

CASE CODE 47

47 VINDHYA MATSYA VIKAS NIGAM LIMITED

"Our major task is to tap the available large inland water resources and concentrate on fresh water aquaculture, reservoir fisheries, lakes, ponds and river fisheries. The changing environment makes us think of taking up new roles. The existing competition is likely to intensify, and funding from the government may reduce. We want to diversify into fish feed' plants, organise consultancy services for fish farmers and the private sector and constructional agencies to support development work by the Fisheries Directorate. A formal marketing network does not exist in the Nigam. Plans are afoot to develop such a network. Another important thing that we have to bother is the lack in R & D and facilities. The difficulty in producing 'A' Category fisheries is also posing a major problem to the organisation", said the Managing Director of the Vindhya Matsya Vikas Nigam Limited (VMVNL), while addressing the annual general body meeting of the company.

The Company

Vindhya Matsya Vikas Nigam Ltd. (VMVNL), was established by state government of Vindhya Pradesh in October 1979, for the purpose of setting up modern hatcheries and producing fish seeds to increase the fish production in the state. The state being a land-locked state, traditional coastal fishing and deep sea fishing were not possible in the state, leaving inland fishing as the only option. The various subsections in inland fishing were:

- Aquaculture, comprising brackish-water and fresh-water aquaculture
- Reservoir fisheries, and
- Integrated fish culture with crops.

The state was bestowed with rich inland water resource in the rural areas in the form of ponds and lakes (11.65•lakh hectares). It was realised that these could be brought under the domain of fish farming and thus increase the production of fish which is a 'highly protein rich staple diet. It was also felt that fish farming could help tackle the increasing food problem, could also provide employment to many, particularly to those who live below the poverty line. VMVNL was, therefore, established with the mission of spreading prosperity and for the welfare of the people of state through a high volume fish production.

Objectives of the Nigam

Accordingly, the following objectives were set out for the Nigam:

- a) Construction of hatcheries for fish seed production using modern technology.
- b) Construction of infrastructural facilities to fisheries.

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Data has been disguised wherever necessary.

The Case Material is prepared as a basis for class discussion. Cases are not designed to present

illustrations of either correct or incorrect handling of administrative problems.

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- c) Production and distribution of high quality and pure fish seeds, to fish farmers. The fish seeds were to be produced in the Nigam's hatcheries. The Nigam aimed to produce fish seed of size 25mm. to the extent of 2 crores per 10 hectares of water.
- d) Management of Category `A' Water-bodies of Vindhya Pradesh.
- e) Promote the consumption of fish and its various preparations through its mobile fish parlors.

Organisation Structure

The company was governed by a Board of Directors which had 12 members, including the Chairman. The Secretary, Animal Husbandries and Fisheries Department of the state government served as the Chairman of the Board. The Managing Director was also a member of the Board (see Exhibit 1 for details).

The Head office of VMVNL was located in Selvila: There were eleven Regional Offices and sixty district offices. The Nigam presently did not have a Personnel Manager. The Personnel function was being looked after by the Marketing Manager on a temporary basis.

Sharing the critical problems of manpower the Managing Director said:

"The organisation has a requirement for 266 employees under various categories. However only 109 positions have been filled, as of today. Out of these 109, 91 are permanent employees and 18 are temporary employees. The Nigam has a shortfall of 157 employees" (see Exhibit 2 for details).

Operations of the Company

The VMVNL was involved in three major activities:

1. Fish Seed Production
2. Management of Water bodies
3. Operation of the `Mobile Parlour`

a) Fish Seeds

The state had a large water resource base in which both cultivable and non-cultivable varieties of fish thrived. One of the main reasons for low fish production even after having large water resources was the non-availability of sufficient amount of fish seeds. To overcome this problem, good quality fish seeds must be provided to the fish breeders. Five hatcheries were established with World Bank assistance in the first leg in 1979. This was followed by the establishment of three hatcheries under the United Rural Development Plan and four hatcheries under the State plan in the second leg.

The cultivable varieties of fish do not breed in saline water. They have to be induced to breed by a harmonic injection. The breeding takes place under controlled conditions, with specified oxygen and water nutrition level in the hatcheries constructed and maintained by the Nigam itself. The fish normally breed in the monsoon season, i.e., between July to August. During this time, therefore, fishing was officially banned at all the inland water resources of the state. The ban was monitored with the help of the Fisheries Directorate of

the State Government.

Once the fish bred and the eggs were produced, these eggs were allowed to hatch in the hatcheries. Fish seeds were kept in the hatchery till it grew to a size of at least 25 mm. The seeds were then kept in vessels and trucked to the various Fish Farmers Development Agents (FFDAs) who came under the purview of the Fisheries Directorate and not the Nigam.

The seeds were then sold to various fish farmers and contractors (through the FFDAs) who then grew them further to large size fish in their local ponds or lakes. Finally, the fish were sold by the fishermen/fish farmers in the market.

The Nigam produced fish seeds of the following variety.

Name of the fish	Percentage seed production
Katla	36
Rohu	31
Nain	33

The revenues earned from the sale of fish seeds was Rs. 121 lakhs in 1992-93.

The hatchery-wise seed production details, both actual and projections for 1994, are given in Exhibits 3 and 4.

Fish seed accounted for about 45% of the total revenue of the Nigam. The available area for fish seed production was 11.65 lakh hectares. This consisted of 7.20 lakh hectares of flowing water and 4.45 lakh hectares of still water. A production of 1.35 lakh tonnes was possible in Vindhya Pradesh (V.P.). Keeping in view the amount of aquatic area available this was considerably less.

From every ten hectare hatchery, two crore fish seeds of 2.5 cm were targeted to be produced. Actual production figures were compared with the targets and are shown in Exhibit 5. It could be seen that after 1990-91, almost all hatcheries had crossed the set targets. The hatcheries which were constructed under the World Bank Plan were based on Hungarian patterns. These created a lot of problems in fish seed production and this resulted in a low capacity utilization. Hence, they were converted to circular hatcheries based on Chinese techniques and all future hatcheries were made using this technique. The results were encouraging. Continuous modernization of these hatcheries was taking place resulting in high capacity utilization.

Potential and Resources

The demand for fish seeds in the state was currently at Rs. 55 crores per annum and was expected to increase to Rs. 100 crores in the next decade. With an installed capacity of only Rs. 27 crores per annum of VMVNL, there existed a huge gap which remained to be covered. Through commercialisation of fish production and up gradation of technology of inland fish farming projects through culture operations, this gap could be narrowed.

The production of fish seeds was worth Rs. 1572.42 lakhs in 1991-92 which increased to Rs. 2227.63 lakhs in 1992-93 (Exhibit 6). The profitability of fish seed operation is shown in Exhibits 7(a) and 7(b)

b) Management of "A" Grade Water Bodies

Besides earning revenue from the fish seeds, another source of revenue for the Nigam was its Construction Services. The Construction unit of the Nigam had constructed poultry complexes, a hospital and housing societies for fishermen. Last year Rs. 8 crore worth of construction work was undertaken and the revenue earned was 7.5% of the total work completed.

Presently the VMVNL was engaged in managing thirteen Water bodies of "A" grade of the fishery unit. The total area of these water bodies was 44,000 hectares. The water bodies were auctioned for a period of three years (Sept. to June) and the fish seed development done based up on the fish seed achievements and the cost was recovered from the contractors.

Only about 9% of the fish were of the "A" category, which were the costliest and were in maximum demand while the remaining were "B" and "C" category fish. An improvement in this situation could lead to increased fish production and higher income for the Nigam.

There were two basic principles of water body management. First, bigger sized fish seeds of those classes of fish which grew fast in stipulated numbers be developed. Second, necessary arrangements be made for the protection of fishery property. Lot of problems were being faced in fulfilling these objectives because the fish seed produced from the corporation hatcheries were distributed to the fish farmers on the basis of importance. Hence, only the remaining fish seeds could be bred in the water bodies. To add to this, there was also a lack of personnel in the Nigam. The productivity was 18 kg/hectare while the maximum possible was 50kg./hectare.

To solve the above problems, all water bodies were auctioned for three years so that the contractors could protect their water bodies during July and August when fish killing is prohibited. In this arrangement, the development of fish seeds in water bodies was also done by contractors.

Annual Earnings from auction is shown below

Year	Auction Amount (Rs. in Lakhs)	Fish Production (in quintals)	Prodn./Hectare (per Kg.)
1989-90	73.28	5435.59	13.00
1990-91	81.34	7796.37	18.00
1991-92	81.84	8631.04	20.00
1992-93	83.07	10491.23	24.00
1993-94 (estimated)	87.26	11000.00	25.00

It was estimated that productivity would increase to 25 kg/hectare and revenue increase to 87.26 lakhs in near future. The expenses in maintenance of water bodies are shown in Exhibit 8.

c) Fish Parlour Services

Through the mobile parlour services, the Nigam sold fresh and proper standards of fish preparations at reasonable price to the city dwellers in the state. This scheme was started in 82-83 in the city of Selvia. Fish and fish preparations worth Rs. 4.26 lakhs were sold through mobile parlours in 82-83, which has increased to Rs. 7.76 lakhs in 92-93. However, due to shortage of fish from the waterbodies, additional parlours could not be established. A new mobile parlour was opened in Giroda in 93-94, and a sale of Rs. 12 lakh worth of fish and fish preparation in the two cities achieved (see Exhibit 9).

d) Other Schemes

1. Fish farming in Butler Palace and Gold Club Lakes — About 10,000 fish seeds are expected to be produced in the two hectare lake in the Butler Palace. 025 hectares is available in the Golf Club also.
2. Fresh water prawn farming (an experiment) - Prawn Seeds were taken from Kandila in 1992-93 and prawn farming was tried in Mayavati and Satyavati hatcheries.
3. Sewage feed fish farm — Within the Gangaputra (river) purification plan, a sewage fed fish farm was being developed at Saini. The construction was in the last leg of its completion. It was expected to be completed by 1993-94. This would cause a reduction in costs by saving on fish feed and fertilizers and a higher productivity.

Profitability of the Company

The profitability of various units is shown in Table 1. (For overall profitability of the company see Exhibit 10). The maximum profit margin was achieved through activity of management of the waterbodies. VMVNL expected an increase of 40.96% in gross margin during the year 1993-94.

Table 1

	1992-93	1993-94 (estimated)
Gross Margin (PAT/ Turnover)	6.27 %	10.62 %

Unit		Profitability	
		1992-93	1993-94 (estimated)
Seed	Production	21.61 %	21.67 %
Waterbodies Unit		32.39 %	47.76 %
Parlour Unit		2.50 %	4.00 %

Economy of the Region

The low purchasing power of the fish farmers and their inability to invest larger sums in maintenance of ponds and lakes resulted in lower demand of seeds per fish farmer and this directly or through FFDAs (who translate the demand of these local fish farmers covered regionwise under them) resulted in lesser sale of fish seeds. Apart from this the scientific methods of fish farming were not quite popular with the fishermen community, most of whom had little education. They failed to understand the ¹ importance of proper seeds. The other socio-economical factors like high percentage of vegetarians in the country, the fish-eating habits of the people of Vindhya Pradesh, a large scale demand supply gap, the increasing power in the hand of intermediaries like contractors also posed a threat to the organisation. Apart from the above mentioned factors, two other important factors were the availability of vast natural resources in terms of inland water resources (lakes, ponds, and reservoirs) and the land-locked nature of the state (absence of marine and coastal fishing, brackish water fishing etc.).

Certain technological factors also posed problems in conducting the seed business properly. High perishability of the fish seed, on account of inefficient storage and transport facilities used by the organisation, was one such factor that posed a major threat. This led to a decreased percentage of fish seeds finally making it to the fish-farmers through the FFDAs. Another major factor was the increasing level of water pollution in the rivers of the state. Though cleaning and pollution control measures were being undertaken, still pollution posed a threat to the breeding of fish and killed all food/planktons for the fish to thrive on. The cold water fisheries, however, were a major technical development along with Integrated fishing and Duck-cum-fish fisheries which provided major opportunities for the organisation to look forward to.

Government Policies on Fisheries Development

The Government of India was providing a major thrust to the development of fisheries as an export area with high returns in terms of foreign exchange. This had percolated down to state level governments and this was expected to continue as a good opportunity, for one could still tap a huge resource base both in Vindhya Pradesh and in the country. But the state government's interference in day to day working of the organisation, some people felt, acted as a hurdle in operational efficiency also.

The increasing support at various levels through financing agencies like National Rural Development Bank, was helping the overall development of fisheries and increasing returns to the organisation. This too was expected to continue in the future.

Competition

"The competition to VMVNL is primarily from private sector which is by and large unorganized", said an executive. "However a sort of complacent attitude exists toward this as people here think that demand will always outstrip supply. But the situation is changing fast, with the shift in government policies. We may not be retaining our monopolistic position far long. More importantly, the basic idea of the Nigam is that fisheries should be taken up totally by the private sector and the government should gradually withdraw from this sector in a phased manner. In the long term, therefore, this emerging private sector, though unorganised and small currently, is likely to expand and offer intense competition in terms of technology and

production capacity to the Nigam. This is a major threat. The current support in terms of popularising fish seeds and fish production as a viable business, should thus be carried out after a careful analysis."

Competition also came from the Kandila fish seed suppliers who sold fish seeds at a cheaper rate in Vindhya Pradesh. The Nigam was wondering how it should be facing the competition.

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Exhibit-1
ORGANISATION STRUCTURE OF THE COMPANY

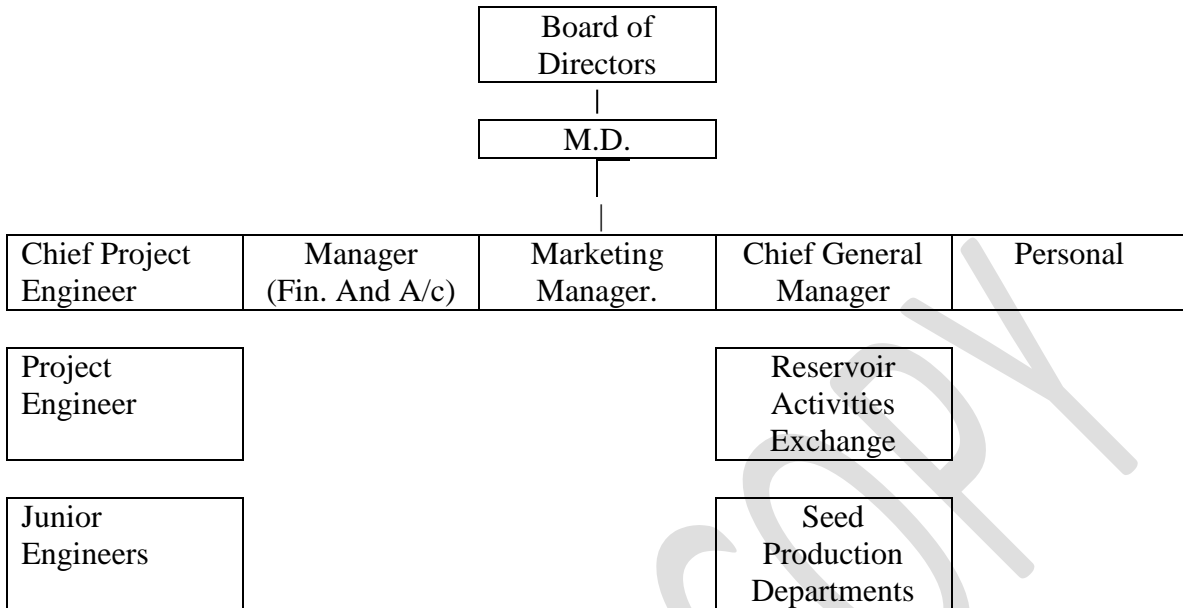


Exhibit-2
PRESENT STATUS OF HUMAN RESOURCES

DESCRIPTION	TOTAL POSTS REQD.	Post occupied		Post unoccupied
		Permanent	Temporary	
CATEGORY 'A' BASIC > Rs. 3000/-	16	03	05	08
CATEGORY 'B' BASIC > Rs. 2200 <Rs. 3100	03			03
CATEGORY 'C' BASIC <Rs. 2199 >Rs. 775	114	49	13	52
CATEGORY 'D' BASIC <Rs. 775	133	39		94
Total	266	91	18	157

The minimum educational qualification for field functionaries is graduates in Chemistry, Botany or zoology.

EXHIBIT-3
YEARLY SEED PRODUCTION STATEMENT

All figures in lakhs of rupees

S. NO.	Name of Hatchery	Name of Project	Cost of Construction	1992-93 Target	Actual	1993-94 Expected
1.	Mayavati	World Bank	44.6	225.00	237.32	225
2.	Sriveni	-do-	40.8	225.00	239.13	225
3.	Sarayupa	-do-	42.27	225.00	214.11	225
4.	Ametiha	-do-	59.00	225.00	257.40	300
5.	Satyavati	-do-	67.70	200.00	165.74	200
6.	Raptile	United Village Development Scheme	44.16	225.00	183.08	225
7.	Shardama	-do-	45.84	100.00	100.18	175
8.	Pamuna	-do-	46.00	-	4.11	-
9.	Mutar	Boot scheme	49.06	200.00	162.76	200
10.	Kashipore	-do-	98.64	200.00	150.26	325
11.	Parkshigarh	-do-	49.98	175.00	183.08	200
12.	Coach	-do-	49.95	200.00	112.14	200
				2200.00	2009.31	2500

Exhibit-4

S.NO.	HATCHERY'S NAME	FISH VARIETY IN QUINTALS			
		Katla	Rohu	Nain	Total
1.	Satyavati	18.00	16.00	16.00	50.00
2.	Raptile	17.50	12.00	17.50	47.00
3.	Sarayupa	20.50	13.00	13.50	47.00
4.	Ametiha	18.00	14.50	18.50	50.50
5.	Kashipore	6.50	5.75	2.50	14.75
6.	Parkshigarh	7.00	12.25	4.25	23.50
7.	Mutar	15.00	13.50	15.00	43.50
8.	Shardama	9.50	6.00	13.00	28.50
9.	Mayavati	16.70	13.00	13.60	43.30
10.	Sriveni	19.20	10.00	12.00	41.00
11.	Coach	3.50	18.00	11.50	33.00
	Total	151.40	134.00	138.25	425.35

EXHIBIT-5
FISH PRAWN PRODUCTION IN THE YEAR 1993-94
(Figures in crores)

S.No.	Name of Hatchery	Target	Requirement	Excess/deficit
1.	Mayavati	11.5	7.00	4.50
2.	Sarayupa	12.00	7.00	5.00
3.	Sriveni	10.00	7.00	3.00
4.	Ametiha	13.00	8.50	4.50
5.	Raptile	10.50	7.00	3.50
6.	Satyavati	10.00	7.00	3.00
7.	Mutar	11.15	7.00	4.15
8.	Kashipore	5.00	9.75	4.75
9.	Parkshigarh	8.50	9.00	1.50
10.	Shardama	7.50	6.00	1.50
11.	Coach	7.00	7.00	
	Total	106.15	80.25	30.65

EXHIBIT-6
YEARLY SEED PRODUCTION STATEMENT

S. N O.	NAME OF HATCHERY	NAME OF PROJECT	COST OF CONSTRUCTION	1990-91		1991-92	
				TARGET	ACTUAL	TARGET	ACTUAL
1.	Mayavati	World Bank	44.46	175	188.28	200	220.00
2.	Sriveni	-do-	40.8	175	223.13	200	209.41
3.	Sarayupa	-do-	42.27	200	256.66	200	241.99
4.	Ametia	-do-	59.00	175	233.74	200	225.42
5.	Satyavati	-do-	67.70	75	78.81	200	123.26
6.	Raptile	United village development scheme	44.16	175	234.85	200	222.44
7.	Shardapa	-do-	45.84	50	63.25	280	57.44
8.	Pamuna	-do-	46.00	25	8.13	-	2.12
9.	Mutar	Boot scheme	49.96	50	96.69	200	43.73
10	Kashipore	-do-	98.64	50	99.56	150	68.46
11	Parkshitgarh	-do-	49.98	50	23.00	90	63.09
12	Coach	-do-	49.95	50	32.98	80	95.05
				1250	1539.08	1800	1572.41

(All figures in lakhs of rupees)

EXHIBIT-7 (A)

INCOME & EXPENSE STATEMENT FOR FISH SEED PRODUCTION- HATCHERY-WISE DURING 1992-93

<i>(Figures in lakhs of rupees)</i>								
NAME OF THE HATCHERY	PROPOSED FISH SEED PRODN. (LAKHS)	INCOME	WAGES	EXPENSES & SUNDRIES	TOTAL	INTEREST ON LOANS	TOTAL	PROFIT/LOSS AFTER TAX
Mayavati	225	12.7	3.80	5.43	9.23	1.50	10.73	1.64
Sriveni	225	12.37	3.80	5.43	9.23	1.26	10.49	1.88
Saravuna	225	12.37	3.80	5.43	9.23	2.62	11.85	0.52
Ametiha	225	12.37	3.80	5.43	9.23	3.95	13.18	0.81
Raptile	225	12.37	3.80	5.43	9.23		9.23	3.14
Satvavati	200	11.00	3.80	4.75	8.55	4.50	13.05	2.05
Mutar	200	11.00	3.80	4.75	8.55		8.55	2.45
Kashipore	200	11.00	3.80	4.75	8.55		8.55	2.45
Parkshitgarh	175	9.65	3.50	4.50	8.00	-	8.00	1.65
Shardama	100	5.5	2.50	3.00	5.50		5.50	-
Coach	200	11.00	3.80	4.75	8.55	-	8.55	2.45
Pamuna			0.50	0.50	1.00		1.00	1.00
Total	2200	121.00	40.70	54.15	94.85	13.97	108.82	12.18
Mayavati	225	12.7	3.80	5.43	9.23	1.50	10.73	1.64

EXHIBIT-7(B)

PROJECTED PROFITABILITY OF FISH SEED PRODUCTION-HATCHERY- WISE IN
1993-94

NAME OF HATCHERY	ESTIMATED FISH SEED PRODN. (bAKHS)	INCOME	SALARY & WAGES	EXPENSE (OTHERS)	TOTAL	INTEREST	TOTAL	PROFIT/LOSS
Mayavati	225	12.38	4.00	5.75	9.75	1.5	11.25	1.13
Sriveni	225	12.38	4.00	5.75	9.75	1.2	10.95	1.43
Sarayupa	225	12.38	4.00	5.75	9.75	2.5	12.25	0.13
Amethiha	225	16.50	5.20	7.65	12.85	3.8	16.65	0.15
Raptile	300	12.38	4.00	5.75	9.75		9.75	2.63
Satyavati	225	11.00	3.60	5.10	8.70	4.5	13.20	2.20
Mutar	200	11.00	3.60	5.10	8.70		8.70	2.30
Kashipore	325	17.85	5.60	8.00	13.50		13.50	4.35
Parkshiatgar	200	11.00	3.60	5.10	8.70		8.70	2.30
Shardama	175	9.63	3.10	4.45	7.55		7.55	2.08
Coach	200	11.00	3.60	5.10	8.70		8.70	2.30
Total	2500	137.50	44.20	63.50	107.50	13.5	121.20	16.30

EXHIBIT-8
EXPENSES OF WATERBODY UNITS

HEAD	YEAR		
	1991-92	1992-93	1993-94
Royalty	29.46	31.35	32.03
Wages	4.46	5.40	5.94
Casual Labour	1.76	1.94	2.13
Transportation	0.35	0.39	0.46
Maintenance	0.46	0.51	0.56
Writing Material	0.26	0.29	0.32
Journey Expenses	0.80	0.97	1.06
Advertising	0.22	0.24	0.26
Sundries	0.04	0.05	0.05
Auction Expenses	0.14	0.15	0.16
Administrative Expense	3.50	3.87	4.41
Total	41.53	45.16	47.48

EXHIBIT-9
INCOME STATEMENT FOR FISH PARLORS IN LUCKNOW & KANPUR DIVISION
(Figures in Lakhs of Rupees)

HEAD	FORCASTED FOR 1992-93,SILVIA	FORCASTED FOR 1993-94, SILVIA	INCOME STATEMENT FORCASTED 1993- 94 GIRODA
INCOME			
Cooked Fish	5.10	5.40	3.24
Fish's Head	0.30	0.30	0.05
Uncooked Fish	2.60	2.80	0.21
Total	8.00	8.50	3.50
EXPENSES			
Fish feed	4.74	5.00	1.91
Spices	0.80	0.90	0.54
Wages	0.02	0.02	--
Packing	0.20	0.20	0.10
Advertising	0.05	0.05	0.04
Salaries	1.40	1.50	0.05
Rent	0.05	0.05	0.25
Consumables	0.10	0.10	0.10
Fees	0.15	0.10	0.03
Maintenance	0.20	0.20	0.05
Sundries	0.10	0.10	0.15
Total	7.81	8.22	3.30

Silvia 1992-93 profit = 0.19 Lakhs = 2.5%
Silvia 1993-94 profit = 0.28 Lakhs = 3.5%
Giroda 1993-94 profit = 0.20 Lakhs = 5.7%

EXHIBIT-10

PROFIT/LOSS A/C

(Rs. In Lakhs)

DESCRIPTION	1992-93	1993-94 (Proj)
INCOME		
Seed production unit	121.00	137.50
Fish Spawn distribution		18.20
Water bodies unit	83.07	87.26
Parlour unit	12.00	12.00
Interest (on Deposits)	10.00	14.00
Charges on activities of Deposit work	30.00	20.00
	256.07	288.96
EXPENSES		
Seed production unit	94.85	107.70
Water bodies unit	56.16	45.58
Parlour unit	11.70	11.52
Head office expense	33.32	34.95
Total	196.03	199.75
Operating income	60.04	89.21
Less: Interest	13.94	13.50
PBT	56.07	75.71
Less: Provision for taxes	30.00	45.00
PAT	16.07	30.71