Report of Inception Workshop on Globalisation & Seafood Trade Legislation: The Impact on Poverty in India

21 & 22 June 2001
Visakhapatnam, Andhra Pradesh, India

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TABLE OF CONTENTS

ABBREVIATIONS

CIFE	Central Institute of Fisheries Education
CIFT	Central Institute of Fisheries Technology
CMFRI	Central Marine Fisheries Research Institute (Government of India)
CMS	Catalyst Management Services Private Limited (An Indian Company)
DFID	Department for International Development (UK Government)
EU	European Union
GMO	Genetically Modified Organism
HLL	Hindustan Lever Limited (An Indian Company)
ICM	Integrated Coastal Management (An Indian NGO)
ICSF	International Collective in Support of Fish workers
IMM	Integrated Marine Management Limited
MPEDA	Marine Products Export Development Agency (Government of India)
MSS	M.S. Swaminathan Foundation (An Indian NGO)
NGO	Non-Government Organisation
NRI	Natural Resources Institute (University of Greenwich, UK)
PHFP	Post-Harvest Fisheries Project
PHFRP	Post-Harvest Fisheries Research Programme (DFID)
SIFFS	South Indian Federation of Fishermen Societies
SPS	Sanitary and Phyto-Sanitary
UK	United Kingdom
USA	United States of America
WTO	World Trade Organisation

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1 SUMMARY

DFID's Post Harvest Fisheries Research Programme seeks to develop strategies and management systems to improve post harvest utilisation of fish in ways that will make an impact on lives of poor producers, processors, traders and consumers. *"Globalisation & Seafood Trade Legislation – The Impact On Poverty In India"* is the title of a project funded by DFID under the Post Harvest Fisheries Research Programme (PHFRP).

Prior to finalisation of the project proposal, the collaborators – the Natural Resources Institute (NRI), Catalyst Management Services (CMS) and South Indian Federation of Fishermen Societies (SIFFS) – decided to meet with various possible stakeholders and key informants. An inception workshop was organised in Visakhapatnam, India, on 21 and 22 June 2001, of which this document is the record. The workshop started with a series of presentations including one on a related PHFRP project – *"Changing Fish Utilisation and Its Impact on the Poor in India"* by Integrated Marine Management Ltd (IMM). That was followed by identification of key issues. Against the background of these key issues, further short presentations were made (by selected workshop participants with relevant knowledge), based on which a shortlist of researchable issues was produced. Finally, it was agreed that no conclusive statements could be made on researchable issues and specific research sites for the fieldwork, given the limited information available. By end of October 2001, the research collaborators (SIFFS, CMS and NRI) will produce literature reviews to make full use of secondary information sources available to generate ideas about the key research issues and to avoid duplication of previous work. In addition, it was felt vital that fieldwork research activities should be co-ordinated and linked to the related PHFRP project *"Changing Fish Utilisation and Its Impact on the Poor in India"*. The key findings and recommendations from the scoping studies, conducted in the selected states of Andhra Pradesh, Kerala and Orissa, should feed into the final formulation of research issues and sites, to ensure integration and linkages given the limited resources available.

The workshop ended with agreement among project collaborators on the ways forward, especially with regard to the literature reviews and initial fieldwork, to be finalised by the end of October 2001):

a) Report on the Workshop (CMS, with inputs from NRI and SIFFS)

b) An overview of international seafood legislation (NRI)

c) A literature review of globalisation and sustainable livelihoods, with particular reference to the fishery sector (NRI).

d) An analysis of trends in Indian seafood exports and trends in major markets (NRI)

e) A review of the 1997 EU import ban on shrimp exports from India (SIFFS).

f) Indian actions and re-actions to external Sanitary and Phyto-Sanitary regulations and legislation, including a history of fish inspection in recent times (SIFFS)

g) A review of export supply chains in Andhra Pradesh (SIFFS)

h) A review of export supply chains in Kerala (SIFFS)

i) A review of export supply chains in Orissa (CMS)

On completion of these studies, further detailed fieldwork will be undertaken in three selected states, beginning in Andhra Pradesh, followed by fieldwork in Orissa and Andhra Pradesh, Kerala.

2 BACKGROUND & ORGANISATION OF THE WORKSHOP

A research project on *"Globalisation & Seafood Trade Legislation – The Impact On Poverty In India"* is being funded by the Post Harvest Fisheries Research Programme (PHFRP), DFID (UK). PHFRP seeks to develop strategies and management systems to improve post harvest utilisation of fish in ways that will make an impact on lives of poor producers, processors, traders and consumers. Prior to finalisation of the project proposal, discussions were held between the collaborators, namely NRI, CMS and SIFFS and possible stakeholders and key informants. This was followed by an inception workshop which was organised in Visakhapatnam, India, on 21 and 22 June 2001, of which this document is the record.

The objectives of the workshop:

1. Inform stakeholders of the project; meet up with project partners and other interested parties and exchange information and views
2. Prioritise research areas
3. Design survey techniques and analytical tools to be used
4. Identify channels of dissemination.

The workshop programme is outlined in Appendix 1. A list of participants is contained in Appendix 2. The workshop commenced with an introduction to the project by Dr. Peter Greenhalgh (NRI). The main points:

Project Background

Part of overall UK Department for International Development (DFID) Programme to develop strategies and management systems to improve post harvest utilisation of fish and its impact on the lives of poor producers, processors, traders and consumers. DFID has adopted a strong poverty focus from a Sustainable Livelihoods perspective.

DFID, through its Post Harvest Fisheries Research Programme (PHFRP), is funding three related projects in South Asia, namely:

1. Changing Fish Utilisation and its Impact on Poverty in India (ICM and IMM)
2. Fish Distribution and Coastal Communities: Market and Credit Access Issues in Bangladesh (NRI)
3. Globalisation and Seafood Trade Legislation: Its impact on Poverty in India (NRI/CMS/SIFFS)

Collaborators

- Natural Resources Institute (NRI), University of Greenwich, UK
- Catalyst Management Services (CMS), Bangalore, India
- South Indian Federation of Fishermen Societies (SIFFS), Trivandrum, India

Duration of the Project

June 2001 to December 2002

Project Purpose

Using a multi-disciplinary approach the research aims to generate and disseminate new knowledge and develop a methodology to assess the impact of globalisation and changing international legislation on the livelihoods of the poor in the sector. Also policy recommendations will be developed relating to people's livelihoods, poverty eradication and global seafood market.

Project Outputs

a) An improved understanding of the link between international trade legislation, post-harvest fisheries and livelihoods of poor communities in India. (Completed by July 2002)

b) In collaboration with the above two PHFRP projects, produce a methodology to assess the impact of export market legislation on the poor in the post-harvest fishery sector based on a livelihoods approach and tailored to the needs of researchers and development practitioners. (Methodology validated by October 2002.)

c) Policy recommendations related to poor people's livelihoods, poverty eradication in India and access to global seafood markets developed and disseminated. (Recommendations by October 2002.)

Project Activities

1. Start-of-project workshop – Visakhapatnam – project collaborators and major stakeholders to jointly prioritise research agenda, identify tools and techniques to meet objectives (June 2001).
2. Desk research – international seafood legislation (by December 2001).
3. Data analysis and assessment of the main export markets for Indian seafood products, particularly the EU, Japan and USA (by December 2001).
4. Data collection and analysis of the seafood export supply chain in India (by March 2002).
5. Analyse the changes in the livelihoods of poor participants in the export supply chain (by June 2002).

6. End-of-project workshop to present research findings, validate methodology and develop policy recommendations (by October 2002)
7. Dissemination activities – papers, reports, web articles (Final Technical Report by December 2002). Further dissemination under PHFRP in 2003.

Dissemination and up-take

Involve key stakeholders including:

- State and Indian government departments
- Research organisations
- Private sector organisations
- Non-governmental organisations (NGOs)
- Donor agencies

Intended beneficiaries

Poor and vulnerable in the fish processing and distribution chains – includes coastal and aquaculture fishing communities (e.g. fishermen, boat and net owners, small scale processors, service providers, traders and distributors).

3 SUMMARIES OF THE PRESENTATIONS ON 21 JUNE 2001

3.1 "Globalisation and Seafood Legislation: Impact on Poverty in India" by Peter Greenhalgh (NRI)

Over the past fifteen years, "globalisation" and the associated liberalisation of markets in many countries has had a major impact on the fisheries sector and created many new challenges. While market liberalisation and the associated new international policy environment has created many opportunities for fishery sector participants, the range of risks and constraints has increased with a resultant impact on livelihoods. Following a brief discussion of the meaning of the term "globalisation" there is a brief discussion of some of the positive and negative impacts on the fishing sectors in developing countries.

The issues are complex and the range of experiences is diverse. The range of experiences between countries, regions, individuals and fish types are diverse. Generalisation is difficult but the predominant belief is that the process of globalisation is irreversible and that, on balance, liberalisation and free trade have been of benefit to developing countries. Nevertheless, the benefits appear greatest to industrialised countries and multinational corporations There are both positive and negative impacts but there is a growing belief that globalisation has had a greater negative impact on the "poor". Moreover, there is the belief that in order to achieve the economic growth and foreign investment necessary to overcome poverty, developing countries need to become more integrated into the world economy. The challenge is to make the process more sustainable and equitable, and governments and donors have a vital role to play in this process.

Various definitions of "globalisation", which can mean different things to different people. Globalisation has been defined as "the process of integration in product markets and financial markets" (Collier, 1997, p1), while UNCTAD's Secretary General defined it as "a process whereby producers and investors increasingly behave as if the world economy consisted of a single market and production area with regional or national subsectors, rather than a set of national economies linked by trade and investment flows."

It can be argued that the move towards a global economy, where national boundaries no longer matter, has been underway for several centuries and reached its peak prior to World War 1. However, the current revolution taking place in communications technology, combined with the increasingly important role of the multinational corporation, make the scale and impact of globalisation much greater than previously. Whole areas of activity are becoming increasingly globalised e.g., production, trade in goods and services, finance, labour markets, information and communication, social and cultural aspects. At the beginning of the 21st century, there are probably millions of small-scale fish sector participants in developing countries that produce for the global

market – although there are millions of others that are only tangentially affected by globalisation.

The World Trade Organization

These above developments have been compounded by the outcomes of the Uruguay Round. This was the most ambitious trade pact ever and involved 19 new agreements, the most notable of which established the World Trade Organization in 1995. Alongside the establishment of a dispute settlement mechanism, many different aspects of international trade are covered including agriculture, services, intellectual property rights, sanitary and phyto-sanitary standards, import licensing, investment, government procurement, technical barriers, pre-shipment inspection, rules of origin, subsidies and countervailing measures, textiles and increasingly environmental and GMO issues. The most contentious issue under the Uruguay Round (and almost certainly in any possible future Rounds) was the Agreement on Agriculture, which was eventually signed despite considerable opposition.

Fisheries have not yet been made subject to WTO disciplines. However, is likely to happen in the new Millennium trade and this could affect the fisheries sector in a number of ways.

Impact on trade volumes. Reduction of tariff barriers may stimulate increased fish exports from developing to developed countries, accentuating an already existing trend. A reduction of tariffs may increase trade in fish species that are currently little traded internationally.

Impact on employment. Increased need to satisfy HACCP and other regulations in importing countries could affect the way in which fish is caught and processed, usually to the detriment of local livelihoods. Improved hygiene and phyto-sanitary standards can usually be achieved only by modernising production and handling procedures, forcing out the smaller and poorer players.

Impact on value added. Reduced tariffs on processed fish might stimulate secondary processing industries at origin.

Impact on domestic resources. Increased trade flows may prompt unsustainable levels of extraction where fisheries management is not effective.

Impact on nutrition. Increased exports could reduce the availability of fish for domestic consumption.

Impact on subsidies and management. Major objective of WTO is to remove subsidies and fishery sector often receives subsidies of different sorts. Their removal could have both positive and negative economic, environmental and social impacts.

Positive and Negative Impacts of Globalisation and Liberalisation

Globalisation and liberalisation make it necessary for fishing sector participants to adopt a more commercial approach in pursuing market opportunities. Market liberalisation predominantly favours producers who have competitive advantages (i.e. natural resources, skills, and capital) that allow them to compete in both international and domestic markets. Considerable opportunities for raising output and improving livelihoods have been created. Alongside efficiency and redistributional effects, the change in price signals has led to longer-term changes to physical and human capital formation. Some of the more readily observable consequences of market reforms include an increased producer's share of the price received often encouraging a more positive supply response.

Other positive aspects include:

- increased capital flows and foreign direct investments
- improvements in transport and communications
- fall in marketing and processing costs
- growth in trade and processing
- wider range of products coming onto the market
- consumers are benefiting from lower prices and efficiency gains.

Market reforms have subjected fishing sector participants to a range of negative influences, which include:

- increased price uncertainty and volatility
- greater risk and uncertainty
- increased competitiveness both for exporters and local producers
- shift in scale of production
- access to finance and inputs more difficult
- fall in government expenditure can lead to deterioration of infrastructure
- polarisation has intensified within communities, regions and countries

Preliminary Conclusions

Globalisation and liberalisation are insufficient conditions in themselves to improve the well being of fishing sector participants. Success is dependent on a number of other factors being in place or being developed e.g. possession of requisite human, financial, social, economic, political and physical assets; a supporting public policy and infrastructure; political stability and legal frameworks; lack of non-tariff barriers etc.

3.2 Summary of Project "Changing Fish Utilisation and Its Impact on the Poor in India" by Philip Townsley

The research project *'Changing Fish Utilisation and its impact on the poor in India'*, funded by DFID under the Post Harvest Fisheries Research Programme, is being implemented by Integrated Marine Management (UK), Integrated Coastal Management (ICM) and the College of Fisheries Mangalore. Other research partners are the Department of Fisheries, other governments departments, NGOs and the private sector.

The overall aim of the project is to contribute to strategies for increasing the positive contributions of the post-harvest utilisation of fish to the livelihoods of poor processors, traders and consumers. The immediate aim of the project is to identify ways of reducing the adverse effects on the poor of the main changes in fish utilisation. The project is divided in three main stages:

1. Identification of major trends in the utilisation of fish in each coastal state through scoping studies in 7 coastal states, largely based on literature with limited field validation.
2. To conduct field research in selected locations to understand the causes and consequences of key changes affecting the livelihoods of the poor in major processing, marketing and consumption chains.
3. Through consultation and discussion of research results, development of appropriate dissemination package to provide guidance on how the poor might be assisted in coping with, and benefiting from, these changes.

At time of the workshop, Stage 1, the identification of major trends in fish utilisation, has almost been completed, with two scoping studies still in progress. Consultations had been held to discuss the findings of these studies in 5 states; Orissa, Andhra Pradesh, Tamil Nadu, Karnataka and Kerala.

What are the key changes?

Changes in terms of access to fish:

- Price: Relative to other commodities
- Transaction costs: More middle men
  Greater distances
  More Competition
- Monetization: Relationships between actors increasingly cash based

Changes in markets for fish:

• Location:	Final markets are further away, towns, cities, export destinations
• Species:	More fish for export
	Different species for local consumption
• Form:	More demand for fresh fish
	Less demand for processed fish
• Actors:	More middle men
	Different middle men – different places
• Access:	Relations with middle men
	Transaction costs

Changes in availability of fish:

• Quantity:	Declining or static catches
	Wider markets to satisfy
• Location:	Landing sites more concentrated
	Mechanised craft at big landing sites
• Species:	More species for export
	Changes in species available for local markets
	Changes in seasonality
• Quality:	Local users more reliant on by-catch
	Declining quality of fish available to poor

Changes in the demand for traditional skills:

• Fish processing:	Declining demand for processed fish
• Basket weaving:	More plastic and aluminium
	Less demand for woven baskets
• Net making:	More factory-made nets
	Less demand for locally made nets

Changes in the location of work opportunities in fish utilisation:

- Concentration of landings: More fish at fewer, bigger landings (often urban)
  More work opportunities around big landings
  Decline of work opportunities at smaller landings

Changes in fish consumption:

- Changes in fish species consumed:
  Growth in consumption of fish in urban areas
  Increased value and use of 'poor' fish
  Increase in fresh fish consumption
- Consumption by urban poor? Effects of price changes?
  Availability of substitutes?
- Consumption by rural poor? Effects of price changes?
  Availability of substitutes?

What are the causes of change?

Macro:

- World trade?
- Globalisation?
- Policies?
- Population?
- Environmental?
- Socio-cultural?

Micro:

- Resource availability?
- Technology change?
- Improved communications?
- Increased use of ice?

3.2.1 How general are these changes?

- All states are affected
- Different 'levels' of impact
- West Coast generally more affected
- East Coast more variable
- West Bengal a case apart

The focus of the next stage of the research will focus on who of the poor are affected by these changes in fish utilisation and how they are affected. Possible groups of poor people that have been identified so far are:

- Fish processors, especially the women
- Fish handlers?
- Women involved in processing and trading?
- Small-scale, village based fish traders
- Artisans using traditional materials (i.e. basket weavers)
- Traditional consumers of processed fish (i.e. tribals in Andhra Pradesh and Orissa)
- Poor consumers – urban-rural

Questions that should be asked about globalisation:

- What is it? Is it different from world trade?
- The role of policy - International and national
- The role of institutions
- The role of processes

3.3 "Seafood Export trade in India: The magnitude and value of the export trade" by Ivor Clucas (NRI)

In the year 1999/2000 over 343 thousand tonnes of marine products were exported from India worth US$ 1,189 million. According to Rao and Prakash (1999) exports of seafoods is the fourth largest earner of foreign exchange for the Indian economy. In terms of value the main export markets were Japan (44.4%), European Union countries (17.6%), United States of America (15.2%) and main land China (including Hong Kong) (10.7%). Frozen shrimp are by far the most valuable export making up over 70% of the value with frozen finfish, cuttlefish, squid and fresh/chilled items of lesser importance. In terms of quantity however frozen finfish exports are most important making up over 38% of exports, much of which goes to China. (MPEDA 2001)[1]

Provisional figures for 2000/2001 suggest that the value of exports has risen by 23.3% to reach Rs63 billion (US$1.34bn). In volume terms the exports rose to 421 thousand tonnes and increase of 22.8% on 1999/2000. The rise is dominated by a 55% rise in value of exports to the US with US overtaking the EU in terms of trade. The figures for 2000/2001 are Japan – 41%, US 18.6%, and the EU 15.3%. There has also been a substantial increase in exports to China, which along with Hong Kong now takes 12% in terms of value of Indian exports. (Fish Farming International, May 2001)[2]

Shrimp continues to be the most important export in terms of value (71%) but only make up 26.8% in terms of quantity. The share of finfish has increased and is now 12.6% mainly because of the increase in exports of frozen ribbon fish to China which has increased by over 100% in the last year.

The Macro/Micro picture

Much of the spot light as far as the growth in seafood exports from India (and other countries) has fallen on the macro level benefits it brings to the country as a whole. This might include:

1. Foreign exchange earnings
2. Increased employment opportunities
3. Increased value to the production sector

However, there are effects which are much less dominant in raising the profile of the industry. The demand for seafood from outside India is being met by supplies coming

[1] MPEDA (2001) – MPEDA An Overview 2001. The Marine Products Export Development Authority Kochi, India

[2] Fish Farming International (May 2001) Indian Exports Rise. Fish Farming International (May 2001) p8.

from a variety of sources within the country. These might include industrial trawlers, motorised craft, small scale artisanal fishermen and aquaculture. The stakeholders in these sectors and the supply chain between the primary producer and the exporting company are likely to include the less fortunate and the poor. The effects felt by these stakeholders are more likely to be related to the amount of product that passes through the system than the end product or export value of that product. It is important therefore to consider in our research the amount of product not just the value of the product. It can be seen for instance that ribbon fish exports are more important than shrimp in terms of quantity and the diversion of vast quantities of this fish from traditional processing and markets in India to export markets may have profound consequences for the traditional industry.

Legislation

This includes the legislation applied by the importing country as well as any locally applicable requirements. In the case of importing country legislation, the most important requirements for Indian exports are that they should conform to those of Japan, European Union, United States of America and China. The food safety legislation in relation to exports has received much attention, some examples of which are:

- Japanese – Food Sanitation Law
- EU – Council Directive laying down the health conditions for the production and placing on the market of fishery products – 91/493/EC
- EU – Council Directive laying down minimum hygiene rules applicable to fishery products caught on board certain vessels in accordance with Article 3 (1) (a) (I) of Directive 91/493/EC – 92/48/EC
- EU – Council Directive laying down detailed rules for the application of Council Directive 91/493/EC as regards own health checks on fishery products – 94/356/EC
- USFDA – Regulations for the Safe and Sanitary Processing and Importing of Fish and Fishery Products (21 CFR part 123)

Other legislation is concerned with food labelling requirements, use of additives, and traceability of products etc. Rules and regulations concerned with procedures to be followed for imports, tariffs and import licensing are also enforced. In addition, there are legislative requirements in relation to environmental impact of fishing activities such as the need for turtle excluder devices on nets and the banning of large seines for tuna to exclude the catching of dolphins. The recent moves in the US to ban the use of two stroke engines for fishing may effect the fishing activities of small-scale fishers using outboard two strokes for powering fishing craft.

Possible Impacts
Additional impacts that might be considered in the research, that we are about to undertake, could include:

1. The need for and the trend towards more "sophisticated" and centralised facilities for landing and initial marketing of fish have tended to concentrate these facilities and take them away from more remote and smaller landing sites. The rural/remote fish processors/traders therefore have less access to fish and opportunities for income generation than they might have had in the past.

2. Increased demand for fresh fish in export markets has reduced the supply available to traditional processors; for example salted/dried ribbon fish. Raw material is now in demand for export fresh/frozen and less available to traditional processors.

3. Outlawing peeling and pre-preparation of prawns as a cottage/home industry has reduced income-generating opportunities. Do the same people/families who used to peel prawns at home now work in export factories – I suspect not? There is probably an age dimension here as well as considerations regarding gender, caste, mobility of labour etc.

4. The need for more sophisticated systems for the handing and distribution of fish products for the export industry has an effect on the suppliers of goods to the industry. For instance, the "traditional" baskets and wooden boxes, which are used for the transport and distribution of fish are being replaced by modern fish containers (e.g. plastic boxes). The local makers of baskets and boxes, therefore, have less opportunities for marketing their products. This is just one example – there may well be others.

5. The legislation for export products particularly to the EU require that quality and safety are assured at all stages of the production chain (the farm to fork principle). The poor are being marginalised by this situation in that they do not have access to or the means to acquire the required facilities or infrastructure to compete. Only those suppliers who can afford to run marketing/transport/distribution facilities, which meet these requirements, can supply fish to the export industry. This cuts the poor out of the loop.

6. In relation to 5 above the European Union is in the process of revising and updating it existing food safety rules or legislation. Current legislation or directives include separate directives governing fish and fishery products and it is the intention that in future there will be merging into a single hygiene directive applicable to all food and food processors. One of the basic principles of the new hygiene rules in the

introduction of the "farm to table" principle to hygiene policy. The present rules tend to leave a gap at the primary production level with most efforts at hygiene control being made further along the chain. Future rules will require traceability of all food and food ingredients thus requiring much more control, record keeping and transparency at all stages. This could have profound implications for all stakeholders in the production of export fish products from India.

7. Traceability of product is also a major prerequisite for the certification of products under efforts to introduce eco-labelled products or answer the question and concerns of the green lobby. The US for instance requires that turtle excluder devises be used in trawl nets used for catching prawns. This could require that traceability is established to particular vessels/nets. EU legislation is likely to require the ability to trace the product more fully so as to ensure food safety. This will require that each player in the distribution chain will be able to demonstrate that they can identify the supplier of their food and also to whom they have supplied their product. Thus, a complete supply chain can be attributed to a particular product, each business being responsible for identifying the one step above and the one step below them in the chain.

8. In addition the move towards eco-labelling schemes requiring that it can be demonstrated that particular products come from particular fisheries will require more traceability in the future. To be able to trace small quantities of prawns to individual fishermen so that they can be shown to have been caught in a sustainable and/or turtle friendly manner would be a major challenge. The future of broader eco-labelling schemes such as those being promoted by the Marine Stewardship Council is uncertain at present although there is a general feeling amongst advocacy groups for small scale fisheries workers that these could have adverse repercussions for this sector. The main thrust of the MSC type schemes is in the sustainability of marine resources from the biological point of view rather than for the post harvest sector.

9. Access to ice is a prerequisite in assuring that the quality of fish is assured. Ice trends to be unavailable in poor/remote fisheries communities. High value products suitable for the export market may not be able to be preserved without a supply of ice from the purchasers of the fish. The traders purchasing fish at these locations would bring ice with them to preserve fish that they buy and would be able to manipulate market conditions to their own advantage.

3.4 Summary of "Sustainable Livelihoods Approach and its Relevance for the Project" by Nicoliene Oudwater (NRI)

The ultimate goal of Sustainable Livelihoods is to maintain an income, to minimise social exclusion, achieve social equity and a long term productivity of natural resources without undermining livelihoods or compromising livelihood options open to others. The focus of the development debate moved beyond the state of resources and began to include people, livelihoods and poverty alleviation as highlighted in DFID's Sustainable Livelihoods Approach.

In the White Paper on International Development 1997, DFID outlined its commitment to poverty reduction through policies and actions which:

- Promote Sustainable Livelihoods
- Education, health and opportunities for the poor
- Protection and better management of the natural and physical environment

Box 1: The three dimensions of Sustainable Livelihoods

In sum, there are three dimensions to Sustainable Livelihoods (SL):

- an objective supporting the goal of poverty elimination
- a framework for thinking about poverty
- an approach for addressing poverty (the most important dimension)

SL is **NOT**:

- A panacea for poverty eradication
- A blueprint to guide implementation of programmes or projects targeting poverty.

From this policy objective of elimination of poverty, DFID has worked towards developing a conceptual and operational framework that constitutes the Sustainable Livelihoods approach. Promoting the Sustainable Livelihoods approach within current development thinking is seen as a means to address the ultimate target of poverty elimination. Many NGOs like Oxfam and Care have contributed to the development of the SL approach by taking it up at an early stage and providing critical feed back and suggestions based on their ideas and 'field' experiences.

Definition and Principles underlying the Sustainable Livelihoods approach

A livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Carney, 1998).

In this context, poverty focused development activities should be:

- **People-centred** – the emphasis is on people, not on resources per se. It mainly focuses on people and livelihoods at the micro community level (e.g. coastal fishing communities) and at higher policy and planning levels (e.g. local government and central government).
- **Holistic** – it is important to look at all the different resources, opportunities and constraints that people face in pursuing and improving their livelihood strategies.
- **Dynamic** – It is important to recognise that livelihoods are changing in response to external shocks and trends, and it is necessary to understand these changes, how the people themselves perceive these changes and how they have adapted their livelihood strategies in response to these changes.
- **Building on strengths –** the approach starts with an analysis of strengths and resources rather than a list of needs.
- **Linking macro-micro levels** – Bridges gaps and makes explicit links, e.g. effects of national policies on local communities.
- **Conducted in partnership –** with donors, local organisations like NGOs and government.
- **Sustainable** – People should be able to deal with and respond to external shocks, hardships and trends, and not being (entirely) dependent on outside support. There are four different dimensions of sustainability that are interrelated:
    - economic - e.g. supply and demand for fish
    - institutional – e.g. a well functioning fish marketing chain, availability of credit and loan facilities
    - social – e.g. support from within the family and the community in general
    - environmental - e.g. fish stocks

Box 2: Summary of Sustainable Livelihoods approach's principles

What the approach emphasises:

- A people-centred participatory and responsive approach to development
- Starting with positives (what people have) and opportunities (what they can make of it)
- Build on existing development approaches
- Micro to macro policy influencing

What the approach does not emphasise:

- Starting with sectors or commodities
- Starting with needs and problems
- Replacement of existing development approaches (but sets them in broader context)
- A focus only on local development

The Sustainable Livelihoods Framework

The Sustainable Livelihoods approach is a way to understand the needs of the poor and identify key opportunities that will ultimately benefit the poor. In order to understand and analyse the lives of the poor, a Sustainable Livelihoods framework has been developed. It is important to note that it is not an ultimate blueprint. Its elements can be presented and applied in different ways.

SL embraces a wider approach to people's livelihoods by looking beyond income generation activities in which people engage. Through participatory approaches, it seeks to encourage various stakeholders, with their own perspectives, to engage in these discussions and debate about factors affecting their livelihoods.

Box 3: The key elements of the Sustainable Livelihoods framework

The key elements of the SL framework are:

- *Capital assets*: resources that help people survive and thrive (i.e. natural, social, human, physical and financial capital)
- *Vulnerability context*: things that the poor are vulnerable to
- *Policies, institutions and processes*: influence their livelihoods
- *Livelihood strategies*: how do people adapt and plan in response to threats and opportunities
- *Livelihood outcomes and aspirations*: what are people's objectives and priorities?

Capital assets
Capital assets are resources that help people survive and thrive. The main capital assets are natural, human, social, physical and financial assets (e.g. aquatic resources, fishing skills, social relations, infrastructure, fishing equipment, access to credit, etc). Assets are important in terms of quantity and quality. In addition, the question is how do men and women access assets and what is the extent of their control, rights and security of access. Although it is not possible to define a 'minimum' level of assets needed for survival, as the categories are highly subjective and location specific, it is obvious that the better people's overall asset status is, the better they will be able to respond to changes and face hardships.

Vulnerability
Next to an understanding of people's strengths and access to assets, it is important to understand the vulnerability context in which these assets exist. What are the external factors that influence the levels of assets and how these assets can be used? These external factors are often related to causes of poverty, which makes poor people, in particular, vulnerable. For many poor rural people, changes in natural capital can particularly affect their vulnerability, as they are heavily dependent on natural resources. Three major types of external factors can be recognised: trends, shocks and seasonality (e.g. declining fish stocks, price fluctuations, floods, monsoons etc).

Policies, institutions and processes
As mentioned earlier, one of the key principles of the Sustainable Livelihoods approach is the attempt to link micro and macro levels: the household/community level with processes as initiated by the government, the private sector and NGOs. There is a two-way influence between assets and policies and institutions. Existence or lack of policies can have important effects on the livelihoods of the poor. Changes or transformations in these policies and institutions can be used to mitigate negative effects of trends on the overall asset status and cushion the impact of shocks and seasonality, thereby reducing people's vulnerability.

Rules of access to natural resources will influence people's access and control over natural capital. The marine fishery is considered as a common property, which means it is shared amongst those who fish it. A common problem associated with common property resources is 'the free rider' problem, as individuals benefit from use of the resources but do not bear the full opportunity costs of their use of common resources. In general, there is a tendency towards short-term gains rather than an attempt to manage the natural resources in a sustainable manner as benefits might be reaped by others who have not made any investment in such sustainable resource management efforts. Consequently, many marine fishing grounds are considered as being overexploited. Not only fishers will be negatively affected by loss of fish resources but also those involved in the marketing chain and many coastal families as they depend on fish as an important source of animal protein. Among policy makers there has been an increasing awareness for the need to devolve user rights to lower levels, such as communities, to encourage sustainable resource management.

Livelihood strategies

Livelihood strategies are the range of outcomes of how people combine and use their assets to make a living given the factors that make them vulnerable and the policy and institutional context within which they live. In the past, development efforts often sought to improve services and opportunities available to categories of people e.g. fisherfolk. However, the Sustainable Livelihoods approach seeks to develop an understanding of the factors behind people's choice of livelihood strategy and to reinforce the positive aspects and mitigate the constraints or negative influences. In sum, the Sustainable Livelihood approach seeks to identify ways how to build on the strengths the people have while at the same time trying to reduce the level of vulnerability.

Inherent to its holistic principle, the Sustainable Livelihoods Approach recognises the importance the importance and the prevalence of a diversity of livelihood strategies that an individual and/or household pursues. Poor people and their households have often diversified their range of livelihood strategies in order to reduce their vulnerability and to be able to cope with uncertainties or lack of sufficient income from one major income-generating activity.

Livelihood outcomes

People often aim for a range of preferred outcomes based on their perceived priorities and objectives, for example, income, well being, food security, sustainable use of natural resources, reduced vulnerability and decision-making power. Through participatory poverty assessments, it is possible to develop an understanding of about local perceptions and definitions of poverty, and what people themselves see as pathways out or into poverty. Individual livelihood strategies might deal with different dimensions of poverty and aim for different outcomes. In the case of fisher folk, access to consumption credit is an important mechanism to ensure food security during the lean season and the ability to go fishing when the main season starts. In addition to exploring people's livelihood goals and preferred outcomes, it is also worthwhile getting an insight in the way people rank the outcomes of their livelihood strategies. For example, some fisher folk, tied to local moneylenders through outstanding loans, might perceive it as exploitation and as a factor stopping them moving out of poverty as they cannot invest in alternative income generating activities. Others might value the social security provided by the more powerful group within their community and accept the fact that they are limited in developing alternative livelihood strategies.

Further, social groups and/or individuals might value the trade-offs between immediate livelihood gains and longer-term losses differently, depending on the range of choices they have. Large scale fishers might not be concerned by the decline in fish resources as they will have sufficient resources to invest in other livelihood strategies if required. However, artisan fishers might have a stronger incentive to work towards sustainable management of fishery resources, as they are limited in taking up alternative livelihood strategies due to lack in access to assets and their vulnerability.

3.5 "Applying the Livelihoods Approach in Fisheries in Indian Context" V.Vivekanandan (SIFFS)

Key issues of sustainable livelihoods in fishing communities in India:

1. Livelihood is NR based
2. Fish resource is a common property resource, shared by large numbers over large areas (thus, if fishermen in Goa overexploit sardines or mackerels it can affect fishermen and fish vendors and local consumers in Quilon in southern Kerala!).
3. Considerable uncertainty exists in the landing of the fish. Considerable and unpredictable variations exist on a day to day basis, as well as intra seasonal and inter seasonal fluctuations in fish landings.
4. Financial investments for harvest and working capital requirements can be quite high, disproportionate to the assets of the fishermen (a FRP teppa may cost 1.5-2.0 lakhs, but the owner may be living in a hut!), causing high financial risks.
5. Natural calamities can strike and can affect large communities and areas
6. Integrated with national and international trade to a much greater extent than many other livelihoods and hence subject to greater market related effects. When export prices of ribbon fish become attractive, then there was an immediate decline in ribbon fish arrivals in domestic markets.
7. There is a considerable amount of gendered division of labour. Most low income jobs in pre harvest and post harvest are done by women.
8. Fishing is a specialised occupation with many cultural and social characteristics; occupational mobility is poor and educational status is abysmal. (Lack of alternatives)

Monsoon Trawl Ban in Kerala

Six weeks in June and July are normally the closed season for trawler fishing in Kerala. It affects different sections and parameters differently.

- Mechanised sector: It puts owners and crew out of work and income for six weeks. However, workers could perhaps go back to artisanal fishing. Owners might use the period to effect maintenance work on the boat and engine. The incomes lost during the ban period might be made up after the ban period if ban has a positive impact on fish resources as intended.
- Artisanal sector: Can get better catches as well as better prices during the ban period.
- Post harvest sector: Decline in fish handled. Mechanised boat landing centres are worst affected with all actors having less to do. Those operating from artisanal landing centres may be benefited by ban. However, a large number of fish buyers in some mechanised landing centres may be women from the artisanal fishing villages and hence may lose out during ban period.

- Workers in prawn peeling shed and export industry also negatively affected during period.

This example illustrates that while one section of the poor may benefit another section of the poor may lose due to a particular change/intervention.

Table 1: Categorisation of people involved and connected with marine fisheries livelihoods from point of view of understanding impacts of changes.

	Pre harvest	Harvest	Post harvest		Consumers	
			Trading sector	Processing sector	National	Inter-national
Better off (non poor)	Motor manufacturers, net making companies, many input suppliers, money lenders	Mechanised boat owners, and motorised boat owners/ boat crew in some contexts	Merchants/ middlemen in landing centres, commission agents in markets, transporters	Export companies, ice plants	Upper class, middle class	G-7 countries, rich in developing countries
Poor	Local net makers, carpenters, local boat building artisans, small input suppliers	Artisanal sector including owners & crew (motorised, non motorised), mechanised boat crew in some contexts	Retail vendors, especially women, labour in markets, small scale transporters	Small scale processors (mostly women), labour in peeling sheds, export industry	Rural and urban poor, fisherfolk themselves	Poor in developing countries

Export of Ribbon fish from Gujarat

In the early nineties, ribbon fish arrivals from Gujarat to the Mangalore market were very high. Groups of women from Trivandrum District would go to Mangalore to bring back lorry loads of salted ribbon fish to reprocess. They would sell in local rural markets where salted ribbon fish enjoyed a very good demand among the poor people. However, the development of a good export market for ribbon fish in China in the late 90s, lead to this fish completely disappearing from the long distance salt fish trade. It affected large number of people whose livelihood was dependent on this trade and perhaps also affected the poor consumers of Trivandrum District who lost access to this cheap fish. On the other hand, boat owners and crew in Gujarat benefited because of the better market prices. Probably, it also has benefited the export processing plants and their workers. However, the sustainability of the export is in doubt because of the overexploitation of ribbon fish due to higher market prices. Those who currently benefit from the exports may not be able to sustain their livelihoods for long!

3.6 A checklist of skills, capacities and information needed by small enterprises" by M.S.Ashok (CMS)

Rural markets rarely offer remuneration/wages that are above local agricultural wage rates. To cross the poverty barrier, markets beyond need to be accessed – for products/services, jobs, raw material, technologies, skills and **information**.

Poor people need a cost-effective, integrated package of support. What they actually get is isolated interventions in credit, 'skill development', project feasibility packages and diverse government/NGO programmes.

The main components of the package poor people usually need are:

- Credit – information on, access, costs
- Markets – information on
    - ✓ commodities, products, services demanded
    - ✓ prices
    - ✓ volumes
    - ✓ quality specifications
    - ✓ locations
    - ✓ buyers/users
- similar information on equipment, raw material and services
- production – processes, machinery, equipment, skills, material & supplies, services, and labour
- production, delivery and related costs (e.g. storage, transportation, working capital)
- pricing, delivery management, negotiating
- cost, profit and cash management
- contingencies, risks, uncertainties
- on-line management support, especially in setting-up phase and crises.
- communication, working space, transport and other infrastructure in setting up phase.

It is usually not possible for poor people to access or acquire skills/ information listed above. Government and NGO attempts have generally failed poor people in these areas.

An emerging pathway: 'for profit' and therefore sustainable 'enterprise support units'. An Enterprise Support Unit (ESU) is a small team of professionals located close to people it seeks to serve. The ESU is linked up to wider resources and information networks through institutional partnerships and communication channels.

3.7 Key Issues Identified by Participants

The participants were asked to write down what they thought were the key issues with regard to globalisation and seafood trade legislation and its effect on poverty in India. These key issues were sorted and grouped by the workshop organisers under the following headings:

a) Regulation and welfare SPS and trade

- Level of impact on cottage fish/shrimp processing?
- How does globalisation/legislation exclude small processors? Which aspects or restrictions?
- Impact of EU legislation, i.e. ban on home shrimps peeling?
- Implications of sanitary and phytosanitary measures for welfare of fish workers?

b) Environment and trade

- Impact of multilateral environmental agreements on access to markets?
- Demand for specific varieties and species – effect on resource base through exploitation?
- Impact on increased demand—increased prices on natural resources base?

c) Information

- Aquaculture – new fishing areas – regional variations?
- What specific factors caused an export jump in 1996? Who lost and/or gained in matrix (see Appendix 7, Vivekanandan).
- Chinese and Japanese markets, what are the actual practices rather than just laws as procedures?
- What proportion of the export commodity chain is constituted by the poor compared to the domestic commodity chain?
- Labour inputs needed for different types of export fish species?
- Different levels of processing for export – labour needs/costs?
- Local perceptions of globalisation? Awareness? Response?
- Possible laws/acts/rules that exist and pose impacts on livelihoods of poor to be listed?
- How does information about global issues i.e. legislation reach poor producers? Who are the touts of global fish legislation?
- The commodities that are affected by the laws/rules/acts to be identified and listed?

d) Low value fish (export)

- Costs of compliance for the export market?
- Impact of export of ribbon fish to China on the local poor?
- Varieties of fish species exported that are mainly used by the poorer classes to be identified and listed
- Who are the poor within/along the ribbon fish commodity chain?
- Comparison of impact of shrimp (high value) and ribbon fish (large volume) on the poor?
- Impact of increasing exports of 'cheaper' fish abroad on poor post harvest workers?
- Impact of promotion of surimi factories in India?
- Domestic market vs export market: relative efficiencies for lower priced fish. Are these indirect/direct subsidies that lead the flow for export?

e) Imports

- Fish meal imports as a result of quantity restrictions removal by India and its possible impacts?

f) Coping strategies

- What are poor people's coping strategies?
- What have poor people driven out of business done?
- Opportunities for the poor in the increasingly 'globalised' marketing scenario?
- In next 15-20 years what is going to happen to all the small fishermen? Are they just going to be wiped out? What are the survival strategies for them?

g) Domestic consumption

- Links between local and national food security and international trade in fish and fish products. Is it indeed a zero-sum game?
- Impacts of increasing exports vis a vis declining or static supplies for the poor?
- Availability (physical/economic/quality) of fish for consumption at producer villages. Whose food security/whose protein needs are we addressing?
- Impact of legislation on domestic fish consumption levels and quality?

h) High value fish (export)

- Who are the poor within the shrimp commodity chain?

i) Tariffs and subsidies

- Impact of removal/redefinition of export/import tariffs on poor processors/producers/traders/consumers
- Changes in tariff origin of EU, US, Japan as a result of WTO etc
- In terms of efficiency, artisanal fishery sector is not competitive. But there is an element of externality contributed by the mechanised sector that implies suitable taxation and subsidies. How the elimination of subsidies would affect the overall trade balance within the globalisation scenario?

j) Supply chain (aquaculture)

- Compare and contrast legislation impact/ implementation between marine export and aquaculture exports

k) International – versus- national legislation

- Consider the impact of international legislation on national legislation
- Is it globalisation / liberalisation *per se* that affects poor (if it does) or is it management of issues in India – by government, communities?

l) Other ('issues')

- Characteristics of who has benefited and who has NOT benefited from increased global trade in fish?
- What are the trickle-downs to poor from benefits gained by the non-poor?
- Analysis of how benefits are distributed along the global utilisation chain?

4 SUMMARIES OF THE PRESENTATIONS ON 22 JUNE 2001

4.1 "Globilisation, WTO and Environmental Legislation and its impact on the poor" by Sebastian Mathew (ICSF)

Mathew's presentation discussed the impact of globalisation, WTO and environmental legislation on the livelihoods of the poor. He used several cases to show how environmental concern in the western world has negatively influenced small-scale fishers' livelihoods. He stressed that more research is needed to understand the actual impact of international environmental legislation on the poor fisherfolk, how effective these legislation are and how negative impacts can be avoided.

Multilateral environmental agencies like CITES, who have developed lists of endangered species, have links to WTO, with consequences for the international export such as a ban on particular species/products and countries can be denied access to the international market. One such an example is the ban on trade in turtles since 1972, which especially affected Indian Ocean countries. This ban had also implications for the fisheries, as previous fishing grounds have been closed and serve as conservation areas. In addition, regulations have been put in place about type of fishing nets used. For example, shrimp trawlers must used turtle excluder devices if fishing in Orissan waters. Mathews criticised the fact that no difference was made between type and scale of fishing technologies i.e. small scale fishers versus shrimp trawlers and the actual consequences for the turtle population. Although the small-scale fishery does not threaten the turtle population, it is very much affected by the regulations put in place such as the provision of turtle excluder device nets and the imposition of turtle conservation zones. However, these conservation zones, which usually stretch up to 150 km out of the coast, are often the main fishing grounds for small fishers with their small boats and limited engine capacity. In addition, recent experiences have shown that the use of turtle excluder device nets does not really work.

Another example, where the conservation priorities are set inappropriately, is with the conservation of mangrove forests, which is currently under the jurisdiction of Wildlife department. Poor fisherfolk are denied access to the mangrove forest for gathering fuel wood and shellfish. However, it is actually the shrimp cultivation for export that causing main deforestation of the mangrove forests. Mathew feels that too often conservation agencies use these measures to fight market forces without much consideration for the livelihoods of the poor. In addition, the Indian government had overreacted to the pressure from the US and the Green lobby about the conservation of turtles. On the other hand, however, Mathews recognised the need to make some concessions to the WTO in order to get concessions in other areas of conflict. He further acknowledged that environmental concerns should be taken into account but pointed out that there was an urgent need for a much more holistic, transparent and pro-active approach engaging all stakeholders right from the beginning, rather than on a ad hoc basis as it is usually the case.

4.2 "International Sanitary and Phyto-Sanitary Legislation; Shrimp ban and closing of the peeling sheds" by Mrs Asha c Parameswaran (MPEDA) and Ivor Clucas (NRI)

During this presentation, Ivor Clucas outlined the approach taken by the European Union towards ensuring the safety of seafood imports. The EU directives give responsibility to the governments of third countries to see that their export industry complies with legislation by appointing a "Competent Authority". It is then up to the Indian authorities to ensure that factories wishing to export to the EU comply with EU Directive 91/493/EEC which covers both internal production systems and those from third countries. The directive covers design of processing plants, sanitation procedures, self-checks (Haphard Analysis Critical Point (HACCP). Export agencies and factories wishing to export to the EU can obtain an export licence number after approval of meeting the EU directives by the Export Inspection Council. Future directives are likely to increase the scope of the legislation to cover all stages of the processing and handling chain - from "farm to fork".

In 1997, the EU imposed an export ban on seafood from India (which lasted for 6 months) for non-compliance with the EU directives. The main reason being that most shrimps were peeled in cottage peeling sheds that did not meet the hygienic standards as outlined in the EU directives. Since then, a number of cottage based peeling sheds closed down and to some extent export companies have restructured their processing by integrating shrimp peeling under controlled and regulated conditions. The Indian Seafood Exporters Association reckons to have spent US$25 million helping to upgrade the Indian industry to meet EU legislation

Clucas further discussed briefly the food safety regulation for export and import as put in place by USA and Japan who have adopted a slightly different approach. The Japanese authorities tend to check for the presence of antibiotics and pesticides and they are not usually concerned so much with other aspects of food safety. The American legislation lays responsibility for safety on individual importers who are expected to demonstrate that their suppliers are producing safe products and using HACCP.

Parameswaran outlined briefly the ways the Indian government has tried to respond to the EU directives and the role of MPEDA within this effort. The Indian government introduced Indian national standards in line with international requirements with a final date for implementation of December 2000. However, these food safety standards only apply for the export market and not for the domestic market. MPEDA made grants of 50 lakh Rp available to each processing plant to subsidise upgrading. Of the 55 plants in Andhra Pradesh, about 45 are up to the Indian standard. In particular, the pre-processing plants, such as cottage peeling sheds, were affected by this legislation which resulted in the integration of pre-processing with the main processing plants.

However, many companies have not been able to comply with the EU food safety directives and have either stopped exporting to EU markets or have closed down all together. Only 10 companies are approved and have received an export licence number, and four additional ones are awaiting approval.

However, fish landing sites which are, in principle, also part of the "fish to fork" principle, are not being fully integrated in the enforcement of food safety directives. This is rather complicated as the landing sites are very scattered and therefore it is very difficult for MPEDA to control and improve the current conditions. SIFFS is involved in raising awareness about food safety issues among the fisherfolk but acknowledges it is a very difficult and especially time consuming process.

4.3 "Processing factories in Orissa" by V. Salagrama (ICM)

Following previous discussion about the introduction of the EU food safety directives that saw a export ban on Indian Seafood for 6 months in 1997 and the response of the Indian government, this discussion focussed on the implications at the micro (i.e. household) level. Venkatesh raised the question of what has happened to the livelihoods of people in Orissa, who used to be involved with export processing, since the number of EU approved plants is just two for the state of Orissa. Other plants have diversified exports to other countries or downsized. Registered companies have been acting as sub-contractors.

Originally, predominantly women were involved in peeling shrimps, which was often done in cottage based peeling sheds or at home. Through closure of these informal peeling sheds, many women lost their sources of income, and are often excluded from working in export companies given the socio-cultural norms and values that limits women's occupational mobility to work outside their homestead or close community. He stressed that more research is needed to develop an understanding of the impact of EU food safety directives on employment opportunities and conditions, especially within the context of closing down of export companies and peeling sheds. For example, the migration of women from Kerala to work in export companies in other Indian states. What would be the possible impact if quality control would start from the landing sites through an increased concentration of large controlled landing sites? So far, MPEDA usually takes a reactive approach and only responds when needed, whereas it would be better to take a pro-active stanch to explore possible impacts and how these could be minimised if negative.

4.4 "Impact of Changing Export Markets for low cost fish - ribbon fish, croakers and surimi," by C. M. Muralidharan

Originally, ribbon fish and croakers were considered as low value fish species. Ribbon fish was sold to local fish processors and distributed by local middle men to meet the local and domestic markets. However, over the past years, there has been a huge increase in international demand for dried ribbon fish, especially by China. Ribbon fish became a valuable commodity and hardly available as a cheap protein for the domestic market. The commodity chain became more concentrated with fewer agents controlling the dried ribbon fish market, with apparently better prices for the fishermen. In 1999, China imposed a 33% tariff to try to stop grey market whereby fish was exported to Hong Kong, sold to Chinese fishermen and then imported into China (mainland) as own caught fish - which does not attract a tariff if it against a quota. According to his knowledge, dried ribbon fish in China is mainly destined for the Chinese Army and labour camps. He raised the question as to whether there was anything wrong with India fish being exported if it provides a lucrative market.

The local poor have resorted to other 'low-value fishes' as ribbon fish has become too expensive due the high demand for export. However, the availability of low-value fishes for domestic consumption may again come under pressure due to recent opening of surimi plants, using low value fish for the production of surimi, again mainly for the export market. Another concern raised was that the increase in price for almost all fish species would increase the pressure on the already overexploited aquatic resources, increasing the level of overfishing.

4.5 Identification of researchable issues

The wide range of discussions up to this point provided the backdrop for participants to focus on specific researchable issues for the present project. An attempt was made to discuss:

1. Issues to be researched – gaps in knowledge
2. Methods
3. Sources of info- contacts, data, previous research
4. Location of research
5. Timing of research
6. Who are the poor likely to be affected?
7. Who could be involved in the research?

Three sets of researchable issues emerged.

1. Wildlife & Marine legislation (conservation)

- Cross cutting issues:
- Trade Legislation
- Environmental Protection
- How effects trickle down to poor people on household level.
- Food and livelihood security, e.g. turtle and mangrove protection (Bhittar kanika (Orissa). Poor people's access to shell fish and firewood is constrained due to conservation regulations.
- Do bans hit people who do not in fact harm the environment, while mangroves are converted to quarries by others? Instances may exist in the Godavari delta. There is a decline in shrimp for processing. Women processors, backwater fishermen, marine fishermen using dinghies (artisanal fishing boats) and local trade affected. Firewood access affects both men and women.

Contacts and references
Websites - www.wii.gov.in and envis@wii.gov.in

MSS Research Foundation, Swarajaya (contact Behera), CMFRI, Utkal University (contacts Priyamvada, Madhav), ICSF (Sebastian Matthew)

2. Impact on labour conditions & employment (EU & other SPS regulations) (i.e. in Karnataka)

- What could happen if EU regulations were enforced on landing sites?
- Possible effects of new (proposed) regulations for all food entering EU – "farm to fork" regulations – which would cover fish
- What happened in different stages historically (esp after EU ban, recent years?) (Note: export approval is given for plants not companies)

Contacts and references

- MPEDA
- Seafood exporters' associations
- Ministry of labour
- Factories & boilers inspectors
- Labour Research Institute
- Caste panchayats
- CEC Delhi
- Export inspection agencies/council
- Masters theses (various universities)
- Labourers (e.g. Aroor, Kerala; peeling sheds)
- Suppliers to plants
- Loading-unloading agencies
- Basket–box makers?
- Ice manufacturers and users

3. Does legislation play a role at all?

- Are effects of "Surimi" location specific, and not the same in different parts of India?
- What employment opportunities are created or changed?
- Environmental impact of washing, disposal of waste during processing
- Sustainability of resources in context of increasing demand for "by-catch" (biological consequences of by-catch species becoming target species)
- Effects on women processors & local consumers & local supply chain
- Impacts of middleman elimination

- New opportunities for value addition; does surimi increase the market prices obtained by fishermen for “low value” species?

Contacts and references

- Paradip (Orissa)
- HLL- Veraval (Chorwad), Visakhapatnam, Goa, Ratnagiri
- MPEDA
- CIFE
- CMFRI
- CIFT
- DFID PHFP Studies
- Fisherwomen – Trivandrum, Mangalore
- Gujarat Fisheries Dept.

5 AGREED WAYS FORWARD

Finally, it was agreed that no conclusive statements could be made on researchable issues and research sites for the fieldwork, given the limited information available. By end of September 2001, the research collaborators (SIFFS, CMS and NRI) will produce literature reviews to make full use of secondary information sources available to generate ideas about the key research issues and to avoid duplication of previous work. In addition, it was felt that fieldwork research activities should be co-ordinated and linked to the related PHFRP project *"Changing Fish Utilisation and Its Impact on the Poor in India"*. The key findings and recommendations from the scoping studies, conducted in 5 states, should feed into the final formulation of research issues and sites, to ensure integration and linkages given the limited resources available.

The workshop ended with agreement among project collaborators on the ways forward, especially with regard to the literature reviews, to be finalised by the end of September 2001):

1. Report on the Workshop (CMS, with inputs from NRI and SIFFS)
2. An overview of international seafood legislation (NRI)
3. A literature review of globalisation and sustainable livelihoods, with particular reference to the fishery sector (NRI).
4. An analysis of trends in Indian seafood exports and trends in major markets (NRI)
5. A review of the 1997 EU import ban on shrimp exports from India (SIFFS).
6. Indian actions and re-actions to external Sanitary and Phyto-Sanitary (SPS) regulations and legislation, including a history of fish inspection in recent times (SIFFS)
7. A review of export supply chains in Andhra Pradesh (SIFFS)
8. A review of export supply chains in Kerala (SIFFS)
9. A review of export supply chains in Orissa (CMS)

On completion of these desk studies, detailed fieldwork would be undertaken in three selected states, beginning in Andhra Pradesh, followed by Orissa and Kerala.

6 APPENDIX 1: WORKSHOP PROGRAMME

Venue: Consulate Room, Green Park Hotel, Visakhapatnam

Thursday 21st June 2001

Timing	Subject	Presenter
12.30	Registration	
12.30 – 2.00	Lunch	
2.00	Welcome	V Salagrama
2.10	Introduction of Participants	All
2.30	Description of Project	P Greenhalgh
3.00	The DFID Fish Utilisation Project	P Townsley
3.30	Discussion	
3.45	Tea	
4.00	Globalisation, Seafood legislation and Indian Exports	P Greenhalgh, I Clucas
4.45	The DFID Sustainable Livelihoods approach Sustainable Livelihoods – the India experience	N Oudwater M S Ashok, V Vivekanandan
5.30	Participants List of Key Issues	All
6.00	Finish	

8.00	Dinner in Embassy Room 4th Floor	

Friday 22nd June 2001

Timing	Subject	Presenter
9.00	Introduction to day's activities	V Vivekanandan, M S Ashok
9.15	Group and panel discussions	
11.00	Tea	
11.30	Group and panel discussions	
1.00	Lunch	
2.00	Discussion on key issues	V Vivekanandan, M S Ashok
4.00	Finish	

7 APPENDIX 2: LIST OF PARTICIPANTS

Mr V Vivekanandan Chief Executive South Indian Federation of Fishermen Societies (SIFFS) TC No 20/816-1, Karmana Trivendrum - 695 002 Tel: 0471 343711/343178 vivek@siffs.org	Mr O Bhavani Sankar Principal and Addl Director of Fisheries State Institute of Fisheries Technology (SIFT) Jagannaickpur Kakinada - 533 002
Mr M. S. Ashok Catalyst Management Services 179, 6th main KEB Layout 1st Stage Geddalahalli Bangalore - 560 094 Tel: + 91- (0)80-3419616 ashokms@vsnl.net	Dr. Ramana Secretary ARDAR Kothakopperla (SO) Konada Vizianagaram - 535 213
Dr. Imam Khasim Saheb Scientist Central Institute of Fisheries Technology Ocean View Layout, Pandurangapuram Andhra University Post Visakhapatnam - 530 003	Mr Babji Jaladi Executive Secretary SNIRD, Railpeta Ongole, Prakasam District
Dr. S. S. Gupta Scientist In-Charge Central Institute of Fisheries Technology(CIFT) Ocean View Layout, Pandurangapuram Andhra University Post Visakhapatnam - 530 003	Mr C M Muralidharan Senior Specialist Action for Food Production (AFPRO) AFPRO Field Unit – VI D.No. 12-13-483/39, Lane Opp Wesley School Street No. 1, Tarnaka Secunderabad - 500 017 Tel: 7170421
Mr J V H Dixitulu Editor Fishing Chimes Sector 12, Flot No 176, MVP Colony Visakhapatnam - 530 017 Tel: 543171	The Deputy Director/Assistant Director Marine Products Export Development Authority (MPEDA) D.No 48-7-9, Rama Talkies Road 1st Floor, Srinagar Visakhapatnam - 530 016 Tel: 571134
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8 APPENDIX 3: "THE SUSTAINABLE LIVELIHOODS APPROACH AND ITS RELEVANCE FOR FISH MARKETING", BY NICOLIENE OUDWATER (NRI)

Introduction

The project '*Fish Distribution from Coastal Communities in Bangladesh: Market and Credit Access Issues'* is a research project funded by the Post Harvest Fisheries Research Programme of the Department for International Development, UK (DFID). The ultimate goal of the project is to work towards poverty alleviation and livelihood security among the coastal fishing communities and those involved in the distribution chain. It is expected that the poor will benefit through the application of new knowledge focused on the utilisation, for human consumption, of fish from coastal fisheries. In particular, the project intends to contribute to improve the post-harvest utilisation of fish and its impact on the livelihoods of poor processors, traders and consumers. The aim of this research project is to explore the dynamics of the livelihoods in more detail to develop recommendations how the livelihoods of those involved in the fish marketing chain can be improved by building on their current strengths and opportunities.

The following outputs are planned:

- An improved understanding of the trading and credit system for fish produced in poor coastal communities
- A validated methodology integrating market and credit analysis techniques with a livelihoods approach in a post-harvest fisheries context
- Policy recommendations benefiting the poor in coastal fishing communities and the fish distribution chain in Bangladesh

The purpose of the inception workshop *"Poverty alleviation and livelihood security among the coastal fishing communities"*, involving project collaborators and major stakeholders, is to prioritise research areas and identify tools and techniques to meet the objectives. In order to provide a background and guidance for the working group sessions, the paper will present:

- An introduction to the Sustainable Livelihoods Approach
- How the Sustainable Livelihoods approach can contribute to a poverty-focused analysis of the fish distribution chain
- What tools can be used to analyse the fish distribution system from a sustainable livelihood perspective

The first section will provide some background to the development of the Sustainable Livelihoods (SL) approach and its main underlying principles. The Sustainable Livelihoods Approach has been developed by DFID in collaboration with other development organisations. It brings together ideas and lessons learnt from other approaches. The main part of the paper will give an overview of the different components

of the Sustainable Livelihoods framework and how it can be applied to improve the understanding of the livelihoods of coastal fishing communities. The components are explained in the context of the fishery sector, drawing upon secondary literature, DFID and Natural Resources Institute (NRI) publications, and preliminary project information on the fish distribution chain.

Background

The idea of Sustainable Livelihoods has its origin in previous debates on sustainable development, primarily from an environmental perspective. International conferences on environmental concerns were organised such as the World Commission, Environment and Development in 1987 which sought to define the concept of sustainable development and raise its global profile. The UN Earth Summit in Rio de Janeiro in 1992 was a follow up, the aim of which was to develop a global action planning agenda, declarations and international agreements. Closely related to the environmental focus, is the concept of integrated development thinking, in which people's livelihoods are seen in a systems context under the assumption that only a sustainable system can maintain long-term productivity of natural resources. However, the dimension of sustainability is not only confined to the ecological principles but also includes economic, social, and institutional dimensions. The ultimate goal is to maintain an income, to minimise social exclusion, achieve social equity and a long term productivity of natural resources without undermining livelihoods or compromising livelihood options open to others. The focus of the development debate moved beyond the state of resources and began to include people, livelihoods and poverty alleviation as highlighted in DFID's Sustainable Livelihoods Approach.

In the White Paper on International Development 1997, DFID outlined its commitment to poverty reduction through policies and actions which:

- Promote Sustainable Livelihoods
- Education, health and opportunities for the poor
- Protection and better management of the natural and physical environment

Box 1: The three dimensions of Sustainable Livelihoods

In sum, there are three dimensions to Sustainable Livelihoods (SL):

- an objective supporting the goal of poverty elimination
- a framework for thinking about poverty
- an approach for addressing poverty (the most important dimension)

SL is **NOT**:

- A panacea for poverty eradication
- A blueprint to guide implementation of programmes or projects targeting poverty.

From this policy objective of elimination of poverty, DFID has worked towards developing a conceptual and operational framework that constitutes the Sustainable Livelihoods approach. Promoting the Sustainable Livelihoods approach within current development thinking is seen as a means to address the ultimate target of poverty elimination. Many NGOs like Oxfam and Care have contributed to the development of the SL approach by taking it up at an early stage and providing critical feed back and suggestions based on their ideas and 'field' experiences.

Principles underlying the Sustainable Livelihoods approach

Before explaining the different components and the principles underlying the Sustainable Livelihoods approach, it is important to define a working definition of sustainable livelihoods:

A livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Carney, 1998).

Box 2: Summary of Sustainable Livelihoods approach's principles:

What the approach emphasises

- A people centred participatory and responsive approach to development
- Starting with positives (what people have) and opportunities (what they can make of it)
- Build on existing development approaches
- Micro to macro policy influencing

What the approach does not emphasise

- Starting with sectors or commodities
- Starting with needs and problems
- Replacement of existing development approaches (but sets them in broader context)
- A focus only on local development

Poverty focused development activities should be:

People centred – the emphasis is on people, not on resources per se. It mainly focuses on people and livelihoods at the micro community level (e.g. coastal fishing communities) and at higher policy and planning levels (e.g. local government and central government). Through participatory approaches, it is crucial to identify and understand people's views, their own perceptions about the opportunities and constraints that constitute their livelihoods. In addition, it is important to recognise the different groups of people within the communities based on, for example, gender, age, ethnicity, religion, socio-economic status etc. Social and stakeholder analysis will identify the marginalised and excluded groups and what their livelihood strategies are. Such an improved understanding should be used to inform and influence policies to help the poor.

Holistic – it is important to look at all the different resources, opportunities and constraints that people face in pursuing and improving their livelihood strategies. Multiple sectors, e.g. fishing, agriculture, trade should be included, as people/households might have diversified their livelihood strategies by adapting a wider range of income generating activities and therefore depend on various resources. It should build on people's own definitions of constraints and opportunities and help to support their realisation. It also recognises the fact that there are multiple factors, interactions and actors/stakeholders which influence and shape people's livelihood strategies. For example, rural and urban linkages can play an important role in people's livelihoods. During the lean season, people might temporarily migrate to town to take up other income generating activities to support their families in the rural areas. Additionally,

family members, relatives or business people in town might provide capital to the fisher men to cater for equipment needed for fishing such as fishing nets, boats or consumption credit to bridge the lean season.

Dynamic – It is important to recognise that livelihoods are changing in response to external shocks and trends, and it is necessary to understand these changes, how the people themselves perceive these changes and how they have adapted their livelihood strategies in response to these changes. Lessons can be learnt from these changes to support the positive patterns and mitigate the negative ones. It will help to understand the characteristics of those who managed to escape from poverty.

Building on strengths – the approach starts with an analysis of strengths and resources rather than a list of needs. It seeks to explore the potential opportunities of the different groups within the community. What can people make of it? The aim is to work together to build on strengths by removing the constraints to the development of the potentials identified.

Linking macro-micro levels – Bridges gaps and makes explicit links, e.g. effects of national policies on local communities. Higher level policies need to be informed by lessons learnt and insights at the local level. Questions to be explored are for example what the impact is of a particular policy and institutional structure on people's livelihood and poverty. An improved understanding of livelihoods can be used to help identify or adopt policies that fit with livelihood priorities as perceived by the intended beneficiaries.

Conducted in partnership – with donors, local organisations like NGOs and government. Only if the principles underlying the SL approach e.g. people centred, holistic and dynamics, are widely shared, it will enhance and facilitate communication among organisations working in development.

Sustainable – People should be able to deal with and respond to external shocks, hardships and trends, and not being (entirely) dependent on outside support. There are four different dimensions of sustainability that are interrelated:

a) economic - e.g. supply and demand for fish

b) institutional - a well functioning marketing chain, availability of credit and loan facilities

c) social - support from within the family and the community in general

d) environmental - e.g. fish stocks

The sustainable livelihoods framework

The Sustainable Livelihoods approach is a way to understand the needs of the poor and identify key opportunities that will ultimately benefit the poor. In order to understand and analyse the lives of the poor, a Sustainable Livelihoods framework has been developed. This framework is a visual simplification that includes the different components and influences in people's livelihoods and helps in developing an understanding of how these elements link together and shape people's livelihood strategies. It is important to note that it is not an ultimate blueprint. Its elements can be presented and applied in different ways (see appendix 1).

This diagram is especially useful as it helps to envisage the main factors affecting livelihoods and to encourage thinking about the relationships between them and the main influences and processes. It embraces a wider approach to people's livelihoods by looking beyond income generation activities in which people engage. Through participatory approaches, it seeks to encourage various stakeholders, with their own perspectives, to engage in these discussions and debate about factors affecting their livelihoods.

Box 3: The key elements of the Sustainable Livelihoods framework

The key elements of the SL framework are:

- *Capital assets*: resources that help people survive and thrive (i.e. natural, social, human, physical and financial capital)
- *Vulnerability context*: things that the poor are vulnerable to
- *Policies, institutions and processes*: influence their livelihoods
- *Livelihood strategies*: how do people adapt and plan in response to threats and opportunities
- *Livelihood outcomes and aspirations*: what are people's objectives and priorities?

Capital assets

Capital assets are resources that help people survive and thrive. The main capital assets are natural, human, social, physical and financial capital, which are discussed separately below. Assets are important in terms of quantity and quality. In addition, how do men and women access assets and what is the extent of their control, rights and security of access. Although it is not possible to define a 'minimum' level of assets needed for survival, as the categories are highly subjective and location specific, it is obvious that the better people's overall asset status is, the better they will be able to respond to changes and face hardships.

Human Capital

Human capital represents resources such as skills, knowledge, ability to work and good health. Access to a combination of these elements is a prerequisite to be able to make use of any of the other four capital assets. For example, before a fisherman can get a good catch, he needs to know the location of the fishing grounds, how to judge weather conditions, how to operate a boat and how to maintain and produce the necessary fishing equipment such as fishing nets, boats and engines. Those involved in the marketing chain need to know how to assess the quality of fish, how and where to market the fish, how to negotiate good prices and what types of fish are in demand with which type of customers. Again, others involved in the processing of fish need to have profound knowledge on how to dry/smoke or salt fish to ensure they get good quality products to attract customers. People coming from a fishing background, (e.g. fishing has been the traditional occupation of their family for generations), have a clear advantage as they learn while they are young and can get information and support from their parents, relatives and/or other community members. People, coming in from a different area or family, are disadvantaged, as they have to work their way in and probably have to learn the hard way, by doing it and learning from their mistakes.

A good health is important for people to be able to engage in fishing or marketing activities, as these require physical fitness. Formal education might not necessarily be important for engaging in fishing activities as such but it is a positive asset as it increases one's ability to engage in alternative income generation activities if needed. This might be valuable in case the activity is highly seasonal, or worse, catches are declining because of overfishing and people are forced to look for alternative sources of employment.

Natural Capital

Natural capital is the quality and quantity of natural resources that are available to people and above all, the access and control people have over these natural resources. Examples include aquatic resources, water, land, forests, air quality and biodiversity. These resources often form the basis of most rural economies.

People living in coastal fishing communities, not only depend on fish but on a combination of natural resources for pursuing their livelihoods. Fish is caught for both household consumption and sale, generating a cash income. Waterways are also used for transport of persons and produce. Fresh water is used for human consumption and for preserving fish (e.g. brine). Forests provide both building materials for housing and boats but also fuel wood for cooking and smoking fish. In some areas non-timber forest products can be important as an alternative source of natural fibres (e.g. traditional net mending, fishing traps and baskets), edible fruits, leaves, and mushrooms and medicinal herbs. Access to land can be important, especially if fishing is a seasonal activity, because agricultural activities can supplement the household food requirements. Land is also important for processing activities such as drying fish.

In general, it can be said that fish is the key resource for survival. Unfortunately, there are many examples where fish resources are declining, both in quantities and quality (diversity of species). In addition, coastal fishing communities often lack access to land, and therefore they are limited in opportunities in seeking alternative livelihood strategies. In Bangladesh, fishers often belong to a Hindu caste, for example the *Jaladas*. The *Jaladas* usually do not have land and their traditional occupation is fishing. Increasingly, there is an influx of people, who have lost their land and perceive fishing as a kind of last resort (Alam, 1996).

Social Capital

People are dependent on social resources in pursing their livelihood strategies. Social resources are determined by relationships and networks, which exist within nuclear and extended families, and in and among communities and groups. These social relations influence the way in which people can access and make use of their assets.

Social relations are often based on trust, reciprocity and exchange, and contribute to a sense of well being and belonging. Such informal social relations form the basis of informal safety nets, which people use to pursue their livelihood strategies in times of problems and emergencies. To enter a fishing business, a young man might be taken on board by his father or other relatives and be given/loaned fishing nets. In order to ensure a good and regular supply of fish, fish traders often rely on their relationships with fishers or other traders, sometimes based on kinship and/or mutual trust. Having a good relationship with a supplier opens up opportunities for obtaining fish on credit. Alternatively, newcomers to the fish trading business may need to be introduced to the market, its suppliers and/or customers by fellow traders. There are also examples where fishers, fish processors and traders share resources. Fishers who share boats, engines and eventually fishing nets are often brothers or father and sons. Fish processors might share the use of smoking/drying equipment and rent transport on a joint basis in order to reduce the costs and waiting time.

Type and relevance of social capital can differ considerably among ethnic groups, gender and age. Being a woman can limit the opportunities to enter particular income generating activities. In some societies, women are not allowed to engage in activities outdoors but are confined to the domestic sphere, thereby increasing their dependence on their husbands or male relatives. Marital status can also influence one's choice of opportunities for potential livelihood strategies. A married woman often enjoys a greater deal of security than a widowed or divorced woman. For example, in Hindu fishing communities, the female headed households (often widowed) often enter the fish processing and trading business as a survival strategy whereas married women are more likely to be supported by their fishing husbands.

Another important aspect of social capital is ethnicity and/or religion. The caste system, which is characteristic of the Hindu religion, is prevalent in many coastal fishing

communities in Bangladesh. Traditionally, castes are specialised in particular professions, which can be seen either as protective towards an individual's livelihood strategy as it hinders outsiders to enter, for example, the fishing profession. However, it can also be seen as a constraint as it limits people's opportunity to seek alternative employment strategies outside of their traditional occupation (Alam, 1996, and Blowfield and Haque, 1995). However, there seems to be a growing tendency towards overcoming confined traditional caste boundaries and outsiders entering new occupations, e.g. such as land-less Moslem families, originally farmers, becoming involved in fishing related activities (Campbell, 2000 and Alam, 1996).

From previous examples, it is clear that there are also negative aspects of social relations, such as exclusivity, hierarchy, obligations and enforcement of power that can affect an individual's access to social capital negatively. Belonging to a lower caste can marginalise particular groups, leaving them more vulnerable to the more powerful castes and/or socio-economic powerful groups within the community or wider society.

Social capital can also manifest itself in more formal ways through organised groups such as trading or fishing associations, membership of religious groups or groups initiated by external facilitators like NGOs focussing on community development. If formally organised groups build upon strong informal social relations, they can lay an important foundation for influencing policies beyond community levels, knowledge sharing, community based management initiatives or improving individual access to financial services.

Financial capital

Financial capital refers to the financial resources which are available to people (savings (liquid/illiquid), supplies of credit and regular remittances/pensions) and which provide them with different livelihood options. It also includes illiquid resources that can be quickly converted into cash and more liquid means. In some societies, there is a preference for saving in kind as that is perceived as having a higher value or being less risky than cash. Examples are jewellery (gold) and cattle, which is often disposed of in case of emergencies such as illness, marriage or death.

Financial capital is the most versatile type of asset as it can be used to acquire other types of capital such as:

- Natural capital - access to land or purchase of fish for trade/processing
- Physical capital - access to fishing equipment, modes of transport, house etc.
- Human capital - access to education and/or vocational training to support access to alternative sources of income

Financial capital can also improve one's social capital as a high socio-economic status often correlates with having power and being respected/feared by others. For example, having good financial assets could enable a person to give loans/credits to those less endowed, thereby creating obligations for these dependants. Moneylenders are often feared/respected within the village because the poor depend on them for matters of survival. Thus, the more wealthy people can use their higher level of social capital to their benefit, e.g. access to free labour or political power (vote buying).

Financial capital can also be used for supporting livelihood outcomes directly as people can use cash to buy food for meeting household consumption requirements.

Credit, both informal and formal, is an integral part of financial capital. Informal credit, such as assistance from financially better-off relatives and friends, loans with local moneylenders or credit in kind, especially important for traders, can improve one's ability to pursue livelihood strategies. As fishing is a highly seasonal income generating activity, incomes for both fishers and traders tend to be irregular and season based. Therefore, fisherfolk face occasional shortages of cash to meet their household requirements, particularly during the lean season. Access to informal credit for both production and consumption purposes can be an important coping strategy as that allows people to prepare, invest and work in their preferred occupation. Formal credit institutions such as banks and NGOs seems to stipulate requirements that sometimes do not recognise and meet the need and priorities of fishing communities, e.g. a regular income, ownership of collateral, targeted at production purposes and favourable to group membership.

Although, informal credit through local middle men is often seen as exploitative, it has the advantage of being flexible (no discrimination between consumption and production credit), timely and easy accessible as it is locally available with very little bureaucratic hassle. In addition, fishers are secured of buyers for their daily catch without having to spend a lot of time trying to sell to several smaller buyers. Alam (1996) mentions that moneylenders also provide an element of social security by protecting the often socially marginalised groups against violence from other more powerful groups (e.g. due to religious or trade rivalries).

However, it is often perceived as exploitative as fishermen are obliged to sell the major share of their daily catch to the money lender below the market price, therefore it is almost impossible to get out of the vicious circle of indebtedness. This also hinders other groups such as traders and fish processors who wish to enter the market as fish supply might be limited at times and they have to compete against large scale operators (Campbell, 2000, and Blowfield and Haque, 1995).

Physical capital

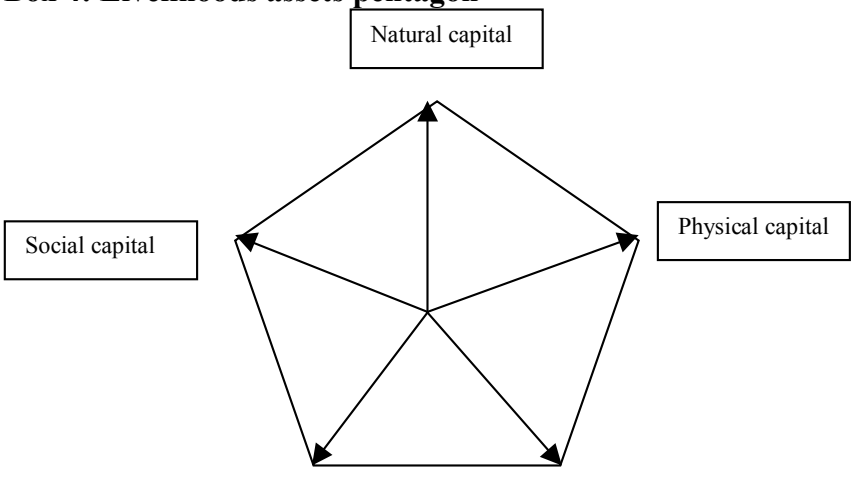
Physical capital is the basic infrastructure such as transport, shelter, sanitation, water, energy, communication, and the production equipment and means which enables people to pursue their livelihoods. It includes public goods such as health care, education and infrastructure, like roads, for which people often do not have to pay directly or contribute partly (e.g. payment of school or hospital fees). Having good access to infrastructure can be especially important for traders as it increases their potential marketing area. Access to health services, safe water supply and sanitation will have a positive contribution to people's health, thereby increasing people's human capital and ability to work.

Also private goods, such as fishing gear, boats, engines, fishing nets, fish processing equipment (ice boxes, smoking ovens, drying racks/slabs) and modes of transport are crucial to support livelihood strategies. Not all fishermen have their own fishing gear, and they might depend on borrowing or using others' equipment in return for payment of rent or lower cash returns for their catch. Having a lot of physical capital does not necessarily mean that someone is better off. For example, a fisherman owning a motorised boat might be heavily indebted because of outstanding loans and he might actually have a lower return on his investment than those who own nets but no boats and therefore pay for the use of a boat.

Livelihood assets pentagon

A pentagon is sometimes used as a visual tool to present information about people's access to assets and the interrelationships. The different types of assets are presented in the shape of a pentagon. Access by different groups or households to each different type of asset can be plotted in a schematic way along the 5 axis graph (see box 4 and 5, below). As discussed earlier, access can imply anything from individual ownership of private goods to customary rights for groups. Values or length of axis are not quantified, as values for each asset base are highly subjective, because they are location and context specific. It is used as a starting point for thinking about how and in what combinations, assets do translate into sustainable livelihoods. It can also provide an analytical tool for

Box 4: Livelihoods assets pentagon

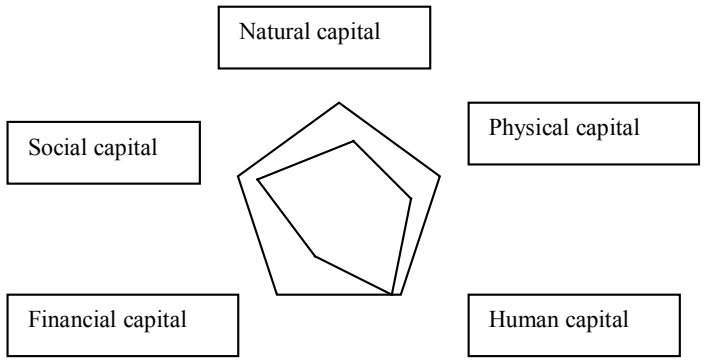


tracking changes in people's asset base over time and/or drawing comparisons between geographic areas.

Further, it highlights the interrelationships between the different capital assets and to what extent they are interchangeable. For example, natural capital may be the basis for financial capital (land as collateral that can be used to obtain a loan). Or natural capital might be linked to social capital. In many societies, investment in a large number of livestock is associated with social prestige and provides a basis for kinship support. Financial capital correlates often with socio-economic status and the ability to develop dependency relations, creating both obligations and benefits, thereby increasing the individual power base and decision making power. Financial capital can be converted into physical capital through purchase of fishing nets and fish processing equipment etc. Access to physical assets again links to human capital, such as being able to invest in human health and education, increasing a person's ability to seek alternative employment opportunities.

In box 5, a simplified example is presented below, illustrating how a fisherman's balance of assets can change over time as a result of declining catches.

Box 5: Example how changes in assets can be analysed and presented



Natural capital is reduced due to a decline in fish resources and thus reduced catches per unit and less supply of fish to the markets. Due to an increase in pressure on nearby forest resources, access to fire wood has become scarce and therefore less available for household use and fish processing. Human capital has remained rather consistent as the person is still physically fit and has all the knowledge and skills needed for fishing. Financial capital has decreased, because incomes from fishing have gone down due to a decline in catches, even though the prices may have increased. Therefore, the person depends more on informal loans to meet household needs, thereby reducing his social capital, as he has become more dependent on other people for assistance rather than being

able to assist others in return for favours beneficial for him. His physical assets have declined, as his fishing nets were damaged in the previous fishing season and he does not have sufficient cash to replace them with good quality ones. Instead he relies on mending his old nets, which become even more prone to damage, thereby reducing the volume of caught fish and increasing the time spent repairing the nets after coming back from the sea.

The above example gives an idea of the changes over time and how the asset status is affected. Has it improved or decreased? What changes in assets status can be predicted given the current changes and the impact on the assets status as identified in the above case. What are the main causes of change and how does it vary for the different social groups (e.g. in terms of socio-economic status, gender, age and ethnicity)? Such an analysis of causes of change can help in identifying the factors that enabled people to move out of poverty, and develop an understanding about the combination and sequencing of assets and livelihood strategies which allowed them to do so.

Vulnerability

Next to an understanding of people's strengths and access to assets, it is important to understand the vulnerability context in which these assets exist. What are the external factors that influence the levels of assets and how these assets can be used? These external factors are often related to causes of poverty, which makes poor people, in particular, vulnerable. For many poor rural people, changes in natural capital can particularly affect their vulnerability, as they are heavily dependent on natural resources. Three major types of external factors can be recognised: trends, shocks and seasonality.

Trends

There is a major long-term negative trend in relation to the quantity and quality of natural resources. Over the past decades, fish resources have declined and particular species have become extinct or are prone to extinction. The loss in biodiversity may have negative drawbacks on the remaining resources as the marine ecosystem has been disturbed. The underlying causes for the increased pressure on natural resources are rather complex, but two important ones are a rapid population growth and urbanisation. Few examples of interrelated sub trends are:

- Pollution of water resources (e.g. industry, mining, urban development, agriculture and aquaculture (use of pesticides and fertilisers).
- Habitat destruction through aggressive fishing methods and clearing of natural vegetation such as mangrove areas, land loss through inappropriate water shed management.
- Growth of export market: increased demand for high value fish have resulted in extractive fishing methods and a greater uptake of mechanised fishing technologies, thereby adding pressure on the natural resources. It also pushes out the already

marginalised, poor fisherfolk, who are not able to invest in capital intensive fishing technologies.

Other institutional related trends include liberalisation of trade, introduction or lifting of trade bans, and change in consumer preferences. For example, the demand for fresh fish has increased significantly, stimulating the use of preservation technologies such as the introduction of ice. This may have a negative impact on the livelihoods of small-scale fish processors who rely on traditional low cost preservation technologies such as sun drying, salting and smoking of fish.

Shocks

Shocks are unpredictable events affecting livelihoods such as war, natural disasters such as floods, droughts, cyclones, earth quakes, land slides, disease epidemics and sudden economic changes e.g. currency devaluation. In the fishery context, cyclones and floods have a devastating effect on people's lives and properties. Many lives are lost (loss in human capital), and physical infrastructure and assets are wiped out, such as loss of fishing gear, roads, bridges and transport linkages being washed away, thereby again limiting access to health and education services and employment opportunities in other sectors. A decline in availability of natural resources and loss of biodiversity make events such as cyclones and floods unpredictable, more common and worst of all, the effects on people's livelihoods have become more severe. Loss in biodiversity has negatively affected nature's ability to resist natural disasters. Due to deforestation of mangrove forests, the natural protection against floods has become minimal. In addition, loss of biodiversity has also reduced people's ability to cope with disasters as building materials become scarce and income from fishing declines therefore limiting people's capacities to build up a buffer zone against such calamities.

Seasonality

Seasonality includes recurrent changes throughout the year that influence people's access to assets and livelihood outcomes. Seasonal change in weather is such an example. The major fishing season may occur during the rainy season, thereby limiting the cash income to few months a year, imposing a strain on the household cash flow and household food security during the lean season. Because most of the fish may be caught during the rainy season, there is a greater risk for those involved in fish processing due to higher humidity and higher prevalence of insect attack of the processed fish. Also transport of fresh fish might be more unreliable in the rainy season as roads may become flooded. Other aspects of seasonality include changes in prices, marketing opportunities, health (e.g. higher risk of malaria during the rainy season) and availability of alternative employment opportunities.

In sum, if people are unable to deal with these trends, shocks and/or seasonal changes, they will become increasingly vulnerable. It is important to keep in mind that the

vulnerability context can differ among the different social groups as the levels of vulnerability is related to their individual combination of assets available and accessible to them. The vulnerability context can be best explored through an examination of perceived risk factors, key problems, changes, potential solutions and the coping strategies that people have developed. Policy interventions may be required to prevent people from becoming more vulnerable and therefore unable to cope with shocks, trends and seasonal changes.

Policies, institutions and processes

As mentioned earlier, one of the key principles of the Sustainable Livelihoods approach is the attempt to link micro and macro levels: the household/community level with processes as initiated by the government, the private sector and NGOs. There is a two way influence between assets and policies and institutions. Existence or lack of policies can have important effects on the livelihoods of the poor. Changes or transformations in these policies and institutions can be used to mitigate negative effects of trends on the overall asset status and cushion the impact of shocks and seasonality, thereby reducing people's vulnerability.

Rules of access to natural resources will influence people's access and control over natural capital. The marine fishery is considered as a common property, which means it is shared amongst those who fish it. A common problem associated with common property resources is 'the free rider' problem, as individuals benefit from use of the resources but do not bear the full opportunity costs of their use of common resources. In general, there is a tendency towards short-term gains rather than an attempt to manage the natural resources in a sustainable manner as benefits might be reaped by others who have not made any investment in such sustainable resource management efforts. Consequently, many marine fishing grounds are considered as being overexploited. Not only fishers will be negatively affected by loss of fish resources but also those involved in the marketing chain and many coastal families as they depend on fish as an important source of animal protein. Among policy makers there has been an increasing awareness for the need to devolve user rights to lower levels, such as communities, to encourage sustainable resource management.

Overfishing is further triggered due to greater uptake of highly mechanised fishing technologies. This may be in response to demand for high value fish on the global market, making the fishing sector more attractive for high capital investments. Consequently, the artisan fishers may be pushed out of the marine fishery, as they cannot afford to invest in new mechanised fishing methods. Present fishing methods may damage fish resources such as the indiscriminate use of trawlers and small mesh gear. It is suggested that policy makers should work towards strengthening the management structures, designing an international legislation for the fishing industry, and trying to protect the fishing areas for local stakeholders rather than the multinational fishing industry. Legislation could embrace a fishing ban during the breeding season of

endangered and commercially important fish species and regulations concerning the use of fishing technologies.

Extension services by the Department of Fisheries targeted at post harvest activities can improve fish traders' and fish processors' awareness and skills to reduce post harvest losses during the processing and storage of fish. As a result incomes will go up due to a greater amount of processed fish available for sale, and they are likely to get a better market price due to the higher quality of cured fish.

Policies of organisations working within the coastal areas can also influence people's use and access to assets. Local organisations, either community based or initiated by NGOs, might play a major role in representing the marginal groups within the communities by identifying the key priorities and working towards the specific needs of these stakeholder groups. Some NGOs are involved in providing credit services to local poor communities. Each NGO may have their own selection criteria and repayment regulations. Most NGOs seems to provide credit for production purposes only, such as purchase of agricultural inputs or fishing nets, and require regular instalments. However, the fishing sector is highly seasonal and requires a large capital input at the onset of the major fishing season. The amount of money needed might be outside the scope of maximum amount of credit. Further, fishers might not be able to meet the regular instalments as their income is highly seasonal and subject to considerable fluctuations. In addition, most fishers need credit to cover household consumption needs during the lean season when their incomes are non-existent or insufficient. Most financial service providers appear not to allow credit to be taken for consumption purposes, therefore excluding fisherfolk from access to financial resources. Consequently, fisherfolk are dependent on informal loan arrangements with local moneylenders and/or local business men. This often means lower incomes during the fishing season, as they are obliged to sell the major share of their catches to the moneylender to repay the loan in 'kind'. If NGOs and/or financial service providers would be able to adjust their credit policies to suit the specific requirements of the fisherfolk, the fisherfolk might be able to free themselves from a vicious circle of indebtedness.

Given the context of such bond credit relations within the fish marketing chain, market information might be distorted as market prices are relatively fixed and set by moneylenders, which often do not reflect the real market value. This has a negative impact on other fish traders who have to buy at a higher price but are forced to sell it again at a relatively low price as they have to compete with traders obtaining goods below the actual market price. In case they are competing for the same market, a market concentration will occur with moneylenders controlling bigger shares of the market.

Above examples mainly relate to the way formalised institutions and policies are influenced by and affect people's asset status. However, also informal processes such as cultural practices, power relations and (traditional) beliefs can play a significant role in

the way in which assets are transformed into livelihood outcomes, e.g. in a Hindu society the type of occupations is closely related to caste boundaries.

Livelihood strategies

Livelihood strategies are the range of outcomes of how people combine and use their assets to make a living given the factors that make them vulnerable and the policy and institutional context within which they live. In the past, development efforts often sought to improve services and opportunities available to categories to people e.g. fisherfolk. However, the Sustainable Livelihoods approach seeks to develop an understanding of the factors behind people's choice of livelihood strategy and to reinforce the positive aspects and mitigate the constraints or negative influences. In sum, the Sustainable Livelihood approach seeks to identify ways how to build on the strengths the people have while at the same time trying to reduce the level of vulnerability.

Inherent to its holistic principle, the Sustainable Livelihoods Approach recognises the importance and prevalence of a diversity of livelihood strategies that an individual and/or household pursues. Poor people and their household have often diversified their range of livelihood strategies in order to reduce their vulnerability and to be able to cope with uncertainties or lack of sufficient income from one major income-generating activity.

Through a social stakeholder analysis, it is crucial to identify the different social groups/communities as they might each have their own opportunities and constraints that determine their livelihood strategies. Within the fish distribution and marketing chain, there might be different groups of traders, each involved in a particular part of the marketing chain given their ability to combine the assets available to them. For example, women, who have little trading capital and are dependant on a irregular supply of fish, are mainly involved in buying leftovers and low quality fish brought to the landing sites which they sell in the local neighbourhood. Others with a higher operational capital and better supply channels of higher value fish might sell at regional markets or in nearby urban markets.

Poor people's livelihood strategies may be more or less based on natural resources. Especially, due to urbanisation processes, access to natural resources become increasingly limited and people have to seek alternative non-natural resource based livelihoods. It is obvious that the range of livelihood choices is more restricted for the asset 'poor' than for those who have good access to all sources of capital. The fact, that many fisherfolks are tied up in informal loans, which they need to repay, reduces their opportunities to move to alternative preferred livelihood strategies. Further, the prevailing culture, gender and caste restrictions can reduce people's choices of potential income generation activities. In order to develop an understanding why particular livelihood strategies might be followed and others not, it is useful to examine the constraints the poor people face in achieving local livelihood objectives.

Livelihood outcomes

People often aim for a range of preferred outcomes based on their perceived priorities and objectives, for example, income, well being, food security, sustainable use of natural resources, reduced vulnerability and decision-making power. Through participatory poverty assessments, it is possible to develop an understanding of about local perceptions and definitions of poverty, and what people themselves see as pathways out or into poverty. Individual livelihood strategies might deal with different dimensions of poverty and aim for different outcomes. In the case of fisherfolk, access to consumption credit is an important mechanism to ensure food security and the ability to go fishing when the main season starts. In addition to exploring people's livelihood goals and preferred outcomes, it is also worthwhile getting an insight in the way people rank the outcomes of their livelihood strategies. Some fisherfolk, tied to local moneylenders through outstanding loans, might perceive it as exploitation and as a factor stopping them moving out of poverty as they cannot invest in alternative income generating activities. Others might value the social security provided by the more powerful group within their community and accept the fact that they are limited in developing alternative livelihood strategies.

Further, social groups and/or individuals might value the trade-offs between immediate livelihood gains and longer-term losses differently, depending on the range of choices they have. Large scale fishers might not be concerned by the decline in fish resources as they will have sufficient resources to invest in other livelihood strategies if required. However, artisan fishers might have a stronger incentive to work towards sustainable management of fishery resources, as they are limited in taking up alternative livelihood strategies due to lack in access to assets and their vulnerability.

Conclusion

The focus of this paper has been to summarise and explain the core elements of the Sustainable Livelihoods approach with specific references to the coastal fishing communities and their role in the fish distribution and marketing chain. The Sustainable Livelihoods framework can be a useful tool for analysing and understanding the broader context and sustainability of the livelihoods of people in coastal fishing communities. Only if an in-depth knowledge is generated about the complexity and dynamics of poor people's livelihoods in coastal fishing communities, recommendations can be made to strengthen people's livelihood opportunities, specifically focussing on improving access to markets and credit.

A wide range of tools can be used for data collection to support an analysis based on the Sustainable Livelihoods approach. It is suggested that a combination of participatory, qualitative and quantitative tools could be used. Suggestions are:

- Participatory methods borrowed from Participatory Rural Appraisals (PRA)
- Sample surveys including structured and semi-structured questionnaires

- Institutional appraisal, including formal and informal access to credit
- Identification and analysis of fish distribution channels
- Market analysis and risk assessment
- Social analysis
- Gender analysis
- Stakeholder analysis and conflict assessment
- Participatory poverty assessment techniques
- Case studies

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