	1,783	114.0/q } 2211.18 139.50/q }		7132.84
Rice bran	5461	1,693	20.0/q } 45.0/q } 1		1610.00
Weeds	36161	11,210	31.22/t	350.00	1129.03
				3471.58	11198.64

Growth of fishes:

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	53	8	900	162.0
Rohu	10	"	614	55.2
Mrigal	22	"	929	169.2
Common carp	58	"	925	511.4
Silver carp	40	"	798	445.3
Grass carp	80	"	1004	280.2
				1,623.3

Total quantity harvested of fish = 1,623.3 kg/8 months

Gross production = 5236 kg/ha/8 months

Net production = 7,418 kg/ha/yr (Estimated)

*Cost of production of per kg fish = Rs. 2.14p

*Does not include annual capital costs, wages and salaries and
interest on working capital

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE FISH CULTURE AND
FISH SEED PRODUCTION (CENTRAL INLAND FISHERIES RESEARCH INSTITUTE)

(Central State collaboration)

Inputs, expenditure, yield and other related details of Composite fish culture conducted at Pune Centre during 1976-77

Location of the pond : Hadapsar Fish Farm, Pune, Maharashtra

Area : 0.31 ha (Pond-2, Expt. IV)

Items of input	Quantity/ ha (kg)	Actual quantity at an av. applied rate of (kg)	Purchased expenditure (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Lime	516	160	50.0/q	80.00	258.06
Cowdung	8,066	2,500	55.0/t	137.50	443.55
Fingerlings(nos.)	6,000	1,860	C 1.3: R 1.0: M2.5:Cc 3.4:Sc 1.8	210.56	679.22
 Supplementary feeding done @ 1-2% of body weight					
Groundnut oilcake	6,252	1,938	118.0/q 170.0/q)	2,890.40	9323.87
Rice/Wheat bran	6,232	1,932	30.0/q 125.0/q)	1,052.08	3393.81
				4,370.54	14098.51

Growth of fishes :

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	213	11	775	77.7
Rohu	28	"	330	18.1
Mrigal	33	"	583	93.3
Common carp	111	"	864	195.2
Silver carp	139	"	1523	211.6
Total				595.9

Total quantity of fish harvested = 595.9 kg

Gross production = 1922 kg/ha/11 months

Net production = 1,443.4 kg/ha/yr (Estimated)

*Cost of production of per kg fish = Rs. 7.33p

*Does not include annual capital costs, wages and salaries and interest on working capital

Remarks: 2/3 of the fishes were lost due to heavy poaching just before harvesting.

DIRECTORATE OF FISHERIES
Government of Bihar

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED IN BEGUSARAI, BIHAR DURING 1976-1977

1. Name of the Ponds - Suja Tank

2. Location of pond - Begusarai

3. Area of the pond - 0.32 ha

Items of input	Quantity in Kg per hect.	Actual quantity applied Kg	Purchased at the rate of Rs	Actual expen- diture Rs	Expendi- ture/ha Rs
Lime	500	160	45.00/q	72.00	225.00
Cowdung	10625	3400	7.00/q	238.00	743.75
Amm. sulphate	225	72	100.00/q	72.00	225.00
Single super phosphate	150	48	75.00/q	36.00	112.50
Fingerlings (nos)	14620	4500	10.00/1000	45.00	140.62
Mustard oil cake	740	237	98.00/q	232.25	725.78
Rice bran	740	237	25.00/q	59.25	185.16
Miscellaneous	-	-	-	24.00	75.00
T O T A L -				778.50	2432.81

Details of Harvesting -

S P E C I E S	Initial weight (Gms)	Period of rearing (months)	Average weight obtained (Kg)	Total weight harvested (Kg)
Catla	25	9	1.25	223.00
Rohu	15	9	0.400	42.50
Mrigal	25	9	0.300	40.35
Common carp	25	6	0.400	1.60
Assorted (by angling)				93.00
Total quantity of fish harvested	400.45 Kg/6-9 months			
Gross production/ha	1251.4 Kg/ha/6-9 months			1251.40

* Cost of production per Kg. fish = Rs.1.94

* Does not include annual capital costs, wages and salaries and interest on working capital.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT GUJARTAL FISH FARM, JAUNPUR (U.P.) DURING 1977-78

(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.10 ha. Pond No.NP16 Period of rearing: 12 months

Item of inputs	Quantity/ha	Actual	Purchased	Actual	Expendi-
		quantity applied	at an average rate of	Expenditure	ture/ha
	(kg)	(kg)	(Rs)/q	(Rs)	(Rs)
Mohua oil cake	2800.00	280.0	14.70	41.16	411.60
Lime	300.0	30.0	35.00	10.50	105.00
Raw cattle dung	10800.0	1080.0	3.36	36.28	362.80
Amm. sulphate	154.0	15.40	99.80	15.36	153.60
Single superphosphate	156.0	15.60	67.72	10.56	105.60
Muriate of potash	32.5	3.25	94.64	3.07	30.70
Urea	117.0	11.70	176.40	20.63	206.30
Mustard oil cake	-	-	-	-	-
Groundnut oil cake	-	-	-	-	-
Rice bran/rice polish	-	-	-	-	-
Weeds(Aquatic/terrestrial)	30420.0	30420.0	-	-	-
Fingerlings					
i) Indian carps	6000 Nos.	210 Nos	40.00/1000	8.40	84.00
ii) Exotic carps		390 Nos	100.00/ "	39.00	390.00
Other items					
i) Diesel oil	-	29.0 l	1.35/l	39.15	391.50
ii) Mobil oil	-	1.5 l	10.00/l	15.00	150.00
iii) Harvesting/netting charges	-	-	-	21.92	219.20
			Total -	261.03p	2610.30

Growth of fishes

SPECIES	Stocking details		Harvesting details		Total weight harvested (Kg)
	Number	Av. wt. (g)	Number	Av. wt. (g)	
Catla	60	70.0	60	283.3	17.00
Rohu	60	23.3	38	351.3	13.35
Mrigal	90	76.6	90	547.7	49.30
Silver carp	150	13.3	150	533.0	79.55
Grass carp	90	3.3	63	563.9	35.53
Common carp	150	40.6	62	129.0	8.00
Miscellaneous	-	-	529**	-	11.40
Total -	600	-	992	-	214.13

Gross production/ha = 2141.3 Kg/ha/12 months

Net production/ha = 1936.5 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.1.22

*Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance

**Cyprinus fingerlings due to natural breeding

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT GUJARTAL FISH FARM, JAUNPUR U.P. DURING 1977-78

(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.25 ha Pond No. RP 2 Period of rearing 12 months

Item of inputs	Quantity/ha	Actual quantity applied	Purchased at an average rate of	Actual expenditure	Expenditure/ha
			Rs/q	Rs	Rs
Mahua oil cake	4532.0	1133.0	14.70	166.55	666.20
Lime	620.0	155.0	35.00	54.25	217.00
Raw cattle dung	9240.0	2310.0	3.60	83.16	332.64
Amn. sulphate	154.0	38.5	99.88	38.45	153.80
Single superphosphate	156.0	39.0	67.72	26.41	105.64
Muriate of potash	36.4	9.1	94.64	8.61	34.44
Urea	115.0	28.75	176.40	50.71	202.84
Mustard oil cake	3462.4	865.6	117.14	1013.99	4055.96
Groundnut oil cake	2166.0	541.5	174.00	942.21	3768.84
Rice bran/rice polish	7290.4	1822.6	83.04	1513.57	6054.28
Weed (Aquatic/terrestrial)	154860.0	38715.0	-	-	-
Fingerlings					
i) Indian carps }	6000 Nos.	525 Nos	40.00/1000	21.00	84.00
ii) Exotic carp }		975 Nos	100.00/1000	97.50	390.00
Other items					
i) Diesel oil	-	47.0 l	1.35/ l	63.45	253.80
ii) Mobil oil	-	1.83 l	10.00/ l	18.30	73.20
iii) Harvesting/netting charges	-	-	-	54.79	219.16
			Total -	4152.95	16611.80

Growth of fishes:

SPECIES	Stocking details		Harvesting details		Total weight harvested (kg)
	Number	Av. wt. (g)	Number	Av. wt. (g)	
Catla	150	102.3	127	938.5	119.20
Rohu	150	47.3	108	808.6	86.95
Mrigal	225	86.6	206	795.8	159.40
Silver carp	375	138.4	340	1802.8	557.60+
					95 no.=1 ..
					10.65 Kg **
Grass carp	225	276.4	214	2511.3	495.05 +
Common carp	375	56.9	373	378.3	141.25
Miscellaneous	-	-	1175***	203.4	242.85
			Total -		1842.8

Gross production/ha = 7371.2 Kg/ha/12 months

Net production/ha = 6535.3 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.2.25p

**Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance.

**Stocked on 17.1.78 and harvested along with other fishes.

***Cyprinus yearlings due to natural breeding of the fish.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT GUJARTAL FISH FARM, JAUNPUR (U.P.) DURING 1977-78

(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.10 ha Pond No.NP15 Period of rearing: 12 months

Item of inputs	Quantity/ha	Actual	Purchased	Actual	Expen-
		quantity applied	at an average rate of	Expen-	diture/ha
	(Kg)	(Kg)	(Rs)/q	(Rs)	(Rs)
Mahua oil cake	1900.0	190.0	14.70	27.93	279.30
Lime	700.0	70.0	35.00	24.50	245.00
Raw cattle dung	10920.0	1092.0	3.60	39.31	393.10
Ammonium sulphate	154.0	15.40	99.88	15.38	153.80
Single superphosphate	155.6	15.56	67.72	10.56	105.60
Muriate of potash	32.0	3.20	94.64	3.02	30.20
Urea	117.0	11.70	170.34	19.93	199.30
Mustard oil cake	4139.5	413.95	115.00	476.08	4760.80
Groundnut oil cake	3148.0	314.80	174.00	547.75	5477.50
Rice bran/rice polish	9070.0	907.0	86.30	729.47	7294.70
Weeds (Aquatic/terrestrial)	172500.0	17250.0	-	-	-
Fingerlings	6000 Nos.				
i) Indian carps		210 Nos.	40.00/1000	8.40	84.00
ii) Exotic carps		390 Nos.	100.00/ "	39.00	390.00
Other items					
i) Diesel oil	-	83.5	1.35/1	112.72	1127.20
ii) Mobil oil	-	3.261	10.00/1	32.60	326.00
iii) Harvesting/netting charges	-	-	-	21.92	219.20
		Total -		2108.57	21085.70

Growth of fishes

SPECIES	Stocking details		Harvesting details		Total weight harvested (Kg)
	Number	Av. wt. (g)	Number	Av. wt. (g)	
Catla	60	147.8	60	837.5	50.75
Rohu	60	59.5	60	762.9	45.05
Mrigal	90	87.7	90	665.1	59.60
Silver carp	150	192.0	149	1293.5	186.60
Grass carp	90	412.7	90	2471.0	219.45
Common carp	150	77.0	179**	758.5	136.50
Miscellaneous	-	-	99***	-	5.90
			Total -		703.85

Gross production/ha = 7038.5 Kg/ha/12 months

Net production/ha = 6056.5 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.3.00p

*Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance.

**Include Cyprinus yearlings which are the result of natural breeding during rearing period.

***All Indian carp fingerlings escaped from one nursery pond .

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT GUJARTAL FISH FARM, JAUNPUR (U.P.) DURING 1977-78

(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.07 ha Pond No. NP11 Period of rearing : 12 months

Items of input	Quantity/ha	Actual quantity applied	Purchased at an average rate of	Actual expenditure	Expenditure/ha
			(Rs)/q	(Rs)	(Rs)
Mahua oil cake	3571.4	250.0	14.70	36.75	525.00
L i m e	657.1	46.0	35.00	16.10	230.00
Raw cattle dung					
Amn. sulphate					
Single superphosphate			N I L		
Muriate of potash					
U r e a					
Mustard oil cake	2673.5	187.15	114.14	213.61	3051.57
Groundnut oil cake	2538.5	177.7	173.3	307.98	4399.71
Rice bran/rice polish	6560.0	459.20	85.23	391.38	5591.14
Weeds (Aquatic/terres- trial)	58285.7	4080.00	-	-	-
Fingerlings					
i) Indian carps	6000 Nos.	147 nos	40.00/1000	5.28	84.00
ii) Exotic carps		273 nos	100.00/ "	27.30	390.00
Other items					
i) Diesel oil	-	22.0 l	1.35/l	29.70	424.28
ii) Mobil oil	-	0.86 l	10.00/l	8.60	122.86
iii) Harvesting/ netting charges	-	-	-	15.34	219.14
T O T A L -	-	-	-	1052.64	15037.70

Growth of fishes

SPECIES	Stocking details			Harvesting details			Total weight harvested (kg)
	Number	Av. wt.	(g)	Number	Av. wt.	(g)	
Catla	42	55.9		40	692.5		27.70
Rohu	42	14.2		38	335.5		12.75
Mrigal	63	58.7		62	650.0		40.30
Silver carp	105	13.3		97	994.3		93.05
Grass carp	63	6.3		59	1561.6		92.15
Common carp	105	31.9		105	559.5		58.75
Miscellaneous	-	-		13	-		5.30
T O T A L -	420	-		414	-		330.0

Gross production/ha = 4714.3 Kg/ha/12 months

Net production/ha = 4545.7 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.3.19

**Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE FISH
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CULTURE CONDUCTED AT GUJARTAL FISH FARM, JAUNPUR (U.P.) DURING 1977-78
(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.07 ha Pond No. NP12 Period of rearing : 12 months

Items of input	quantity/ha	Actual quantity applied	Purchased at an average rate of	Actual expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)/q	(Rs)	(Rs)
Mahua oil cake	3214.2	225.0	14.70	33.07	472.43
Lime	357.1	25.0	35.00	8.75	125.00
Raw cattle dung					
Ammonium sulphate					
Single superphosphate					
Muriate of potash					
Urea			N I L		
Mustard oil cake					
Groundnut oil cake					
Rice bran/rice polish					
Weeds (Aquatic/terrestrial)	46385.7	3247.0			
Fingerlings	6000 nos.				
i) India carps		147 Nos	40.00/1000	5.86	84.00
ii) Exotic carps		273 Nos	100.00/ "	27.30	390.00
Other items					
i) Diesel oil	-	13.5	1.35/1	18.22	260.29
ii) Mobil oil	-	0.53	10.00/1	5.30	75.71
iii) Harvesting/netting charges	-	-	-	15.34	219.14
T O T A L -	-	-	-	113.86	1628.57

Growth of fishes:

SPECIES	Stocking details		Harvesting details		Total wt. harvested
	Number	A v. wt. (g)	Number	A v. wt. (g)	(kg)
Catla	42	38.0	33	274.2	9.05
Rohu	42	19.0	27	103.7	2.80
Mrigal	63	12.9	26	426.9	11.10
Silvar carp	105	12.3	105	475.7	49.95
Grass carp	63	4.7	57	610.5	34.80
Common carp	105	37.1	47	113.8	5.35
Miscellaneous	-	-	226 xx	-	3.50
T O T A L -	420	-	521	-	116.55

Gross production/ha = 1665.0 kg/ha/12 months

Net production/ha = 1540.7 kg/ha/12 months

*Cost of production per kg of fish = Rs.0.08 p

*Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance.

** Indian major carp fingerlings escaped from adjoining nursery ponds.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
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(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.07 ha Pond No. NP10 Period of rearing - 12 months

Item of inputs	Quantity/ha	Actual quantity applied	Purchased at an average rate of	Actual expenditure	Expenditure/ha
			(kg)	(Rs)/q	(Rs)
Mahua oil cake	3714.2	260.0	14.70	38.22	546.00
Lime	485.7	34.0	35.00	11.90	170.00
Raw cattle dung	8857.1	620.0	3.60	22.32	318.86
Amn. sulphate	150.0	10.5	99.88	10.48	149.71
Single superphosphate	148.5	10.4	67.72	7.04	100.57
Muriate of potash	32.5	2.275	94.64	2.15	30.71
Urea	115.0	8.05	176.40	14.20	202.86
Mustard oil cake	-	-	-	-	-
Groundnut oil cake	-	-	-	-	-
Rice bran/rice polish	-	-	-	-	-
Weeds (Aquatic/terrestrial)	46714.0	3270.0	-	-	-
Fingerlings					
i) Indian carps	6000 Nos	147 nos.	40.00/1000	5.88	84.00
ii) Exotic carps		273 nos.	100.00/ "	27.30	390.00
Other items					
i) Diesel oil	-	12.50 l	1.35/l	16.87	241.00
ii) Mobil oil	-	0.49 l	10.00/l	4.90	70.00
iii) Harvesting/netting charges	-	-	-	15.35	219.29
T O T A L -	<u>—</u>	<u>—</u>	<u>—</u>	<u>176.61</u> p	<u>2523.00</u>

Growth of fishes

S P E C I E S	Stocking details		Harvesting details		Total wt. harvested (kg)
	Number	Av. wt. (g)	Number	Av. wt. (g)	
Catla	42	44.0	23	286.9	6.60
Rohu	42	14.2	42	129.7	5.45
Mrigal	42	31.7	58	294.8	17.10
Silver carp	105	11.4	92	365.7	33.65
Grass carp	63	3.1	28	1180.3	33.05
Common carp	105	40.9	70	133.5	9.35
Miscellaneous	-	-	-	-	-
T o t a l -	<u>420</u>	<u>—</u>	<u>313</u>	<u>—</u>	<u>105.20</u>

Gross production/ha = 1502.8 Kg/ha/12 months

Net production/ha = 1357.8 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.1.68

**Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance.

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(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.07 ha Pond No. NP 9 Period of rearing : 12 months

Item of inputs	Quantity/ha (kg)	Actual quantity applied (%)	Purchased quantity at the average rate of/q (Rs)	Actual expenditure /ha (Rs)	Expenditure /ha (Rs)
Mahua oil cake	4642.8	325.0	14.70	47.77	682.43
Lime	485.7	34.0	35.00	11.90	170.00
Raw cattle dung					
Am. sulphate					
Single superphosphate		NIL			
Muriato of potash					
Urea					
Mustard oil cake	2603.5	182.25	115.30	230.14	3002.00
Groundnut oil cake	2827.4	197.90	174.00	344.34	4919.14
Rice bran/rice polish	6738.5	471.70	86.1	406.10	5801.42
Weeds (Aquatic/terrestrial)	56735.7	3975.00	-	-	-
Fingerlings	6000 Nos.				
i) Indian carps		147 nos.	40.00/1000	5.88	84.00
ii) Exotic carps		273 nos.	100.00/ "	27.30	390.00
Other items					
i) Diesel oil	-	15.0	1.35/1	20.25	289.29
ii) Mobil oil	-	0.59	10.00/1	5.90	84.28
iii) Harvesting/netting charges	-	-	-	15.34	219.14
TOTAL -				1094.92	15541.70

Growth of fishes

SPECIES	Stocking details		Harvesting details		Total wt. (kg)
	Number	Av. Wt. (g)	Number	Av. wt. (g)	
Catla	42	59.5	19	82.4	15.55
Rohu	42	14.2	29	353.4	10.25
Mrigal	63	69.3	49	586.6	27.60
Silver carp	105	12.3	64	759.4	62.85
Grass carp	63	3.9	19	2342.11	44.50
Common carp	105	54.2	102	558.8	57.00
Miscellaneous	-	-	-	-	-
TOTAL -	420	-	302	-	217.75

Gross production/ha = 3110.7 kg/ha/12 months

Net production/ha = 2901.4 kg/ha/12 months

*Cost of production per Kg of fish = Rs.5.03

**Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance.

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INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT GUJARTAL FISH FARM, JAUNPUR (U.P.) DURING 1975-76

(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.25 ha pond No. RP 2 Period of rearing : 12 months

Items of input	Quantity/ha (kg)	Actual quantity applied	Purchased at an average rate of (Rs)/q	Actual expenditure	Expenditure/ha (Rs)
Mahua oil cake	2000.00	500.00	14.70	73.50	294.00
Lime	300.00	75.00	15.00	11.25	45.00
Raw cattle dung		2225.00	3.60	80.10	320.40
Amm. sulphate	8900.00	99.00	99.77	98.77	395.08
Single superphosphate		57.00	84.84	48.35	193.40
Muriate of potash	698.00	11.00	102.36	11.26	45.04
Urea		7.50	194.85	14.62	58.48
Mustard oil cake	5936.4	1484.10	62.39	925.04	3700.16
Groundnut oil cake	4733.60	1183.40	78.00	923.05	3692.20
Rice bran/rice polish	5400.40	1350.10	49.00	661.55	2646.20
Weeds (Aquatic/terrestrial)	35520.00	8880.10	-	-	-
Fingerlings	6000 Nos.	1500 Nos.	-	-	-
i) Indian carp	C1 : R1 : M1.5:Sc 2.5				
ii) Exotic carp					
Other items					
i) Diesel oil		62.00	1	1.32/1	81.84
ii) Mobil oil		3.2	1	12.00/1	38.40
iii) Harvesting/netting charges	-	-	-	10.00	40.00
T O T A L -	-	-	-	2977.73	11910.92

Growth of fishes :

SPECIES	Stocking details		Harvesting details		Total weight harvested (kg)
	Number	Av. wt. (g)	Number	Av. Wt. (g)	
Catla	150	137.0	137	654.0	89.05
Rohu	150	14.0	97	469.0	47.50
Mrigal	225	34.0	223	541.0	120.20
Silver carp	375	119.0	367	907.0	332.00
Grass carp	225	663.0	179	2015.0	362.40
Common carp	375	33.0	311	1028.0	321.60
Miscellaneous	-	-	-	-	4.75
T O T A L -	1500	-	1314	-	1277.50

Gross production/ha = 5110.00 kg/ha/12 months

Net production/ha = 4244.88 kg/ha/12 months

*Cost of production per kg of fish = Rs.2.33 p

*Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance and cost of fingerlings.

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(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.10 ha. Pond No.NP 16. Period of rearing : 12 months

Items of input	Quantity/ha (kg)	Actual quantity (kg)	Purchased at an aver- age rate of (Rs)	Actual expen- diture (Rs)	Expendi- ture/ha (Rs)
Mahua oil cake	1500.0	150.0	14.70	22.05	220.50
Lime	300.0	30.0	15.00	4.50	45.00
Raw cattle dung	7590.0	759.0	3.60	27.32	273.20
Ammonium sulphate	396.0	39.6	99.77	39.51	395.10
Single superphosphate	240.0	24.0	84.84	20.40	204.00
Muriate of potash	50.0	5.0	94.64	4.75	47.50
Urea	30.0	3.0	194.85	5.85	58.50
Mustard oil cake	-	-	-	-	-
Groundnut oil cake	-	-	-	-	-
Rice bran/rice polish	-	-	-	-	-
Weeds (Aquatic/terres- trial)	23170.0	2317.00	-	-	-
Fingerlings	6000 Nos.	600 Nos.	-	-	-
i) Indian carps	C1:R1:M1.5 : Sc 2.5:GC 1.5 :Cc 2.5				
ii) Exotic carps					
Other items					
i) Diesel oil	-	44.50	1.35/l	60.08	600.80
ii) Mobil oil	-	2.30	12.00/l	27.60	276.00
iii) Harvesting/netting charges	-	-	-	10.00	100.00
T O T A L	-	-	-	220.06	2200.60

Growth of fishes:

S P E C I E S	Stocking details		Harvesting details		Total weight (Kg)
	Number	Av. wt. (g)	Number	Av. wt. (g)	
Catla	60	95.0	58	279.0	16.20
Rohu	60	12.0	45	237.0	10.45
Mrigal	90	10.0	84	528.0	44.55
Silver carp	150	133.0	146	907.0	127.20
Grass carp	90	167.0	87	579.0	52.80
Common carp	150	10.0	136	168.0	22.96
Miscellaneous	-	-	-	-	0.40
T O T A L	-	-	-	-	274.56

Gross production/ha = 2745.6 Kg/ha/12 months

Net production/ha = 2303.0 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.0.80

*Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance and cost of fingerlings.

CASE STUDY - 106

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
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CULTURE CONDUCTED AT GUJARTAL FISH FARM, JAUNPUR (U.P.) DURING 1975-1976

(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.10 ha Pond No. NP 15. Period of rearing : 12 months

Item of inputs	Quantity/ha (Kg)	Actual quantity (Kg)	Purchased at an average rate of (Rs)/q	Actual expenditure (Rs)	Expenditure/ha (Rs)
Mahua oil cake	1000.0	100.0	14.70	14.70	147.00
Lime	300.0	30.0	15.00	4.50	45.00
Raw cattle dung	10080.0	1008.0	3.60	36.30	363.00
Ammonium sulphate		37.4	51.74	19.35	193.50
Single superphosphate		22.8	163.68	37.32	373.20
Muriate of potash	603.5	4.75	122.95	5.84	58.40
Urea		3.40	132.35	4.50	45.00
Mustard oil cake	2206.0	220.60	62.30	137.44	1374.40
Groundnut oil cake	6213.0	621.30	77.52	481.62	4816.20
Rice bran/rice polish	3463.5	346.35	49.00	169.72	1697.20
Weeds (Aquatic/terrestrial)	24120.0	2412. Nos.	-	-	-
Fingerlings	6000 Nos.	600 Nos.	-	-	-
i) Indian carps	C1:R1:M 1.5:SC 2.5: GC 1.5; CC 2.5				
ii) Exotic carps					
Other items					
i) Diesel Oil	-	75.00 l	1.32/l	100.32	1003.20
ii) Mobil oil	-	3.90 l	12.00/l	46.80	468.00
iii) Harvesting/netting charges	-	-	-	10.00	100.00
TOTAL -	-	-	-	1068.41	10684.41

Growth of fishes :

SPECIES	Stocking details		Harvesting details		Total wt. harvested (Kg)
	Number	Av. wt. (g)	Number	Av. wt. (g)	
Catla	60	88.0	55	859.0	42.50
Rohu	60	10.0	56	570.0	30.75
Mrigal	90	10.0	86	652.0	53.85
Silver carp	150	90.0	150	1202.0	179.70
Grass carp	90	170.0	92	1327.0	119.85
Common carp	150	17.0	145	1120.0	162.00
Miscellaneous	-	-	-	-	-
TOTAL -	600	-	579	-	588.65

Gross production/ha = 5886.5 Kg/ha/12 months

Net production/ha = 5506.60 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.1.82p

*Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance and cost of fingerlings.

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(STATE/CENTRAL COLLABORATION)

Location of Pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the Pond : 0.07 ha. Pond No. NP 12 Period of rearing : 12 months

Items of input	Quantity/ha	Actual quantity applied	Purchased at an average rate of	Actual expenditure	Expenditure/ha
	(kg)	(kg)	(Rs)/q	(Rs)	(Rs)
Mahua oil cake	-	-	-	-	-
Lime	571.4	40.0	15.0	6.00	85.71
Raw cattle dung					
Amm. sulphate					
Single superphosphate					
Muriate of potash			NIL		
Urea					
Mustard oil cake					
Groundnut oil cake					
Rice bran/rice polish					
Weeds (Aquatic/terres. trial	32671.4	2287.0	-	-	-
Fingerlings	6000 Nos.	420 Nos.	-	-	-
i) Indian carps					
ii) Exotic carps					
Other items					
i) Diesel oil		24.50 l	1.32/l	32.34	462.00
ii) Mobil oil		1.30 l	12.00/l	15.60	222.86
iii) Harvesting/netting charges				10.00	142.86
TOTAL				63.94	913.43

Growth of fishes:

SPECIES	Stocking details		Harvesting details		Total weight harvested (kg)
	Number	Av. wt. (g)	Number	Av. wt. (g)	
Catla	42	60.0	39	221.0	8.66
Rohu	42	10.0	36	103.0	3.70
Mrigal	63	10.0	63	71.0	4.50
Silver carp	105	117.0	105	451.0	47.40
Grass carp	63	120.0	54	527.0	28.55
Common carp	105	23.0	80	79.0	6.75
Miscellaneous					
TOTAL	420	-	377	-	99.55

Gross production/ha = 1422.0 Kg/ha/12 months

Net production/ha = 1053.0 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.0.64

*Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance and cost of fingerlings.

CASE STUDY - 108

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH
CULTURE CONDUCTED AT GUJARTAL FISH FARM, JAUNPUR (U.P.) DURING 1975-76

(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the Pond : 0.07 ha Pond No. NP 11 Period of rearing : 12 months

Items of input.	Quantity/ha (Kg)	Actual quantity (Kg)	Purchased at an aver- age rate of application (Rs)/kg	Actual Expen- diture/ ha (Rs)	Expen- diture/ ha (Rs)
Mahua oil cake	-	-	-	-	-
Lime	1000.0	70.0	15.0	10.50	150.00
Raw cattle dung					
Ammonium sulphate					
Single superphosphate					
Muriate of potash					
Urea		NIL			
Mustard oil cake	2871.0	200.97	62.30	125.20	1788.57
Groundnut oil cake	4611.4	322.80	78.00	251.78	3596.85
Rice bran/rice polish	3399.8	237.99	49.0	116.60	1665.71
Weeds (Aquatic/terrestrial)	32642.8	2285.00	-	-	-
Fingerlings	6000 Nos	420 Nos.			
i) Indian carps		C1 : R1 : M1.5 : Gc 1.5 : Sc 2.5 : Gc 2.5			
ii) Exotic carps					
Other items					
i) Diesel oil	-	52.0	1	1.32/1	68.64
ii) Mobil oil	-	2.7	1	12.00/1	32.40
iii) Harvesting/netting charges	-	-	-	-	10.00
TOTAL -	-	-	-	615.12	8787.42

Growth of fishes:

SPECIES	Stocking details		Harvesting details		Total wt. (Kg)
	Number	Av. wt. (g)	Number	Av. wt. (g)	
Catla	42	71.0	23	528.0	14.80
Rohu	42	12.0	32	214.0	7.05
Mrigal	63	15.0	63	377.0	23.75
Silver carp	105	67.0	101	578.0	58.40
Grass carp	63	127.0	62	1377.0	85.00
Common carp	105	13.0	104	615.0	63.85
Miscellaneous	-	-	-	-	-
TOTAL -	420	-	385	-	252.85

Gross production/ha = 3612.0 Kg/ha/12 months

Net production/ha = 3314.0 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.2.43

*Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance and cost of fingerlings.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT GUJARTAL FISH FARM, JAUNPUR (U.P.) DURING 1975-76
(STATE/CENTRAL COLLABORATION)

Location of pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the pond : 0.07 ha. Pond No. NP 10 Period of rearing : 12 months

Items of input	Quantity/ha (kg)	Actual quantity applied (kg)	Purchased at an aver- age rate of (Rs/kg)	Actual Expen- diture (Rs)	Expen- diture/ ha (Rs)
Mahua oil cake	714.3	50.0	9.00	4.50	64.29
Lime	1428.6	100.0	15.00	15.00	214.28
Raw cattle dung	9157.1	641.0	3.60	23.08	329.71
Amm. sulphate		27.72	99.77	27.65	395.00
Single superphosphate		15.56	91.26	14.20	202.86
Muriate of potash	700.7	3.325	94.64	3.15	45.00
Urea		2.45	194.85	4.77	68.14
Mustard oil cake	-	-	-	-	-
Groundnut oil cake	-	-	-	-	-
Rice bran/rice polish	-	-	-	-	-
Weed (Aquatic/terrestrial)	32757.0	22937.0	-	-	-
Fingerlings (nos.)	6000 Nos.	420 Nos.			
i) Indian carps		C1 : R1 : M1.5 : Sc 2.5: Gc 1.5:Cc 2.5			
ii) Exotic carps					
Other items					
i) Diesel oil		71.0	1.32/1	93.72	1338.86
ii) Mobil oil		3.6	12.00/1	43.20	617.14
iii) Harvesting/ netting charges	-	-	-	-	-
TOTAL				229.27	3275.28

Growth of fishes :

SPECIES	Stocking details		Harvesting details		Total wt. (kg)
	Number	Av. wt. (g)	Number	Av. wt. (g)	harvested
Catla	42	115.0	34	226.0	7.70
Rohu	42	12.0	23	78.0	1.80
Mrigal	63	15.0	49	165.0	8.05
Silver carp	105	40.0	103	465.0	47.83
Grass carp	63	127.0	62	695.0	42.70
Common carp	105	13.0	82	114.0	9.60
Miscellaneous	-	-	-	-	-
TOTAL	420	-	353	-	117.68

Gross production/ha = 1681.1 Kg/ha/12 months

Net production/ha = 1398.0 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.1.95

*Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance and cost of fingerlings.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT GUJARTAL FISH FARM, JAUNPUR (U.P.) DURING 1975-76

(STATE/CENTRAL COLLABORATION)

Location of Pond : Gujartal Fish Farm, Jaunpur (U.P.)

Area of the Pond : 0.07 ha Pond No. NP 9 Period of rearing : 12 months

Items of inputs	Quantity/ha (Kg)	Actual quantity	Purchased at an average rate of application	Actual expenditure/ha
		(Kg)	(Rs/q)	(Rs)
Mahua oil cake	4285.7	300.0	14.70	44.10 630.00
Lime	428.6	30.0	15.00	4.50 64.29
Raw cattle dung	714.3	50.0	3.60	1.80 25.71
Amn. sulphate	-	-	-	-
Single superphosphate	-	-	-	-
Muriate of potash	-	-	-	-
Urea	-	-	-	-
Mustard oil cake	1852.8	129.70	62.30	80.80 1154.28
Groundnut oil cake	5245.7	367.20	78.00	286.41 4091.57
Rice bran/rice polish	3397.1	237.8	49.00	116.53 1664.71
Weeds (Aquatic/terrestrial)	32642.8	2285.0	-	-
Fingerlings	6000 Nos.	420.0 Nos.	-	-
i) Indian carps	C1:R1:M1.5 : Sc 2.5 : Gc 1.5 : Cc 2.5			
ii) Exotic carps				
Other items				
i) Diesel oil	-	25.0 l	1.32/l	33.00 471.43
ii) Mobil oil	-	11.3 l	12.00/l	15.60 222.86
iii) Harvesting/netting charges	-	-	-	10.00 142.86
TOTAL -	-	-	-	592.74 8467.71

Growth of fishes:

SPECIES	Stocking details		Harvesting details		Total wt. (Kg)
	Number	Av. wt. (g)	Number	Av. wt. (g)	harvested
Catla	42	100.0	40	537.0	21.50
Rohu	42	12.0	42	320.0	13.45
Mrigal	63	15.0	63	482.0	30.40
Silver carp	105	60.0	104	765.0	80.30
Grass carp	63	150.0	63	1602.0	97.75
Common carp	105	13.0	103	572.0	59.70
Miscellaneous	-	-	-	-	-
TOTAL -	420	-	415	-	303.10

Gross production/ha = 4330.0 Kg/ha/12 months

Net production/ha = 4005.0 Kg/ha/12 months

*Cost of production per Kg of fish = Rs.1.96

*Does not include rental, wages and salaries, depreciation of farm equipment, interest on working capital, cost of repairs and maintenance and cost of fingerlings.

DIRECTORATE OF FISHERIES
GOVERNMENT OF BIHAR

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED IN MAZAFFARPUR, BIHAR DURING 1976-77

1. Name of the Pond - Chandpura Tank

2. Location of Pond - Garaul (Muzaffarpur District)

3. Area of the pond - 0.20 ha

Items of inputs	Quantity in Kg per hect.	Actual quantity applied in Kg	Purchased at the rate of Rs.	Actual expenditure Rs	Expenditure/ha Rs
Lime	250	50	50.00/q	25.00	125.00
Cow dung	5000	1000	5.00/q	50.00	250.00
Amm. sulphate	250	50	56.00/q	28.00	140.00
Single super-phosphate	150	30	110.00/q	33.00	165.00
Fingerlings (Nos)	2500	500	10.00/1000	5.00	25.00
Mustard oil cake	250	50	85.00/q	42.50	212.50
Rice bran	250	50	50.00/q	25.00	125.00
T O T A L -				208.50	1042.50

Details of Harvesting

S P E C I E S	Initial weight (Gms.)	Period of rearing (Months)	Average weight obtained (Gms)	Total weight harvested (Kg)
Catla	4	9	800	62.000
Rohu	4	9	600	47.000
Mrigal	2	9	400	62.000
Calbasu	2	9	250	30.000
Total quantity of fish harvested	201	Kg/9 months		
Gross production	1005	Kg/ha/9 months		

*Cost/production per Kg of fish = Rs.1.04

*Does not include annual capital costs, wages and salaries and interest on working capital.

DIRECTORATE OF FISHERIES
Government of Bihar

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED IN MUZAFFARPUR BIHAR DURING 1976-77

1. Name of the pond - Court Compound Tank
2. Location of pond - Muzaffarpur
3. Area of the ponds - 0.20 ha

Items of inputs	Quantity in Kg per hect.	Actual quantity applied in Kg	Purchased at the rate of Rs	Actual expen- diture Rs	Expendi- ture/ha Rs
Lime	500	100.00	48.00/q	48.00	240.00
Cowdung	19000	3800.00	5.00/q	190.00	950.00
Ammonium Sulphate	1000	200.00	56.00/q	112.00	560.00
Single super phosphate	250	50.00	110.00/q	55.00	275.00
Fingerlings (nos)	2500	500.00	10.00/1000	5.00	25.00
Mustard oil cake	400	80.00	85.00/q	68.00	340.00
Rice bran	600	120.00	50.00/q	60.00	300.00
			Total -	<u>538.00</u>	<u>2690.00</u>

Details of Harvesting

SPECIES	Initial weight (Gms)	Period of rearing (months)	Average weight obtained (Gms)	Total weight harvested (Kg)
Catla	3	10	800	157.0
Rohu	2	10	500	103.0
Mrigal	2	10	400	78.0
Calbasu				
Common carp	2	10	250	24.0
Assorted (by angling)				
Total quantity of fish harvested		362 Kg/10 months		
Gross production		1810 Kg/ha/10 months		

*Cost of production per Kg of fish = Rs. 1.49

*Does not include annual capital costs, wages and salaries and interest on working capital

CASE STUDY - 113

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE AT FISHERIES RESEARCH CENTRE NAGLA, DURING HARVEST YEAR 1975-76

Location of Pond : Pantnagar University fish ponds, Nainital, U.P., Pond I.

Area : 0.4 ha Stocking year : 1974-75

Items of input	Quantity/ha	Actual quantity applied	Purchased at the rate of	Expenditure/ha
	(Kg)	(Kg)	(Rs)	(Rs)
Mahua oil-cake	-	-	-	167.00 417.50
Lime	200	80	0.27/kg 21.60	54.00
Cowdung	11250	4500	2/q 90.00	225.00
Amm. sulphate	540	216	73/q 157.58	394.20
Super phosphate	300	120	75/q 90.00	225.00
Fingerlings (Nos)	5000	2000	40/thousand sand	80.00 200.00
Stocking ratio	(C 1.1 R 1.5 : M 1:Cc 2.5: Sc 2.5:Gc 1.3)			
Mustard oil cake	6135	2454	100/q 2454.00	6135.00
Rice bran	6135	2454	50/q 466.00	1165.00
Weeds	(Weeds collected by labour & fed)			
TOTAL			5636.28	14215.70

Growth of fishes:

S P E C I E S	Number stocked	Average initial weight (g)	Average final weight (g)	Total weight harvested (kg)
Catla	200	50	812	105.25
Rohu	288	25	415	112.50
Mrigal	200	10	400	110.25
Silver carp	506	55	1250	595.35
Grass carp	300	95	1760	435.25
Common carp	506	60	800	455.25
Miscellaneous	-	-	-	50.00
TOTAL				1864.10

Total quantity of fish harvested = 1864.10 Kg/ 12 months

Gross production per year = 4660.25 Kg/ha

*Cost of production per Kg of fish = Rs.3.05

*Does not include annual capital costs, wages and salaries, and interest on working capital.

G.B. PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY
PANTNAGAR, DISTT. NAINITAL

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED AT FISHERIES RESEARCH CENTRE, NAGLA, DURING HARVEST YEAR
1975-1976

Location of pond : Pantnagar University Fish Ponds, Nainital U.P.

Area : 0.4 ha Year of stocking : 1974-75 Pond No. III

Items of inputs	Quantity/ha (Kg)	Actual quantity applied (Kg)	Purchased at the rate of (Rs)	Expenditure	Expenditure/ha
				(Rs)	(Rs)
Mahua oil cake	1350	540	50/q	270.00	675.00
Lime	200	80	0.27/Kg	21.60	21.60
Cowdung	11250	4500	2.00/q	90.00	225.00
Amm. Sulphate	540	216	73/q	157.68	394.20
Single superphosphate	300	120	75/q	90.00	225.00
Fingerlings (Nos)	5000	2000	40/thousand	80.00	200.00
Mustard oil-cake	1500	600	100/q	600.00	1500.00
Rice bran	1500	600	50/q	300.00	750.00
Weeds	(Weeds collected by labour and fed)			1400.00	3500.00
Supervision	-	-	-	600.00	1500.00
Nets & Netting	-	-	-	1800.00	4500.00
Water cost	-	-	-	2680.00	6700.00
TOTAL				8089.28	20223.20

Growth of fish :

SPECIES	Number stocked	Average initial weight (g)	Average final weight (g)	Total weight harvested (Kg)
Catla	200	40	1100	125.00
Rohu	250	20	950	120.00
Mrigal	200	15	750	95.00
Silver carp	500	60	1270	850.00
Grass carp	300	75	1725	820.00
Common carp	550	60	900	500.00
Miscellaneous	-	-	-	50.00
TOTAL				2560.00

Total quantity of fish harvested = 2560.00 Kg

Gross production per ha = 6400.00 Kg/ha

*Cost of production per Kg of fish = Rs.3.16

*Does not include annual capital costs and interest on working capital.

G.B. PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY, PANTNAGAR DIST NAINITAL

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at Fisheries Centre, Nagla, during harvest year 1976-77

Location of pond: Pantnagar University Fish Ponds, Nainital U.P.,
Area : 0.4 ha

Pond I

Item of inputs	Quantity (kg/ha)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	3750	1500	50/q	750.00	1875.00
Lime	175	70	35/q	24.50	61.25
Cowdung	11250	4500	2/q	90.00	225.00
Single superphosphate	300	120	75/q	90.00	225.00
Amm. sulphate	525	210	73/q	153.30	383.25
Fingerlings (nos.)	5000	2000	40/t	80.00	200.00
Mustard oilcake	1500	600	100/q	600.00	1500.00
Rice bran	1500	600	60/q	360.00	900.00
Weeds (collected by labour and fed)			-	-	-
Supervision	-	-	-	1800.00	4500.00
Nets	-	-	-	1000.00	2500.00
Netting	-	-	-	500.00	1250.00
Water cost	-	-	-	500.00	1250.00
Labour	-	-	-	2680.00	6700.00
				8627.80	21569.50

Growth of fishes:

Species	Number stocked	Av. initial weight (g)	Av. final wt. (g)	Total weight harvested (kg)
Catla	200	25	1100	112.25
Rohu	280	10	950	120.35
Mrigal	200	8	725	100.50
Silver carp	500	50	1125	625.00
Grass carp	300	75	1220	555.00
Common carp	525	20	850	335.65
Miscellaneous	-	-	-	50.25
				1939.00

Total quantity of fish harvested = 1939.00 kg
Gross production per ha = 4847.5 kg

* Cost of production per kg = Rs. 4.45 kg

* Does not include annual capital costs, wages and interest on working capital.

CASE STUDY - 116

G.B. PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY
PANTNAGAR DISTT. NAINITAL

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE AT FISHERIES RESEARCH CENTRE, NAGLA, DURING HARVESTING YEAR 1975-76

Location of Pond : Pantnagar University fish ponds, Nainital U.P., Pond II

Area : 0.5 ha Stocking Year : 1974-75

Items of input	Quantity/ha (Kg)	Actual quantity applied (Kg)	Purchased at the rate of (Rs)	Expenditure (Rs)	Expenditure/ha (Rs)
Mahua oil-cake	-	-	50/q	350.00	700.00
Lime	200	100	0.27/kg	27.00	54.00
Cowdung	12000	6000	2/q	120.00	240.00
Amm. sulphate	550	275	73/q	200.75	401.50
Single superphosphate	250	125	75/q	93.75	187.50
Fingerlings (nos.)	5000	2500	40/thousand sand	100.00	200.00
Mustard oil cake	1600	800	100/q	800.00	1600.00
Rice bran	1600	800	40/q	320.00	640.00
Weeds	(Collected by labour and fed)				
Supervision	-	-	-	900.00	1800.00
Nets & netting	-	-	-	1380.00	2760.00
Water cost	-	-	-	700.00	1400.00
Labour cost	-	-	-	2880.00	5760.00
T O T A L -				<u>7871.50</u>	<u>15743.00</u>

Growth of fish

S P E C I E S	Number stocked	Average initial wt.	Average final wt	Total weight harvested(Kg)
		(g)	(g)	
Catla	200	40	1250	125.50
Rohu	380	25	950	120.00
Mrigal	250	10	700	85.00
Silver carp	425	60	1350	950.00
Grass carp	375	100	1750	825.00
Common carp	620	50	950	450.00
Miscellaneous	-	-	-	-
T O T A L -				<u>2555.50</u>

Total quantity of fish harvested = 2555.5 Kg/year

Gross production per ha = 5111 Kg

*Cost of production per Kg of fish = Rs.3.08

*Does not include annual costs, and, interest on working capital

G.B. PANT UNIVERSITY OF AGRICULTURE & TECHNOLOGY, PANTNAGAR, DIST. NAINITAL

Inputs, yield, expenditure and other related details on Composit Fish Culture at Fisheries Research Centres Nagla during harvest year 1976-77

Location of pond : Pantnagar University Fish Ponds, Nainital, U.P.

Area : 0.5 ha Stocking year 1975-76 Pond No. II
(Continuation of the stocking done in 1974-75)

Items of inputs	Quantity ha (Kg)	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake					
Lime					
Cowdung	12000	6000	2/q	120.00	240.00
Amm. sulphate	600	300	73/q	219.00	438.00
Single superphosphate	250	125	75/q	93.75	187.50
Fingerlings (nos.)	3000	1500	-	-	-
Mustard oilcake	2000	1000	100/q	1000.00	2000.00
Rice bran	2000	1000	60/q	600.00	1200.00
Weeds	(collected by labourers and fed)				-
Supervision	-	-	-	1500.00	3000.00
Nets	-	-	-	600.00	1200.00
Water cost	-	-	-	600.00	1200.00
Labour	-	-	-	2400.00	4800.00
Netting	-	-	-	500.00	1000.00
				7632.75	15265.50

Growth of fishes:

Species	Number stocked	Av. initial weight (g)	Av. final wt. (g)	Total weight harvested (kg)
Catla	95	1250	2225.5	211.5
Rohu	225	950	1900.2	427.5
Mrigal	150	700	1300.5	195.0
Silver carp	200	1350	3250.0	650.0
Grass carp	200	1750	4920.0	984.0
Common carp	400	950	2000.7	800.0
Miscellaneous	-	-	-	-
				3268.00

Total quantity of fish harvested = 3268.00 kg/yr

Gross production per ha = 6536.00 kg/ha

*Cost of production per kg of fish = Rs. 2.34

*Does not include annual capital cost and interest on working capital

CENTRAL INLAND FISHERIES RESEARCH INSTITUTE
(I.C.A.R.)
BARRACKPORE, WEST BENGAL

G.B. PANT UNIVERSITY OF AGRI. & TECHNOLOGY, PANTNAGAR (NAINITAL)

Inputs, yield, expenditure and other related details of Composite Fish Culture at Fisheries Research Centre Nagia during year of harvest 1976-77

Location of pond : Pantnagar University fish ponds, Nainital, U.P.

Area : 0.4 ha Year of stocking: 1975-76 Pond No. III

Items of input	Quantity/ kg/ha	Actual quantity applied (kg)	Purchased at an av. rate of (Rs.)	Actual expendi- ture (Rs.)	Expendi- ture/ha (Rs.)
Mahua oilcake	3750	1500	50/q	750.00	1875.00
Lime	175	70	34.29/q	24.00	60.00
Cowdung	12500	5000	2/q	100.00	250.00
Amm. sulphate	525	210	73/q	153.30	383.25
Single superphosphate	300	120	75/q	90.00	225.00
Fingerlings (nos.)	5000	2000	40/t	80.00	200.00
Mustard oilcake	2000	800	1000/q	800.00	2000.00
Rice bran	2000	800	60/q	480.00	1200.00
Weeds	(Weeds collected by labourers & fed)				-
Supervision	-	-	-	1500.00	3750.00
Nets	-	-	-	1000.00	2500.00
Netting	-	-	-	500.00	1250.00
Water cost	-	-	-	500.00	1250.00
Labour	-	-	-	2400.00	6000.00
				8377.30	20943.25

Growth of fishes:

Species	Number stocked	Av. initial wt. (g)	Av. final weight (g)	Total weight harvested (kg)
Catla	200	20	1005	112.50
Rohu	275	10	950	112.00
Mrigal	200	10	700	110.00
Silver carp	500	40	1120	620.00
Grass carp	300	70	1125	600.00
Common carp	530	20	850	340.00
Miscellaneous	-	-	-	40.00
				1934.50

Total quantity of fish harvested = 1934.5 kg/yr

Gross production per ha = 4836.25 kg

* Cost of production per kg of fish = Rs. 4.33

*Does not include annual capital cost and interest on working capital

DIRECTORATE OF FISHERIES, BIHAR, PATNA

Inputs, yield, expenditure and other related details of Composite Fish Culture conducted at the Secretariat Canteen Tank, Patna during 1975-76.

Location of the pond : Near Old Secretariat Canteen, Patna.
Area : 1.2 ha

Items of inputs.	Quantity /ha (kg)	Actual quantity applied	Purchased rate of (Rs.)	Actual expenditure (Rs.)	Expenditure/ha (Rs.)
Mustard oilcake	667	800	52.25/q	416.00	348.33
Lime	2917	3500	20.86/q	370.00	608.33
Cowdung	6917	8300	3.33/q	276.00	230.00
Fingerlings (nos.)	8333	10000	10.00/t	100.00	83.33
Supplementary feeding done at the rate of 2% body weight.					
Mustard oilcake	1583	1900	77.00/t	1463.00	1219.17
Rice bran	1770	2125	91.34/t	1941.00	1617.50
Wages of the labourers	-	-	-	661.35	551.12
Transport cost over cost of transportation of seed, feed, fingerlings and artificial feed.	-	-	-	200.00	166.67
				5789.35	4824.45

Species	Initial wt. (g)	Period of rearing (months)	Av. wt. attained (g)	Total weight harvested (kg)
Catla	20	9 months	700	1428.00
Rohu	14		500	622.00
Mrigal	10		400	1098.00
Common carp	75		1000	123.00
Miscellaneous fishes		7		260.00
Total quantity of fish harvested				3531.00

Gross production = 2942.5 kg/ha/9 months
or 3923.33 kg/ha/yr (Estimated)
Net production = 2647.609 kg/ha/9 months

*Expenditure for production of per kg fish = Rs. 1.64

*Does not include annual capital costs and interest on working capital

Cost of production per Kg of fish = 1.45
(exclusive of wages and salaries)

CASE STUDY - 120

DIRECTORATE OF FISHERIES
Government of Bihar

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED IN PATNA, BIHAR DURING 1976-1977

1. Name of the pond - Secretariat Centre
2. Location of pond - Tank Patna. Near Patna Secretariat
3. Area of the pond - 1.20 ha
(in hectare)

Items of inputs	Quantity in Kg per hect. Kg	Actual quantity applied in Kg	Purchased at the rate of Rs	Actual expen- diture Rs	Expendi- ture/ha Rs
Cowdung	5833	7000	1.30/q	91.00	75.83
Fingerlings (nos.)	20833	25000	10.00/1000	250.00	208.33
Mustard oil cake	2500	3000	80.30/q	2424.00	2020.00
Rice bran	2500	3000	72.50/q	2195.00	1829.17
Casual labour for netting				350.00	291.67
			Total -	5310.00	4425.00

Details of Harvesting

S P E C I E S	Initial weight (Gms)	Period of rearing (months)	Average weight obtained (Kg)	Total weight harvested (Kg)
Catla	75.000	7	0.750	750.0
Rohu	37.350	7	0.500	500.0
Mrigal	45.000	7	0.350	1000.000
Common carp	13.000	7	1.000	572.0
Assorted (by angling)			0.100	190.0
Total quantity of fish harvested	3012 Kg/7 months			
Gross production	2510 Kg/ha/7 months			

*cost of production per Kg fish = Rs.1.76

*Does not include annual capital costs, wages and salaries and interest on working capital.

DIRECTORATE OF FISHERIES
GOVERNMENT OF BIHAR

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED IN PATNA, BIHAR DURING 1976-1977

1. Name of the pond - Museum Tank

2. Location of pond - Patna

3. Area of the pond - 0.20 ha.

Items of inputs	Quantity in Kg per hect.	Actual quantity applied in Kg	Purchased at the rate of	Actual expen- diture	Expendi- ture/ha
			Rs/q	Rs	Rs
Lime	469	93.75	18.67	17.50	87.50
Cow dung	24000	4800.00	1.30	62.40	312.00
Fingerlings(nos.)	25000	5000	10.00/1000	50.00	250.00
Mustard oil cake	1000	200	80.00	160.00	800.00
Rice bran	1000	200	75.00	150.00	750.00
Netting				120.00	600.00
T O T A L -				559.90	2799.50

Details of Harvesting

S P E C I E S	Initial weight	Period of rearing (months)	Average weight obtained (Gms)	Total weight harvested (Kg)
Catla	27.500	7	400	70,00
Rohu	7.500	7	250	50.75
Mrigal	4.000	7	150	14.00
Assorted (by angling)			70	370.25
Total quantity of fish harvested	505 Kg/7 months			505.00
Gross production	2525 Kg/ha 7 months			2525.00

*Cost of production per Kg of fish = Rs.1.11

*Does not include annual capital costs, wages and salaries and interest on working capital.

CASE STUDY - 122

DIRECTORATE OF FISHERIES
Government of Bihar

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED IN RAJABRAMPURA, BIHAR DURING 1976-77

1. Name of the Pond - Bhakurahi Tank
2. Location of pond - Rajabrampura (Dist. Darbhanga)
3. Area of the pond - 0.30 ha

Items of inputs	Quantity in Kg per hect. Kg	Actual quantity applied in Kg	Purchased at the rate of Rs	Actual expen- diture Rs	Expendi- ture/ha Rs
Lime	500	150	24.00/q	36.00	120.00
Cowdung	6666	1500	3.00/q	45.00	150.00
Ammonium sulphate	67	20	100.00/q	20.00	66.67
Single super phosphate	100	30	90.00/q	27.00	90.00
Fingerlings (Nos)	23556	70677	10.00/1000	70.00	235.56
Mustard oil cake	186		55.80 110.00/q	61.38	204.60
Rice bran	186		55.80 25.00/q	13.95	46.50
Total -				<u>274.00</u>	<u>913.33</u>

Details of Harvesting

S P E C I E S	Initial weight (Gms)	Period of rearing (months)	Average weight obtained (Gms.)	Total weight harvested (Kg)
Catla	7.200	9	250 gr	89.00
Rohu	8.000	9	200 gr	49.95
Mrigal	11.500	9	200 gr	119.40
Common carp	0.640	6	450 gr	45.15
Assorted (by angling)				20.00
Total quantity of fish harvested	323.5 Kg/6-9 months			
Gross production	1078.33 Kg/ha/6-9 months			1078.33

*Cost of production per Kg of fish = Rs.0.85/Kg

*Does not include annual capital costs, wages and salaries and interest on working capital.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE (FIRST SET EXPERIMENT - EXPT. NO. 2) CONDUCTED AT RANCHI CENTRE
DURING 1975-1976

(CENTRAL/STATE COLLABORATION)

Location of the pond : Doranda Fish Farm, Ranchi

Area : 0.1 ha, (R.P. I)

Initial soil condition : Acidic and unproductive

Items of inputs	Quantity/ha	Actual quantity applied	Purchased at an average rate of	Expenditure	Expenditure/ha
	(Kg)	(Kg)	(Rs./kg)	(Rs.)	(Rs.)
Mahua oil-cake	2500	250	57.00	142.00	1425.00
Lime	6750	675	35.00	236.25	2362.50
Cowdung	16750	1675	5.00	83.75	837.50
Amm. sulphate	405	40.5	98.00	39.69	396.90
Single super phosphate	450	45.0	120.00	54.00	540.00
Muriate of potash	72	7.2	130.00	9.36	93.60
Urea	203	20.3	192.00	38.88	388.80
Fingerlings	10340 Nos	1034 (C 0.6: R 3.7: M 3.6: Co 1.9: Sc 0.1)			
Supplementary feeding @ 1-2% of body weight.					
Mustard oil-cake	-	341.4	75.00 } 113.6 95.00 }	363.97	3639.70
Rice bran	-	600.0	16.70	100.20	1002.00
Diesel	-	20 ltrs.	1.40/l	28.00	280.00
TOTAL -				Rs. 1096.60	10966.00

Growth of fishes:

S P E C I E S	Initial wt. (g)	Period of rearing (months)	Average weight attained (g)	Total weight harvested (Kg)	Percent age of recovery
Silver carp	16	11	760	4.560	54.5
Rohu	14	11-18	175-220	47.105	61.6
Mrigal	10	11-18	179-210	62.640	84.3
Common carp	6	11-18	333-900	72.315	67.5
Catla	4-5	3½-8½	178-623	13.655	53.3-94.0
TOTAL -				200.275	71.8

Total quantity of fish harvested = 200.275

Gross production = 2004.750 Kg/ha/1½ hr.

Net production = 1903.330 Kg/ha/1½ yr.

*Cost of production per Kg fish = Rs.5.48

Note - Poor recovery due to poaching resulted in raising the cost of production.

4,60,000 induced bred fish seed of Indian major carps was handed over to State Govt. during 1975.

*Does not include annual capital costs, wages and salaries, interest on working capital

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH
CULTURE (SECOND SET EXPERIMENT - EXPT. NO. 2) CONDUCTED AT RANCHI CENTRE
DURING 1977

(CENTRE/STATE COLLABORATION)

Location of the pond : Doranda Fish Farm, Ranchi
Area : 0.1 ha, (R.P. 1)
Initial soil condition : Acidic and unproductive

Items of input	Quantity/ha	Actual	Purchased	Actual	Expendi-
		quantity applied	at an average rate of	expen-	ture/ha
	(Kg)	(Kg)	(Rs./q)	(Rs)	(Rs)
Mahua oil-cake	2500	250	57.35	1444.37	1443.70
Lime	250	25	35.00	0.75	87.50
Cowdung	20000	2000	5.00	100.00	1000.00
Amm. sulphate	330	33	98.00	32.34	323.40
Single super phosphate	410	41	120.00	49.20	492.00
Muriate of potash	60	6	90.00	5.40	54.00
Urea	135	13.5	192.00	25.92	259.20
Mustard oil-cake	2840	284.0	156.00	443.04	4430.40
		(131.00 - 180.00)			
Rice bran	5420	542.0	20.00	100.40	1004.00
Supplementary feeding @ 1-2% of body weight					
Fingerlings (nos.)	5000	500*			
*(Gc 1: Sc 2: Cc 3: R 1.5: M 1.5: C 1)					
TOTAL				917.42	9174.20

Growth of fishes:

SPECIES	Initial weight (g)	Period of rearing (months)	Average weight attained (g)	Total weight harvested (Kg)	Percentage of recovery
Silver carp	10.00	11	2035.0	34.60	17.0
Grass carp	10.00	8.5	1537.0	30.75	40.0
Catla	27.5	11	680.0	34.00	100.0
Rohu	10.5	11	506.00	35.90	94.6
Mrigal	25.0	11	646.0	44.60	92.0
Common carp	25.0	11	597.0	87.10	97.3
TOTAL -				266.95	74.6

Total quantity of fish harvested = 266.950 Kg

Gross production = 2669.5 Kg/ha/11 months

Net production = 2570.750 Kg/ha/11 months

*Cost of production per Kg fish = Rs.3.44

Note - 14,25,000 induced bred fish seed of Indian and exotic carps was handed over to State Govt. during 1977

*Does not include annual capital costs, wages and salaries, interest on working capital and cost of weeds.

ALL INDIA COORDINATED RESEARCH PROJECT ON COMPOSITE
FISH CULTURE AND FISH SEED PRODUCTION OF CENTRAL IN-
LAND FISHERIES RESEARCH INSTITUTE

INPUTS, YIELD, EXPENDITURE AND OTHER RELATED DETAILS OF COMPOSITE FISH
CULTURE (SECOND SET EXPERIMENT - EXPT. 1) CONDUCTED AT RANCHI CENTRE
DURING 1976-1977
(CENTRAL/STATE COLLABORATION)

Location of the pond : Doranda Fish Farm, Ranchi

Area : 0.1 ha (R.P. II)

Initial soil condition: Acidic and unproductive

Items of input	Quantity/ha	Actual quantity applied	Purchased at an average rate of	Actual expenditure	Expenditure/ha
	(kg)	(kg)	(Rs./q)	(Rs.)	(Rs)
Mahua oil cake	2500	250.0	57.35	144.37	1443.70
Lime	250	25.0	35.00	8.75	87.50
Cowdung	16000	1600.0	5.00-6.00	82.00	820.00
Amm. sulphate	300	30.0	98.00	29.40	294.00
Single superphosphate	400	40.0	120.00	48.00	480.00
Muriate of potash	60	6.0	130.00	7.80	78.00
Urea	135	13.5	192.00	25.92	259.20
Mustard oil cake	3310	331.0	138.52	458.50	4585.00
			(95.00 - 180.00)		
Rice bran	5680	568.0	17.50	99.40	994.00
			(15.00 - 20.00)		
Fingerlings	5000 Nos.	500 Nos. (Gc 1.3: Sc 1.7: Cc 3: R 1.5: C 1:M 1.5)			
TOTAL				904.14	9041.40

Supplementary feeding
@ 1-2% of body weight.

Growth of fishes:

SPECIES	Initial weight (g)	Period of rearing (months)	Average weight attained (g)	Total weight harvested (kg)	Percentage of recovery
Silver carp	1.0	10	944.4	17.00	21.1
Grass carp	18.0	11	1022.0	44.98	67.7
Catla	10.0	11	854.0	30.75	72.0
Rohu	2.7	11	284.0	19.85	93.3
Mrigal	1.0	11	336.0	17.45	69.3
Common carp	4.0	11	539.0	68.95	85.3
TOTAL				198.98	69.6

Total quantity of fish harvested = 198.98 kg

Gross production = 1989.8 kg/ha/11 months

Net production = 1963.180 kg/ha/11 months

*Cost of production per Kg of fish = Rs.4.54.

Note - Poor recovery due to poaching has been responsible for high cost of production.

6,22,000 induced bred fish seed of Indian and Exotic carps was handed over to State Govt. during 1976.

*Does not include annual capital costs, wages and salaries, interest on

DIRECTORATE OF FISHERIES
Government of Bihar

INPUTS, EXPENDITURE, YIELD AND OTHER RELATED DETAILS OF COMPOSITE FISH CULTURE CONDUCTED IN RANCHI BIHAR DURING 1976-1977

1. Name of the pond - Banas Tank
2. Location of Pond - Ranchi
3. Area of the ponds - 0.80 ha

Items of input	Quantity in Kg per hect. Kg	Actual quantity applied in Kg	Purchased at the rate of Rs	Actual expen- diture Rs	Expendi- ture/ha Rs
Lime	750	600	40.00/q	240.00	300.00
Cowdung	18000	14400	5.00/q	720.00	900.00
Amn. sulphate	225	180	1.00/Kg	180.00	225.00
Single super phosphate	200	160	1.15/Kg	184.00	230.00
Fingerlings(nos)	9375	7500	10.00 -20.00/1000}	90.00	112.50
Mustard oil cake	419	335	1.25/Kg	418.75	523.44
Rice bran	419	335	0.50/Kg	167.50	209.37
Netting charges				750.00	937.50
			TOTAL -	<u>2750.25</u>	<u>3437.81</u>

Details of Harvesting

S P E C I E S	Initial weight (Gms.)	Period of rearing	Average weight obtained (Gms)	Total weight harvested (Kg)
Catla	25	10	750	1072.00
Rohu	15	10	200	253.50
Grass carp	25	2	250	118.75
Assorted (by angling)				
Total quantity of fish harvested		1444.25 Kg/10 months		1444.25
Gross production		1805.3 Kg/ha/10 months		1805.3

*Cost of production per Kg of fish = Rs.1.90

*Does not include annual capital costs, wages and salaries and interest on working capital.