

PROJECT REPORT FOR DEVELOPMENT OF SMALL-SCALE FISHERMEN  
OF BROACH DISTRICT, GUJARAT STATE, INDIA

by

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## 1. INTRODUCTION

Of all natural gifts bestowed upon Gujarat State, India, fisheries forms one of the most potential. The State has the longest coastline in the country with two main gulfs, namely Gulf of Kutch and Gulf of Cambay, and major rivers like Narbada, Tapti, Mahi, Banas, Sabarmathi, etc., discharging their floodwaters in the sea. All along the coastline extending to 1 600 kms, are operating many medium and small trawlers, gillnetters, and dugout canoes, fishing in offshore, inshore and coastal waters of the State. Commercially important varieties of fish such as, shrimps, pomfrets, bombay ducks, thread-fin, jewfish, clupeids, eels, mullets, perches, lobsters, etc., weighing about 2.00 Lakhs metric tons are landed every year.

Notwithstanding the development of marine fisheries in the State, the riverine and estuarine fisheries remain untapped, traditional, and small-scale. This sector is essentially rural, composed of predominantly fishing villages. As the operation is carried out on unorganized and unscientific lines and without proper management, production of fish from this sector has been very low and as a consequence, it has remained only at subsistence level. Upliftment of this sector of people by improving their social and economical status is of utmost necessity and should be given top priority.

## 2. BACKGROUND

### Location

The Narbada river, one of the two important westerly flowing rivers of India, is about 1 280 kms long. It originates from Amarkantak Hills of Madya Pradesh. In its last 160 kms, course before joining in the Gulf of Cambay, it flows through Broach and Baroda districts of Gujarat.

Broach District is situated on the southern border of Gujarat, the Gulf of Cambay being on the western side. The Narbada river flows through the district from east to west passing through Broach, Rajpipla and Zagadia talukas. The mouth of the estuary where Narbada drains its waters in the Gulf of Cambay is 20 kms wide. The tidal effect is felt as far as 30 kms upstream.

The total population of Broach is 12.00 Lakhs of which about 9.00 Lakhs is rural spread in 1 200 villages. Of the total population more than 45% belong to backward classes.

The district has 35 main fishing villages scattered on the coastal belt of the Gulf of Cambay and along the banks of the river and estuary (Table 1). Out of 13 000 fishermen population, 6 000 are engaged in active fishing. However, only about 2 500 persons are fully and primarily engaged in fishing activities, the rest being either unemployed or underemployed.

### Fishery

The marine fisheries cover the region of the river mouth adjoining the Gulf of Cambay. Important fishing villages are Kavi, Sarod, Dahej, Hansot,

Kantiajar, etc. Bombay ducks, threadfin, jewfish, cock-up, catfishes, shrimps and sharks are the varieties of fish caught. The fishing season is from October to May.

The estuarine fisheries are spread over the tidal zones of the river. The hilsa fishery (Hilsa ilisha and Hilsa toli) is very prominent because of the congregation of the fish in the estuary and upstream, while migrating from coastal area to the river for the purpose of breeding. Another important fishery is that of giant prawn (Macrobrachium rosenbergii), caught by dragnet and longlines. Fishing season lasts from July to December for Hilsa fishery and for other fisheries, it is from July to May. Major fishing villages are Broach, Maktampore, Bhadbhut, Nickora, Sukkalthirth and Zanor.

Freshwater fisheries are confined to upstream of the river. Commercial catches include carps, catfish, murrels, mahasheer, etc. In the State is the only river system in India where mahasheer (Tor tor) is caught in abundance. Major carps like rohu, mrigal and catla are found to breed in this river system and their spawn is collected by the State Department of Fisheries in a few centres.

### Statistics

The present state of the fishing industry in Broach is detailed as under:

(i)	Total population of fishermen	13 000
(ii)	Active fishermen	6 000
(iii)	Major fishing villages	35
(iv)	Type of fishing boat	Plank built, flat bottomed, 8 m long
(v)	Number of fishing boats	700
(vi)	Types of nets used	Nylon gillnets, bag-nets, dragnets, long-lines, castnets
(vii)	Annual production of fish	7 000 metric tons
(viii)	Fishing days in a year	200
(ix)	Catch composition and value realized by fishermen:	
	<u>Variety</u>	<u>Quantity</u> (in Metric ton)
		<u>Price</u> (per Metric ton)
	Hilsa sp. and carps	3 000
	Big prawns	120
		3 500 Rs
		8 000 Rs

<u>Variety</u>	<u>Quantity</u> (in Metric ton)	<u>Price</u> (per Metric ton)
Small prawns	180	3 000 Rs
Mulletts, cock-up, etc.	1 000	3 000 Rs
Catfish, Bombay ducks	700	2 500 Rs
Miscellaneous	2 000	1 000 Rs
(x) Average price per ton		2 670 Rs
(xi) Per capita income		3 100 Rs

### Marketing

Merchants from Bombay, Delhi and Calcutta generally command the Broach fish market. They keep strong hold on the fishermen by offering them off-season loans, varying from Rs 3 000 to Rs 8 000 per boat per year. Such advances are made on conditions that prices for the fish will be prefixed and the fishermen will have to give their entire catches to the merchants for the season. As a consequence, the fishermen, receive only about 50 to 60% of the value of fish realized by the merchants from wholesale markets. For hilsa fish, the fishermen get Rs 3.50 to Rs 4.00 per kg when the wholesale rate is Rs 7 to Rs 8 per kg. Big prawns fetch Rs 20 to Rs 25 per kg in the market whereas the fishermen get Rs 8 to Rs 10 per kg.

Advances made by the merchants to the fishermen are not fully recovered, but carried forward from year to year. Thus the fishermen are perpetually indebted to the merchants.

### 3. PROJECT

#### Aim

From the foregoing description, it is obvious that this sector of fishermen are very backward and needs to be uplifted. They live below the poverty line. Most of them have no boats and nets nor the means to procure them. Because of their indebtedness, no agencies are prepared to help them. With a view to improve the financial and social status of these small-scale fishermen and thereby increase the fish production, the following project is envisaged.

#### Scheme

An agency called, "Narbada Fisheries Development Agency", will be constituted with headquarters at Broach. The duties of the Agency will be as under:

- (i) The Agency will select five fishing villages located on the banks of River Narbada, identify 50 young fishermen from them and enroll them as beneficiaries.

- (ii) The Agency will make the beneficiaries execute bonds with the Agency and banks to the effect that whatever loans they borrow from the Agency and banks would be paid back by them as per the terms and conditions stipulated by the lending agencies and that they would surrender all their fish catches to the Agency to be marketed by Agency at wholesale level.
- (iii) The Agency will advance special loans to the beneficiaries, wherever necessity arises, not exceeding Rs 5 000 per head, so as to enable them to pay back the advances taken by them from merchants and become free and independent.
- (iv) The Agency will arrange to get further loans to the beneficiaries from scheduled banks at Rs 12 000 per head per unit for procurement of boats and nets.
- (v) The Agency will approach the Department of Fisheries, Government of Gujarat to grant subsidies to the beneficiaries equivalent to 25% on the value of each fishing unit.
- (vi) The Agency will see that the beneficiaries get their boats and nets in kind and that they are engaged in active fishing.
- (vii) The Agency will take the responsibility to market the fish landed by the beneficiaries at wholesale level. They will receive the fish from the beneficiaries at selected landing centres, transport to the assembly centres in trucks, pack the fish in suitable containers and consign to the wholesale markets by rail or road.
- (viii) The Agency will make agreements with the wholesale merchants and processing plants for the final disposal of fish. Preference will be given to the "Gujarat Fisheries Central Cooperative Association, Ahmedabad," which is an Apex Cooperative body for the State. This Association handles marketing of fish and fisheries products in the State by offering the most competitive rates.
- (ix) The sale proceeds realized by the Agency will be credited in the Savings Bank Account of each beneficiary. The beneficiaries will be allowed to withdraw money from their respective accounts for their day-to-day expenses, but keeping a balance of 25% as deposit.
- (x) The banks will recover the loans advanced to the beneficiaries for boats and nets within a period of five years in regular instalments. It will be easy for the banks to effect the monthly recoveries by adjusting the amount from the 25% margin maintained in their Savings Bank Accounts.
- (xi) No sooner the bank loans are repaid, the Agency will recover the special loans from the beneficiaries in the subsequent 3 years.

- (xii) The Agency will levy service charges at 12 1/2% on each beneficiary towards services rendered by the Agency in transporting, preserving, packing, consigning and marketing the fish at wholesale markets.

#### 4. MANAGEMENT

The Narbada Fisheries Development Agency will be responsible for the proper implementation of the project for which the Agency will require the following establishment.

<u>Designation</u>	<u>Number of Posts</u>
Chief Executive Officer	1
Survey Assistant (Tech.)	2
Accountant	1
Clerk cum typist	1
Junior Clerk	1
Field Assistants	5
Driver	2
Cleaner	1
Peon	1

The Agency will have a working committee consisting of the following:

- (i) The District Development Officer, Broach - Chairman
- (ii) Deputy Director of Fisheries, Baroda - Member
- (iii) Assistant Director of Fisheries, Broach - Member
- (iv) Chief Executive Officer - Member
- (v) Representative of the Bank - Member
- (vi) Representative of one of the Fishermen's Cooperative Societies, Broach - Member

The main functions of the working committee will be:

- "To take decision on policy matters",
- "To delegate powers to the Chief Executive Officer",
- "To review the progress of the Agency from time to time", and
- "To render assistance and protection to the Agency wherever necessary".

## 5. DURATION

The duration of the project will be for a period of five years. In the first year of its operation, 50 beneficiaries will be identified and given financial assistance. In the subsequent four years, 10 new beneficiaries will be added every year, so that at the end of five years, there will be 90 beneficiaries.

## 6. FINANCIAL OUTLAY

Agency

Funds will be required by the Agency for meeting the following cost:

- (i) Pay, allowances and travelling expenses of the staff;
- (ii) Capital cost towards purchase of truck and jeep;
- (iii) Funds for advancing special loans to the beneficiaries; and
- (iv) Recurring expenditure on operation and maintenance of vehicles, purchase of ice and containers, payment of freight charges and for labour, office expenses, etc.

This would amount to Rs 6.41 Lakhs for the first year, out of which Rs 2.60 Lakhs will be capital Rs 1.91 Lakhs contingencies and Rs 2.50 Lakhs loan portion. Against this, the Agency will earn a receipt of Rs 1.50 Lakhs (Table 2).

Total cost of the Agency for five years amounts to Rs 20.76 Lakhs as shown in Table 3.

Beneficiaries

For procurement of boats and nets, the 50 beneficiaries are required to be advanced loans to the tune of Rs 6.00 Lakhs at Rs 12 000 per head, against which, they will be given subsidy amounting to Rs 1.50 Lakhs. The split-up is shown as under:

<u>Details</u>	<u>Total Cost</u> (in Lakhs)	<u>Loan</u> (in Lakhs)	<u>Subsidy</u> (in Lakhs)
Cost of 50 boats at Rs 8 000 per boat	Rs 4.00	Rs 3.00	Rs 1.00
Cost of 50 units of nets at Rs 4 000 per unit	Rs 2.00	Rs 1.50	Rs 0.50
Total	<u>Rs 6.00</u>	<u>Rs 4.50</u>	<u>Rs 1.50</u>

The loan amount required for five years will be Rs 10.80 Lakhs out of which Rs 8.10 Lakhs is loan and Rs 2.70 Lakhs is subsidy. (Table 4).

#### 7. SOURCE OF FINANCE

The Ministry of Agriculture and Irrigation (Department of Agriculture), Government of India, will sponsor the project and assist by providing funds for establishing the Agency and its working for a period of five years. This would amount to Rs 20.76 Lakhs.

The scheduled banks will be requested to advance loans to the beneficiaries for procurement of boats and nets. The banks will be convinced by the technical feasibility and the financial viability of the project. Bank finance required for advancing loans for five years will amount to Rs 10.80 Lakhs against which there will be a subsidy of Rs 2.70 Lakhs.

The Department of Fisheries, Government of Gujarat will be requested to grant subsidy to the beneficiaries at 25% of the value of fishing unit which will be Rs 2.70 Lakhs for five years (Table 4).

#### 8. REPAYMENT

Loans borrowed by the beneficiaries from the banks will be recovered within a period of five years in equal instalments. Rate of interest will be 10 to 12%.

Subsequent to the payment of bank loans, the Agency will recover the special loans from the beneficiaries in the subsequent three years. This loan will be interest free for the first five years and carry interest at Government rate from the 6th year.

#### 9. SECURITY

While identifying the beneficiaries care will be taken to see that only these persons whose antecedents are good and whose integrity is not doubtful would be taken up. They will be thoroughly screened before recruited.

Boats shall be constructed at recognized boatbuilding yards. Boats and nets shall be supplied to the beneficiaries in kind. Boats shall be hypothecated to the concerned banks and they shall be insured by the beneficiaries and policies assigned to the banks.

Savings bank accounts shall be opened by all the beneficiaries against which the sales proceeds of the concerned will be credited directly by the Agency. Of this amount, 25% will lie as deposits. This would enable the Agency and bank to realize the commission charges and loan instalments.

For special loans advanced by the Agency, personal securities will be taken.



## 10. ECONOMICS

As shown in Table 5, the initial capital investment of each beneficiary is Rs 12 000 against which he gets a subsidy of Rs 3 000.

Recurring cost for the operation of one boat for 200 fishing days in a year amounts to Rs 9 260.

Each boat is supposed to land 6 000 kgs of fish in a year at 30 kgs average per day. By marketing the fish at wholesale level, it will fetch him Rs 24 000.

After meeting the operational cost, depreciation, service charges, payment of loan instalments each beneficiary will get a net return of Rs 9 360.

## 11. JUSTIFICATION

Villages selected will have substantive potential for development, nearness to markets and infrastructure facilities such as approach roads, availability of ice, etc.

Beneficiaries identified will be young, active, of good health and literate.

Since the fish landed by the beneficiaries are handled by the Agency, right from production to final disposal, the beneficiaries will get optimum rates for the fish.

The Agency can have control over the beneficiaries, in view of the fact that the sales proceeds are realized by them and credited to the banks directly.

Bombay, Delhi and Calcutta markets are easily approachable from Broach by road and rail as it lies on the national highway and as such transport will not be a problem.

Fish like hilsa and major carps are in great demand in Delhi and Calcutta markets and will fetch competitive prices. Shrimps and prawns which are of exportable variety will be sold in Bombay at optimum price. Other varieties of fish could be marketed in nearby cities like Baroda, Surat and Ahmedabad.

The Department of Fisheries, Government of Gujarat have an office at Broach, headed by the Assistant Director of Fisheries. He will render all sorts of assistance needed by the Agency.

## 12. SCOPE

Poverty-stricken, backward and small-scale fishermen of Broach can take full advantage of credit and service facilities offered by the Agency

and banks and take full benefits. They are made free and independent from all constraints and become proud owners of boats and nets. Per capita income is raised from Rs 3 100 to Rs 9 000. Fish production goes up by about 300 tons every year due to increase of fishing fleet. As a consequence, more fishermen are attracted and will come into the field of the Agency to get the benefits.

The present fishing and fish handling methods are traditional, unorganized and unscientific and without proper management. With the efficient management of the Agency, the techniques will improve.

Table 1. Important fishing villages on  
the Banks of River Narbada

<u>Sr. No.</u>	<u>Name of the Village</u>	<u>Fishermen Population</u>
1	Broach	2 800
2	Bhadbhut	890
3	Maktampore	600
4	Zanor	770
5	Nikora	50
6	Angareswar	82
7	Sukkal thirth	735
8	Kodod	40
9	Jadeswar	157
10	Tavara	284
11	Kukarwada	650
12	Verawada	101
13	Taribet	105
14	Dhanturia	820
15	Ambeta	310
16	Kantiajar	201
17	Hansot	665
18	Rajpipla	560
19	Khandrej	140
20	Navra	65
21	Kadodara	90
22	Dahej	540
23	Vilayat	180
24	Borbatha	30
25	Bhalod	150
26	Tarasali	40
27	Uchheddia	375
28	Nana Vasna	90
29	Kakkalpore	50
30	Kavi	490
31	Sarod	294
32	Tankari	104
33	Dehgam	194
34	Malpore	171
35	Amod	188
	Total	<u>13 000</u>

Table 2. Finance required by the Agency for  
Implementation of the Project for  
the first year

A. Capital

Cost of one diesel truck	Rs 1.35 Lakhs
Cost of one diesel jeep	Rs 0.65 Lakhs
	<u>Rs 2.00 Lakhs</u>

B. Establishment

1. Pay

<u>Designation of Staff</u>	<u>Pay Scale in Rs</u>	<u>Number of Posts</u>	<u>Cost in Rs</u>
Chief Executive Officer	650- 1 200	1	7 800
Survey Assistant (Tech.)	500- 900	2	12 000
Accountant	425- 800	1	5 100
Junior Clerk	260- 400	1	3 120
Clerk cum Typist	260- 400	1	3 120
Field Assistants	260- 350	5	14 400
Driver	260- 400	2	6 240
Peon	196- 232	1	2 352
Cleaner	196- 232	1	2 352

Rs 56 484

2. Dearness Allowance

19 000

3. Other Allowances

5 000

4. Travelling Allowance

10 000

Rs 90 484

C. Recurring Cost

1. Rent, rate and taxes	Rs 8 000
2. Office expenses	3 000
3. Fuel for vehicles	20 000
4. Maintenance	5 000
5. Materials and machinery	10 000
6. Other charges	30 000
7. Packing materials	15 000
8. Labour	7 000
9. Miscellaneous	2 000

Rs 100 000

D. Loan

Funds required for advancing 50 beneficiaries at Rs 5 000 per head as special loan Rs 250 000

Total A + B + C + D Rs 641 000

E. Receipts

Receipts realized by the Agency towards charging 12 1/2% service charges for marketing the fish in the total value of fish landed by 50 beneficiaries Rs 150 000

Table 3. Projection of financial requirement of the Agency for the implementation of the Project for five years

		(Rs in Lakhs)								
Sr. No.	Details	1981-1982	1982-1983	1983-1984	1984-1985	1985-1986	Total			
1	Capital	2.0	-	-	-	-	2.00			
2	Pay and Allowances	0.91	1.00	1.10	1.20	1.30	5.51			
3	Loan	2.50	0.50	0.50	0.50	0.50	4.50			
4	Contingencies	1.00	1.50	1.75	2.00	2.25	8.50			
	Total	6.41	3.00	3.35	3.70	4.05	20.51			
5	Receipts	1.50	1.65	1.80	1.95	2.10	9.00			

Table 4. Projection of institutional finance required to be advanced to the beneficiaries for the first five years

Sr. No.	Details	1981-1982	1982-1983	1983-1984	1984-1985	1985-1986	Total
1	Number of beneficiaries	50	10	10	10	10	90
2	Loans required to be advanced by banks to the beneficiaries (Rs in Lakhs)	6.00	1.20	1.20	1.20	1.20	10.80
3	Subsidy to be granted (Rs in Lakhs)	1.50	0.30	0.30	0.30	0.30	2.70
4	Net loan amount (Rs in Lakhs)	4.50	0.90	0.90	0.90	0.90	8.10
	Repayment of loan	-	0.90	0.96	1.02	1.08	3.96

Table 5. Project for operation of one 8-metre flatbottom boat for fishing in Narbada River for one year

A. Capital

Cost of one 8-metre flatbottom boat	Rs 8 000
Cost of one unit of fishing nets and accessories	<u>4 000</u>
	Rs 12 000
Less 25% subsidy	<u>3 000</u>
	<u>Rs 9 000</u>

B. Recurring Cost

1. Crew

Skipper (1) at Rs 10 per day	) Rs 5 000
Deck hands (2) at Rs 7.50 per day for 200 days	)
Food allowances at Rs 3 per day per head	1 800

2. Hull repairs 3% 240

3. Hull insurance 4% 320

4. Boat depreciation 5% 1 700

5. Depreciation of nets 33 1/3% 200

Total Rs 9 260

C. Receipts

Each boat will land 30 kgs of fish per day on an average and for 200 days, the production will be 6 000 kgs. Amount realized by selling the fish at wholesale level will be as under:

<u>Type of Fish</u>	<u>Quantity</u> (in kgs)	<u>Price per Kg</u> (in Rs)	<u>Value</u> (in Rs)
Hilsa, carps	2 500	5	12 500
Shrimps	150	20	3 000
Small prawns	150	5	750
Mulletts, cock-up	800	4	3 200
Bombay ducks, catfish	600	2.50	1 500
Miscellaneous	<u>1 800</u>	<u>1.50</u>	<u>2 700</u>
Total	6 000		23 650
Total carried forward		Say	24 000



C. Receipts (continuation)

<u>Type of Fish</u>	<u>Quantity</u> (in kgs)	<u>Price per Kg</u> (in Rs)	<u>Value</u> (in Rs)
Total brought forward			24 000
Less 12 1/2% service charges			<u>3 000</u>
			21 000
Less recurring cost			<u>9 260</u>
			11 740
Less loan instalment to be paid per year			<u>2 500</u>
			<u>9 240</u>
		Net Returns	<u><u>9 240</u></u>