

United Artists Association, Ganjam

A Study report on



Market Potential for Value Added Marine products

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Executive Summary

The study on “Market Potential for Value Added Marine products” has been carried out for UAA, and the Marine Fisher women’s Federation, SAMUDRAM. SAMUDRAM is currently looking for a potential market for its value products. For this, they are trying to develop a marketing strategy: packaging, market segmentation, product differentiation, target customers and target locations for both dry and value added products. The objective of the study is to identify local and regional market potential, assessing the present demand, the market channels involved and to identifying customer tastes and preferences in different markets. Keeping this in view, the study was conducted by students of Xavier institute of management (XIMB). The core problem identified during the study was Untapped/Unexplored Markets of Marine Products for SAMUDRAM

A five member team was involved in the survey over a period of 15 days. Both quantitative and qualitative methods were used during the study. The tools used during the study were: questionnaire, large group discussion, interviews, feedback method, focus group discussion, case studies. The study was carried out in six landing centers (Gollabandham, Markandi, Ramapeta, Nuagaon, Katuru, Garampeta,), all in Ganjam District, where SAMUDRAM is operational. Further, it was extended to trading centres in Orissa (Bhubaneshwar, Cuttack, Rourkela, Jharsuguda, Jeypore, Koraput, Sunabeda, Rayagada) and outside Orissa (Chennai, Delhi, Mumbai). The trading locations were selected on the basis of: untapped market demand for marine value added products, direct connectivity from landing centers to trading points, Consumer tastes and preferences, Consumer income and lifestyle, Cost benefit ratio.

An analysis of stakeholders involved in the fish trade was carried out. The study was exploratory in nature and discussions were carried out at various stakeholders’ level. At the various local, regional and national markets visited, we studied the characteristics of the fish markets and supply chain of fish trade. The price rates and variations, and impact of seasonality on fish sale were analyzed. Based on observations and available secondary data, a market segmentation and product differentiation were developed. The information collected was collated together and an analysis was made to develop a

marketing plan for SAMUDRAM .A workshop was also conducted wherein, an august audience comprising of Director\, College of Fisheries, Chittamma, (President SAMUDRAM), Traders, and people involved in the trade were present. The suggestions made by them were incorporated by them in the report. Subsequently, faculties at XIMB were consulted for suggestions regarding marketing strategy.

There are issues involved, such as procurement, involvement of too many middle men, traditional mindset of the fisher folk, which pose a problem and have to be overcome. The nexus between all the players in this trade is strong and very difficult to break. Credit is another impeding factor due to which infrastructure to support the trade is not developed.

As per our findings, we concluded that

- To break into the strong nexus of supply chain, various linkages at strategic points should be initiated.
- The market demand should be assessed on various parameters such as price differentiation, seasonality, species, size and quality etc.
- The customer should be targeted on the basis of purchasing power, tastes and preferences, customs.
- SAMUDRAM should promote itself as a “hygienically concern brand” and use marketing tools (advertisement, consultancy etc) to promote its products.

However, the limited time period of the study, posed a constraint in our ability to interact at length with various stake holders. Also most of the data collected is primary, from sources which may not be very authentic and precise, and mere assumptions. Unawareness of the primary respondent on price, quantity and important variables in the trade may have resulted in unauthentic primary data. This is not to undermine the study carried, as this report can serve as a primary base for further study. We recommend in-depth investigation for business prospect of processed food products of fish and explore

the market potential of the same. The objective of putting forth the business avenues is to give an insight into future prospects which can be aligned with the present intervention.

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Last but not the least, our whole hearted thank goes to the whole Nolia community of Ganjam & we think all our effort will be successful only if it can serve a least for their upliftment.

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CHAPTER ONE



Introduction

SAMUDRAM, is a Marine Fisher Women's Federation started by United Artists Association (UAA), aimed at improving the socio-economic condition of the Nolia community, along the coastal belt of Orissa. The community is a living definition of poverty, vulnerability, deprivation and marginalization. The Nolias are economically poor, geographically isolated, physically segregated, linguistically alienated, socially despised, culturally discriminated and politically emasculated.

SAMUDRAM / UAA aims at empowering traditional marine fisherfolk in all aspects of life and foster unity, solidarity, love, peace, and mutual concerns among themselves. The participatory community approach adopted focuses on working with peoples existing strengths and resources and building upon them. It is about informing, enabling, initiating and empowering appropriate choices for the community's long term well-being.

(Annexure I)

1.1 Objective

To improve access to market and income generating opportunities for economically poor and marginalized fisher folk.

Immediate Objective: Exploring potential market chains for fresh and processed fish and value added fisheries products, within the State of Orissa. Also assess the potential of dry fish in three trading points-New Delhi, Chennai and Mumbai.

1.2 Expected Outcomes

- Identifying stakeholders involved in the fish trade.
- Assessing the present demand and future trend.
- Understanding seasonality and its importance in trade.
- Identifying the market channels in different markets
- Identifying infrastructure and other related problems pertaining to fish trade.
- Identifying customer tastes and preferences in different markets.
- Analyzing important trading points.
- Calculating cost-benefit ratio.

- Generating a database on existing and potential markets for value added marine products.

1.3 Methodology

- The study was exploratory in nature and discussions were carried out at various stakeholders' level.
- To understand the dynamics of the fishing trade, the study was conducted covering, landing centers and fish mandis (both at a local and national level).
- A model questionnaire was developed to gather primary data.
- Information was collated and analyzed.
- A draft report was prepared and presented in a workshop.
- Suggestions were incorporated and further analysis was carried out.

1.4 Study Area

The study was carried out in six landing centers (Gollabandham, Markandi, Ramapeta, Nuagaon, Katuru, Garampeta,), all in Ganjam District, where SAMUDRAM is operational. Further, it was extended to trading centres in Orissa (Bhubaneshwar, Cuttack, Rourkela, Jharsuguda, Jeypore, Koraput, Sunabeda, Rayagada) and outside Orissa (Chennai, Delhi, Mumbai). **

A five member team was involved in the survey over a period of 15 days. Both quantitative and qualitative methods were used during the study. The tools used during the study were: questionnaire, large group discussion, interviews, feedback method, focus group discussion, case studies.

** The trading locations were selected on the basis of:

- Untapped market demand for marine value added products
- Direct connectivity from landing centers to trading points.
- Consumer tastes and preferences
- Consumer income and lifestyle.
- Cost benefit ratio.

1.5 Limitations of study

- Inability to interact at length with various stake holders due to time constraint on the part of study team.
- Unawareness of the primary respondent on price, quantity and important variables in the trade, resulting in unauthentic primary data.
- Inability to visit major landing / trading centers such as Kolkata and Vizag.
- Limited source of secondary data, mainly taken from Internet.

1.6 Key stakeholders

We interacted with a number of stakeholders at primary and secondary level:

Primary Level	Secondary Level
<p>1. Village:</p> <ul style="list-style-type: none"> -fisher folk -SHG members -SHG leader -Community leader -Sarpanch -Vendors -Traders <p>2. Market:</p> <ul style="list-style-type: none"> - Vendors - Small traders - Traders - Bulk buyers 	<p>1. Facilitator:</p> <ul style="list-style-type: none"> -SAMUDRAM - UAA <p>2. Agencies:</p> <ul style="list-style-type: none"> - Funders (OXFAM) - Gram Panchayat - Block level - OTFWU - College of Fisheries, Gopalpur

(Annexure 2)

1.7 Timeline

The study was conducted over a period of 21 days including understanding fish trade, data collection, analysis and report writing.

- 5 days traveling around the villages where SAMUDRAM is operational to understand the dynamics of fish trade and to develop study design and preparations of tools like questionnaire and checklist.
- 7 days Visiting different trading points within and outside Orissa and understanding the supply chain and assessing the potential markets.
- 3 days Discussion with different stakeholders and within the group
- 3 day Compilation and analysis of data
- 2 days Documentation and report preparation.
- 1 day Workshop.

CHAPTER 2



Situational Analysis

In the coastal districts of Ganjam and Puri districts of Orissa, in a number of fishing villages live Telugu speaking marine fishers, locally called Nolias. They are called as “Nolia” in Orissa due to their traditional wearing of golden rings in their ear. They speak a different language, observe different customs and worship different gods from those of the agricultural population that the boating villages along the whole coast up to the Devi River, and even above it, consist of. They are indistinct remnants of the aboriginal races and their separate origin is forgotten.

These Nolia villages are like islands among the surrounding Oriya people with the Nolias constituting 90% of the total population in the villages. The Oriya people looked down upon marine fishes as lowly, barbarous and unhygienic activity, keeping the Nolias community segregated from the local Oriya community. Despite being residents of Orissa for generations, the Nolias inability to speak Oriya only added to their own marginalization, to the extent of socio-linguistic mingling they could have become insiders, but that did not happen. This outsider status weighed heavily on the Nolias. It reflected in The Nolias being ignored in most developmental programmes. Spread over 6 districts, 12 constituent Assemblies and 4 parliamentary constituencies, they are a political minority. This has made them a minority for political leaders as they are not recognized as a vote bank for any party, their condition remaining deplorable.

(Case Study: Nuagaon)

2.1 Network of Marine Women Fisher workers Organizations

United Artists Association UAA, a local non-governmental organization became very concerned about the plight of the Nolias. In 1982, UAA decided to improve the quality of life of the Nolia community by facilitating socio-economic and political changes. Along with Action Aid, UAA worked towards the development of the Nolia community.

UAA's work over the decade resulted into formation of two closely related fish workers forums- a women based federation called SAMUDRAM and another for fishermen in Orissa, Orissa Traditional Fish Workers Union (OTFWU). SAMUDRAM developed as the State level Federation of women fish workers organizations in the year 1993. It has a membership of over 3842 women in Ganjam and Puri district. The organization is spreading to all the coastal areas of the State. Orissa Traditional Fish workers Union (OTFWU) was organized to safeguard the interest of traditional fish workers in the State. It has a working relationship with a national level Federation called the, National Fish workers Forum (NFF). This linkage also provides exposure to important macro issues concerning the traditional fish workers in the country and abroad resulting in increasing levels of confidence and strength to the organization.

SAMUDRAM, from its inception has been working for the betterment of the socio-economic condition of the Nolia community. SAMUDRAM has taken up various initiatives to improve the condition of the fish trade on the whole and the fishermen in particular. They have widely improved the fishing practices in the area. For example the traditional method of drying fish directly on the sand was extremely unhygienic and resulted in less market value. But with training imparted to the fisher folk and the provision of platforms for sun drying, the fish processing has become more hygienic. Training has been imparted to some fisher women at the College of Fisheries, Rangailunda for hygienic processing, packaging and in producing value added products like pickles, fish noodle, prawn pickle etc.

SAMUDRAM intends to operate in a small scale in 33 villages, with procurement of fish taking place presently at 7 villages. The current study is aimed at assessing the market potential for SAMUDRAM, so that community initiative taken can be sustainable and the real benefit can reach the primary producer (in this case the fisher community).

2.2 SAMUDRAM

SAMUDRAM is a State level Federation of Women Fish Workers organization working in the State of Orissa for the development of marine fisher folk living on the coastline of Bay of Bengal. The organization started functioning in the year 1993 from Sana Nolia Nuagam as a Federation of women organizations of Ganjam district and got itself registered in the year 1995-96 under the Societies Registration Act. At present, the headquarters of the organization is at Katuru village in Chatrapur block of Ganjam district. The organization is active in both Ganjam and Puri Districts and has contact in Baleshwar and Bhadrak districts of Orissa.



2.2.1 Aims

The organization aims at empowering traditional marine women in all aspects of life and foster unity, solidarity, love, peace, and mutual concerns among themselves.

2.2.2 Objectives

- Promote self-esteem and dignity among the traditional marine fish workers
- Enhance socio-economic , political and cultural status of the traditional marine women
- Capacity building of traditional marine women to counter confidently any law or system that is detrimental to their interests
- Improve quality of life by developing living conditions of traditional marine women through spread of education and better health practices promoted by member organizations in collaboration with like minded organizations and Government.
- Act as a nodal point for collection, compilation and dissemination of relevant information
- Promote networking among other like minded organizations working for a common cause

(Annexure: Management Structure of SAMUDRAM)

2.2.3 Issues tackled

Micro level	Macro level
<ul style="list-style-type: none"> ◆ Country liquor sale ◆ Gambling ◆ Child marriage ◆ Illiteracy ◆ Quackery ◆ IMR and MMR ◆ Influence of outside moneylenders and brokers ◆ Payment of low wage ◆ Malfunctioning of PDS 	<ul style="list-style-type: none"> ◆ Prawn seed and mother prawn collection. ◆ Intrusion of trawlers. ◆ Violation of CRZ Act. ◆ Involvement of women fish workers in savings cum relief schemes. ◆ penetrated into fresh fish wholesale markets within and outside the State ◆ Planning to create markets for value added fisheries product. ◆ Developed skill and produced value added fisheries products like hygienically processed and packaged dry fish, fish pickle, fish noodles, dried prawn, prawn pickles etc.

2.2.4 Issues ahead

Micro level	Macro level
<ul style="list-style-type: none">◆ Low women literacy.◆ Payment of equal and statutory wage.◆ Implementation of Government welfare schemes in its true spirit.◆ Legal title over homestead land.◆ Formal participation of women in community decision making process.◆ licensed country liquor shops in marine fishing villages	<ul style="list-style-type: none">◆ Implementation of OMFRA and CRZ act in its true spirit.◆ Prawn seed production centers.◆ Unregulated license to mechanized fishing vessels.◆ Monsoon fishing.◆ Deforestation of coastal region.◆ Minimum Support Price for fish and marine products.◆ Defunct primary fisher co-operatives

2.3 Present Status of market access initiative

SAMUDRAM is currently procuring fish from sources in Ganjam district. The procurement however is very small, of around 200kg. Current species which are procured in fresh and dry fish are shown in the table below (along with the rate structure)

Type	Species	Rate (per kg)
Fresh fish	Seer fish	Rs.70-80
	Vetci (silver grunt)	Rs.30-35
	Blood Red Sniper	Rs.30-35
	Yellow fin tuna	Rs.30-35
	Catfish	Rs.10-15
	Indian Dog shark	Rs.25-30
	Japanese CowRay	Rs.25-30
Dry fish	Ribbon fish	
	Deep bodied Sardiville.	
	Anchovi	
Pickle	Seer fish	
	Prawn	

As of now, SAMDRAM sends fish consignments to a few places in Orissa. They have started sending fish consignments to a few traders outside Orissa as well. Dry fish is not yet sent to places outside Ganjam. Dry fish is being processed and hygienic processes are being adopted. These are being pushed in test markets in local markets around Ganjam. Fisher folk are being trained at the training centres of UAA.



SAMUDRAM is currently looking for a market for its products. For this, they are trying to develop a marketing strategy: packaging, market segmentation, product differentiation, target customers and target locations for both dry and value added products.

Keeping this in view, the study was conducted by students of Xavier Institute of Management, Bhubaneswar (XIMB). The core problem identified during the study was Untapped/Unexplored Markets of Marine Products for SAMUDRAM

(Annexure 4,5)

CHAPTER THREE

Findings and Observations



Fresh fish

3. Marine Fishery in India

Approximately about 1 % of the total population depends upon fisheries in India as a primary source of livelihood. It gives direct employment to about 6 million fishermen and to another 6 million people who are employed in allied activities. The contribution of fisheries to Gross Domestic Product (GDP) at the current price level is 1.3%.

India has an estimated marine resources potential of about 3.9 million tones per year. This potential source can be bracketed under two categories i.e. oceanic fishery and coastal fishery. The important marine fish disposition in India are the Mackerel, Sardines, Bombay duck, Shark, Ray, Perch, Croaker, Carangid, Sole, Ribbonfish, Whitebait, Tuna, Silver belly, Prawn, Shrimp, Squid, Octopus, Red snapper, Lobster, Cat fish and Cuttlefish. Among the species caught, Indian oil sardine, Indian mackerel and Sciaenidae are dominant ones. Marine shrimp, although contributing only 10% of the total catch, is 1 of paramount commercial importance.

Nearly 70% of the fish catch is marketed fresh. The fish drying and curing industry amounts to about 14% fish. Frozen fish production accounts for 6.5%, 8.4% goes for reduction to fish meal, 0.8% for offal reduction and 1.6% for miscellaneous purposes. Only 0.3% of the total catch is used for canning purposes. The per capita fish availability in India is 4.7 kg/ year.

At present, India's marine products export is worth about US\$ 1,330³ million, covering 60 products. The share of marine products in total export earnings is around 3.4%. Frozen shrimp contributes 65-70% of the marine export earnings. Establishments connected with marine products export include 625 exporters (380 manufacturer-exporters and 240 merchant-exporters), 376 freezing plants, 13 canning plants, 4 in the agar-agar industry, 149 ice plants, 15 fish meal plants, 903 shrimp peeling plants, 451 cold storage units, and 3 chitosan /chitin plants, with 95% of the seafood processing units concentrated in 20 major clusters in 9 states

The major ports in India are Chennai (Madras), Cochin, Kandla, Kolkata (Calcutta), Mumbai (Bombay) and Vishakhapatnam. Apart from the main fishing harbors, twenty-three minor fishing harbors and ninety-five fish-landing centers are designated to provide landing and berthing facilities to fishing craft.

3.1 Fishery in Orissa

Orissa extends over an area of 155,707 square km with a coastline of about 480 km, which is approximately 8% of the Indian coastline. The position of Orissa is eighth among the other coastal states and union territory of the country. The state is bounded by the Bay of Bengal on the eastern side. The state has been divided into 30 administrative districts of which 10 are the coastal districts.

The total fish production of Orissa is 2, 81,807.24 metric tones with inland fishery contributing about 1, 67,914.18 metric tones and marine fishery contributing about 1, 13, 893, 06 metric tones. The total number of fishing craft in Orissa is 11,314 of which the number of mechanized craft is 1529, Motorized craft is 3292 and that of the traditional craft being 6520. The total brackish water area available for fishery is 12,828.05 ha with a production of 7203.63 MT shrimp during 2001-02.

The marine fishermen community of the state can broadly be classified into three groups-traditional fishermen, mechanized gill-netters and mechanized trawlers. Traditional country fishermen have been fishing for centuries along the Orissa coast with the help of rowing and sailing boats while fishing by mechanized gill-netters is a recent development. The state does not have a natural harbour and the potential for artificial port is also negligible due to shallow coastline.

3.2 Fishing in Ganjam District

Ganjam is a coastal district of Orissa having 26 fishing villages and 14 fish landing centers. About 20,000 fishermen population is dependent on In-land, Brackish Water and Marine fisheries in Ganjam district. The total coastline of Ganjam having is of 60 km and the total fish catch of Ganjam district is 14053.22 MT. The fishery activity is taken up in

the entire coastline by the fishery villages located along the coastline. Traditional fishing with catamarans and the country boat is a common parlance in normally all the villages but the new technology is on the rise in the bigger landing centers where the advent of trawlers, Beach Landing crafts (BLC) and Fiber Reinforced Plastic boat (FRP's) are commonly present.

The peak season for fishing in all the coastal villages is from October to February. The important varieties of catch are the Prawns, Pomfrets, Clupeids, Catfish, Carangids, Perches, Seerfish, Mackerals, Sardines and Sharks. Anchovies, Sardines, Silver bellies, Perches and Catfish are found in plenty along the coast of Ganjam.

3.2.1 Coastal Fishing

Coastal fishing can be defined as the fishing operation taken up within 5 Km from the coastline. Coastal fishing, in Ganjam is taken up mainly by the catamarans and the country boat. Also now days, motorized country boats viz. Inboard machine engines (IBM's) and Outboard motor engines (OBM's) are commonly involved in coastal fishing. Coastal fishing is a daily phenomenon in Ganjam, with fisherman leaving the coastline early in the morning around 3 AM and coming back with the catch around 3 PM in the afternoon.



Depending upon the catch (particularly during lean period) and market demand, the frequency of the trips to the sea increase/decrease.

3.2.2 Ocean Fishing

Ocean fishing or deep-sea fishing involves fishing beyond 5 Km of the coastline. It normally involves trawlers, BLC and FRP's. UAA has also tried involving the Federation in reaping the direct benefit by providing them with a FRP boat.

Normally, oceanic fishing is highly mechanized with the use of sophisticated equipments and gadgetries. This type of fishing is highly capital intensive and takes a form of industry rather than subsistence livelihood. The normal practice of this type of fishing is that once the craft goes out for fishing then the period of fishing varies from 3 – 8 days depending on the size of the craft. Deep oceanic fishing in present day is carried out by big traders, who tend to pose a threat on the existence of small marginal fishermen.

3.2.3 Fish Gears

In Ganjam, traditional crafts with motorized engines dominate the trade. Motorized boats are fewer in number than their counterparts. Trawlers and other big fishing gears are absent in Ganjam district. However, small trawlers can be found in and around Andhra border (visible in deep sea from Ramapetta).

Net is one of the most important fishing gears used to catch fish. The usages of nets have been the traditional practice in Ganjam district. Traditionally the nets used are hand made using cotton threads though now (approximately since last two decades) there is a clear shift to the nylon fiber branded nets, which are available in the local market. The fishing net is one of the major capital investments in the fishing operation and may range from Rs. 10,000 to Rs. 1, 50,000. The nets used for fishing are species specific and a fisherman normally keeps 2-3 nets for making the catch. The use of net is also season specific due to the abundance of various species in a particular season. The normal life of a net is 5- 7 years but again it depends on the usage, quality of fiber used, type of net etc. The concerned fisherman carries out the repair of the net, as and when required.

The following are the most common nets -

Details of net used for fishing in Puri and Ganjam

Sr.	Name of Net	Specific species	Average Price
1	Jago Jaal	Panikiya, Khonda	75,000
2	Koni Jaal	Koni, Magar, Kauntia, Bhetki	50,000
3	Kockle Jaal	Kockle	10,000
4	Pomfret Jaal	Pomfret	25,000
5	White Pomfret Jaal	White Pomfret	20,000
6	Disco Jaal	Chingri (Prawn)	15,000
8	Lines	Koni, Kauntia, Magura	



3.2.4 Landing center

Landing center are the points where the fisherman anchor their craft, unload their catch and conduct sale. In free time, the fishermen repair their nets, boats and other equipments.

Most of the landing centers in Ganjam district lack permanent infrastructure (e.g. jetty/harbour) to anchor the crafts and conduct the sale. The landing centers in Ganjam which we visited are given below –

List of landing centers Ganjam

Sr	Ganjam
1.	Gopalpur
2.	Gollabandham
3.	Markandi
4.	Nuagaon
5.	Ramapetta
\6.	Katuru

Ramapeta

Ramapetta is located at Orissa-Andhra Pradesh border, 20 kms from Icchapuram. Fish catch depends upon seasonality and is high for three months, before the monsoons. As the fishermen are not permitted to fish in the deep sea, so they practice coastal fishing. The fish catch is scarce most of the time, due to over exploration of the sea.

During lean periods of fish catch, they are forced to purchase the fish from trawlers (from Andhra Pradesh) which is brought back to the shore. They buy fish at Rs 200 / net, on an average from the lounge. An auction takes place wherein the fisher man quotes his initial price, which is usually thrice the rate i.e. Rs. 600. However, after much bargaining the fish is sold at an average rate of Rs.260/basket. There is no monopoly of any single trader, and usually local fisher women are the main participants in this auction. The fisher men can sometimes earn a profit of Rs 200-400, but it is uncertain and depends upon the discretion of the lounge owner. After the auction and on receiving the money, they return to the lounge and make the payment.

Markandi

In contrast to Ramapeta, at Markandi it was observed that there was one single trader, named Krishna Rao, who has a monopoly in procuring fish. The trader has provided the fishermen with fishing gears, nets, boats and also a godown for storing the fish. He has his own pick up vehicle to transport the fish from Markandi to larger regional markets like Bhubaneswar and Cuttack for further dispersal.

The fishermen are obliged to sell their fish only to the trader, making the transaction here very monopolistic.

3.3. Market Segmentation

The market based on its own characteristic, consumer preference and habits, volume of trade, supply orientation, demand configuration, etc. defines itself into various categories. There is a wide range of value products ranging from low value to high value, depending on the species, quality, size, etc. Therefore these can be clustered into various segments based on the uniqueness of the species that consequently define the market for the entire range of products into distinct segments.

As per a survey conducted by Nimble for Oxfam, species have been segregated on the basis of price, availability, demand in different markets.

Preferential ranking of species – Market wise

Sr.	Name of Fish Specie	Local market	Regional market	Export Market
1	Bual	*	***	Nil
2	Bhetki	Nil	***	*
3	Singhi	*	***	Nil
4	Magur	*	***	Nil
5	Pabta	*	***	***
6	Ladush	*	***	Nil
7	Leta	***	*	Nil
8	Saul	***	*	Nil
9	Sala	*	**	***
10	Koni	*	***	*
11	Pakhal	***	*	Nil
12	Panikiya	***	*	Nil
13	Kockle	**	***	*
14	Pomfret	*	***	***
15	Pomfret (Black)	Nil	*	***
16	Prawn (Tiger)	Nil	*	***
17	Prawn (White)	Nil	*	***

18	Prawn (Brown)	Nil	**	*
19	Lobsters	*	*	***
20	Crab	*	**	***
21	Ribbon fish	*	***	***
22	Cuttle fish	**	**	*
23	Barahai	***	*	Nil
24	Kanakurda	**	**	Nil
25	Shankar	*	***	Nil
26	Khainga	**	***	Nil
27	Minzoram	*	***	*
29	Patharmundi	*	**	***
30.	Telia	***	**	Nil
31	Boria	***	*	Nil
32	Faasi	***	**	Nil
33	Kanakurda	***	**	Nil
34	Para	***	*	Nil
35	Tundra	*	***	*
36	Bomi	**	***	Nil
37	Benjoram	*	***	***
38	Kauntia	Nil	***	**

(* - Shows the importance of the species in various market)

3.4. Market Description

Indian fisheries markets, based on location and trade, can be broadly classified into - local, regional and export markets. These markets can be categorised as transit and terminal markets or both. Transit markets are those which are not the endpoint and further trade can take place for eg Bhubaneswar, Cuttack. Whereas, terminal markets are those where the trade ends, for eg Rourkela. Transit cum terminal markets are those where both take place as in the case of Mumbai and Chennai.

Sr.	Local market	Regional market	Export Market
1	Villages along the coastline	Kolkata	Japan
2	Villages in the periphery of 25-30 Km. of the landing center	Chennai	USA
3	Uma (Dry fish)	Hyderabad	U.A.E
4	Behrampur	Vishakhapatanam	European Union
5	Balugaon	Tatanagar	Middle east countries
6	Ganjam	Delhi	China
7	Puri	Mumbai	
8	Astrang	Bhubneswar	
9	Brahmagiri		
10	Pipili		
11	Kakatpur		
12	Konark		
13	Nimapara		
14	Khallikote		
15	Patrapur		
16	Aska		
17	Others		

3.4.1. Local Market

Local markets are essentially the markets nearby the landing centers which include villages, haats, sub division and nearby towns. The demand in these markets is generally stable except for the deviations during special occasions e.g. marriages, festivals, Rath yatra etc.

The characteristics of these markets are –

1. Demand for the average to low value product is based on the availability.
2. Purchasing power of the consumer is the limiting factor for consumption of high value product
3. Number of sellers is limited.
4. Demand for the marine species is limited due to food habit of the community.
5. Only limited species are in demand.
6. Demand for the fresh water fish is higher than the marine species.
7. High value product rarely enters the local market.
8. Demand is affected highly by the religious prohibitions to the extent that the market closes due to absence of the buyers from the market.

9. The cost of operation is low as the product is consumed locally and the shelf period is low.

Local markets in Ganjam are located close to the landing centers. There are no major local markets for fresh fish in Ganjam. Though demand for local consumption of marine fish is less, most purchases take place directly at the landing centers. Fisher women, pavement sellers and cycle vendors mainly capture the local markets to meet the consumption needs.

However for dry fish, there is a weekly haat, Huma Haat, held every Sunday morning in the early hours of the day. It is the largest dry fish market in Orissa. Traders and fishermen arrive here from all over Orissa. Traders from other parts (Tamil Nadu, Andhra Pradesh) of the country also participate in the trading.

3.4.2 Regional Market

Regional markets are the bigger markets situated in the state capitals, large cities or metropolitan cities with variegated supply and demand linkages. The numbers of operators, though limited, are higher than local markets. These markets normally cater to a larger geographic location and the volume of trade is high. The number of buyers is high as compared to the local market.

The characteristics of these markets are –

1. Serves as a channel to cater to up-country markets and distant markets.
2. Serves as a connecting channel with the retailer, end user and the producer
3. More capacity to absorb the glut in the supply due to high number of demand channels.
4. Price fluctuation is high and can happen on a daily basis depending on the demand of the larger market for the product.
5. Purchasing power of the end buyers is higher than that in local markets.
6. Demand for high end product is high

7. Demands in these markets are affected by local occurrences- festivals, marriages, etc and instances of regional or national occurrence.

8. Costs of operations are higher than the local markets due to logistical factors – e.g. market cess/fee, loading/unloading operations, vehicle parking charges, storage costs, secondary/tertiary transportation, commissions etc.

During our study, some of the regional markets we visited were:

In Orissa: Bhubaneswar

Outside Orissa: 1. Delhi 2. Mumbai 3. Chennai

i) Bhubaneswar – Transit cum Terminal Market

Fish Inflow: Fish inflow in Bhubaneswar is mainly from Andhra Pradesh and from the coast of Orissa. Inland fish varieties come from Chilika Lake and other lakes. Most of the fish to other places in Orissa, like Rourkela, and Jhasuguda, transit through Bhubaneswar and Cuttack .

Fish outflows: Largely, fish consignments are dispatched to different cities in India: Mumbai, Vishakapatnam and in small quantities in Delhi. Small consignments are also dispatched in trucks to landlocked places in the State.

Market Infrastructure:

Wholesale market: There is one large wholesale market in Bhubaneswar in Unit IV for marine fresh fish trading. Fish here arrives mainly from Andhra Pradesh and from different coastal districts of Orissa. The trading in this market is in full swing in the morning between 6:00am and 11:00 am, when the fish consignments arrive. Most of them come by the early morning Faluknuma Express. It takes 12 hours for the fish to arrive from Andhra Pradesh. Fish comes from Akividu, Eluru, Srikakulam in Andhra Pradesh. There are some major traders in Vishakapatnam like SDR, LMR from where large crates of fish come. Each crate carries on an average 35kg fish (and 25 kg ice). They are transported from the station in Lorries and small pick up vans. On an average, everyday 4 trucks come to the market with approximately, 5-6 tonnes of fish. The fish is

then weighed and sorted (as for export and local market). Immediately, small pick up vans dispatch the fish to different markets all around Bhubaneswar to local retailers. Some trucks also leave for places outside Orissa: Mumbai, Delhi, and Gujarat. Most of the inland fish come in the evening, so the fish trading activity resumes in the evening hours

Every wholesaler and trader in this market has his own office and a go down. There were many such wholesalers and traders (around 36). This market employs around 500 people.

Earlier, bamboo baskets were used for used for preserving the fish, but nowadays, they have refrigerated cans and insulated baskets. There were no signs of auctioning in this market, which implies that most wholesalers supplied to standard retailers, acting as commission agents. The commission rate in this market is around 7.25% and the traders also send fish on a credit basis.

Nathav Behra is a major wholesaler cum trader in Bhubaneswar. He supplies to all the hotels n Bhubaneswar like Mayfair, Swosti Plaza, and Hotel Marrion. The demand in hotels is for very specific varieties of fish and prawns. He however, does not export abroad or outside Orissa, due to an earlier experience. On an earlier occasion, he had sent a consignment of 120kgs of Rohi fish at Rs.90/kg to a trader in Delhi. But his consignment was held up in the station due to a strike for two days. The loss he faced was to the tune of Rs.12 lakh. Many other traders also expressed the same concern for sending fish consignments outside the State. The main varieties of fish which are traded in this market are Shoal, Vecti, Koni, Jalang, Pomfret (from Mumbai).

Retail fish market:

By and large, the retail markets are unorganized. There are small stalls in the regular markets where besides fish, chicken, fruits and vegetables are also sold. Some of the market is located in

- Gandhi market (Near Mayfair)

- Jay Dev Vihar Fish market.

Some of the other markets of Orissa where study was conducted were Rourkela, Jharsuguda, Sunabeda, Koraput, Rayagarha. A brief overview of these markets is given below:

Rourkela:

There is only one wholesale market in Rourkela, the Daily market, where both marine fresh fish and dry fish is sold. Around 15-20 wholesalers operate in Rourkela, some of them also acting as retailers.

The wholesalers procure the fish from traders and commission agents at Andhra Pradesh coast, Paradeep coast and Puri. Some however procure fish from intermediate traders in Bhubaneswar. The commission rate offered to them is 6.25%. A few of the wholesalers procure the fish directly from procurement points. The truck charges are borne by 2-3 wholesalers together. Each truck usually transports 140 crates with the capacity of 35kg/crate. Subsequently, the fish is sold to retailers or directly in the market.

The 'Daily market' is small and besides fish, chicken, mutton is also sold. From the daily market, retailers procure fish and sell at another market, Ambagaan Market within the township, Unit 1, which is very small. Vishnu and Ramu Sahu are big wholesalers in the market, the main suppliers to hotels such as Mayfair and Poonam Palace. The consumption in hotels for fish is 400kg/month and prawns are 65kg/month.

Most of the common varieties of marine fish is sold along with inland fish (Ruhi, Chingri, Sivamuni).

Dry fish wholesaler procures fish from Huma market and Bhadrak. There is a godown for dry fish in the daily market where dry fish is stored. Nuajan Prakash is the only dry fish retailer in the market. The main varieties of dry fish sold are Ribbon Fish (Sabala), Hilsailisha (Hilsa), and Chevda.

Retail fish market in Rourkela:

By and large, the retail markets were unorganized. There are small stalls in the daily market. The others are small retailers or pavement vendors who sell in small quantities in other markets in the township.

The sales in Rourkela are less on Tuesdays (for religious purposes) and Thursdays (when most markets are closed). Retailing takes place in the morning from 8:00am-1200 noon and re-opens in the evening at around 1600hrs.

Jharsuguda

Fish Inflow: The fish inflow into Jharsuguda is along the same lines as that for Rourkela . It lies on the Bhubaneswar - Rourkela route. Roadways are the preferred means of transport of fish from different places of Orissa (Bhadrak, Puri,) as well as from Andhra Pradesh.

Fish outflow: Jharsuguda is not the transit point for dispatching fish to other cities. But small quantities of Chital and Papda from the local lakes are sent to Howrah.

Market Infrastructure

Wholesale and Retail market

Like in Rourkela, there is only one wholesale market in Jharsuguda, the Daily market where only marine fresh fish is sold. Around 10-15 wholesalers operate in Jharsuguda, some of them also acting as retailers. Since Jharsuguda lies on the rail and road route to Rourkela, the same wholesalers also trade at Jharsuguda. The fish market in Daily market is very small and besides fish, chicken, mutton is also sold.

The varieties fish sold are Ruhi, Katla, Pomfret, Elisi (Inland fish).

There is no major market for dry fish in Jharsuguda. Local needs are met by petty vendors and pavement sellers.

DELHI MARKET

Fish Inflow: Gujarat and Rajasthan are the major States supplying to Delhi. The marine fish are procured mainly from Gujarat, West Bengal, Orissa, and Andhra Pradesh.

Fish outflows: Delhi is a transit market from where consignments are re-dispatched to various land locked consuming centers located in North India like Himachal Pradesh, J &K, Punjab.

The demand for marine fish in Delhi is locally centric and very less. The major consumers are high class and middle class people, hotels, and restaurants.

Market Infrastructure:

Wholesale fish market:

The major wholesale market in Delhi is **Ghajipur Machi Mandi**. There are around 100 wholesalers trading in this market. They procure fresh marine fish directly from the suppliers outside Delhi. The delivery of the consignment takes place at railway stations, mainly at Old Delhi. The trading at over 100 wholesaler shops starts at 6 am and continues upto 11.00am.

The major fish traded at this market are: Surmai, Black Pomfret, White Pomfret, Shoal, Prawns (Black Tiger and White Tiger), Scampy.

Retail fish market: By and large, the retail markets are unorganized. The retail market is divided into regular markets, improvised sales, open market sales, and sales by hawkers, sales through fried food shops, and contract buyers. The quantity sold by individual shops varies a great deal, between winter and summer. Distribution of fish sold to consumers also varies between various categories of shops, location and seasons. In all, there are 25 retail markets where major percentages of inland as well as marine fish are sold.

A general description of the important markets visited is given below:

1. Jama Masjid retail market: Also known as Mustafa market, it is very old and a highly unorganized market. It accounts for about 20% of Delhi's fish retailing. Here traders have temporary structures abetting the road. The main trading takes place for inland fisheries, however nowadays, even marine fish are sold.
2. Gol Market: It is an old, recognized, regular, fish market. There are almost 20 fish shops in this market. Most of the shops have raised cutting floors for drip washing of fish on display and fish boxes including refrigerated boxes. Most of the shops in Gol market also deal with mutton and Chicken.
3. INA Market: It started as an unauthorized market, but now has been regularized. There are about 10 fish shops, of which half deal with chicken in addition. These shops are of semi permanent construction. Most of them have fish boxes where they keep the unsold quantity of fish mixed with ice. There are no refrigerators in the fish market, but it is well patronized by buyers from South Delhi, including a large number of foreigners. Both marine and inland fish has market here. The costlier varieties of fish sold are Prawns, Pomfrets, Surmai etc along with the less costly varieties.
4. Chittaranjan Park Market: It is the second largest retail market in Delhi with over 30-35 shops in operation. This market is spread over two areas, one having some sort of a shed where the fish are displayed on sheets while the others are in the open. The market timing is 5 am to 10 pm. However, the market gets closed practically when the whole quantity is sold out. Any left over fish is stored in ice for sale, at the same place next day morning or is sold by vendors.
5. Sarojini Market: This market is located in South Delhi and attracts local consumers. There are six shops in this market. Earlier only inland fish were sold here, but now, marine fish is also available.
6. Pavement shops: These are all evening shops. The sellers procure fish mainly from retailers. They purchase spoilt fish and other cheap varieties from wholesale and retail markets and sell them to laborers and others who can't afford to pay a high price. The pavement sale prices are the cheapest as they usually sell small sized fish,

incur no establishment expenses and transport charges etc. They also involve themselves in selling of dry fish to some extent.

Price Spread in local sales:

Since fish is a perishable item, the price of fish is not fixed and varies depending on the daily market. The trend of average wholesale price for marine fish in Ghazipur wholesale Mandi are:

Species	Rate (per kg)
Surmai (Koni)	Rs.110
Black pomfret	Rs. 100
White pomfret	Rs.200,300,160 based on grade
Shoal	Rs.160-170
Kaber	Rs.140
Prawns – Black tiger	Rs.250
White tiger	Rs.
Scampy	Rs 340/10pieces, Rs.300/15pieces, Rs.270/ 20pieces

The retail price is within a margin of Rs.15-25 /kg. However, the prices depend upon the daily demand of fish in the market. The prices, there by are highly fluctuating and cannot be fixed.

III) MUMBAI MARKET: *Transit and terminal market*

Fish Inflow: The inflow of marine fish from within the State of Maharashtra , mainly Ratnagiri and outside the State (Orissa, Andhra Pradesh and Karnataka) caters to the export market. Bhau cha Dhaka (Ferry Wharf) and Sassoon Dock meet the local consumption of Mumbai. Export varieties are also available. Export quality fish arrive in Mumbai, mainly from Vishakapatnam (AP), Mangalore (Karnataka) and to a small extent from Bhubaneshwar (Orissa).

The dry fish arrive in Mumbai markets from Gujarat, and Konkan Coast. Dry prawns and dried Ribbon fish are preferred by all types of consumers and is a delicacy.

Fish outflows: The fish from Mumbai is usually exported to Sri Lanka, Middle East and Malaysia. Fish are exported throughout the year, except during the monsoons (June-July). Also, during summer months fish catch is usually less, which hits the export market.

There is a demand for dry fish in Sri Lanka and Far East, mainly from the Indians living there.

Market Infrastructure:

Wholesale fish market: The major wholesale markets in Mumbai are at Sassoon Dock and Ferry Wharf. The maximum trading here takes place between 7:00 to 11:00a.m, depending on the fish catch. The fish to all over the city is procured from these markets. Retailers from different parts come and purchase fish in bulk which is then dispersed in different areas, depending on demand. Local trains are used to transport the fish.

The fishermen bring the fish to the shore. The fish which is brought to these markets is auctioned by suppliers cum commission margins. This is then sold to retailers with a Re1 – Rs2 margin. A representative of retailers comes to the market and bulk purchases for a particular market. He acts as a commission agent and intermediary between traders and small retailers. He supplies the fish based on demand in the market.

Usually these commission agents earn a certain percentage which varies according to the quantity required. Also it was observed that few retailers directly procured fish from the dock bypassing the commission agent at a lower price, resulting in conflicts with agents. Exporters transport fish from these markets as cargo in ships. Large fish of good quality are usually exported

The main varieties of fish exported from market having huge demand overseas are

- Big Cuttle Fish (Makul)
- Squid (Nal)
- Tiger Prawns

However there are other export varieties which are transshipped as per the demand. The other varieties also sold at the market for export as well as retailing are: Chinese pomfret (Cullet), Silver Pomfret (Pomfret), Blood Red Snapper- White (Tam) and Red (Kombada), Seer fish (Surmai), Cat Fish (Singada), Yellow Fin Tuna (Kholalupa), Reef Cord (Hekru), Ribbon Fish (Baga), Horse Mackerel (katbhangda), Indian Dog shark (Musi), Black Catfish (Kalashingada), Croaker (Doma), Indian salmon (Rawas), Indian Conger Eel (Wam), Anchovy (Mandeli).

Another type of species, Bombay Duck, is found widely in the Arabian Sea along the coast of Mumbai and is highly demanded.

Retail fish market: Retailing in Mumbai takes place in various parts of the city. A fish market exists outside every station along the Central and Suburban railway. Some of the major markets/mandis are in:

- Byculla Market
- Masjid Bundar
- Bandra Fish market
- Dadar Market
- Versova (4 bungalows fish market, 7 bungalows fish market)

Fishing is also done along the Suburban coast, at Versova beach and near Chuim village. The fish is procured at these places through auction and is sold by small vendors and

pavement sellers in nearby markets. There are also door-to door vendors who sell during the morning hours in small quantities. General descriptions of major markets in Mumbai are:

1. Sassoon Dock: It is the largest market in Mumbai located in Colaba in South Mumbai. Sassoon Dock is divided into two areas: one where the auctioning takes place and where offices of exporters are located while another is the market area where the fish is sold. There are 80-100 suppliers of fish. These suppliers procure fish from trawlers. Trawlers may be of exporters/supp/fishermen groups. The suppliers who act as commission agents sort the fish. The fish of export quality are sold to exporters. The balance is sold to retailers cum commission agents who come from different parts of Mumbai.

Auctioning takes place in the trawler. And the price for the entire trading day is fixed based on the first auction for the similar species of fish. The fish is then transported to the supplier's trucks for dispersion in the city. Auctioning takes place mostly between 7:00-11:00 am. Majority of the exporters of Mumbai have their offices in Sassoon Dock.

2. Bhau cha Dhaka: Another major market, located close to Mazgaon.

3. Masjid Bunder: Located on the central railway line. The fish sold in this market is procured either from Bhau cha Dhaka or from Sassoon Dock through commission agents. Fish from other parts of the country like Bhubaneshwar, Vizag and Mangalore which arrive by train are also brought to this market and sold. Fish, from here is sold by small vendors or pavement vendors in nearby areas. Most of the sellers and traders in this area are Muslims.

IV) CHENNAI MARKET: *Transit and Terminal market*

Fish Inflow: The inflow of marine fish from within the State of Tamil Nadu mainly comes from **Kalpakam Shore, Nagapattinam, Nagarcole, Mettur, Rameshwaram and Mamalapuram**. Other places from where marine fish inflow occurs are Vizag, Mumbai, Bangalore, Goa and shores of Orissa.

Roadways and railways are the means of transport of fish to Chennai, railways being the main. All the fish consignments arrive only at Chennai Central.

If roadways are used the fish is delivered directly at the trading point (wholesalers, exporters). However in case of railways, the fish delivered at Chennai Central are then dispatched in pick up vans and Lorries to the trading centers. In most cases, the exporters and wholesalers, they transport their consignments, but in few cases they take services of particular transport companies (Southern Sea Transporters, Chennai Transporters, Kovai Transporters).

The inflow of dry fish comes from Kerala and Vizag. The fresh fish, which is unfit for consumption due to long storage is also sun-dried and supplied to wholesale dry fish market in Chennai

Fish outflows: Chennai is a major trading point of marine fish and well connected by both sea and airways. The fish are dispatched to different parts of the country and also exported overseas. The major overseas markets are Malaysia, Singapore and Middle East.

The major market for dry fish is in Sri Lanka, especially among the Indian community. The local consumption is less and concentrated among the lower class.

Market Infrastructure:

Wholesale fish market: There are no constructed wholesale markets in Chennai and wholesaling is done at major retail markets. The major wholesale markets are:

1. Chintadripet
2. Jam Bazar

3. Old Washermanpet
4. Saidapet
5. Kassim met and Roypurram

Other markets are:

1. Mirzapet
2. Pattalam
3. Alandhur
4. Madhuravayal
5. Teynampet.

Chintadripet and Kasimpet are the most important markets in the city of Chennai where about 60% of wholesaling takes place. The timings of operation of the market start from 5:30 am and continue to 9:00 am after which, retailing starts. The commission agents and the wholesalers, based on the degree of trading have to pay a tariff to the concerned authorities.

The fish are auctioned in lots before unloading from trucks just outside the market. None of the wholesale markets have any truck parking space for loading and unloading of fish. The markets are mainly located in congested areas and usually parked on public roads. Once done, the fish are sorted by the wholesaler, based on the size and quality. Export varieties are dispatched to the exporters. The rest are sold to retailers or in most cases, based on demand, the wholesalers themselves retail the fish. There are on an average 27 wholesale markets in Chennai.

The major fish which are exported are Chinese Pomfret, Silver pomfret, Seer Fish (big) and large size Surmai. The other marine products that are trade locally are Seer Fish (small Surmai), Indian dock Shark, Croker, White Pomfret, Black pomfret (Aluamai), Mud crabs, Leathers kin and to a small extent Prawns.

Retail fish markets: Over 50 retail markets exist in Chennai. Apart from the wholesale markets other markets where retailing is also done are, Egmore, Seven Wells, Thousand

Lights, Choolai, Aziz Market, Mandhavelli, T Nagar etc. Over 90% of the markets are owned and managed by private entrepreneurs. All the markets do not have overnight storage facilities. However the retailers can leave the fish in the custody of market managers. The markets were mostly an integral part of retail market structure which includes sale of flowers, fruits etc. The peak selling hours in the morning is around 9:00am-10:00am as well as in the evening hours.

A general description of the important markets visited is given below:

1. Thirukaraneeswarar Devasthanam Market, Saidapet:

It is in the Southern part of Chennai. The nearest station is Saidapet Station which is on the Suburban rail line. The market is also well connected by road. Both wholesale and retail takes place. Wholesaling occurs between 5:00-9:00am, after which retailing starts. There are 7 wholesalers in the fish market with S.V Anbu being the largest wholesaler. Transactions worth 1-2lakh take place each day in this market. There are total of 120 shops in this market with most having cold storage facilities, as a result of which the fish last for at most one week. In case of any signs of spoilage, the fish is sold to traders dealing in dry fish. This market caters to hotels and restaurants in Chennai

It was observed that illegal trading of endangered species like Indian Dog Shark takes place widely in the market.

Alongside there are separate shops where only dry fish is sold. This dry fish is of very low quality and sold highly bargain able rates. The dry fish is sold loose without any packaging and caters to low class of consumers. Main variety sold in this category is Silver Grunt and Ribbon fish, besides other species.

2. Chintadripet Market:

It is located very strategically located close to Chennai Central. It is on the West of Kovam River and a well spread market. West River End Street and Venkateshwara Street are the main areas where exporters and traders exist. There is a fish mandi on Arunachalam Street where wholesaling takes place during the morning hours followed by retailing. There are outlet centers of these traders in the fish mandi.

The main exporter in this market is Zion Sea Foods Pvt Ltd headed by S. Rathan Kumar. He exports to Singapore and Malaysia and only two varieties which are Chinese Pomfret and Silver Pomfret. These fish have to be above 300g with no damage to serve as export quality. The rate for this fish is highly variable with the average rates for Chinese Pomfret and Silver Pomfret around 500/kg and Rs. 130/kg respectively.

AGR Sea Foods pvt Lt d headed by A Govindrajan is a large wholesaler in this market. If they procure any fish of export quality they sell them to Zion Sea Foods Pvt Ltd and other exporters. They also dispatch to Andhra Pradesh, kerala and the local markets in Tamil Nadu.

SDN Seafood's, headed by Sheikh Dawood is another wholesaler who caters to local needs. He also exports to others cities in India. He procures his fish mainly from in and around Chennai and to a small extent from outside state (Orissa and Andhra Pradesh).

Price Spread in local sales: Since fish is a perishable item, the price of fish is not fixed and varies depending on the daily market. Some of the wholesale rates are given below.

Species	Rate (per kg)
Seer fish (Surmai)	Rs.140
Black Pomfret	Rs. 120
Indian Dog Shark flesh	Rs. 80
Prawns	Rs.120/80 pieces
Croper	Rs.80-90
Mud crab	Rs.70 (100 gms) to Rs.360 depending upon size.

The retail price is within a margin of Rs.10-20/kg. However, the prices depend upon the daily demand of fish in the market.

Commission agents are immediacies in dry fish transactions with commission rate being around 10%.

3.4.3 Export Market

Export market is the international market with a different set of norms and practices as compared to the regional and local market. The quality concern is the highest for this market and hence it ends up using the high value product. The competition in this market is very high and the demand is of very specific nature limited to few species only. Geographically these markets are the farthest and hence the cost of operation to meet the demand of this market is very high. The number of sellers in this market is limited but the number of buyers is high.

The main features of this market are –

1. Large market with large number of buyer and sellers tending towards perfect market
2. Price awareness is very high in this market
3. Demand and price of the product is highly fluctuating
4. Quality is the most important concern in this market

The export markets visited during the study were:

1. Mumbai
2. Chennai

I) Mumbai Market:

The fish from Mumbai is usually exported to Sri Lanka, Middle East and Malaysia. The main varieties of fish exported having huge demand overseas are

- Big Cuttel Fish (Makul)
- Squid (Nal)
- Tiger Prawns
- Bombay Duck.

II) Chennai:

Chennai is a major trading point for marine fish and well connected by both sea and airways. The fish are dispatched to different parts of the country and also exported overseas. The major overseas markets are Malaysia, Singapore and Middle East. The export market is spread all around Chennai, the major being in T.Nagar, Egmore, Mylapore, Tiruvanniyur, Anna Salai, Chintadripet. There are several exporters in

Chennai (like Southern Sea Foods, SSF; Pisces Sea Food International) who solely into exporting and many of them have their trans-shipment and processing units at Vizag. They procure only export quality fish and export mainly to Singapore, Malaysia and they Middle East.

There is a high demand is for Prawns, Seer Fish and Pomfrets (Chinese and Silver)

Export price:

1. Prawns - Rs. 550-700/kg
2. Chinese Pomfret-Rs400/kg
3. Silver Pomfret- Rs. 200/kg

3.5. Product Segmentation

Product segmentation is the process through which products having similar affinity and nature cluster together and follows almost the same line of growth, cater to the similar kind of market and behave in a similar way under the forces of demand and supply. This leads to congressional mapping of the product, which then can be clubbed together into specific segments.

In the fishery value chain, the value of the product can be distinctly classified in four value slabs –

1. Export value product
2. High value product
3. Average value product
4. Low value product

Sr.	Product segment	Average price / Kg
1	Export value product	300- 1200
2	High value product	150- 300
3	Average value product	50- 150
4	Low value product	< 50

Average prices for various product segments for fishery

This classification is based on the primary study for the various traded species of the fish. The average price of the fish species is the average mean price of the species given by the respondent. The segmentation for the different species of fish is based on the price, size and quality.

3.6. Supply Chain

Players in the Chain: Players are the actors who take up various activities in the chain in lieu of certain returns accruing to them. The roles and responsibilities of the players are defined and specific. The actors perform unique function in the chain, which is exclusive in nature and hence categorizes the actors based on the activity undertaken/service provided by them.

Irrespective of the chain based on the product or market segmentation, the actors present in the chain are as follows –

- Fishermen who do not have a boat.
- Fishermen, boat and net owner
- Trawler owner
- Auction agents
- Commission/Collection agents
- Transporters
- Ice Providers
- Godown owner (Gaddiwala's)
- Wholesaler
- Exporters
- Head loaders
- Cycle vendors
- Petty sellers trading fish in kind
- People working as fish packers at the landing centers and in processing units
- Ancillary participants

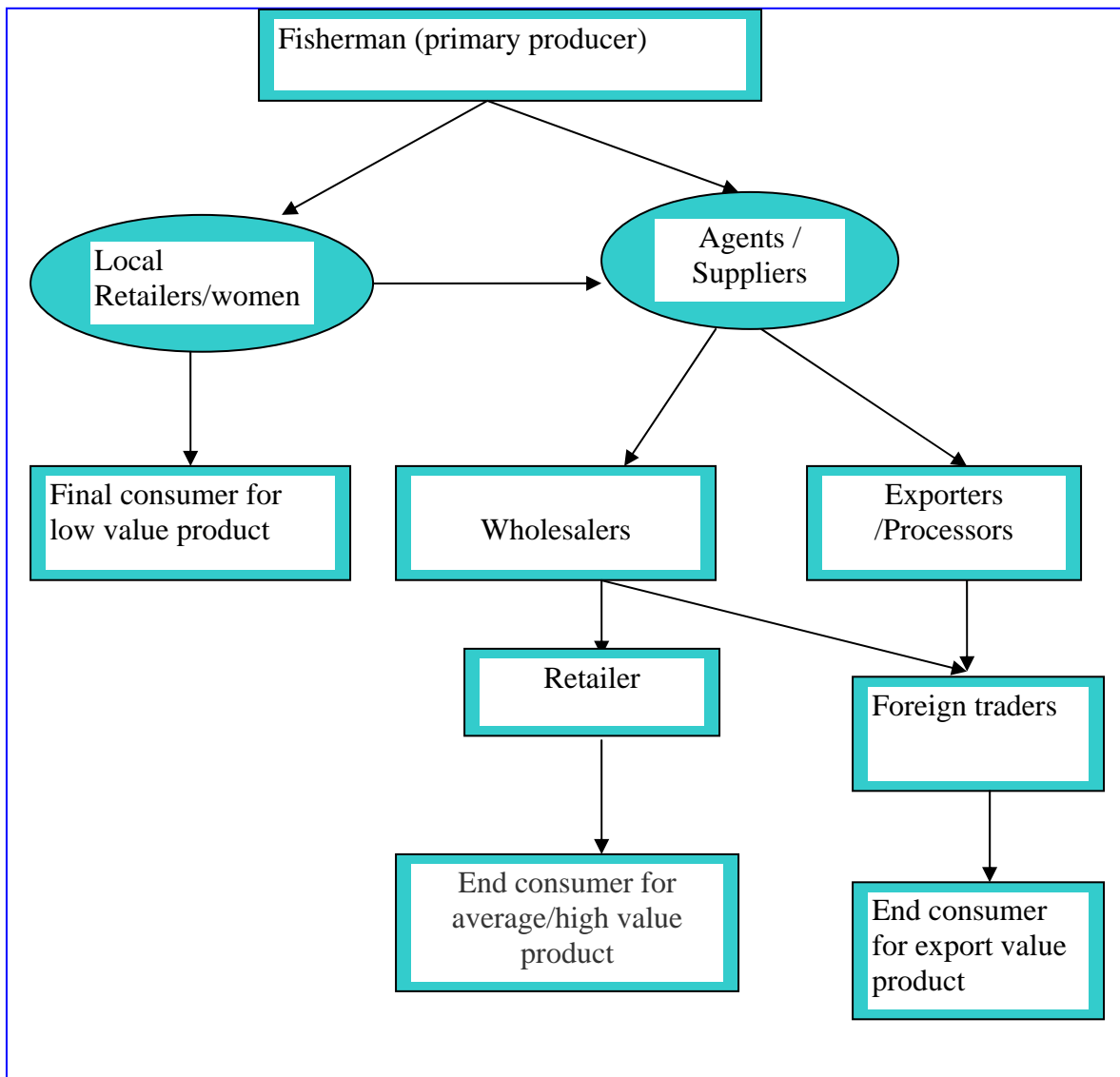
Table Summary of roles and responsibilities of players in the fishery value chain

Actors	Role and Responsibilities
Fisherman Does not have a boat	Goes as wage labourer for fishing, under labour contract, in an informal group called 'Meli'
Fisherman, boat and net share owner	<ul style="list-style-type: none"> ▪ Arranges for worker and other variable factors for capture. ▪ Normally goes with the group, gets share for his boat and net and also his own wage share ▪ Sometime plays role of commission agent also.
Trawler owners	<ul style="list-style-type: none"> ▪ Arrange for the worker ▪ Takes care of availability of variable inputs ▪ Make arrangement for transportation / sale of the product ▪ Meet the credit requirement of the crew.
Auction agents	<ul style="list-style-type: none"> ▪ Belong to the fishing community ▪ Tied to the godown owners' Ascertain the value of catch. ▪ Ensures that the catch goes to the specified godowns that have advanced money to fishermen.
Commission agent / Collection agent	<ul style="list-style-type: none"> ▪ Participate in the auction ▪ Collect fish at landing centre ▪ Supply to the specified godowns or exporters
Godown owner/trawler owner	<ul style="list-style-type: none"> ▪ Participate in the auction through agents ▪ Make arrangement for transportation / sorting / weighing / storing ▪ Operates his own mechanised boat. ▪ Runs a storage house and transport arrangement ▪ Sends fish to wholesale markets ▪ Meet the credit requirement of the fisherman

Wholesalers	<ul style="list-style-type: none"> ▪ Make arrangement for the product ▪ Make arrangement for sale / auction ▪ Provide support facilities to the middleman ▪ Meet all the requirement of moving the product
Exporters	<ul style="list-style-type: none"> ▪ Own processing unit, where they process, pack ▪ Sell directly abroad or through their clearing and forwarding agents.
Transporters	<ul style="list-style-type: none"> ▪ Loading and unloading of the shipment ▪ Transportation of the shipment to the distant market
Ice providers	<ul style="list-style-type: none"> ▪ Supply of ice to the middleman and the retailers ▪ Provide credit supplies to the middleman on preferential business terms
Head loaders/Cycle vendors	<ul style="list-style-type: none"> ▪ Purchase fish directly from auction ▪ Cater to nearby retail markets.
Petty sellers trading fish in kind	<ul style="list-style-type: none"> ▪ Collect fish at the landing center ▪ Sell to the local vendors
Ancillary participants	<ul style="list-style-type: none"> ▪ Provide service in terms of manpower

3.6.1. Supply Chain of marine fresh fish

There are some variations in the supply chains in different markets which were analyzed during the study. However, on a generalized basis we have arrived at the following supply chain.



The fish procured from the sea is brought by the fisherman to the shores. It is then sorted depending on size and species. Thereafter, an auction takes place wherein local fisherwomen, agents participate. The fisherman quotes a price, and after much bargaining the agents procure the fish. These agents transport the fish from landing

centers to markets in bigger towns and cities, by pick up vans. The transport is often provided by the wholesaler (who is procuring fish) or the agent itself.

Sorting again is done at the wholesalers and dispatched to retailers in local markets or regional markets, as per the requirements. The good export quality fish is sent to exporters and processors for processing the fish further, for exporting overseas. The average to high quality is sent to the retailers, is finally bought by the end consumer.

During lean periods of fish catch, they purchase the fish from trawlers (from Andhra Pradesh) which is brought back to the shore. They buy fish at Rs 200 / net on an average from the lounge. An auction takes place wherein the fisher man quotes his initial price, which is usually thrice the rate like say Rs. 600. However, after much bargaining the fish is sold at an average rate of Rs.260/basket. There is no monopoly of any single trader, and usually they procure through auction. The fisher men can sometimes earn a profit of Rs 200-400. After the auction and on receiving the money, they return to the lounge and make the payment

In this trade, almost all the participants are also commission agents, the commission with a margin of Rs.1/kg. .

CHAPTER FOUR



Findings and Observations

Dry fish and Value Added Products

Fish and fishery products form an important part of the dietary practice of the Indians.

It has significantly contributed towards the improvement of the nutritional status of the populations. Aquatic resources are vital sources of nutrients, vitamins and minerals and its harvest, handling, processing and marketing provide livelihood for millions of people as well as providing valuable foreign exchange earnings to our country.

Fisheries provide employment to about 5.96 million part time and full time fishermen in India. The sector also provides sizable employment to the people in ancillary industries like boat building, gear design and fabrication, fish processing, marketing etc. The contribution of fisheries sector to Gross Domestic Production (GDP) is 1.5% and 5.0% to agricultural GDP. The per capita fish availability in India is 4.7 kg/ year (Laurenti, 2002). Processed food exports were at over Rs. 13,500 crores in 1998-99; out of which marine products accounted for over 34% (MPEDA, 2000).

The current production of fish in India forms only 71.0% of the total potential and hence there is an ample scope of improvement and thus can be added up to the nutritional security. It is estimated that globally, about a third of the fish catch is not utilized for human food consumption because of post harvest loss resulting from poor handling and preservation. In India, there is also the problem of under utilization of by- catch due to the many species that are caught in the net. The cost effective and efficient utilization of aquatic products demands proper processing and distribution. Demand for fish and fish related products are increasing day by day in our country and reduction in post harvest losses can make a major contribution to satisfying this demand, improving quality and quantity for consumers and increasing income for the producers.

4.1 Value Addition and Value Added Products:

Value Added product is a commodity or product that has been changed, produced, or segregated such that a greater portion of the consumer dollar is earned by the producer. Value may be added through further processing, packaging or marketing of a product.

In the fisheries sector, value addition can be done at each stage right from fish procuring in the sea to delivery to the end consumer.

4.2. Potential in Ganjam:

Nolia community, the marine fisherfolk along the coast of Orissa, has been fishing for years. The fish catch from the sea is auctioned at the landing centers to agents, suppliers as well as local fisher women. However, there has also been a demand for dry fish in local markets.

Traditional practice has been to dry the fish on the sand under the sun. This sun dried fish is then sold in markets or to agents who supply them in regional and national markets. Sun dried fish has a long shelf life, so wholesalers tend to stock these fish in godowns for months. The fish is left uncovered in the market and is very unhygienic. Also, fish, dried in this manner used to fetch very low price in the markets.



However, in the recent years, especially after SAMUDRAM intervened, there has been a sea change in the way fresh fish is handled and drying is carried out. The Women Federation has provided for platforms on the shore where the fish is dried. This is a more hygienic practice and addition of preservation salts has increased the shelf life further. Also, this method of drying fetches Rs.1-2 more / kg more.

Fisher folk are provided training in the SAMUDRAM training centers as well as at the College of Fisheries, for better and hygienic fishing practices. They are also being trained to produce value added products like prawn pickle, fish pickle, papads.



Currently, SAMUDRAM is into a test market for its value added products. The varieties that are used in the preparation of pickles and hygienically packed dry fish are shown in the table below:

Dry fish	Ribbon fish Deep bodied Sardiville. Anchovi
Pickle	Seer fish Prawn

SAMUDRAM is trying to push its products in local haats and in festivals, like the Gopalpur Beach Festival.

4.3. Local Market for Dry fish Ganjam:

Huma Market, the largest dry fish haat in Orissa, is located in Ganjam. It is a weekly haat, which happens in the early hours of Sunday. Large scale trading takes place here and traders from Orissa and Andhra Pradesh arrive at Huma Haat. This market mainly caters to the lower class of consumers or traders from other places who select quality fish for trading elsewhere

The auctioning and sale process begins at around 4:00am. Traders bring species of fish (lower grade and inland fish) and come here to purchase high grade quality fish. As there is no market there for such a low quality fish, they dry the fish and come to Huma market where they sell it at higher prices, thus earning good profit. Transactions in Huma Haat are to the tune of 45 lakhs/ haat

There is a government godown, equipped with cold storage facilities, where they store their fish. The cost of preserving is Rs. 40-50 / bag of a quintal. A general rate list of fish sold at Huma Haat is given below:

Fish Species	Rate
Narlibori	Rs.50/Bissa
Huli	Rs.70/bissa
Patharmundi	Rs.70/bissa
Phulchand	Rs.70/bissa
Chandi	Rs. 50/Bissa
Savla	Rs.50/Bissa
Netalu	Rs.130/bissa
Kukuli	Rs.200/bissa
Kavla	Rs.60/Bissa

1bissa=2 kg.

4.4. Regional Markets

4.4.1. In Orissa:

Boriguma and Jeypore – Transit cum Terminal Market

Fish Inflow: Fish inflow in Boriguma is mainly from Andhra Pradesh, Kerala and Mumbai markets. Fish comes from Kakinada, Snepetta, Eluru, in Andhra Pradesh.

Fish outflows: Largely, fish are dispatched to different parts of Orissa. Small consignments are dispatched in trucks to Jeypore, Nabarangpur, Bhawanipatna, and different places in the State.

Market Infrastructure:

Wholesale market:

The consumption of fresh fish is very low. Only 100 to 150 kg are consumed in a day which comes from Andhra Pradesh

There is one *large* wholesale market called ‘kot’ managed by a group of 60 traders of same community, in Boriguma for dry fish trading. There are three godowns for storing the fish



On an average, everyday 4 trucks come to the market. Then the fish is transported to retailers of different parts of Orissa.

Retail fish market:

Retail market for dry fish is situated at Maharanipeta, Jeypore. There are about 10 small stalls in the regular markets where besides fish, chicken are also sold.

Table Wholesale rates of dry fish at Jeypore

	Wholesale price (per kg)	Retail price (per kg)	Procured from
Kabla	20	30	Andhra(sompetta)
para	30	35	Kerala
sabla	40	45	Kakinada
chingudi	80	85	Mumbai

Koraput

There is no wholesale market for dry fish here. A retail market which is highly unorganized is situated in Koraput. In morning and evening time vendors sell the fishes on the roadside.

Raygada

There is a wholesaler called Chinna, in Jagannath Math, Raygada. He has his own truck for transportation. He imports fish from Andhra Pradesh and supplies to the retailers and street vendors.

There is a retail market in Raygada. It is an unorganized market with few small stalls located.

4.4.2 Chennai

The only market in Chennai where large-scale wholesaling of dry fish takes place is Pulianthope Dry Fish Market (Parrys). The varieties of fish which are sold are Ribbon Fish (Sabala), Chinese pomfret (Tela Chandi), Silver grunt (vecti), Blood red Sniper (Patharmundi) etc. This is the largest dry fish market in Chennai and in Tamil Nadu. It is a wholesale market for dry fish where mixed varieties of dry fish are traded. Traders

from all over South India (Kerala, Andhra Pradesh, Tamil Nadu, and Karnataka) come to this market to trade dry fish at highly bargainable rates.

Ribbon fish, mackerel, Seer fish and silver grunt are sold in large quantity. Also some mixed varieties of dry fish is traded in this market. Apart from inter-state trading, petty vendors and dry fish retailers in and around Chennai procure their fish from this market.

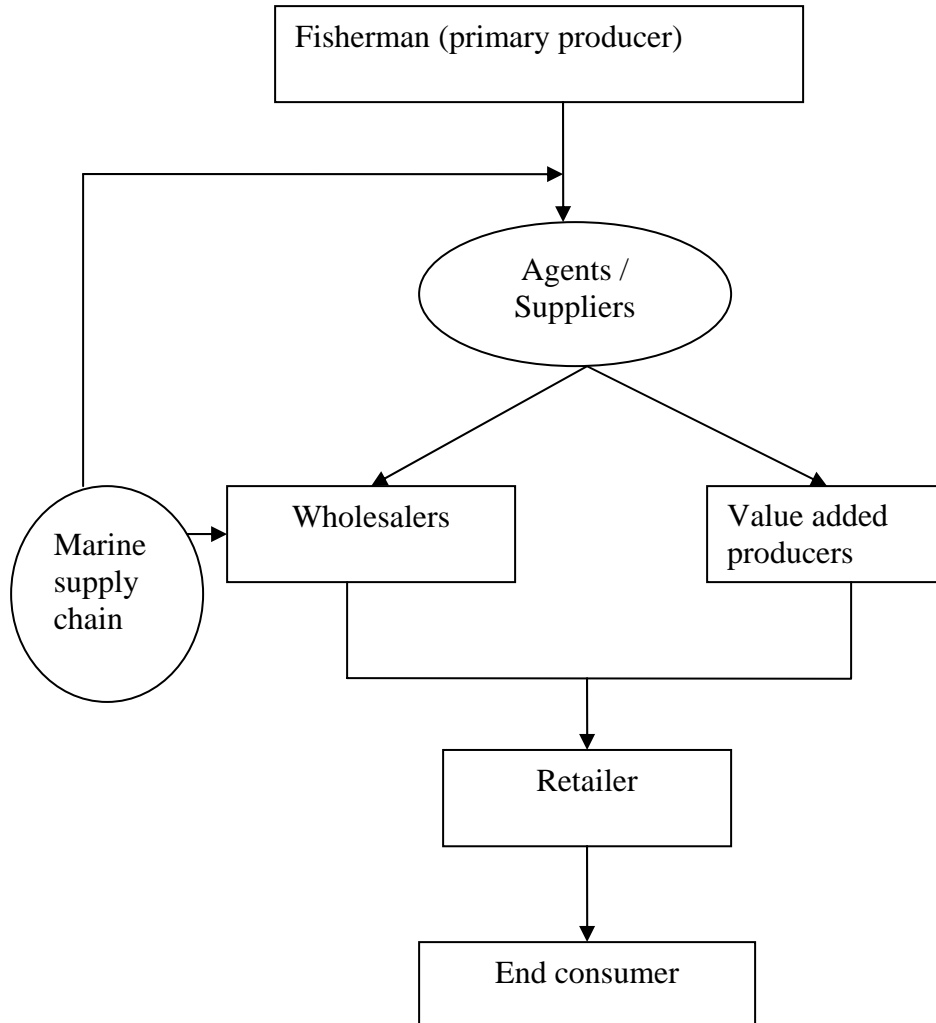
The other value added products such as pickles, fish meal, papad etc has a very marginal market locally. But there are few business houses, dealing in these value added products. However they face stiff competition from Kerala, where there is a strong base in value added fisheries products.

4.4.3. Mumbai:

Sewri market, in Mumbai is the only major market for dry fish in Mumbai, besides the weekly Dadar dry fish market on Friday. There are around 5 exporters and 10 retailers in this area. The main dry fish varieties which have demand in local markets are: Bombbil, Kardi, Jhoola, Ribbon fish

The **Fern's prawn pickle** is the only prawn pickle, that is available in Crawford Market, one of Mumbai's largest wholesale market. It is manufactured as well as marketed by Mrs. N. Fernandes, 19, F. M. Cariappa Marg, Khadki, Pune. In Crawford Market, a bottled prawn pickle of 380 gms. was being sold at Rs.55 (wholesale price), against the retail price of Rs.55. The wholesalers reported that they were getting a margin of Rs. 6 - 7 per bottle. No other companies prawn or any other fish pickle was available. It was also said that the demand for this pickle is high, but is masked because of low awareness among people.

4.5 Supply Chain for dry fish



The dry fish market is more or less similar in most of the places we visited. The fish procured from the sea is brought by the fisherman to the shores. Thereafter, an auction takes place wherein local fisherwomen, agents participate. The fisherman quotes a price, and after much bargaining the agents procure the fish. In some of these shores, the fishermen dry the fish directly in the sun, by adding preservatives. The sun drying practices have been changing, from the conventional method where the fish was dried

directly in the sun on the sand. Nowadays a platform is constructed on the beach, where the fish is dried. This is a more hygienic practice.

This dried fish is sold to agents and suppliers who transport it to different local and regional markets, wherever dry fish consumption is high. Wholesalers procure the dried fish from such agents, as per the requirements and sell it directly to consumers or to retailers. Value added producers also procure dry fish from agents (only select species are preferred) which are then processed, packaged and sold to end consumers.

Fish from the marine fresh fish supply chain also enters the dry fish supply chain. Fish which is likely to get decayed or spoilt is dried, processed and sold to the end consumer.

CHAPTER FIVE



Analysis and Suggestions

ANALYSIS

Supply :

➤ Procurement: SAMUDRAM is currently procuring fish from 7 landing centers out of the 33 villages where it is operational. The procurement is minimal and untapped. It can be increased manifold, if all the landing centers are covered. However there are some obstacles and barriers which need to be overcome.

1. There is a huge and strong nexus between all the players in the supply chain, making it very difficult to make an entry.
2. The supply chain analyzed was more or less a closed one. Closed supply chain being one where there are direct linkages between the players and longstanding, for example, the loyalty between fisher folk and local traders.
3. But there are various weak linkages in the chain, which can be identified and where an entry into the market can be made. The role of intermediaries at this stage is very crucial.
4. Insufficient flow of funds and necessary infrastructure is another obstacle. However, some of the existing traders in the trade provide the fisher men with capital needed, storage facilities (godowns) etc. As a result, SAMUDRAM has to face stiff competition from them as the loyalty of the fishermen is greater to such traders.
5. When SAMUDRAM participates in the auctions (which take place at the landing centers), the procurement rate increases. As SAMUDRAM quotes a better price than traders, the fisher men try to capitalize on the opportunity and further increase the rate. This poses a barrier in terms of large-scale procurement, presently.

- Seasonality of fish: Fish catch is highly seasonal. During lean period (February-April), the local demand is high, increasing the procurement price. Further, in the month of March, the Government ban, for 45 days, results in reduced fish catch. This results in a situation where supply does not match demand. This creates a problem for SAMUDRAM, to compete in regional and export market.
- The fishing practices among Nolia tribes are traditional and there are few mechanized boats. Thus, the fish catch is not organized and not specific to a particular variety. For example, though demand for tiger prawns in the market is very high, it is not always possible to catch similar species.

Demand

- Demand for a particular species in different local, regional and export markets depends upon a number of factors such as:
 1. *Tastes and preferences:* The species preference varies from place to place. In land locked areas, inland fish is preferred over marine varieties. However, along the coastal belts marine fish is preferred. For eg, In Orissa, where fish is the staple food, there is a wide variation in fish preference. Along the coast, people prefer marine as well as inland fish (from Chilika). In the Southern and Western Districts which are landlocked), dry fish is preferred. Also, dry fish is preferred mostly by the lower segment of consumers.
 2. *Availability:* The demand is influenced upon the availability of fish. For eg, Delhi, being far from the shore, marine fish is not a very important constituent of the diet.
 3. *Affordability/prices:* Purchasing power of consumer determines demand of a variety. Export quality is high priced and despite being of very good quality, it cannot be afforded in local markets. For eg, Tiger prawns, are highly preferred, but the demand is comparatively less, the high price being a deterring factor.

4. *Customs and traditions:* Local customs play an important role in identifying markets. For eg, Preference for dry fish in the North India may will be low as compared to the South (kerala).
 5. *Knowledge:* The general consumer mindset is that dry fish is not suitable for their health, as well as taste. But, most of the consumers are unaware about the fact that dry fish is much healthier and hygienic than fresh fish.
- *Species demanded in different markets:* The species of fish available in different markets, though almost the same, a preference for a particular variety is greater in each market.

Market	Most preferred species
Orissa	Rohi (inland)
Chennai	Pomfret
Delhi	Surmai
Mumbai	Bombay Duck, Pomfret

The table reflects that there may be a preference for marine or inland fish. This is based on a year round demand. There is however, a demand for Prawns in almost all markets.

- Large size, good quality fish fetches a higher price than medium and small size fish. These fish are usually export varieties fish. The three most demanded species in the export market are: Prawns, Seer Fish and Chinese Pomfret.
- *Turnover:* Wholesale and export markets have high turnovers, as they trade in bulk. The fish traded is high priced and of better quality. Chennai and Mumbai being transit cum terminal markets, large-scale trading takes place. The annual turnover in those markets is to the tune of crores of rupees. Turnover is an indicator of market coverage.

- Margin to all intermediaries: In the fish trade, intermediaries, (from producer to consumer) play a crucial role. They are lured to those markets where their margin is very high. Though the margin ratio primarily depends on the cost sharing and not on the number of intermediaries. A general trend observed in these markets is that there exists role reversal for key players. i.e. a wholesaler/ retailer/ the staff working with them may act as intermediaries.
- Seasonality: The whole trade is largely dependent on seasonality. The market demand is affected by seasonal variation in fish catch. During lean phase, (February- April), the demand in markets increases. This is the period during which traders having good infrastructural facilities,(cold storage, freezers, etc) can cash in. To make an entry into this market, this is the most important time period.
- Customs and traditions play an important role in estimation of demand. For example, during festival season (Shravan, Rath Yatra etc), there is dip in fish sales. Similarly, during the marriage season, there is an increased demand for fish.
- Economic fluctuations: Fluctuations in the economy is interlinked to this trade. There can be a period of boom as well as depression. For eg,. The current scares of bird flu in India have created an increased demand for fish and fish products. And it is observed that primary producers (trawlers, fishermen etc) have increased their fish catch at the sea.
- Government policies and regulations: There are many policies and regulations related to marine sector. The sea has been divided into special economic zones, (Exclusive and Inclusive). There are restrictions regarding the area within which fishing can be carried out. Also, exports do get affected by restrictive government policies and a very much demanded species cannot be exported. e.g. the Indian

Dog Shark, which has been enlisted as a highly endangered species, though in great demand cannot be traded. However illegal trading continues to take place.

➤ Feasibility

Trading in any sector can be undertaken if it is feasible, viable and cost effective for the parties, buyer and seller. Some key attributes under which feasibility study can be carried out are:

- *Cost of procurement:* Procurement can take place through direct purchase or by participating in auctions. The cost is proportional to the competition with existing traders. For eg. When SAMUDRAM participates in auctions at landing centers, the price quoted by the fishermen increase.
 - *Cost of operation* from landing center to transshipment point. It includes labour cost, transportation cost, storage expenses etc. A place close to landing centers may incur less cost of operation than a far of place.
 - *Margin:* High margin attracts the players to enter into the trade. Generally, regional markets give high margin to the traders than local markets.
 - *Incidence of loss:* The terms of trade mentions who will bear the incidence of loss in case of spoilage or damage of the consignment. There is a huge stake involved in determining the trade relation under this ground.
- Existing marketing network plays an important role in coming up to the decision whether trade is feasible for a market or not. More specific the network with role distributed to each player, more feasible is the trade.
- Any trade is feasible if profit shares, rate of recovery of credits, debt ratio, turnover ratio is mentioned and according to the market standard. Generally in regional markets (Chennai, Delhi, Mumbai etc.) these ratios are fairly high.
- Finally, another concern for community initiative programmes is the time taken for end beneficiary (here the Nolia fisher folks) to receive benefits out of trade.

SUGGESTIONS/RECOMMENDATIONS:

- The Federation should try to capture most of the landing centre trade by breaking into the trade nexus. This can be achieved by building and strengthening network of existing traders and potential traders (from the community itself). Further, an in depth study of supply points and procurement centers should be carried out. Influential persons who have a say on community (government officials, Sarpanch etc) should be made stakeholders. This will increase the supply base of SAMUDRAM, which will be sufficient and sustainable in meeting long term demand needs. Before ensuring this, SAMUDRAM should not venture into other markets.

- Investment in infrastructural facilities is hugely required. For this, community should be involved in generating capital and not be dependent on funders and donors. This will also help to create a sense of ownership in the community, leading to sustainability.

- SAMUDRAM should aim at capacity building among the fishermen and inculcate managerial skills in effective working of Federation.

- The fishermen are yet to realize the benefits that can be reaped if they change their traditional fishing practices. An awareness among the community has to be created regarding, fishing gears, preservation mechanisms etc. Training should be imparted for processing fish into value added products. They should be made aware about hygienic preservation and packaging processes (for value added products) and how this can benefit them, in terms of greater sales, and income. Awareness campaigns with SHG-NGO intervention can play a key role here. Tools such as street plays, jathas, hoardings and word-of mouth can enhance this process.

- An information centre should be set up at a strategic location where the fishermen and community members can get all the information that they require about the trade. Information kiosks are the norm of the day, and can provide a gamut of information ranging from fishing practices to market prices in different markets.

Demand

Target Customers: Middle and high class customers, a greater awareness of hygienic value products should be created among lower class as well.

- As per the analysis carried out by us, there is greater demand for marine fish in markets. In contrast, the dry fish market is small and confined to a segment of population. To make entries as dry fish producers may be difficult and unviable. Therefore SAMUDRAM should try to increase procurement of fresh fish from landing centers, compared to the current procurement. As a pilot project they should carry out a feasibility study of different markets, taking into view parameters such as connectivity, market coverage. Attention to land locked areas where no fish availability should be given. This requires a detailed study, of the market scenario, existing traders, procurement centers
- SAMUDRAM should contact traders in different markets and try to establish linkages with them. Our study revealed that many traders were willing to enter into trade with SAMUDRAM, there only concern being continuous supply of quality species in bulk. They study revealed that demand is not an issue but quality standard should be of acceptable standard.
- The pilot stage should be carried out in two phases, after identification of the most feasible and viable markets.
 - *Phase 1:* Two local and two regional markets should be selected as a test market drive. Existing traders (5 traders from each location), should be identified and linkages with them should be established. Selection should

be on basis of margin that they provide, their turnover, which species they specialize in, SAMUDRAM capacity to supply and terms of trade.

Prior to stage two, a study should be carried out to evaluate the success of the pilot stage. Based on the findings, the federation can continue with the same traders, add more to the list or drop out some. Efforts should be made to sustain this stage for one entire fishing cycle (at least one year), before any conclusions can be drawn and to draw an effective course of action.

- *Phase 2: Expansion of trade in all areas, market wise, and trader wise.*
- The revenue generated from fresh fish market can be directed to create brand ‘SAMUDRAM’ for value added products. Brand names play a key role in carving a niche in markets, especially when catering to middle and higher class of consumers.
- Emphasis for dry fish and value products should be on “hygiene” aspect while packaging the product. **CHIIKA**
- Promotion for these products should be initiated on a small scale through advertising. Consultancy form a marketing agency can be used for this purpose.
- Trade fairs, Melas, are good test markets for showcasing the value added products of SAMUDRAM. Continuous and constructive feedback should be taken from customers, which will be useful in further improvement of the product.
- Training provided by SAMUDRAM to the community is a step in the right direction. But a constant skill up gradation is required. Technical skills should be imparted.

- Infrastructural Investments: An effective and efficient transport mechanism should be developed, so that the fish can be transported from landing centers. godowns, drying platforms, storage facilities, prior to procurement should be developed as well.
- Marketing should be gradually taken by the Federation in the long run, in terms of procurement, sales promotion, distribution, marketing, so that profits can be retained. SAMUDRAM should be the main stakeholder.
- We recommend an in depth study of Kerala market for value added products. Value added products from Kerala have a huge demand and are widely preferred. SAMUDRAM/UAA can carry out a study for such products in that market.
- Ultimately, community participation should be given utmost priority for sustainability of project. This requires participation from the community in every aspect of trading.

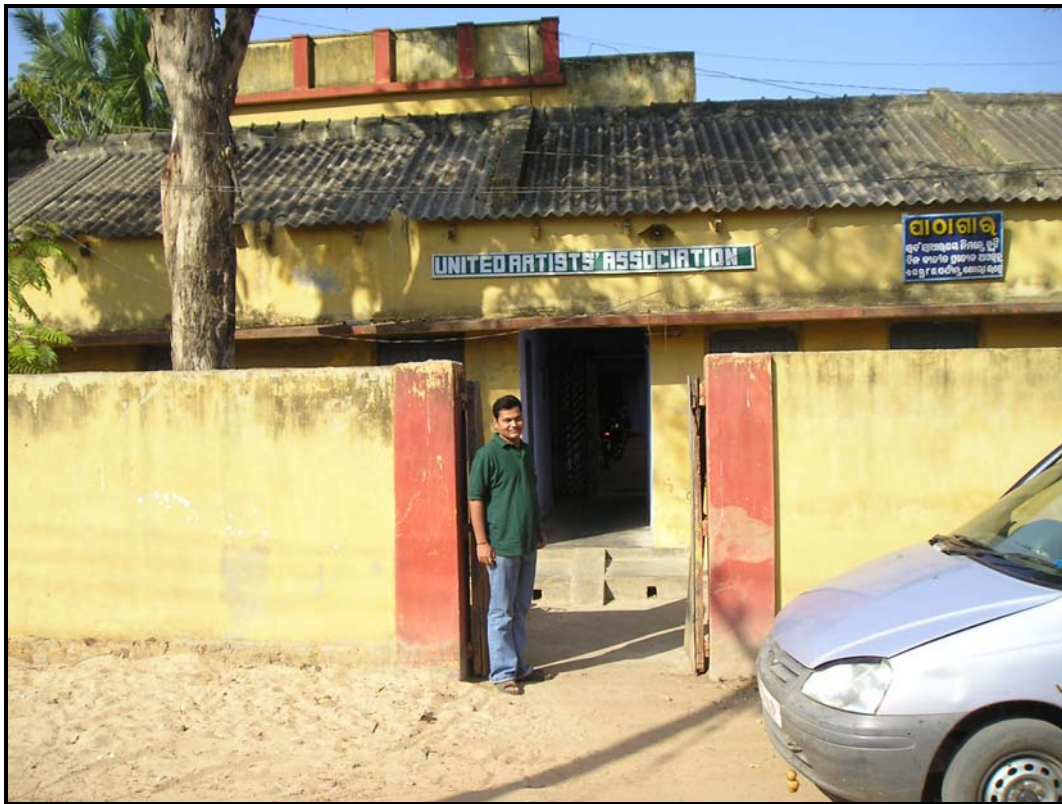


Annexure

Annexure 1

United Artist Association (UAA), Ganjam

UAA is a voluntary organization, registered under the Societies Registration Act of 1860, in 1967. In 1965, different youth groups in Ganjam town united together to work under a single umbrella and raised funds through cultural programmes and drama to use for welfare and emergency relief and for the establishment of educational institutions. Thus, the organization derived its name – United Artists Association.



In 1995, Government of Orissa and UNICEF recognized the organization as a nodal NGO and channel their funds through UAA to develop water and sanitation status in the rural areas of the district. Since then, the organization works with a network of grassroots NGO's, Community Building Organizations (CBO's) and played a catalytic role in developing the capacity in terms of managerial, technical and human resources of its network members. Currently, UAA provides support service to

- 22 Block level NGO's

- 2 Block level Dalit women's organizations
- 1 District level Federation of farmer's organizations.
- 1 District level Federation of tribal organizations
- 1 State level Federation of Women marine Fish workers organizations and
- 1 Traditional Fish workers Union.

Their headquarters is located at Ganjam town in Ganjam district, Orissa.

UAA always adopts a bottom-up strategy, a PLA strategy to ensure the involvement of the community in planning, implementation and monitoring and evaluation of each and every programme.

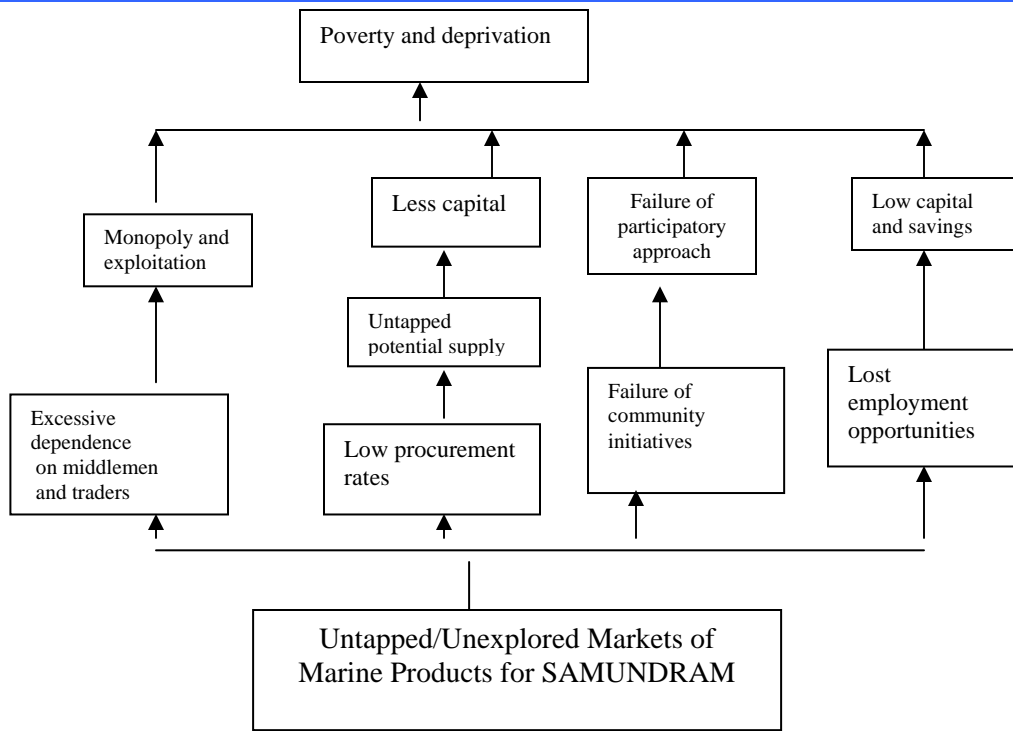
UAA's partners in development are the Government of India, Government of Orissa, Action Aid, UNICEF, SEEDS, AICF and CWS

Mission Statement: UAA is committed to promote a non-exploitative, gender, human rights sensitive, environment friendly, hunger free and self reliant society in Orissa.

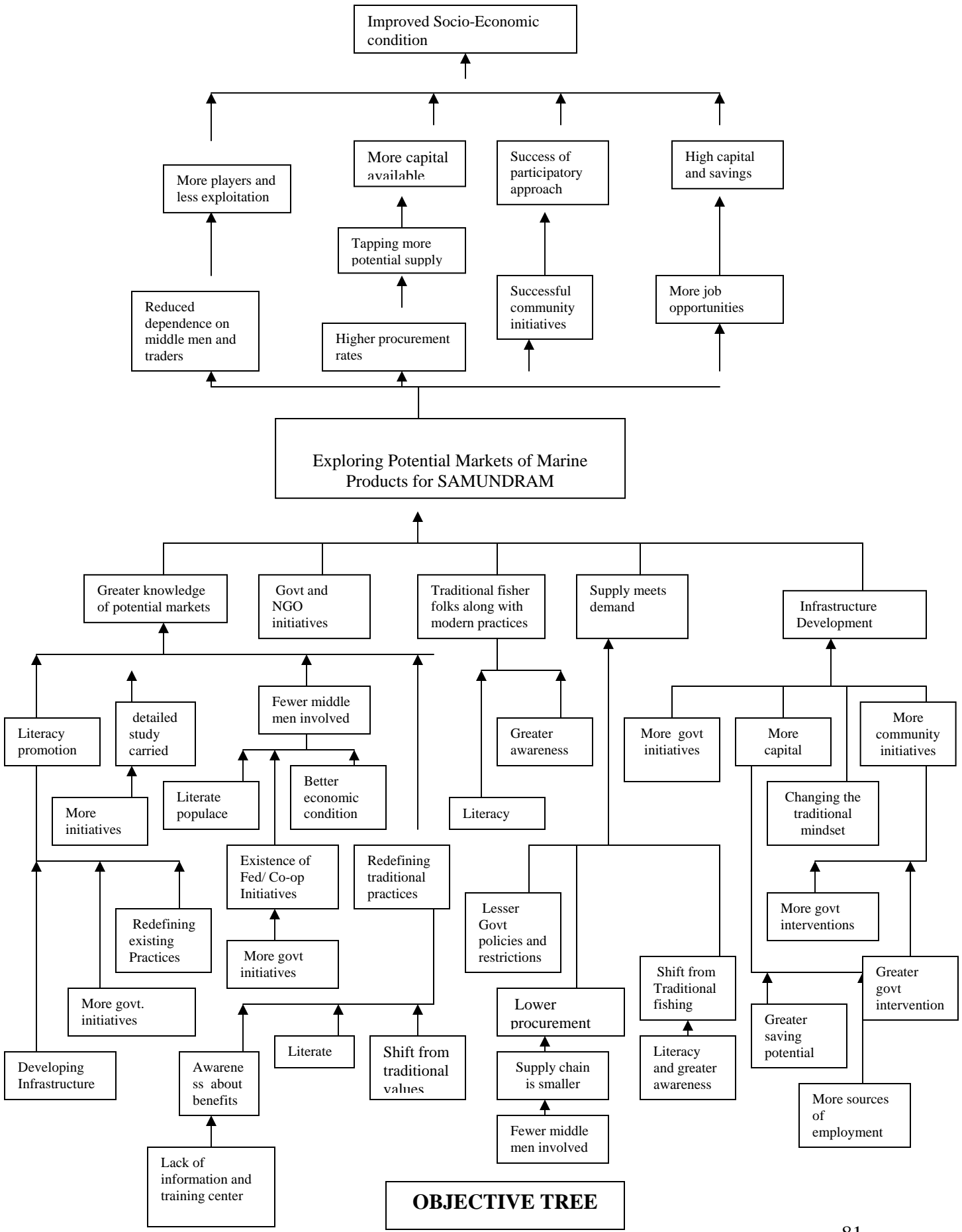
Annexure 2 STAKEHOLDER ANALYSIS

PARTICIPANTS	INTEREST	STRENGTHS	WEAKNESSES	POTENTIALS
Nolia Community (Marine Fisher folk)	<ul style="list-style-type: none"> ▲ More livelihood ▲ Better market price. ▲ Improved standard of living ▲ Improved socio-economic conditions 	<ul style="list-style-type: none"> ▲ An integrated community with common interests ▲ A resilient community ▲ Willingness to improve their conditions 	<ul style="list-style-type: none"> ▲ Traditional fishing practices ▲ Limited awareness and exposure ▲ Low literacy ▲ Over dependence on fishing for income. ▲ Dependence on middle men 	<ul style="list-style-type: none"> ▲ Fishing is their only livelihood ▲ Major fishing community of Orissa spread over 6 districts
SAMUDRAM (Federation of Marine Fisher women)	<ul style="list-style-type: none"> ▲ Empowerment of women. ▲ Improved socio-economic condition of women. ▲ Decision making. 	<ul style="list-style-type: none"> ▲ Clearly defined roles. Goals. ▲ Teamwork ▲ Participatory approach ▲ Similar interests. ▲ Unity in implementation 	<ul style="list-style-type: none"> ▲ low literacy ▲ Unaware about existing markets and marketing practices. ▲ 	<ul style="list-style-type: none"> ▲ Ability to take challenging decisions ▲ Can approach markets in large way.
United Artists Association (UAA)	<ul style="list-style-type: none"> ▲ Success of Community Participatory initiatives. ▲ Improve Socio economic conditions of deprived communities. 	<ul style="list-style-type: none"> ▲ A relatively Organized body. ▲ Access to funding ▲ Greater awareness about markets ▲ Willingness to work for deprived community at grassroots ▲ Experience in the field. 	<ul style="list-style-type: none"> ▲ Lack of infrastructure ▲ Dependence on donor agencies ▲ Strategy to be defined 	<ul style="list-style-type: none"> ▲ Intermediaries between government and community ▲ Access to facilities (funding, infrastructure, awareness etc) ▲ Ability to mobilize people

<p>Small traders/vendors/middle men</p>	<ul style="list-style-type: none"> ➤ To continue existing practices in community. ➤ Procurement of high variety fish at low rates. ➤ Gain more profit through trade. 	<ul style="list-style-type: none"> ➤ Monopoly at trading shores ➤ Well acquainted with the community ➤ Know the market well 	<ul style="list-style-type: none"> ➤ Threat from other middle men ➤ Trade at a very small scale. ➤ No access to large markets. ➤ Inability to pay higher rates to fishermen. 	<ul style="list-style-type: none"> ➤ Play an important role in the supply chain (between fishermen and larger traders)
<p>Large Traders/Exporters</p>	<ul style="list-style-type: none"> ➤ Continuous supply of high quality fish ➤ Cost effective rates ➤ Less fluctuation in markets. 	<ul style="list-style-type: none"> ➤ Large scale operation ➤ High profits ➤ Good infrastructure and storage facilities ➤ Located at strategic transit or terminal markets\. 	<ul style="list-style-type: none"> ➤ No direct procurement ➤ Overdependence on supply chain ➤ Profit oriented 	<ul style="list-style-type: none"> ➤ Instrumental in shaping the fish trade (trickle down effect) ➤ Can promote hygienic fish in national and overseas markets
<p>Government Organisations</p>	<ul style="list-style-type: none"> ➤ In consonance with government policies ➤ Pro-poor policies ➤ Improved Standard of living of people 	<ul style="list-style-type: none"> ➤ Policy makers and decision makers ➤ Organized body ➤ Work as an administrative and legal powers 	<ul style="list-style-type: none"> ➤ Ineffective implementation ➤ Corrupt practices ➤ Exclusion of marine Nolia community from policies 	<ul style="list-style-type: none"> ➤ Can be catalysts in overall development ➤ Quick, efficient and effective changes

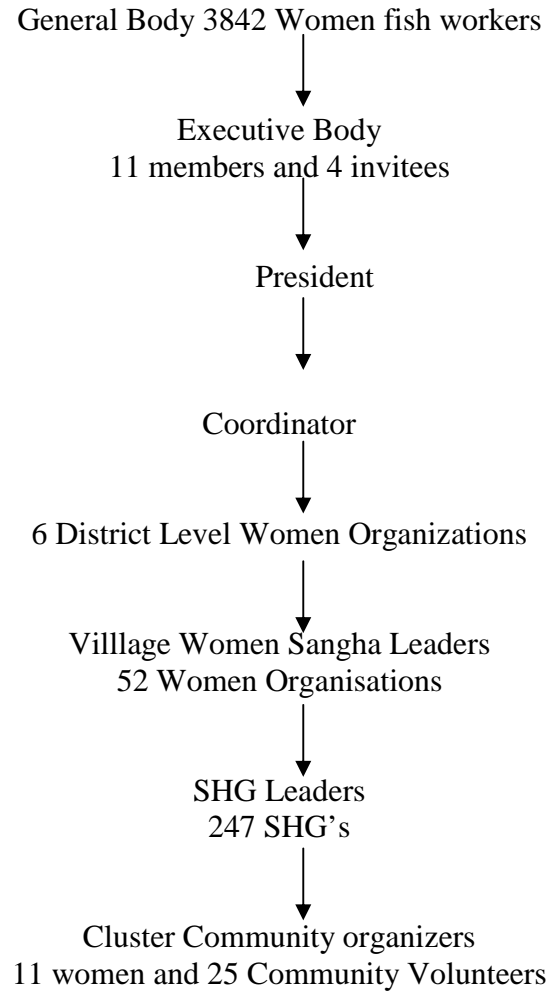


PROBLEM TREE



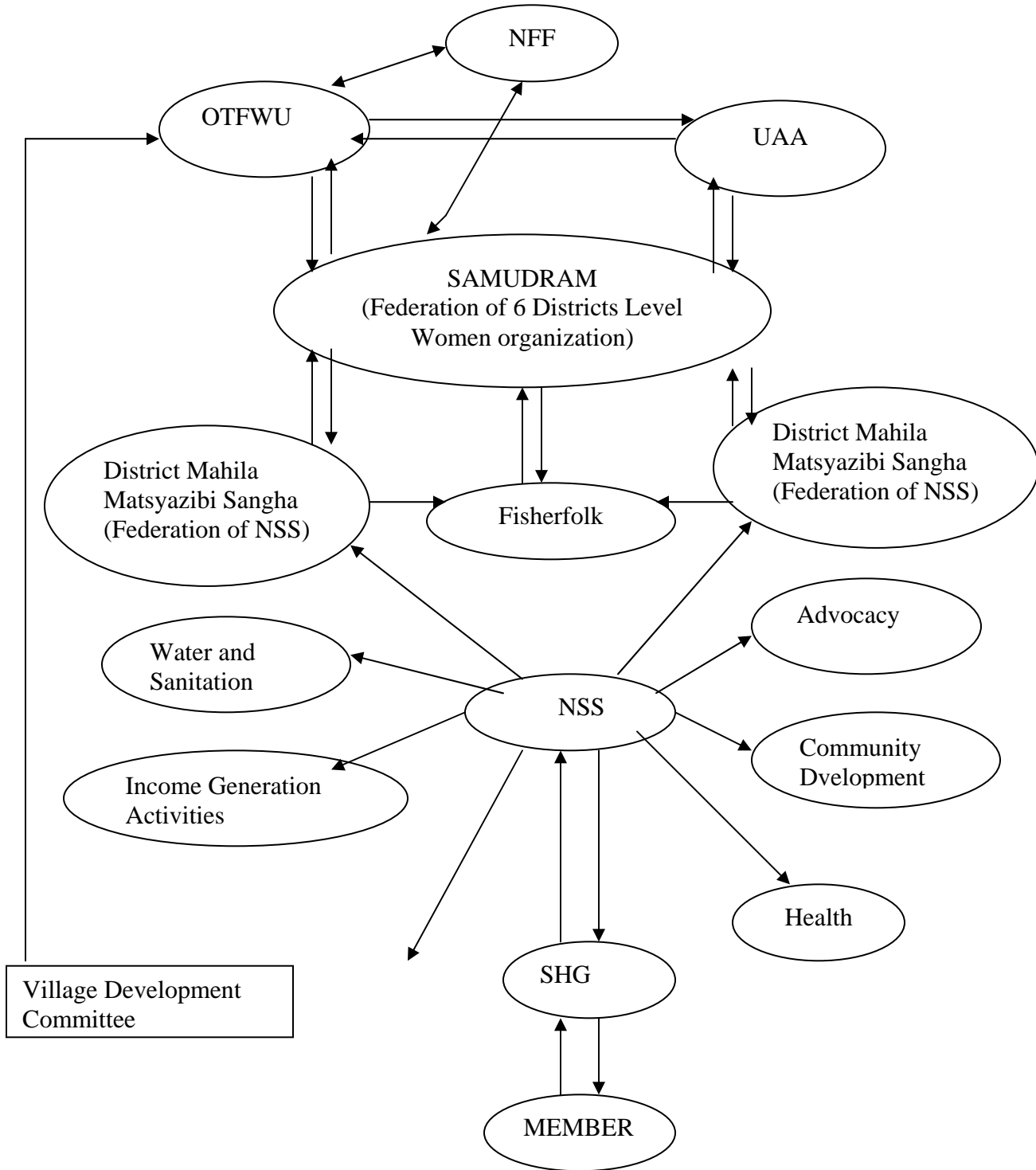
OBJECTIVE TREE

MANAGEMENT STRUCTURE OF SAMUDRAM



Annexure

Network of marine Women Fish Workers Organisation



Case Studies

Case study 1: Nuagaon

Background: Nuagaon, is a small hamlet lying along the East coast of Orissa. It is one of the many fishing villages where live Telugu speaking marine fishers, locally called Nolias live. Who are the Nolias? The Nolias are a Telugu speaking marine fisher's community. They are called as "Nolia" in Orissa due to their traditional wearing of golden rings in their ear. They speak a different language, observe different customs and worship different gods from those of the agricultural population that the boating villages along the whole coast up to the Devi River, and even above it. They are indistinct remnants of the aboriginal races; and although their separate origin is forgotten. They are found in Puri, Nuagaon, Arakuda, Manikpatna, Khirisahi, Sahadi & Ramlenka.



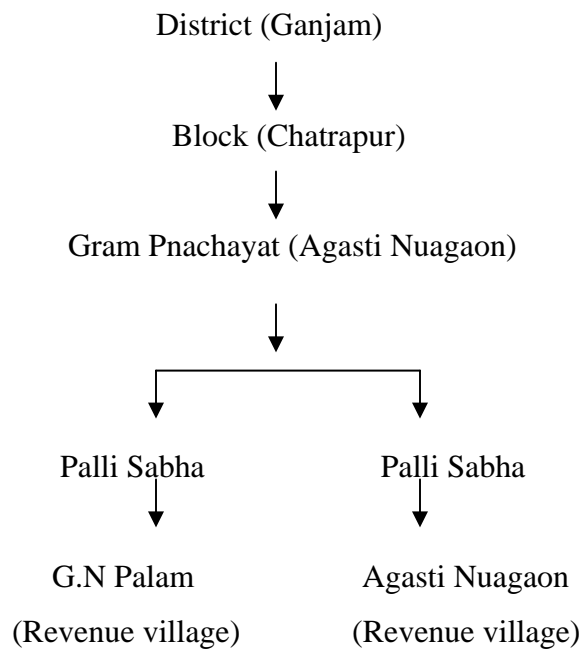
The village is broadly divided into two: Bada Nuagaon, the smaller half and Sana Nuagaon, the larger half. There are around 1100 households in Nuagaon, 300 in Bada Nuagaon and 800 in Sana Nuagaon. The population is around 4000. The villagers mainly comprise of the Nolia community which form nearly 90% of the populace. The

remaining 10% of the population is Sundis who are Oriyas and Golas (Telugu speaking) in a small number.

Occupation: The main occupation of the Nolias in Nuagaon is marine fishing. The Sundi population is into the business of sale of rice, liquor and textiles. There are five households in the village of the Gola community, who are essentially hoteliers.

Administrative Structure:

The following diagram depicts the administrative structure of the village:



1. Telugu Nuagaon
2. Bada Nolia Nuagaon
3. Sana Nolia Nuagaon

There are two revenue villages in this Gram Panchayat: G. N. Palam and Agasti Nuagaon. Revenue villagaes are those villages where revenue for various activities is collected.

Political Structure: There exists a very organized political structure in the village with each member in the committee having a clearly defined role to play. The Sarpanch of the village is Kalia and under him is the Nayap Sarpanch, Addu Koramma. Kalia is the Sarpanch for 5 villages. On the village committee there are a total of 5 ward members, of the 13 wards in Agasti Nuagaon.

There is a village leader, also called the Mukhiya, D Kamaya. An interesting fact is that the Mukhiya is always from the 'D' family or the Dummu family members, who are nearly 100 in number in the village. The committee also consists of a peon (A Jandamayya), Finance leader (A. Simali), an Administrator (D. Kammayya) and two Cabinet ministers (M. Kalia and A. Jandemayya)

A number of Self Help Groups (SHG's) exist in the village, besides the women's Federation, SAMUDRAM. On an average each SHG had 10-15 members, most of them being from the Nolia community. One individual from each family is a member of some SHG or the other. Only two non-Nolia families are members of a few SHG's. The SHG's are mostly involved in the fish trade, given that fishing is the main occupation of the villagers.

The yojanas currently operational in the village are the PDS, Annapurna Yojana, and Antodaya Yojana. There are 430 BPL card holders. Under the PDS, they get rice at Rs. 6.50/kg with the monthly supply of 150 quintals to the village. And 4 litres kerosene out of 1600litres supplied to the village. Under the Antodaya Yojana, 35 kgs rice to each person at Rs.3 /kg with a monthly supply of 30-48 quintals. Under Annapurna Yojana 10 kilo rice given free of cost out of the 1.2 quintals in total.

Literacy: Of the total population of 4000, only 4% is literate. Nearly 30-40 people in this village have studied more than high school and 50 have studied little less than high

school. SHG's, in the area have been instrumental in promoting girl education in the villages.

Information Needs of the Marginalized fisher folks:

- Sources of livelihood:

The fishermen need to know about fishing as their primary source of income generation. Where are the existing markets? They must know about the potential markets for their products. What are the rates at different markets, based on species? Who are the middlemen involved in the trade? They need to be informed about better fishing practices, equipments like boats, nets etc. What are the available value added products in the market? What kind of training is required for hygienic fish with longer shelf life? What is the market demand?

The fisher folk need to know what are the other sources of income generation for their livelihood. Also they must have the knowledge about resources which are available with the State? What are the State's plans and what has been actually done to provide food and generate employment?

- Health and Sanitation:

There is huge inequity in quality and access to health services; corruption and complete lack of accountability of the health administration compounded by mystification by health professional. Information for health services needs to be available at village, block and district levels. The closest Primary Health Center (PHC) is located in Chatrapur, making basic medical facilities inaccessible.



What are the sanitation measures to be adopted to reduce the outbreak of diseases?

What are the Government Schemes as regards to Sanitation?

- Education:

Deep structured inequities in the education system are enabled also by lack of information and accountability. People need to know the performance of the State and other private organizations in education. What are Government schemes in the area of education?

- Electoral Politics:

The electoral system needs to have information and provide this to the public. For instance, what is the age for participating in the electoral process? What are the assets and criminal cases filed against all candidates, seeking election to public office should be available to the people. How should a new voter get enrolled in the voters list?

- Women:

It is the State's responsibility to actively inform women about their land rights, reproduction, health rights, right to information and other vital entitlements. Women have to be informed about their rights and rights need to be strengthened. How do they form an SHG? How can they seek membership into an existing SHG? What is the Government's role in the SHG? Who are the stakeholders and what are their roles and responsibilities?

Judicial Accountability:

The judiciary's language and legal system needs to be people oriented. The performance of courts at all levels including speedy disposal of cases and assets held by the judges should be made available to people. Where should they file a case? Under what grounds can they file a case? Whom should they approach in case of failure to receive subsidized Public Distribution?

- Media:

The assets, business linkages, land other facilities received from the government or corporates, political affiliations of media houses, journalists, utilization of newsprint and circulation figures should be given to people.

- NGOs/Civil Society Organisations:

The NGOs need to be genuinely accountable to the communities they work with. For instance they have to place accounts, assets of Board and staff members and performance reports.

- Laws on the People's Right to Information:

The central and state governments should further safeguard the Right to Information, by enacting strong laws. These laws should not only cover the State, but also the corporate sector, the judiciary and NGOs. They should have minimal

exemption clauses, penal provisions for wanton default and independent appeal mechanisms. In, addition, the State should have not only have an obligation to inform people when they so demand it, but must positively share information which is used for their survival and well-being.

Case Study 2: A life of trials and tribulations

This is the life of Thotamma, fisher women, from the Nolia community. An inhabitant of Garampeta village in Ganjam District, she is the mother of two daughters of 9 and 5 years. The turning point in her life was when her husband Lachman (40) succumbed to an illness four years back. The sudden death of her husband left the family in utter penury to the extent that she had to incur a loan of 7000/- rupees to carry out the rituals. Four years later, now she is the only potential earning member of the family. Her daughters have left their education as she could not afford to send them to school.

Kaliama, the SHG leader of her street came to her help and enrolled as a member of the SHG. She advised her to start processing dry fish and assured to help her in marketing. Soon, she learnt the market dynamics. A little money started coming in, but still she was finding it hard to make ends meet. Some times if the market is dull, the income she got was not adequate.

One day she borrowed Rs. 2000/- from the SHG. She purchased measuring equipment, for fresh fish vending, for Rs.500. The rest, she kept to invest for buying fish in the auction-market. She could buy the fish comparatively at cheaper price as the boatmen got the price instantly. Initially she earned average 15 to 20 rupees daily from fresh fish vending and average 100 rupees from dry fish selling in and around Huma. So she was able to admit her elder child in a school run under the National Child Labour Project. She also admitted her younger daughter in class one in the local primary school.

When Samudram planned to provide skill training in November 2004 she was amongst the first group which received the training. After coming back from the training she provided training to other women of her group.

The value added produce she marketed through Samudram fetch her additional income of 100 rupees average a week. She has now been able to earn an income of 50 rupees a day. She has been able to repay her old loan of 7000 rupees. She has repaid 1200 rupees to the Group, leaving a balance of 800 rupees as loan boulder over her head. She boldly new claims: **“I have replaced the father for my children and succeeded in discharging parental responsibility”**.

Case Study 3 *My story ...*

This case study has been reproduced word to word as provided by UAA

I am Laxmi from Sana Nolia Nuagaon village, married and with two children. Never in my life had I thought that I would have to go out to work and feed my family. Even when there were bad times for the fisher folk about 10- 15 years back I never stepped out to earn a living. At that point of time my husband slowly gave up the traditional role of fisheries and trained himself in the art of carpentry (boat making). This new occupation slowly became the primary means to income and we got about Rs 1000- 1500 per month only from carpentry work. Fishing was a subsidiary occupation to add to the family income and frankly we hardly depended on it then.

Three years ago in 2002, one day my husband fell ill seriously after consuming adulterated country liquor. All our efforts to treat him went in vain. He lost his mental balance and thus could hardly contribute to any productive work. All the savings we had, got exhausted in his treatment and then there was a day when I was forced to venture out to work. My two children a boy and a girl aged 6 and 12 years respectively then, were too young to earn a living.

The only work I thought that I could venture in was the traditional occupation of our community- fisheries. Initially I went to one of my relatives to gain experience and learn how to venture into fish vending. As a partner in the business I found the earning insufficient. I then borrowed Rs 1000 from the local moneylender at 36% per annum to invest in fish vending. I was hardly able to get 10-15 days of work in a month in the fishing season (August to April) and was able to earn Rs 500-600 in a month. By now I realised that I cannot continue to support my son's education and thus I had to pull him out of studies from standard III.

One day the secretary P. Kamudi of Nari Shakti Sangha of our village met me and discussed about my present situation. She patted on my back and said, "Start afresh and join the Sangha". She also motivated the members of the Sangha to support me in fish trade. I then got a loan amount of Rs 5000 from the Sangha at 18% interest per annum.

This money helped me to make bulk purchase of fresh fish by auctioning the total catch of a net (around 15 to 20 kgs) and sell both fresh and processed fish. I started drying fish in the traditional way and sold it in the local “Huma” market (weekly), which is about 14 kms from my village. I was able to earn on an average Rs 400 per month from Huma and about another Rs 800 from the purchase and sale of fresh fish per month during the fishing season.

In September 2003, Samudram organised a training programme on hygienic processing of dry fish with the support of UAA for its members. I attended the programme and learned the new skill. With support like drying tray and rack from the Sangha, I now also process hygienic (dry) fish. In Huma market the traders do not pay a better price for the hygienic dry fish and so I only sell the better variety dry fish to Samudram who then markets it to places where there is a demand for hygienic dry fish. From Samudram I earn about another Rs 400 a month totalling my monthly income during the fishing season to about Rs 1600. I am happy that I earn almost equal in fact more than what my husband used to earn in a month. But now we have less of saving, as I have to travel to far off places to sell the fish.

I have repaid the loan of the moneylender and Rs 800 of the Sangha’s money. Now I earn three times more than what I used to before joining the Sangha. That is why I am hopeful that with the support of the village Sangha and Samudram I will be able to give my family a better living...

Case 4: I thought we would be beggars but now we are employers....

“I lost our family boat and the net to my brother in the family partition and got the house in my share. My wife Dandasi was pregnant then and we already had four children to look after. The only asset that I depended for my family income was the boat that I used for taking the crewmembers for fish catches in the sea. I had lost that and was handicapped...” says P. Sanyasi of Bada Nolia Nuagaon village. But he had to earn a livelihood and so from the owner of a boat he became a crewmember in other’s boat. He earned a meagre Rs 30-40 a day after five to eight hours of a days work in the sea in comparison to the earlier days of earning Rs 100 a day. The income was insufficient to run the house and hence both Sanyasi and Dandasi took a decision against their wishes to send their eldest daughter for wage employment who added another Rs 600-700 income in a month.

After Dandasi Ama delivered a baby boy, she left him under the care of his grandmother when he was three-four months old. “Even though we did not have any principal at hand, Dandasi motivated me to start fish trading,” says Sanyasi. “Both of us started auctioning fish at the shore and supplied it to the agents of the traders. Through this we got about Rs 60- 70 per day. But we would get this work only 4-5 days a week. My children and both of us transported the auctioned fish from the shore to the godowns so that we could save Rs 20-40 per day in employing others to do the same job. After all this also the earning was very low and we were still sending our daughter to nearby places for wage labour,” narrates Dandasi Ama

Dandasi Ama was already a member of the village Sangha. She had availed a loan amount of Rs 8500 to purchase the net, which is now the asset of her brother-in-law. Before the family partition Dandasi Ama had already repaid Rs 2700 to the group. But after the net went to the brother-in-law she then felt that it was an unnecessary burden on her. The outstanding loan continued to be in her name and the brother-in-law did not own it up. She became a defaulter in the group. Understanding Dandasi Ama’s situation Samudram thought that it was wise to again support Dandasi Ama so that she could earn

enough to have her living as well as pay back the remaining amount to the group. Samudram selected her to lead the procurement centre of Nuagaon cluster. The village Sangha and Samudram recommended her name to get equipments such as collection tray, weighing machine, ice and also provided her a transport subsidy of Rs 50 per trip from the project. Dandasi Ama now felt the strength in her backbone to face the challenges from traders. She was also provided with a room in the community hall of the Sangha to run the business.

Dandasi Ama now employs 4-5 women who are the sole earning members of their family to run the business. They lift the fish from the shore to the centre. From the centre both the fresh and the dry fish are transported to either Huma market or Samudram's main collection point. With a beaming face Dandasi Ama says, " now I do not send my daughter for wage labour. We in the family together are able to earn Rs 2000- 2500 a month. My husband maintains the accounts. I now also provide employment to five other women who earn Rs 150-200 a week. I am also able to continue the education of our children".

Sanyasi proudly polishes his second hand moped that he purchased worth Rs 6000 from the savings of last year. He says "it is easier to coordinate and monitor things when you have your own vehicle." He also adds "now we do not need transport subsidy from Samudram and we are capable enough to pay the entire cost of Rs 150 per trip of transportation. Samudram can help someone else like us with this money to start the fish business". On asking what about the balance loan amount to be paid to the Sangha Dandasi Ama replies "earlier I was very angry that the net had been taken away by my brother-in-law and I had to pay for it, but later when things became brighter I realised that the partition of the assets were done as per the value and since I got the house ownership I consoled myself thinking that I am paying for the house. I will repay back the entire amount that I owe to the Sangha"

As Dandasi Ama supervised the packaging of the fish to be transported she gave her final remarks "after the family partition I thought we would become beggars but Samudram and the Sangha has helped us live a life with dignity".

These are some of the sample questions that were asked while interacting with key stakeholders and traders. Though it should be noted that strictly the questions were not followed and modified from place to place and time to time.

Questionnaires

- Shop no.
- Shop name
- Trader's name
- Retailer /wholesaler/both
- Fish being handled

FRESH FISH

Name of species	Rate

DRY FISH

Name of species	Rate

- Source of procurement (from which place)
- Way of transportation
- Approx. amount of fish handled
- Whether exporting/local consumption
- Who are the customers (which strata)
- If export, then where
- Export rate
- Commission rate (if works on commission basis)
- No. of middlemen existing
- If, availing any credit system
- If, yes then source (moneylender/bank)

- Cold storage facility
- *Rate of storage in cold storage*
- Main risks involved
- Approx. profit margin
- Problems
- Solutions
- Whether value added fish products are being sold (name)
- Source
- Rate
- Packaging size
- Consumer preference for value added fish products
- Other major fish markets in nearby area

