Productivity Analysis of Select SMEs in Bangladesh

Sub-sector:
Pond Fisheries

Prepared for:
K A T A L Y S T

Prepared by:
Bangladesh Enterprise Institute

November 6, 2004

B A N G L A D E S H E N T E R P R I S E I N S T I T U T E

I. Introduction

In Bangladesh, the rapid growth of population along with decline in fish from natural sources has led to an acute shortage of fish. Commercial fish cultivation started in the 1980s on top of the huge mismatch between the demand and supply. The government publicized and patronized fish production in rural Bangladesh, and currently it is one of the highest growing non-crop productive sectors. Pond fishing enterprises are, in large part, small-scale enterprises.

The Productivity Mapping study attempts to assess SMEs in terms of productivity and establish a productivity baseline for the sub-sector. This report presents a case study of the pond fisheries sub-sector to compare the productivity of baseline and benchmark firms and attempts to explain the factors that affect the difference in productivity.

II. The Baseline and Benchmark Firms and their Performances

Based on findings from earlier KATALYST studies on the variation in performance across locations, the present study presumes that benchmark firms (best performers) in the pond-fishing sub-sector are located in Jessore district, while ponds in the Faridpur district are baseline firms (average performers). The study team conducted an intensive survey of four baseline firms and four benchmark firms. Although within each location firms were chosen partly randomly, a notion of purposive sample was also there.

It was observed by the survey team that overall performance of the benchmark firms is better than those of baseline firms. This has been equally reflected in our productivity estimates. Considerable differences in productivity exist between baseline and benchmark firms.

Productivity performance was compared in terms of both factor productivity and efficiency analysis. While Data Envelop Analysis (DEA), a non-parametric method, is used to examine technical efficiency, pure technical efficiency and scale efficiency, the Cobb-Douglas production function is assumed to estimate total factor productivity (TFP). In addition to total factor productivity, land productivity and labor productivity has also been estimated. (Details of the methods of productivity estimation and construction variables are reported in the methodology paper.)

Table 1: Productivity Analysis of the Baseline and Benchmark Firms

	Technical Efficiency	Pure Technical Efficiency	Scale Efficiency	TFP	Labor Productivity	Land Productivity	Land-labor Ratio
Baseline							
Firm 1	20.77	21.78	95.36	48.15	38.27	32.52	19.23
Firm 2	26.59	44.57	59.66	40.90	42.46	41.63	16.67
Firm 3	53.70	67.68	79.34	99.93	100.00	84.06	19.44
Firm 4	60.33	100.00	60.33	55.29	43.34	94.44	7.50
Average	40.35	58.51	73.67	61.07	56.02	63.16	15.71
STD	19.58	33.41	17.10	26.57	29.42	30.65	5.62
CV	48.53	57.11	23.21	43.50	52.51	48.52	35.75
Benchmark							
Firm 1	37.18	37.66	98.73	94.72	37.18	36.04	25.29
Firm 2	100.00	100.00	100.00	100.00	100.00	100.00	24.36
Firm 3	94.65	98.74	95.86	88.01	94.66	59.17	39.22
Firm 4	92.02	100.00	92.02	81.81	92.03	77.83	28.99
Average	80.96	84.10	96.65	91.20	80.97	68.42	29.46
STD	29.38	30.97	3.54	8.02	29.38	27.45	6.80
CV	36.28	36.82	3.66	8.79	36.29	40.12	23.09

Analysis of data reveals that the productivity and efficiency of the baseline firms are consistently lower than that of the benchmark firms. According to DEA, technical efficiencies of the baseline firms are much lower than that of the benchmark firms. Out of four benchmark firms, three scored more than 90 in terms of total efficiency. The remaining firm, however, lags significantly behind the others. On the other hand, efficiency scores of the two out of the four baseline firms are around 50-60 only, and efficiency scores of the remaining two units are even lower (less than 30).

Much of the differences in technical efficiency are rooted in the differences in pure technical efficiency of the baseline and benchmark firms, although intra-group variation in pure technical efficiency is quite high among the baseline group. Two of the benchmark firms scored 100 in terms of pure technical efficiency, as did one baseline firm. In terms of scale efficiency, variation between the performances of the groups of baseline and benchmark is relatively less. Also, intra-group variation between benchmark firms was not very noticeable. All the benchmark firms scored more than 90 in terms of scale efficiency. It was observed that the size of operation is quite large in the benchmark area and land-labor ratio is also quite high. The later implies economies of scale in pond fisheries.

Efficiency measured in terms of factor productivity is also higher for the benchmark firms; except in terms of land productivity. In general, benchmark firms have higher TFP compared to the baseline firms. One of the benchmark firms had the highest TFP; the TFP of one of the baseline firm was found to be virtually the same. Except this one case, the differences in TFPs of the baseline and benchmark firms are significant.

Benchmark firms appear to perform better than the baseline firms in terms of labor productivity as well. However, one baseline firm ranked the highest in terms of labor productivity along with a benchmark firms. In terms of land productivity, there is hardly

much difference between the groups of baseline and benchmark firms, despite the fact that one of the benchmark firm has the highest land productivity. Land-labor ratio is higher in the benchmark areas. As a result, despite better labor productivity, land productivity of the benchmark firm remains comparable with that of baseline firms.

III. Productivity Mapping

What explains the differences in productivity between baseline and benchmark areas? Baseline and benchmark firms produce similar fish variety. Major products of most of the baseline and benchmark firms include Ruhi, Katal, Mrigel, and Silver carp (Table 2). Within the category of ruhi, katal and mrigel, the benchmark firms were observed to grow fish up to a relatively small size, for a quick turnover. While there was no noticeable difference in the production process in cultivation of fish, the quantity of inputs applied was significantly different. Also, some of owners of the benchmark ponds also own hatcheries that provide economies of scope. None of the baseline and benchmark firms conducted any soil test in the near past. The respondents reported that there is no soil testing facilities around them.

Table 2: Fish Cultivated in Baseline and Benchmark firms (%)

	Baseline		Benchmark	
	Sales (taka)	**%**	**Sales (taka)**	**%**
Ruhi	72,900	37	967,000	33
Katal	39,100	20	566,000	19
Mrigel	27,600	14	361,000	12
Silver Carp	26,000	13	312,000	11
Grass Carp	9,500	5	50,000	2
Others	20,750	11	699,000	24
Total	195,850	100	2955,000	100

Although there is not much difference in the production process, there are some differences in the physical characteristics of the ponds. Average size of the ponds is much larger in the benchmark area. Also, number of ponds under a single ownership is higher in the benchmark areas (Table 3). Thus the scale of operation is larger in the benchmark areas. Larger scale of operation in the benchmark area is also manifested by higher use of labor and other materials per pond. Despite the larger scale of production, no systematic difference in the use of capital assets (like boats, spray machine etc.) over the baseline and benchmark ponds was noticed. However, benchmark firms use skilled labor at a higher proportion compared to baseline firms. Rate of use of leased land is also higher in the baseline area, which may retard taking any long-term investment to make it more suitable for fish portion.

Table 3: Pond Characteristics in Baseline and Benchmark Areas

	Baseline	Benchmark
Average no. of ponds under each owner	2.25	10.50
Average size of ponds (bigha)	2.20	4.30
Average depth of ponds (feet)	8.90	4.60
% of area as leased ponds	33%	14%

Educational attainment is not much different between the entrepreneurs of benchmark firms and that of baseline firms. However, owners of the benchmark fish cultivators are much more experienced than the baseline pond fishers (Appendix Table A6). Benchmark farmers were observed to be more informed about the production process and other related aspects. Benchmark firms are more informed compared to baseline firms in terms of soil condition affecting productivity, ideal density of fish population in the pond, new varieties of fish fries, fish diseases, etc. Most of this information is received from informal sources, while some respondents indicated receiving some information or training from NGOs and government extension offices.

Table 4: Input Used by the Baseline and Benchmark Firms (expenses per bigha)

	Baseline	Benchmark
Lime	108	231
Urea	348	264
TSP	356	1,413
Chemical Fertilizer	**810**	**1,908**
Cow-dung	54	501
Organic Fertilizer	**54**	**501**
Oil-cake a	538	667
Rice polish	194	213
Commercial Fish feed	0	1,725
Fish Feed	**732**	**2,505**
Other inputs	28	476
Total expenses on input excluding Fries	**1,626**	**5,490**

It appears that the benchmark farmers took better decisions in terms of input use. Better experience and information might explain this decision making process. A clear difference is observed in the use of chemical fertilizer, organic fertilizer and other inputs. Table 4 shows expenses on different inputs per bigha in the baseline and benchmark ponds (details of input use is provided in Appendix Table A4). While, there are considerable variations in the use of inputs within the groups of baseline and benchmark firm, on the whole, benchmark firms spend much more money on inputs.

Difference in use of chemical fertilizer is quite noticeable. None of the baseline firms reported usage of commercial fish feed, just oilcake and rice-polish, while all but one of the benchmark firms used commercial fish feed. Benchmark firms are also found to be more meticulous about the quantum of fish feed as evident by the fact that many of them determines doses of feed in line with measured growth of fish. There is also considerable difference in application of organic fertilizers. Higher productivity of benchmark firms seems to be directly associated with higher spending on inputs. Although, the quantity of inputs applied is much higher in the benchmark area, there is no considerable difference in

quality of inputs. However, benchmark firms appear more conscious about the quality of inputs.

In addition to difference in experience and knowledge, availability of credit is an important factor affecting the use of inputs. Although a credit constraint is a common problem in both the baseline and benchmark areas, it had adversely affected the baseline farmers. As the farmers in the benchmark firms are relatively large, they are also financially more well off. As a result a credit constraint did not have much affect in the purchase of inputs. On the other hand, credit constraint of the small farmers, who are not that well off, impeded adequate use of inputs.

In the input market, no monopoly power was observed in both baseline and benchmark areas. Rather, some of the benchmark firms reported that they were the most important customers of the input suppliers. Also, benchmark firms have longer-term relations with the input suppliers as compared to those of baseline firms. Frequently, an input supplier supplied inputs as per the specification of the benchmark firms. This is not the case in the baseline area. About half of the inputs are supplied on credit in both baseline and benchmark firms. However, the number of days to pay off the credit is much longer for the benchmark firm.

Because of the relatively poor cultivation process in terms of inputs used, rate of wastage of fry is higher in the baseline firms. Baseline firms reported a higher rate of wastage of fish production from the stage of fry to the stage of harvest. This, in turn, worked to lower fish productivity. Relatively poor cultivation process in terms of input used may also be responsible for higher rate of wastage of fry in the baseline firms. It may be also indicative of the differences in soil quality or inappropriateness of production process in the baseline areas. Although there is no scientific measure of soil quality, baseline farmers are less satisfied about the quality of soil.

Both the benchmark and baseline producers sell their fish in the local wholesale market. Fish from both areas is directed to Dhaka. However, as Dhaka is closer from Faridpur, price differences of local market and that of Dhaka is lower. On the other hand, price difference between the local market of Jessore and that of Dhaka is higher. None of the producers enjoy any storage facilities. The sellers bear all transportation expenses to the nearby wholesale markets. There is no systematic difference in transport cost in the baseline and benchmark area. Baseline and benchmark firms seem to be equally satisfied about the available information on market and prices and information on sources of raw materials. Baseline and benchmark firms equally perceive the obstacles resulting from transportation problems, road conditions, and lack of storage facilities.

IV. Concluding Observation

The analysis of the pond fisheries sub-sector reveals that benchmark firms clearly perform better in terms of productivity compared to the baseline firms. However, it is very difficult to single out factors that are systematically related with productivity across firms. The case study could identify some of the factors that are related to overall differences in productivities between the groups of benchmark and baseline firms.

First, it was observed that ponds in the benchmark firms operate in larger scale and DEA analysis also reveals higher scale efficiency of the benchmark firms. Thus the benchmark firms enjoy scale economies compared to baseline firms. Second, benchmark firms reported using inputs at higher doses. Third, benchmark farmers are more experienced than the baseline farmers, and employ skilled laborers in a higher proportion. Finally, benchmark farmers are more informed about different aspects of fish cultivation.

Common problems faced by both baseline and benchmark firms include lack of storage facilities, lack of adequate finance, and lack of training. Policies must be taken to ease the financial constraint of the farmers. Adequate training and finance should be provided to farmers, particularly in the baseline area so as to enhance productivity by ensuring right application of inputs. Measures may also be taken to introduce better varieties of fish fry in the baseline area along with training and financial support. Setting up of storage facilities will help ensure better price and minimize prices fluctuations.

Appendix

Table A1: Size and Depth of Ponds

Pond (Bigha)	Base Line				Benchmark			
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 1	Unit 2	Unit 3	Unit 4
Pond Area (Bigha)	10.0	2.0	7.0	1.0	55.0	30.0	25.5	70.0
Number of Ponds	2.0	1.0	5.0	1.0	10.0	5.0	2.0	25.0
Average Size of the Ponds	5.0	2.0	1.4	1.0	5.5	6.0	12.8	2.8
Average Depth of Ponds	12.0	4.0	7.0	6.0	4.0	5.0	4.0	5.0

Table A2: Value of Assets used in Production

Cost of Assets	**Base Line**				**Benchmark**			
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 1	Unit 2	Unit 3	Unit 4
Total Assets	3000	4000	7000	6000	13500	32000	13100	330200
Assets per bigha	300	2000.	1000	6000	245	1066	514	4717

Table A3: Wastage from fry to harvest

		% Of Wastage
Baseline	Firm 1	40
	Firm 2	60
	Firm 3	40
	Firm 4	40
Benchmark	Firm 1	30
	Firm 2	10
	Firm 3	40
	Firm 4	10

Table A4: Use of Chemicals, Fertilizer and Other Inputs

	Base Line				Benchmark			
Expenses per Bigha	Unit 1	Unit 2	Unit 3	Unit 4	Unit 1	Unit 2	Unit 3	Unit 4
Lime	90.0	62.5	132.1	200.0	163.6	66.7	324.0	321.4
Urea	600.0	60.0	95.1	180.0	218.2	200.0	103.3	385.7
TSP	700.0	60.0	0.0	0.0	1090.9	1500.0	588.2	1928.6
Chemical Fertilizer	1390.0	182.5	227.3	380.0	1472.7	1766.7	1015.6	2635.7
Cow-dung	47.5	25.0	66.1	100.0	363.6	185.0	588.2	714.3
Organic Fertilizer	47.5	25.0	66.1	100.0	363.6	185.0	588.2	714.3
Oil-cake a	400.0	160.0	792.9	880.0	1272.7	1680.0	0.0	0.0
Rice polish	308.0	400.0	0.0	0.0	700.0	0.0	0.0	0.0
Fish feed	0.0	0.0	0.0	0.0	1963.6	0.0	2880.0	2057.0
Other inputs	38.0	0.0	21.1	32.0	1550.0	0.0	25.9	0.0
Total expenses on input other than Fry	2183.0	1535.0	2193.6	2752.0	11131.8	7263.3	6113.5	8757.0
TFP	48.15	40.90	99.93	55.29	94.72	100.0	88.01	81.81

Table A5.1: Quality of Input

% Of input below expected quality	**Base Line**				**Benchmark**			
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 1	Unit 2	Unit 3	Unit 4
a) Most imp. Input %	30	30	0	10	50	40	30	20
b) Second most imp. Input %	25	30	20	50	50	60	40	5
c) Third most imp. Input %	30	30	20	30	0	20	30	50

Table A5.2: Input returned due to low quality

Input below quality returned (%)	**Base Line**				**Benchmark**			
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 1	Unit 2	Unit 3	Unit 4
a) Most important input %	0	0	0	0	50	30	20	30
b) Second most imp. Input %	0	0	50	50	50	50	100	0
c) Third most imp. Input %	0	0	40	0	0	10	50	60

Table A6: Education, Experience, Skill and Productivity

	Educational Attainment of the owner	Experience of the owner (years)	Skilled worker as a % of total worker	TFP	Total Efficiency
Baseline					
Firm 1	Above high School	15	100 %	48.15	20.77
Firm 2	Above high School	10	38 %	40.9	26.59
Firm 3	High school	4	29 %	99.93	53.7
Firm 4	No education	7	50 %	55.29	60.33
Average:		**9**	**54 %**	**61.07**	**40.35**
Benchmark					
Firm 1	Above high School	22	82 %	94.72	37.18
Firm 2	High School	20	100 %	100	100
Firm 3	Above high School	15	100 %	88.01	94.65
Firm 4	Above high School	24	73 %	81.81	92.02
Average:	**Above high School**	**20.25**	**89 %**	**91.14**	**80.96**

Table A7: Average size of ponds (bigha)

	Average size of ponds (bigha)		
Source of Data	**Faridpur**	**Jessore**	**Bangladesh**
Survey Data	2.20	4.30	-
Secondary Data*	0.87	0.96	0.90

- Fishery Statistical Yearbook of Bangladesh 2002-2003, Fisheries Resource Survey System, Department of Fisheries, Government of Bangladesh

Table A8. Information Received on Different aspects of Fish Cultivation.

Information received on	Baseline					Benchmark				
	Firm 1	Firm 2	Firm 3	Firm 4	**Index**	Firm 1	Firm 2	Firm 3	Firm 4	**Index**
1. Soil condition affecting productivity	0	0	0	1	**0.25**	1	1	1	1	**1**
2. Appropriate application/ dose of fertilizer	1	1	0	1	**0.75**	1	1	1	1	**1**
3. Appropriate application of lime	1	1	1	1	**1**	1	1	1	1	**1**
4. Quality of fertilizers	0	0	0	1	**0.25**	0	0	0	1	**0.25**
5. Process of fertilization	1	1	1	1	**1**	1	1	1	1	**1**
6. Feeding	1	1	1	1	**1**	1	1	1	1	**1**
7. Pond preparation	1	1	1	1	**1**	1	1	1	1	**1**
8. Ideal density of fish population in the pond	0	0	0	1	**0.25**	1	1	1	1	**1**
9. Water color as an indicative of fertility	1	1	1	1	**1**	1	1	1	1	**1**
10. Ideal depth of the pond	1	1	0	1	**0.75**	1	1	1	1	**1**
11. Protein required for fish fry (pona)	1	1	0	1	**0.75**	1	1	1	1	**1**
12. Survival rate of fish fry	1	1	0	1	**0.75**	1	1	1	1	**1**
13. Fish measurement	1	1	0	1	**0.75**	1	1	1	1	**1**
14. Type of fish fry to be cultivated	1	1	1	1	**1**	1	1	1	1	**1**
15. Harvesting	1	1	1	1	**1**	1	1	1	1	**1**
16. Storage facilities	1	0	0	1	**0.5**	1	1	0	1	**0.75**
17. New variety of fishes	0	0	0	1	**0.25**	1	1	0	1	**0.75**
18. Published booklets/ pamphlets	0	0	0	1	**0.25**	1	0	0	1	**0.5**
19. Fish diseases	0	0	0	1	**0.25**	1	1	1	1	**1**
Overall Index	**0.68**	**0.63**	**0.37**	**1.00**	**0.67**	**0.95**	**0.89**	**0.79**	**1.00**	**0.91**

1=Yes, 0=No. Index is the average of response. By construction it ranges from 0 to 1.

Table A9: Satisfaction of Farmers on Various Aspects Related to Fish Cultivation

	Baseline					Benchmark				
Satisfaction Level	Firm 1	Firm 2	Firm 3	Firm 4	**Index**	Firm 1	Firm 2	Firm 3	Firm 4	**Index**
1. Quality of soil	2	2	2	0	**0.50**	3	2	2	3	**0.83**
2. Quality of the fish fry purchased	1	1	2	3	**0.58**	3	3	2	2	**0.83**
3. Quality of biochemical fertilizers used	2	2	2	2	**0.67**	2	2	2	2	**0.67**
4. Quality of other fertilizers used	1	1	1	1	**0.33**	0	0	0	0	**0.00**
5. Quality of other inputs purchased	1	2	1	2	**0.50**	1	0	1	1	**0.25**
6. Quality of fish feeds	1	1	1	0	**0.25**	1	0	0	2	**0.25**
7. Available information on sources of raw materials	2	2	2	1	**0.58**	2	2	2	1	**0.58**
8. Available information on market and prices	1	1	1	1	**0.33**	1	0	1	2	**0.33**

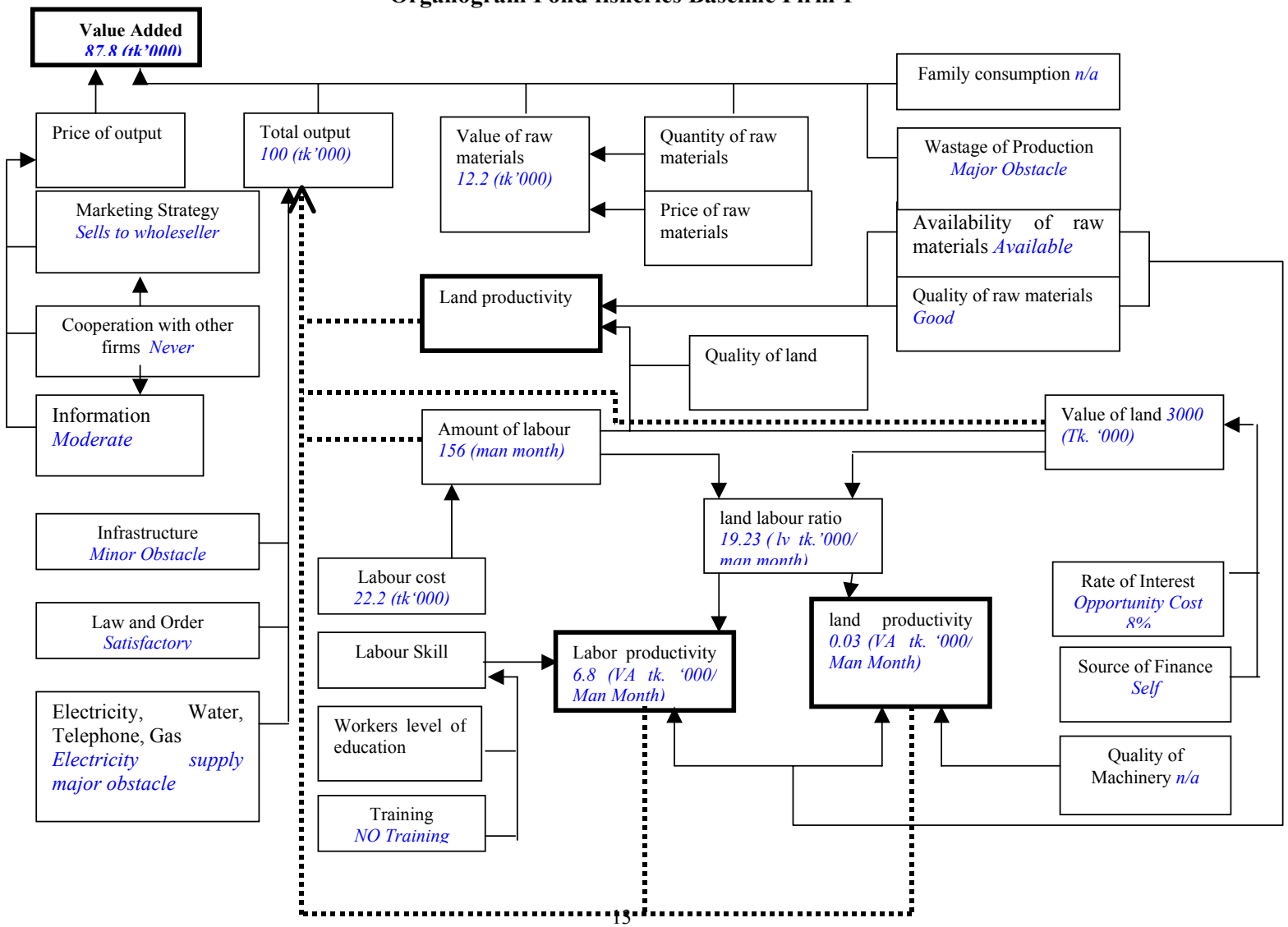
3=highly satisfied, 2=happy, 1=not so happy, 0=highly dissatisfied. Index is constructed by taking the weighted average of level of satisfaction and translating it into 0-1 scale.

Table A10: Farmers Perception about problems

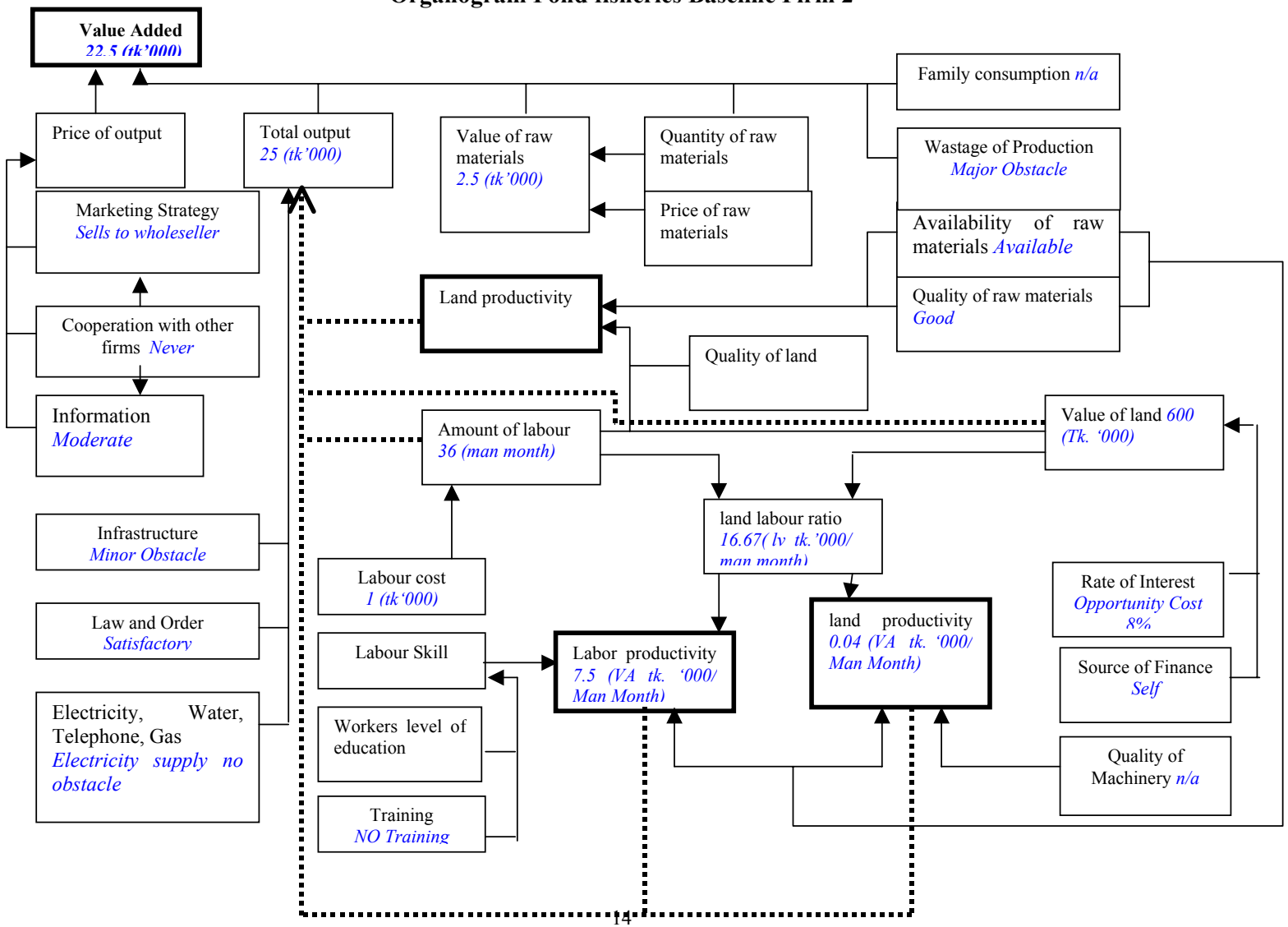
	Baseline					Benchmark				
Obstacle from	**Firm 1**	**Firm 2**	**Firm 3**	**Firm 4**	**Index**	**Firm 1**	**Firm 2**	**Firm 3**	**Firm 4**	**Index**
Poor quality of fertilizers	4	3	1	4	0.60	4	4	4	4	0.80
Poor quality of pesticides	4	3	2	3	0.60	4	4	4	1	0.65
High price of fertilizers	4	3	4	4	0.75	4	4	4	4	0.80
High price of pesticides	4	3	3	3	0.65	4	4	4	1	0.65
Fertilizer and Pesticides	**4**	**3**	**2.5**	**3.5**	**0.65**	**4**	**4**	**4**	**2.5**	**0.725**
Lack of access to finance on easy conditions	**4**	**4**	**4**	**4**	**0.80**	**4**	**1**	**4**	**4**	**0.65**
Electricity problem	3	0	1	0	0.20	2	2	2	4	0.50
Roads condition	4	3	1	3	0.55	3	4	3	0	0.50
Transportation	4	3	1	3	0.55	2	3	3	0	0.40
Lack of storage facility	4	2	4	4	0.70	4	4	4	4	0.80
Overall Infrastructure Problem	**3.75**	**2**	**1.75**	**2.5**	**0.5**	**2.75**	**3.25**	**3**	**2**	**0.55**
Lack of info. Product choice	1	0	1	1	0.15	0	0	0	0	0.00
Lack of access to info on improved production technique	4	4	1	4	0.65	2	0	3	4	0.45
Lack of access to other market info. (such as price)	4	3	3	3	0.65	4	4	3	1	0.60
Lack of information on pond preparation	2	3	1	2	0.40	0	0	1	0	0.05
Lack of information on inputs used	2	2	1	4	0.45	4	4	4	0	0.60
Lack of info. on fish feeds	2	2	1	2	0.35	4	4	4	0	0.60
Lack of information on fish variety	0	0	1	2	0.15	0	2	0	0	0.10
Lack of info. on fish diseases	3	3	1	3	0.50	0	1	4	0	0.25
Overall Information	**2.25**	**2.125**	**1.25**	**2.625**	**0.413**	**1.75**	**1.875**	**2.375**	**0.625**	**0.331**
Crime, theft and disorder	3	3	0	0	0.30	4	2	4	4	0.70
Illegal toll collection	2	2	1	0	0.25	2	0	3	4	0.45
Unlawful payments to different agencies	2	2	1	1	0.30	3	2	3	0	0.40
Tax administration	2	0	1	1	0.20	3	3	2	1	0.45
Customs and trade regulations	2	0	1	1	0.20	2	2	2	0	0.30
Strikes and hartal	0	0	1	1	0.10	0	0	1	0	0.05
External Factors	**1.83**	**1.17**	**0.83**	**0.67**	**0.23**	**2.33**	**1.50**	**2.50**	**1.50**	**0.39**
Water availability	0	3	4	1	0.40	1	1	1	1	0.20
Flood and natural disasters	0	3	4	2	0.45	0	0	0	0	0.00
Nature	**0**	**3**	**4**	**1.5**	**0.425**	**0.5**	**0.5**	**0.5**	**0.5**	**0.1**
Access to raw materials	**1**	**2**	**4**	**2**	**0.45**	**3**	**0**	**2**	**3**	**0.40**
Lack of training facilities	**3**	**4**	**0**	**4**	**0.55**	**0**	**3**	**4**	**4**	**0.55**
Wastage during production and marketing	**3**	**3**	**3**	**2**	**0.55**	**1**	**1**	**3**	**0**	**0.25**
In sufficient growth of fish population	**2**	**2**	**4**	**4**	**0.60**	**2**	**2**	**2**	0	**0.30**

Note: Perceptions on a four-point scale:
(0=No obstacle 1=Minor obstacle 2=Moderate obstacle 3=Major obstacle 4= Very severe obstacle)
Index is constructed by taking the weighted average and translating it into 0-1 scale.

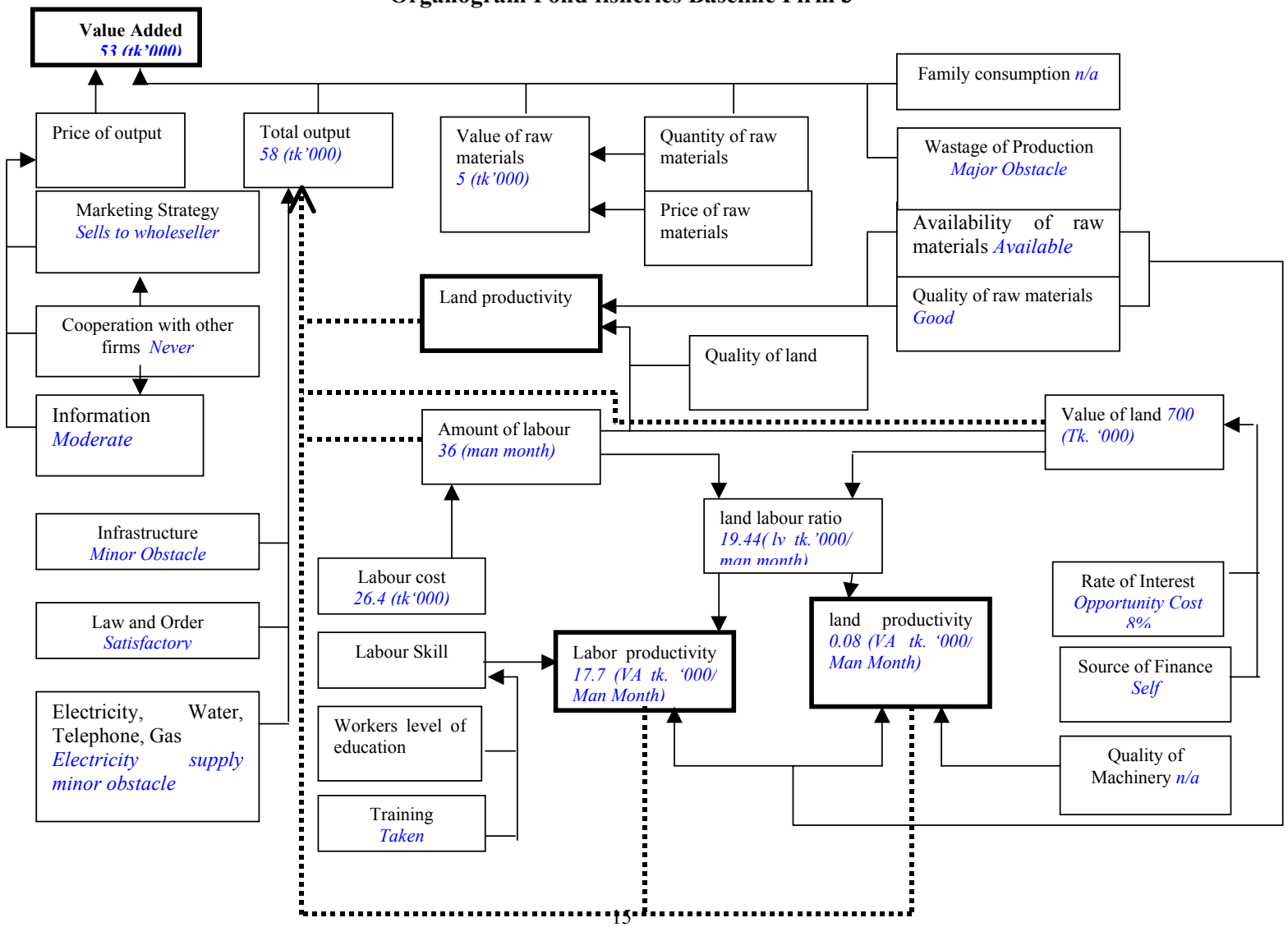
Organogram Pond fisheries Baseline Firm 1



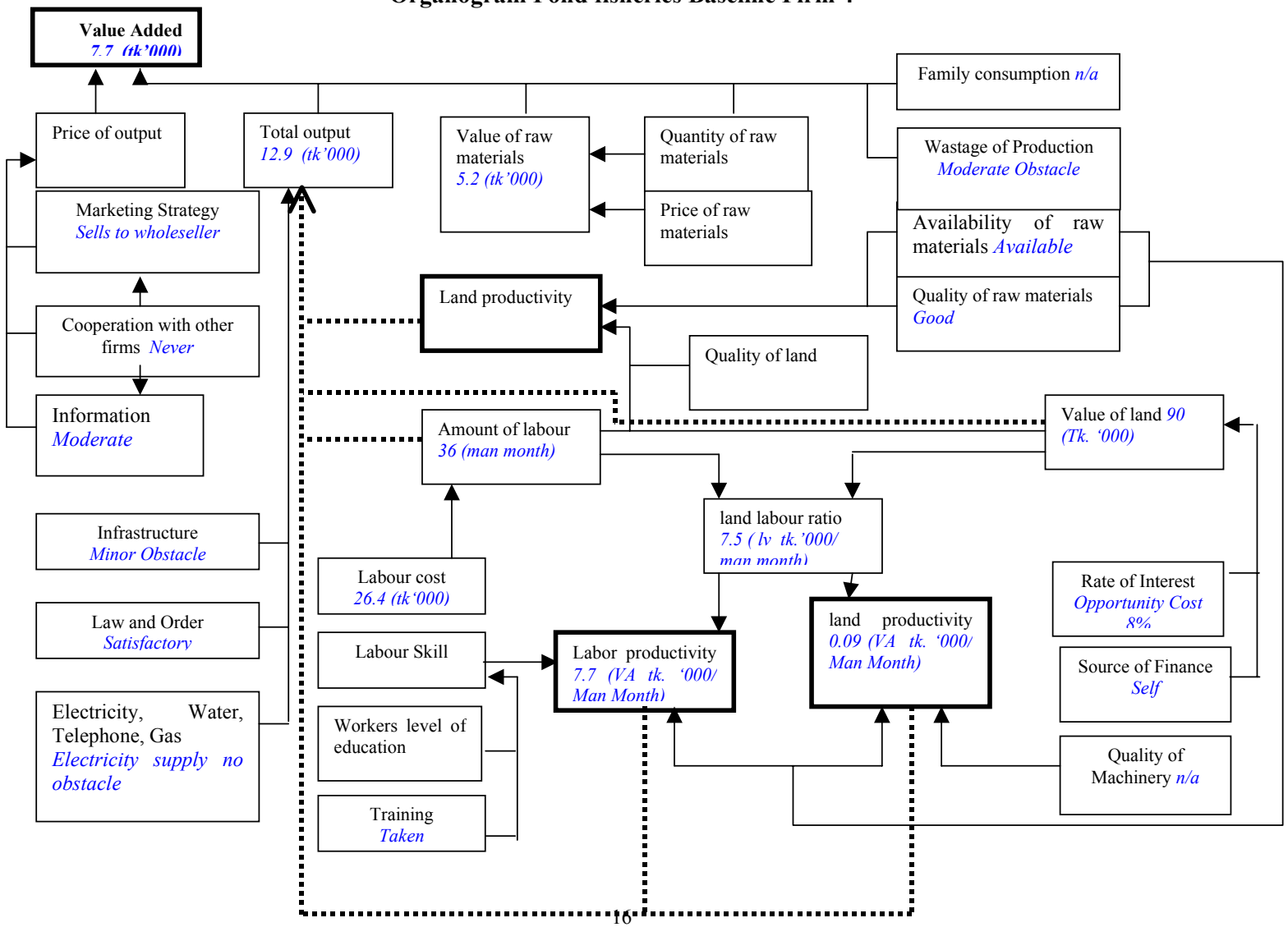
Organogram Pond fisheries Baseline Firm 2



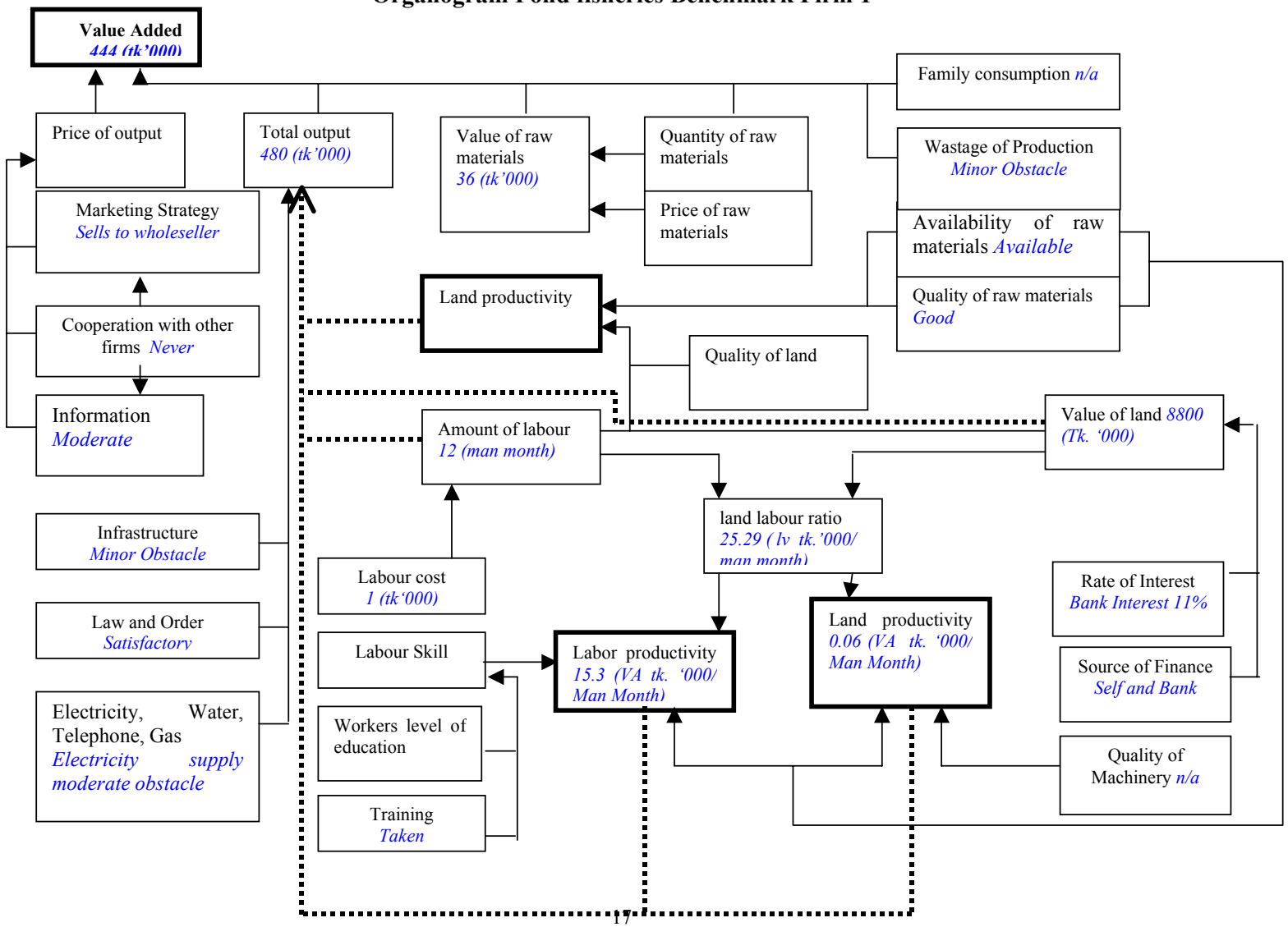
Organogram Pond fisheries Baseline Firm 3



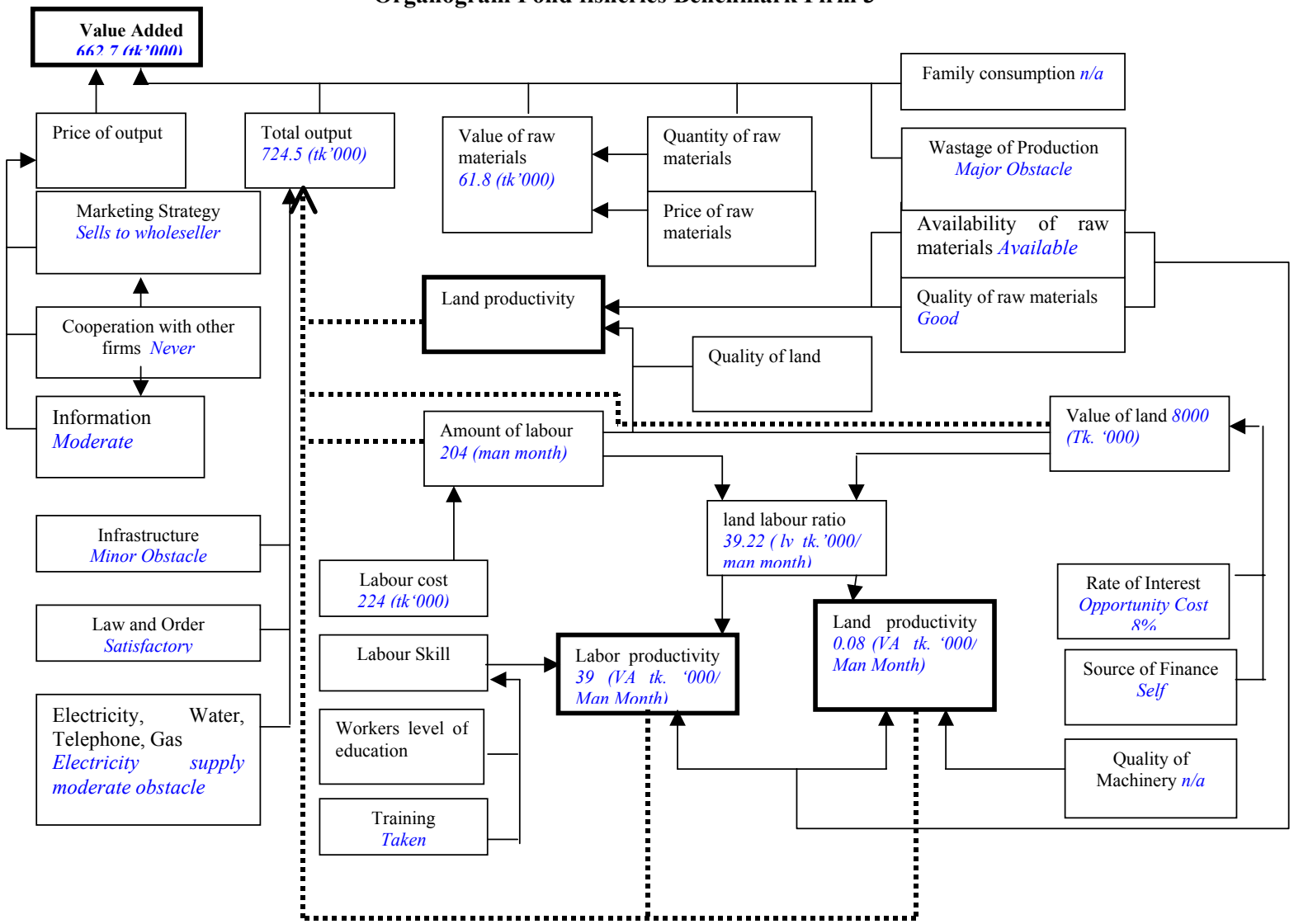
Organogram Pond fisheries Baseline Firm 4



Organogram Pond fisheries Benchmark Firm 1



Organogram Pond fisheries Benchmark Firm 3



Organogram Pond Fisheries Benchmark Firm 4