



**Republic of Yemen**  
**Ministry of Fish Wealth**

# Small-scale Fisheries in Yemen



## Social Assessment and Development Prospects

by  
**Angelo Bonfiglioli**  
and  
**Khaled Ibrahim Hariri**

**Food and Agriculture Organisation**  
**The World Bank**

*December 2004*

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## Acronyms and abbreviations

AFPPF	Agriculture and Fisheries Production Promotion Fund
CACB	Cooperative Agriculture Credit Bank
CDD	Community-driven Development (World Bank)
CFC	Coastal Fisheries Corporation
FAO	Food and Agricultural Organization
FMCP	Fisheries Management and Conservation Project
FCU	Fisheries Cooperatives Union
GEF	Global Environment Facility
GPS	Global Positioning System
FMP	Fishery Management Plan
HDI	Human Development Indicator
Hp	Horsepower
ICA	International Co-operative Alliance
IDA	International Development Agency (World Bank)
IFAD	International Fund for Agricultural Development
LED	Local economic development
MFW	Ministry of Fish Wealth
MOLA	Ministry of Local Administration
MWE	Ministry of Water and Environment
NCSFM	National Corporation for Services and Fish Marketing
OBM	Outboard Motor
PERSGA	Regional Organization for the Conservation of the Environment of Red Sea and Gulf of Aden
PRSP	Poverty Reduction Strategy and Plan
SCF	Small-scale fisheries
SFD	Social Fund for Development
UN	United Nations
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
WB	World Bank
YR	Yemeni Riyals

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*Currency unit:* Yemeni Riyals (YR)

*Exchange rate:* 1 US\$ = 183 YR (as of 20 October 2004)

Basic English – Arabic transliteration:

dh (ذ); q (ق); kh (خ); j (ج); th (ط); zh: (ظ); hh (ح); sh (ش)

.....  
*Photos & drawings:* Angelo B.

Map 1: The Republic of Yemen



“Environmental management  
is an integral component of efforts to reduce poverty  
and achieve sustainable and equitable growth”  
*(Declaration of the 2000 Millennium Summit, at UN)*

“For people to thrive, assets must thrive. A broad portfolio  
of assets – physical, financial, human, social, and  
environmental – needs to be managed responsibly  
if development is to be sustainable – because  
of thresholds and complementarities among assets”  
*(World Development Report 2003, World Bank)*

“Conservation and management measures, whether at  
local, national, subregional or regional levels, should ... be  
designed to ensure the long-term sustainability of fishery  
resources at levels which promote the objective of their  
optimum utilization and maintain their availability for  
present and future generations; short term considerations  
should not compromise these objectives.”  
*(Code of Conduct for Responsible Fisheries, FAO)*

“Fishing is our life, the life we inherited from our fathers,  
the life that we want to transmit to our children.  
This is where we get our food, our wealth, our prestige.  
This is the livelihood we know and no other livelihood  
could be better for us.”  
*(Fisherman, Dhubaab, on the Yemeni Red Sea)*



## Executive Summary

The present social assessment of small-scale fisheries (SSFs) in Yemen takes place within the context of the preparation of a new IDA-supported, 5-year project on fisheries (the '*Fisheries Management and Conservation Project, FMCP*'), which aims, among others, to provide policy and institutional support, and to promote and strengthen local fishermen's cooperatives.

In Yemen, SSFs constitute a labor-intensive production system based on the harvest of fish products by small units of artisanal craftsmen. Practiced by an estimated number of 60,000 to 70,000 active fishermen, artisanal fishing provides a livelihood to a population of about 400,000 people and employment to a large, although unknown number of people. It contributes in a substantial manner to local food security. Finally, its products are an important source of foreign exchange and the whole sector contributes to an estimated 2-3% to Gross Domestic Product.

A short definition of small-scale fisheries is provided at the beginning of **Section 1**, by highlighting some of their major characteristics, such as: low levels of income and investment; small amounts of capital and energy; strong dependency on services provided by external agents; strong dependency on seasonality; relatively modest levels of production; and use of simple technology for short fishing expeditions. The general methodology adopted for this study is then presented: while reviewing fishing practices and production techniques, the integrated approach focuses on the livelihoods of fisher households and communities. It attempts to obtain a comprehensive and composite understanding of household livelihoods, by identifying and analyzing their various options, constraints, risk minimizing strategies, coping, survival or investment strategies, as well as the effects on the households of larger natural environment factors (such as seasonality) and of the political economy context.

The methodology primarily focuses on the 'household economy', i.e., a concept that refers to the total patterns of productive household maintenance and reproductive activities of the members of the households. The households - as a unit of consumption, of residence, of economic production, and of social reproduction - constitutes a pertinent unit of analysis. In the coastal areas covered by the present study, the average household unit comprises about 7 persons. The village is the immediate social network into which the individual households are integrated and interact. Beyond the village, households belong to homogenous 'fisher communities', on the basis of common interests and priorities.

The two fishing communities that have been selected for a more in-depth analysis of the SSFs are presented in **Section 2**: one community on the Red Sea coastline (Al-Mukha and Dhubaab areas, in the Ta'izz Governorate) and another on the Gulf of Aden (Borum and Mayfa' areas, in the Hadhramut Governorate). The initial purpose of the study was to include, in each coastal area, groups of households as part of a cooperative, and groups of households operating individually. However, although the principle has been respected, this parameter has been put into perspective and more essential parameters - such as organization of labor, access to and control of assets, and availability of resources, which are part of the general definition of a 'production system' - have been highlighted, in order to obtain a more comprehensive and dynamic profile of the fisher community. Interviews with key informants - fishermen, local councilors, leaders of fisheries cooperatives, and representatives of line departments - have not only allowed the identification of geographical variations (with specific constraints and potentials), but also the assessment of general and specific challenges faced by the producers (fisheries cooperatives and individual fisher households). The areas surveyed are characterized by harsh climatic conditions, low

rainfall, and scarcity of underground water, as well as by low or very low human indicators (education, literacy, nutrition, and health). In the Al-Mukha and Dhubaab area, there are a total number of about 20,000 active fishermen (providing a livelihood to their families, about 140,000 persons). The annual population growth rate is very high (about 3.7%), so that the population is likely to double in about 17 years. In the Burum and Mayfa' areas, on the Hadhramut coastline, there are more than 5,300 active fishers, over a total population of more than 17,700 people, providing a livelihood to about 40,000 members of their families). In both areas, fishing constitutes a full-time job. Alternative livelihoods (agriculture, livestock, and saltpan mining, for instance) are limited only to some localities, where underground water may be found. However, a web of complex economic relations is in place, not only between different fisher communities, but also among these communities and agriculturalists and agro-pastoralists living in the inland or in the *wadi* areas.

**Section 3**, which constitutes the core of the report, gives a comprehensive and comparative presentation of the situation of the artisanal fisheries in the two areas surveyed. The production system is analyzed through its different stages - fish catching, marketing, processing, and distribution - and its different components (labor, assets, basic equipment, and technologies). The livelihood of fisher households is analyzed quantitatively and qualitatively, through an approach that stresses the importance of the major seasonal factors affecting fishing activities.

The ownership of a boat, motor engine, gear nets, and other fishing equipment, is locally perceived as the most important element for the sustainability of the fishery production system. Social differentiation is based on the ownership of (or, at least, access to) these productive assets, as they dictate fishing strategies, and influence economic behaviors and attitudes. Yemeni fishermen use different types of fiberglass boats, called *Huri*, and larger wooden boats (called *sanbuuqs*) The *Huris* are single-day fishing boats, with crews of up to 3 members, and their fishing areas are close to shore, within a range of about 20 nautical miles. The *sanbuuq*, with a minimum of 10-member crews, may embark in up to 10-day fishing expeditions. By taking into account the high seasonality of the fishery production, the report presents, for an average household in each of the two areas surveyed, general estimations of the total number of fishing expeditions, the number of hours at sea, the commercial value of fish catches, the average income, major annual fishing- and non-fishing expenditures, traditional patterns of sharing fish catches among crew members and owners of fishing boats, and the like.

Major findings of this multi-faceted and composite picture of the household economy, are, for instance, the following:

- The 'average fisher household' undertakes about 330 fishing expeditions per year, of which 70% during the peak-season (from April to September).
- It may be estimated that an average fisher (owner of a *Huri* boat) gets a net annual income estimated at between 173,000 and 205,000 YR [=950 - 1,100 US\$]; and each of the two hired crew members of a *Huri* gets an annual income of between 88,000 and 127,000 YR [= 480 - 695 US\$] (for). Income is higher when larger boats are used.
- There are large fluctuations of fishers' monthly incomes depending on the fishing seasons.
- Incomes vary greatly according to the fish species (shrimps or rock lobsters, for instance, mainly reserved for export, generate a much higher income).
- Fisher households are not directly involved in fish marketing, but rely on a network of auctioneers, traders, transporters, and retailers, as well as on a number of service providers (making and selling ice, selling fuel, gear nets and other equipment).

- The price increase between the fishers and the consumers (from landing sites to domestic retail) may be estimated at between 50 and 150%.
- Total annual expenditures for an average household are estimated at about 200,000 YR [1,100 US\$]; food-related expenditures amount at about 65% of total expenditures (but the proportion is higher in poorer households).

The report identifies also the major stakeholders involved in fisheries and analyzes their roles and functions: private fishers, auctioneers, providers of different services, traders, retailers, transporters, and fisheries cooperatives, as well as representatives of government line ministries and local authorities. It is a wide web of interactions, based on traditional relationships and economic interest.

Fisheries cooperatives are particularly analyzed, because of their present and potential role in the development of small-scale fisheries. Cooperatives currently assume a number of social and economic roles and functions (sale of fishing equipment to their members, provision of marketing services, provision of financial services, sale of food, provision of small-scale welfare benefits, etc.). Three groups of cooperatives are identified, according to their performance and efficiency. Higher rates of performance are achieved by fisheries cooperatives in the southern coasts. In the Hadhramut Governorate, for instance, 19 out of 20 cooperatives have been considered as 'good' by a recent survey undertaken by the Yemeni Fisheries Cooperatives (it is estimated that in the Hadhramut, about 90% of fishers belong to a cooperative). On the contrary, on the Red Sea coastline as a whole (from Bab Al-Mandab to north of Hodheida), only 5 cooperatives out of 37 were considered as 'good' (however, only an estimated 20% of fishers in the Bab Al-Mandab - Al-Mukha area belong to a cooperative).

**Section 4**, by putting into perspective the data presented and analyzed in the previous section, provides an overall picture of SSFs and identifies major trends, issues and tendencies. In this way, the section proposes a preliminary, general interpretation of the social and economic situation of small-scale fisheries in Yemen. Particularly stressed are the following elements: the characteristics of the economy of fisher households and their potentials; the major constraints faced by fisheries cooperatives as well as by the private fishers; and the major risks and dangers involved by the livelihood of fisher households.

According to the methodology adopted by the study, a composite picture of fisher households is presented:

- (i) The *average* or *middle-range* household is characterized by a reasonable level of *resilience*, that is the capacity to stand up to and recover from major external shocks, and *endurance*; the production activities of this type of households are based on a number of 'coping strategies' essentially aimed at minimizing risks and maximizing benefits. About 15-20% of the fisher households in the areas surveyed on the Red Sea coast belong to this category, while, on the Gulf of Aden, the proportion is 30-35%.
- (ii) The *below-the-average* household is, in terms of labor, assets and resources, in a much weaker position (lack of boats and basic fishing equipment, sale of labor force, lack of basic investments, food insecurity, etc.). The key word, which defines its status, is *vulnerability* to external shocks. The economic strategies of this category of households are essentially oriented to *survival*. About 70 to 80% of the fisher households of the areas surveyed on the Red Sea coast belong to this category while, on the Gulf of Aden, the proportion is lower (about 50-55%).

- (iii) The *well-off* or *wealthier* household has assets (boats and equipment) and labor (mainly external hired crew). Its strategies are characterized by accumulation of assets, diversification of investments (including fish harvesting, processing, and distribution), and economic growth. Only about 5% of the fishers in the Red Sea belong to this type, while in the Hadhramut the proportion is larger (about 20-25%)

Major internal and external constraints faced by fisheries cooperatives are discussed, such as government's influence and control, unfavorable environment and weak economic basis, variety of social and economic objectives, limited member ownership, weak leadership, lack of focus, dichotomy between individual and collective interests, etc.

The section also analyzes the major variables affecting the livelihoods of fishermen, such as environmental degradation (depletion of fish stocks, rapid coastal development, destruction of coral reefs, etc.), low and/or inappropriate technology, lack of training and skills, and lack of enforced regulations.

Finally, a general typology of SSFs in Yemen is proposed, on the basis of the same key parameters through which local livelihoods have been analyzed, with the identification of four major fishery sub-systems: subsistence-oriented, market-oriented, semi-commercial, and commercial. In conclusion, the section addresses a number of issues reflecting a new paradigm in natural resource management, such as:

- (i) The definition of the roles and functions of each of the main stakeholders involved in the small-scale fishery sector (fisheries cooperatives, district authorities and local councils, the MFW).
- (ii) New forms of democratic and participatory management (co-management) of the fishery resources in a more transparent, accountable and efficient way.
- (iii) The importance of initiatives aimed at strengthening or building the technical and managerial capacities of all local stakeholders.
- (iv) The role of an efficient, participatory and result-based planning exercise, which stresses the importance of the establishment of comprehensive fisheries management plans (FMPs) rather than the identification of a multitude of small initiatives lacking a coherent vision.
- (v) The importance of defining strong partnerships and strategic alliances with a variety of on-going or future projects/programmes, which not only address fisher-related management issues, but also local governance, participatory democracy, and poverty reduction.

In the light of the findings presented in the previous sections, a number of operational recommendations are formulated in the **Section 5**, after a preliminary definition of some key terms (such as governance, management, development, local economic development and institutional development). The recommendations concern the major stakeholders, such as the fisheries cooperatives, the local authorities, and the MFW. They concern also new forms of joint management (or: co-management) of the fishery resources, adequate forms of capacity building (for all the stakeholders), an inclusive and participatory planning exercise, and issues related to strategic partnerships and alliances. It is argued, for instance, that:

- Today, in the light of new political, administrative, and economic contexts, there is an urgent need to redefine the fundamental role of fisheries cooperatives. Cooperatives should increasingly focus on conducting business operations in a dynamic, flexible and assertive way, adopt a 'business unit' operating model, become an integral part of the private sector (with independent, business-oriented

and self-reliant procedures and mechanisms), and leave to other actors more specific roles and functions. Their leadership need to be prepared and trained for more specific economic functions. A number of reforms should contribute to remove a number of barriers and constraints that at present block cooperatives from entering and competing in the market economy.

- In the new political environment created by the recent *Local Authority Law* - whereby the Yemeni Government has recognized the need for a system of decentralized governance - powers, budgetary resources, and new roles in local development are transferred to local councils. Therefore, this report argues that local authorities may have a crucial role in the development of SSFs as part of their responsibilities in a more comprehensive local development paradigm. Five major roles for Local councils are then analyzed: networks and alliances; regulatory frameworks; planning; training and information; and infrastructure and service delivery.
- Current thinking on environmental governance and management of natural resources stresses the importance of different forms of 'co-management' involving all local stakeholders. Co-management is based on a number of basic principles, such as subsidiarity (by which all planning and implementing activities is the responsibility of the level closest to the grass-roots), complementarity (by which each institutional level operates in its own areas of action according to its own responsibilities) and equity (by which the rights of each stakeholder on the resources are legally recognized).
- The planning of fisheries cooperatives is currently made on an *ad-hoc* basis. What is lacking, beyond the list of individual micro-projects and investments, is a long-term, shared vision concerning the development of the sector. The participatory preparation of fishery management plans (FMPs), as part of coherent and comprehensive local development plans and, eventually, of coastal management plans, should be considered as a prerequisite for a new approach to the governance, management and development of the small-scale fisheries. (This report provides some preliminary indications for the preparation of appropriate FMPs and identifies the key principles of a long-term vision).

Finally, the section includes a preliminary proposal aimed at integrating the previous recommendations into the existing matrix of objectives and strategies of the FCMP. More particularly, it formulates a new sub-component aimed, by better addressing the specific problems of the SSFs, at improving their governance, management and development. The proposal comprises two basic strategies:

- (i) the strengthening of the capacities of all local stakeholders in order to plan, implement, manage, finance, and maintain fisheries activities;
- (ii) the definition and creation of a financial facility aimed at allowing local stakeholders to make sustainable investments in artisanal fisheries, on the basis of comprehensive fishery management plans.

For each of these two strategies, a number of policies, institutional development initiatives, and investment programs are identified. The proposal highlights the importance of a number of policy directions, such as:

- Improved strategic partnerships between the Ministry of Fish Wealth (MFW) and other sectoral ministries and departments as well as with the Ministry for Local Administration and other governmental agencies (such as the AFPPF, the NCSFM, and the SFD).

- A better definition of the key role of local governments in local social and economic development, in general, and in fisheries management, governance and development, in particular.
- The definition of an institutional framework aimed at creating and strengthening the organizations of good governance and defining adequate co-management rules and regulations concerning the access to and use of fisheries resources.
- The need to sustain new forms of fisheries cooperatives, more focused on conducting business operations.
- The strategic role of an earmarked funding facility specifically addressing fisheries management and development-related initiatives and aimed at increasing the capital investment capacities of local governments - local government's investment capacities being currently still limited.

Finally, this report argues that, within the timeframe of the future IDA-supported FMCP, the proposed component could be started on an experimental basis and could adopt basic methodologies and tools of a community-driven development programme, which would stress local empowerment, participatory governance, demand-driven responsiveness, administrative autonomy, greater downward accountability, and enhanced local capacity.

The sub-component could eventually be implemented through strategic partnerships and alliances with other on-going or new projects/programmes. A number of factors would then trigger an up-scaling of the approach during the second phase of the FMCP.



## Foreword and acknowledgments

The present study, commissioned by the World Bank to the FAO/Investment Center, has taken place within the context of the preparation of a new IDA-supported, 5-year project on fisheries (the *Fisheries Management and Conservation Project, FMCP*), which aims to:

- (i) provide policy and institutional support;
- (ii) promote and strengthen local fishermen's cooperatives to be engaged in the management of fish landing sites, marketing, monitoring, control and stock assessment;
- (iii) raise quality standards to meet international criteria and as such promote fish exports and health safety.

The specific objective of this social assessment was to understand the livelihood strategies, economic conditions and fishing practices of artisanal fishermen. Its findings will allow the formulation of operational recommendations for project design.

The study aims at placing artisanal, small-scale fisheries within the larger institutional and socioeconomic context, in order to identify external as well as internal constraints and opportunities. One of the objectives is to build a community driven development approach in project design.

The assessment was carried out in October - November 2004, over a total period of four weeks, and the report has been prepared by the following consultants:

- Angelo Bonfiglioli, rural sociologist and expert on rural development & natural resource management, senior technical adviser at the United Nations Capital Development Fund (UNCDF);
- Dr. Khaled Ibrahim Hariri, expert on Fisheries, Marine & Coastal Environment, and Fisheries Management, national consultant with an extensive experience of artisanal and industrial fisheries in Yemen and neighboring countries.

The authors wish to acknowledge all those who helped them, by providing suggestions, information, and assistance, particularly the following persons: Naji Abu-Hatem, Senior Rural Development Specialist, at the World Bank in Sana'a; Mesky Brhane, social scientist at the World Bank in Washington; François Dauphin, Chief/TCIE service, of the FAO Rome; Ibrahim Tabet, of the FAO, San'aa; and Dr. Omar Awadh Subeeih, General Director of the 4<sup>th</sup> Fisheries Development Project, who joined them during their fieldwork among fisher communities on the Red Sea coastline.

A sincere thank is addressed to H.E. Dr. Ali Mohammed Mugawar, Minister of Fish Wealth, for his great interest in the mission and his efficient support.

**Inset 2:**

**Yemeni fisheries at a glance**

- The Republic of Yemen, the 27th poorest country in the world (HDI 2003), has a coastline of 2,350 km and, in addition, possesses many islands in the Red Sea, in the Gulf of Aden and in the Arabian Sea. Yemen claims sovereignty over a territorial sea of 12 nautical miles, a 3 nautical miles coastal limit and a 200 nautical miles 'exclusive economic zone' (EEZ) off the southern coast
- Fishing is the main occupation of about 60,000 to 70,000 active artisanal fishermen directly supporting about 400,000 members of their families. In addition, an unknown but relatively high number of people are also engaged in different aspects of fishery products processing and marketing. In particular, the fish processing plants, spread along the Yemen Red Sea and Gulf of Aden coastal zones, employ a large number of people, including women, in fish processing, canning and lobsters processing plants.
- Artisanal fishermen control about 14,000 different types of fishing boats and produce an average annual catch of 228,000 metric tons (representing more than 80% of the total fish production), of which about 65% in the Gulf of Aden and 35% in the Red Sea.
- For the industrial fisheries, in 1998, there were 23 fishing companies in the industrial sector working in Yemen waters, 11 in the Red Sea and 12 in the Aden Gulf and the Arabian Sea. These companies caught 17 858 tons of fish in 1998, principally demersal fish and cuttlefish.
- In 1998, the industrial fishing fleet already included 131 boats, 63 in the Red Sea and 68 in the Gulf of Aden and the Arabian Sea. The total catch was 17,858 tons, 4,186 in the Red Sea and 13,669 in the Gulf of Aden and the Arabian Sea.
- For the industrial fishing, boats are allowed to operate in the Red Sea beyond six miles from shore, and five miles from shore in the Gulf of Aden and the Arabian Sea.
- The Gulf of Aden and the Red Sea waters are characterized by high bio-productivity, due to the southwest monsoon winds during the summer and solar radiation. They represent a unique and large ecosystem that deserves a high degree of scientific attention.
- The coastal waters of Yemen are also characterized by their high level of primary and secondary production, making them an important feeding and nursery ground for marine species, where more than 600 commercial species of fish and marine organisms have recently been recorded.

# 1

## OBJECTIVES AND METHODOLOGY

After a short introduction giving a definition of the small-scale fisheries, this first section presents the methodology adopted for the study.

More particularly, it presents the elements and perspectives of an integrated approach, which focuses not only on fishing techniques and production, but also on the livelihoods of fisher communities.

The approach is intended to generate a set of coherent quantitative and qualitative data for homogenous clusters of fisher households within selected communities.

### 1.1 Small-scale fisheries: a definition

01. In Yemen, as in many other parts of the world, small-scale fisheries, SSFs (called also 'traditional' or 'artisanal' fisheries)<sup>1</sup> constitute a labor-intensive production system based on the harvest of fish products by small units of artisanal craftsmen (generally belonging to a same household, a same cluster of households or a same kin group) with or without the use of external hired workers.
02. The main characteristics of SSFs are the following:
  - low level of income and investment,
  - small amounts of capital and energy,
  - strong dependency on the services provided by a number of external people (auctioneers, traders, transporters, retailers, carpenters, mechanics, etc.),
  - ownership (or rental) of relatively small fishing open-decked vessels (<20 meters long), with outboard (less often inboard) engines,
  - organization of short fishing trips close to shore (a distance of about 8 nautical miles) not exceeding ten days, but usually half-day or overnight,
  - strong dependency on seasonality, because of the climate (monsoon) and the migratory patterns of some fish stocks,
  - relatively modest levels of production,
  - use of simple or unsophisticated technology and equipment (e.g., no processing equipment on board, except for salting, drying and, less often, icing fish).
03. The various activities of the fisheries (i.e., fish catching, processing, distribution, and marketing) may be undertaken by full-time resident, migrant, part-time, and full-time fishers, with specialized associate stakeholders (auctioneers, wholesalers, transporters, retailers, etc.).
04. This general definition obviously gives only a static and partial picture of the production system. The reality is more dynamic and complex, and individual production units are heavily dependent on a number of social, economic and ecological variables.

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<sup>1</sup> In some contexts, the term 'artisanal fisheries' is synonymous of 'subsistence fisheries'. However, in Yemen the use of this term would not be appropriate.

## 1.2 Methodology of the study

### A focus on the household economy

05. The methodology adopted for this study focuses on the 'household economy', i.e., a concept that refers to the total pattern of productive household maintenance and reproductive activities of the members of the households.

A household or domestic group (*beyt* or *usra* in Yemeni Arabic)<sup>2</sup> may be defined as a group of relatives (both kins and affines), who eat from the same cooking pot (unit of consumption), who live in the same compound (unit of residence), who participate in the use of the same productive resource and the same factor of production or assets (unit of production), and who share a common stake in perpetuating and improving their socio-economic position from one generation to another (unit of reproduction).

The household is a useful unit of analysis given the assumption that within the household resources and assets are pooled, income is shared and decisions are made jointly by adult household members, under the patriarchal authority of the head of the household (*ras al-beyt* or *ras al-usra*). However, it should also be pointed out that, within the household, men and women may have different statuses; carry out different tasks; have different survival strategies; and play different role in decision-making processes and in the management of productive activities.

06. In the coastal areas covered by the present study, the average household/production unit comprises about 7 persons per household. Some households, however, may comprise 10 persons or more, distributed within 2 or 3 nuclear families (polygamy is infrequent among the populations of the Yemeni coastal areas).
07. The village (*qarya*, pl. *qura*) is the immediate social network into which the individual households are integrated and have to interact. Kinship is the main organizing principles of the village, upon which other principles of organization are operative, as the core of the village is made up of a group of distinct patrilineal households. However, as a result of immigration (and out-migration) and specific patterns of intermingling of population on the coastal areas, very disparate groups of individuals have joined the original core: so that, on the one hand, the village may end up as a heterogeneous grouping and, on the other hand, individuals participate in social networks which are well beyond the boundaries of their villages. In addition, as it will be mentioned later (see paragraph 17), Yemeni coastal households have only a feeling of belonging to groups of affiliated households or extended family networks (or 'clan', *fakhd*), but not to larger tribal groupings (*qabiila*), as in the Northern highlands.

### Assessing the situation of three sub-groups of households

08. The model used by the present assessment is a tool for a rapid assessment of the general situation of predetermined sub-groups of 'homogenous' fisher households within a given 'community' (*mugtama'at*): the community is here considered less as a well defined geographically entity (e.g., a village) than a socially defined group of individuals with common interests within recognized boundaries - e.g., a group of fishers of close villages (*qura*) and/or hamlets (*mahallah*). Thus, the target of our assessment is a 'fisher community' (*mugtama'a samakiya*) of men and women, living in close, homogenous and affiliated residential units, and for whom the fishery production system constitutes a key common interest.
09. The methodology is based both on local perceptions (through the use of discussions with groups of key informants) and on secondary sources (through the review of existing documentation).

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<sup>2</sup> See in the Appendix 1 a little English- Yemeni Arabic glossary for fisheries-related terms.

10. In recognition of the complexity of local domestic economies, the model is intended to assess, within a given community, the situation of three major sub-groups of fisher households:
- The first is the group of *average* or *middle-range* households, that is the households that, in terms of labor, assets, size and social capital, are (according to local perceptions) between the well-off or wealthy households and the households that are near or below the threshold of poverty.
  - The second is the sub-group of *poor households*, that is the households that, in terms of livelihood options, are below the average households.
  - Finally, the third group is made up of *well-off households*.
11. From a methodological point of view, this classification of three 'types' of households follows a 'rural rapid appraisal' approach, which is adopted by much broader and more ambitious models.<sup>3</sup> The key challenge is to understand, in a relatively very short time, the basic functioning mechanisms of a middle-range household under normal conditions and the direct (upwards or downwards) effects of key changing determinants. Obviously, while the results cannot be compared with those of a detailed, although time-consuming, survey of individual households, they are likely to present a genuine picture of the general situation. But, what matters most is that – at least according to our experience – the informants fully understand and appreciate a methodology, which, without 'threatening' them individually, gradually leads them to identify issues and assess situations.

#### **The situation of a 'normal' year**

12. The model attempts to get a baseline picture of local household economy by initially focusing on the '*average-type*' of households, in a '*normal*' year. A particular attention, therefore, is put in explaining to local informants what an *average* household is and what a *normal* year is.

*'Normality'* defines here a year which, without being particularly good, is exempt from significant ecological or economic or social unrest. In other words, a normal year defines a year during which the livelihood conditions are more or less usual. Although it would be easier to refer to one of the recent years which can be defined as normal, it should be pointed out that a 'normal' year does not correspond to an 'average' year.

#### **A holistic perspective**

13. The model does not limit itself to the simple analysis of practices, techniques and activities of a fisher household. Rather, it attempts to obtain a more comprehensive and composite understanding of household livelihoods, by assessing the available options, constraints, risk minimizing strategies, and coping, survival or investment strategies, as well as the effects on the households of the environmental constraints (climate, seasonal fluctuations of stocks, natural resource productivity, etc.) and, somehow, the political economy context – such as those affecting the market).

#### **Methodological steps**

15. The methodology adopted by this study comprises four distinct and complementary steps:

##### **Step 1:**

→ Quantitative and qualitative data on the situation of small-scale or artisanal fisheries in Yemen, their geographical locations, basic parameters concerning their production and marketing, and the like.

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<sup>3</sup> See for instance the 'food economy' model (Boudreau T. 1988 'The food economy approach : a framework for understanding rural livelihoods' ODI *Relief and Rehabilitation Network Paper 265*, May, London, Overseas Development Institute); or the '*household economy approach*' used by a number of donor governments and agencies such the World Food Programme (WFP) and the FAO, with its related '*RiskMap*' software, largely in refugee camps

♣ Methodology: Review of essential documentation and secondary sources (see the bibliographic references).

**Step 2:**

→ Quantitative data on the economics of homogenous groups of fisher households (belonging to a same 'community', as previously defined) and characteristics of major variables (organization of labor, production patterns, seasonality, alternative economic activities - agriculture, animal husbandry, petty trade, etc. - income, major expenditures, etc.).

♣ Methodology: Focus group discussions with key informants in two separate geographical areas (Red Sea & Gulf of Aden) on the economy of: (i) an average household; (ii) a below-the-average household; and (iii) a well-off household (on the basis of an Excel-based research instrument).<sup>4</sup> The Appendix 2 of this report gives the names of some of the persons who participated in these discussions: adult male fishers (25-50-year old), members of fisheries cooperatives, and members of local councils and line departments. We were not able to organize focus-groups with women, not only because of cultural reasons, but also because (especially on the Red Sea) women are little or not at all involved in fish catching and marketing (however, on the Arabian Sea, as it will be reported, a significant number of women are involved in fish processing, including in canning industries and in other income generating activities).

**Step 3:**

→ Qualitative data on issues related to demography and social organization of fisher communities, major stakeholders, physical settings, management of common property resources, major constraints in the different aspects of artisanal fisheries (fish catching, processing, distribution and marketing), the competition between small-scale fishers and commercial or industrial fisheries, changes over time, general trends, etc.

♣ Methodology: Focus-group discussions with informants (fishers and representatives of line departments) and review & analysis of existing secondary sources.

**Step 4:**

→ General perspectives on the 'way forward' for artisanal fisheries in Yemen, with some policy recommendations.

♣ Methodology: Focus discussions with local government officials, line department representatives, community leaders, traders, etc. and review of major current policy strategies.



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<sup>4</sup> See the research tool in Appendix 2.

## 2

## PRESENTATION OF AREAS AND COMMUNITIES

This section provides a synthetic presentation of the two areas selected for this study: the Red Sea coastal area and the Gulf of Aden coastal area. In each area, artisanal fisheries have been analyzed, through a more in-depth analysis of specific fisher communities, (in Al-Mukha and Dhubaab zones in the Red Sea area, and the Burum zone in the Gulf of Aden area).

After a synthetic presentation of the main aspects of the social organization of fishing communities, the section provides relevant information on local physical, social, economic, and ecological conditions.

### 2.1 Selecting areas and communities

14. Fieldwork was undertaken in two distinct coastal areas (the Red Sea and the Gulf of Aden), and concerned two communities in each area. The initial purpose was to include, in each coastal area, (i) groups of households as part of a cooperative; and (ii) groups of households operating individually.
15. However, although the principle has been respected, the parameter 'cooperative membership' has been put into perspective: thus, more essential parameters, such as labor, assets, and access to resources - which are part of the general definition of a 'production system' - have been emphasized in order to obtain a more comprehensive and dynamic profile of the fisher community (these same parameters will guide the identification of a general typology of the production system - comprising different sub-systems or configurations - of small-scale fishers, see Section 4).
16. Within each area, localities with important fishing communities were identified: one on the Red Sea Coast (Al-Mukha and Dhubaab) and one on the Gulf of Aden Coast (Borum and Mayfa').<sup>5</sup> This approach was intended to allow the identification not only of geographical variations of the artisanal fisheries industry (with specific constraints and potentials), but also to understand the specific challenges faced by cooperatives and by individual fisher households.
  - On the Red Sea, fisher communities of the Al-Mukha and Dhubaab were selected because they are characterized by lack of infrastructure and social services, low or moderate implication in market transactions, and moderate membership in fishery cooperatives: thus, as a sample, they were considered as preferable to the communities in the Hodheida area, for instance, where a relatively larger number of socio-economic infrastructures have been developed and there is a larger number of operational cooperatives.
  - On the Arabian Sea coast, fisher communities of the Burum and Mayfa' area were selected because they are representative of a common situation. As elsewhere on the Gulf of Aden, individual fishers belong to cooperatives and societies, but their cooperatives cannot be compared with the highly developed, efficient and unique cooperatives of other areas of Hadhramut (e.g., in Shihr).

(See the Map 3 for the areas and communities surveyed and their geographic localization).

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<sup>5</sup> The selection was based on the intimate knowledge of the fishing communities by the consultants, the findings of previous studies and assessments as well as the opinion of officials of the MFW.

**Map 3: Areas covered by the present assessment**



Source: [www.fao.org/fi/fcp/en/YEM](http://www.fao.org/fi/fcp/en/YEM)

**RED SEA COASTAL AREA**

**Governorate:**

- Ta'izz

**Districts:**

- Al-Mukha
- Bab Al-Mandab

**Fisher communities:**

- Fisher communities in Al-Mukha District
- Fisher communities in Dhubaab District

**GULF OF ADEN COASTAL AREA**

**Governorate:**

- Hadramut

**District:**

- Burum & Mayfa'

**Fisher communities:**

- Burum, Husaihisah, Mayfa'

## 2.2 Social organization

17. As previously mentioned (see paragraph 5), the fisher community comprises small-size social units, essentially determined by kinship: each of these units (called *beyt*, household or domestic group) constitutes a socially and economically autonomous and independent entity, under the authority and the management of a head of household (*rab al-usra* or *rab al-beyt*). Thus, this type of 'patriarchal' household (where sons tend to continue to stay in their father's household in patrilocal residence)<sup>6</sup> operates as a highly cohesive unit of social organization, with basic divisions of labor, authority and prestige. However, under the pressure of economic and demographic factors, the model is likely to change rapidly and a type of 'nuclear' household is now emerging (made up of a head of family, with his wife and children).
18. Beyond the *beyt*, the feeling of belonging to larger groups (such as a clan, *fakhd* or a tribe, *qabiila*) is very weak in all the coastal areas in Yemen – and this constitutes the big difference with the tribal and hierarchical configuration of the society in the Northern highlands.<sup>7</sup>
19. In other words, the fisher communities are characterized by a lack of centralized political hierarchies, but present themselves as a set of parallel and equal social groups. It is a 'segmentary system', where, at the lower levels of segmentation, social values emphasize the importance of personal individual ties, individuals have daily social and economic relationships, and family alliances are relevant especially in case of danger or crisis. Beyond the individual household, the authority is then vested in a council where each *akel* (elder) has a voice and authority in dealing with major disputes or conflicts against outside threats.

## 2.3 The fisher communities surveyed

### a) On the Red Sea: fisher communities in the Al-Mukha & Dhubaab area <sup>8</sup>

20. The entire Red Sea coastline is more than 800 km long and stretches between Bab Al-Mandab and the northern part of the Hodheida Governorate.
21. The area specifically covered by the study is about 75 km. long and 3 to 5 km large wide along the Red Sea: it is a straight coastal strip (called *saahil*), where soils are sandy, underground water is scarce, and the vegetation rare. In addition to the coastal strip, the coastal area (generally called 'Tihama') includes two other ecological areas: the inland (called *baadiya*), comprised from 5 to 30-40 km from the sea border up to the eastern mountains (soils are sandy and sandy clays, and groundwater may be found at 30 to 40 m below the surface); and wadi's catchment areas (such as the Wadi Mawza, south-east of Al-Mukha town), whose soils are alluvial sands, sandy silts and sandy clays.
22. The surveyed communities in the Al-Mukha & Dhubaab area belong, from an administrative point of view, to the Ta'izz Governorate (*muhafazha*), which, with a total population of 2,915,000,<sup>9</sup> is one of the most densely populated governorates (about 14% of total Yemeni population).

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<sup>6</sup> At the death of the father, married sons continue to stay together, in a common estate, under the authority of the elder brother ('fraternal' type of household).

<sup>7</sup> See Dresch, 1993.

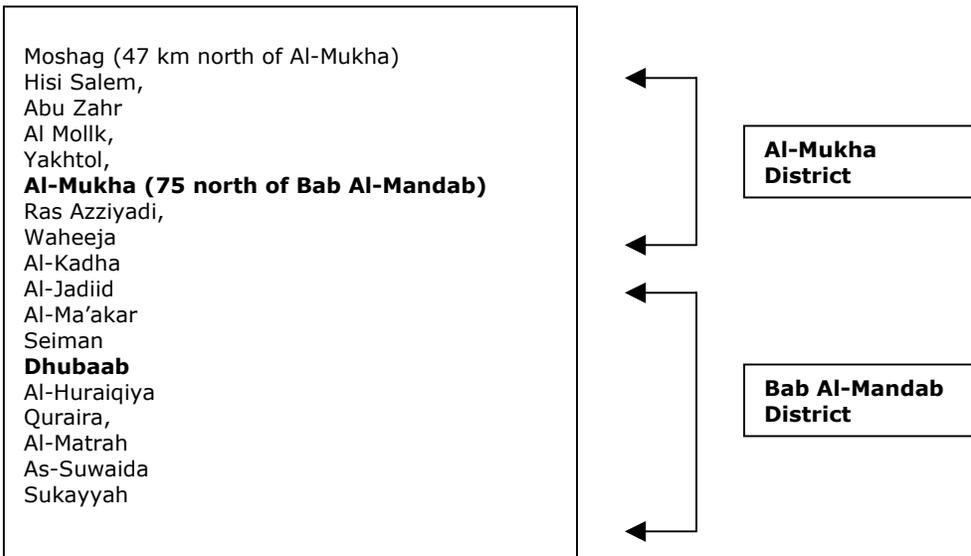
<sup>8</sup> See Map 4 for the areas covered by the fieldwork on the Red Sea.

<sup>9</sup> Projections of this report calculated on the basis of the 1994 Census, with a 3.7% annual growth (a new census will take place in December 2004).

Map 4 : Red Sea area: Localization of the fisher communities surveyed



Fisher communities in Al-Mukha and Bab Al-Mandeb Districts



22. The Governorate includes 20 districts (*mudiriyah*), of which Al-Mukha and Bab Al-Mandab.<sup>10</sup> In each of these districts, there is a District Manager (*mudiir*) – who is appointed - and a local elected council (15 to 25 members). In each district, there are also executive officers, belonging to several line departments, who, while in principle being accountable to the council, are actually reporting directly to their own line department or ministry.

24. The main human indicators of the Governorate are the following:

- Infant mortality (x1,000) is 65.92 (67.48 in rural areas);
- Life expectancy at birth is 60.84 (60.51 in rural areas);
- Annual population growth rate of resident population is 4.00% (in rural areas 3.53%, in urban areas 6.38%), so that population is going to double in 17.4 years (19.84 in rural areas and 10.97 in urban areas).

25. The total number of active fishermen of the Al-Mukha & Dhubaab area is estimated at about 20,000. Thus, with an average of 7 people per household, it can be estimated that a total population of about 140,000 persons depend on fisheries.

26. Population is very young. According to the figures of the last 1994 Census, in the concerned districts, those who are aged less than 10 years makes up about 33% of total population.

27. For the coastal districts as a whole, illiteracy rates are between 72 and 75%, while enrollment status (6-15 year old) are about 26% (according the 1994 Census).

28. In the coastal strip, the dominant production system is fishing or fishing-related activities. As the climate is hot and dry, with an average annual rainfall of only 100-200 mm., and underground water resources are rare, farming activities are not possible. Only in some place where water for irrigation is available, people undertake some farming (for instance, in some villages North of Al-Mukha for the production of dates). In some other places (south of Al-Khwakhwa, for instance), some fisher households are involved in saltpan mining.

29. However, there is a web of complex economic relations not only between fisher communities, but also among these communities and agriculturalists and agro-pastoralists living in the inland (*baadiya*) or in the *wadi* areas.

### **b) On the Gulf of Aden (Hadhramut coastline): fisher communities in the Burum & Mayfa' area**<sup>11</sup>

30. The Gulf of Aden coastline is 1,400 km long and is characterized by rocky cliffs alternating with stretches of sandy beach. The coastline overlooking the Gulf of Aden extends from Bab- al- Mandab at the southern entrance of the Red Sea in a southeast direction to Aden, and then eastwards to Ras Baqashwa near Sharma in Hadhramut Governorate. It then continues further east into the coastline of Mahra Governorate overlooking the Arabian Sea. Mahra coastline is 550km approximately extending from Damkh-Hesai in the west bordering Hadhramut coastline to Hawf at the eastern part bordering the Omani coast.

31. The Hadhramut coastline extends for 350 km from the most western coastal village Maifa'a (near Bir Ali in Shabwa governorate) to near Damkh-Hesai adjacent to Mahra.

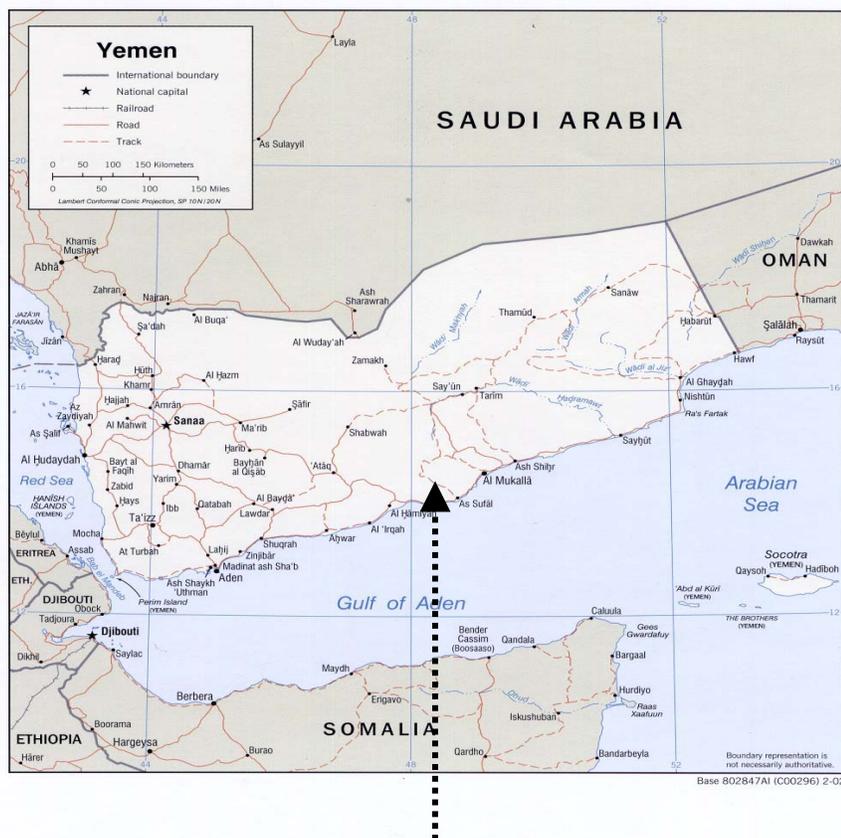
32. In 2003, the total number of fishers in Hadhramut was estimated at 10,537, who dwell mostly in urban areas in the small coastal towns spread along the coast and in the city of Mukalla (the capital of the Governorate of Hadhramut) and the ancient city of Shihr.

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<sup>10</sup> The Bab Al-Mandab District is the result of the union (with the election in 2001) of the previous districts of Bab Al-Mandab and Dhubaab.

<sup>11</sup> See Map 5 for the localization of the areas covered by the fieldwork on the Arabian Sea

**Map 5 : Gulf of Aden area: Localization of the fisher communities surveyed**



**Fisher communities in Burum District  
(from East to West) (Hadhramut Governorate)**

**Burum  
Husaihisah  
Mayfa'**

33. These fishers operate from 3,951 fishing boats and own 7,463 motors (mostly outboard engines). Fishers of Hadhramut are reputed for their dexterity, cooperation and a long tradition of fisheries resources conservation practices.
34. The Burum and Mayfa' coastline extends for 70 km. It has a number of bays and sandy beaches. The near shore waters have sandy and rocky bottoms. The main landing sites are Burum, Husaihisah and Mayfa'. Pelagic fishes form the main catch of the local fishermen especially tunas (mainly Yellowfin and Bluefin tuna), sharks and barracuda; while the dominant invertebrates targeted by the artisanal fishers include cuttlefish and to a lesser extent rock lobsters. Demersal fishes caught include groupers, emperors, jackfish and snapper.
35. The district of Burum & Mayfa' was established under Presidential Resolution (23) of 1999 regarding the Administrative Divisions in Yemen. The small town of Burum was previously part of the Mukalla district while Maifa' was part of the district of Hajr. The Burum coastline lies along the most eastern part of the Yemeni Gulf of Aden coast.

36. The Burum & Mayfa' district lies 30 km west of Mukalla along the coastal area of Hadhramut Governorate. It is bordered to the south by the district of Rudhuum of Shabwa Governorate, the district of Mukalla to the east and Bir Ali to the west. Burum and Maifa'a district has a total area of 2729 sq. km.
37. In 2002, the population was estimated at 17,729 persons (projections based on the last 1994 census). About 15% of the population lives on the mountainous part to the northwest, 30% along the wadis banks, 25% on the plateaus and 30% in the coastal area. The typography of the district ranges from the mountains and high hills covering 60% of the area to the coastal plain and has running water allowing for the formation of agricultural lands.
38. In the entire district, it is estimated that only less than 10% of local fishers are not members in any of the existing cooperatives. Burum has (i) a branch of an old, large fishers' cooperative (Mukalla cooperative formed in 1966) with 400 members; and (ii) the Burum fishers' society established in 1999 with 103 members in 2003. Both have fish auction shed in Burum. The old Mukalla branch works autonomously but makes use of the services of the Mukalla Cooperative (which has other fisheries assets in other parts of the governorate such as fish transportation insulated trucks, an ice plant and a fuel station) The Burum Fishers Society has a small shop in Burum selling spare parts and fishing gear for its members at slightly lower price than the market price and fishers save more because they do not have to commute to Mukalla to buy their gear.



# 3

## SOCIO-ECONOMIC ANALYSIS OF SMALL-SCALE FISHERS

This section gives a comprehensive and comparative presentation of the situation of small-scale fisheries in the two areas surveyed.

Artisanal fisheries are analyzed through their different stages - fish catching, marketing, processing, and distribution – and its different components (labor, assets, basic equipment, fish resources, technologies). The livelihood of fisher households is analyzed quantitatively and qualitatively, through an approach that stresses its seasonal dimension.

The section identifies also the major stakeholders involved in fisheries and analyzes their roles and functions: private fishers, auctioneers, providers of different services, traders, retailers, transporters, and fisheries cooperatives, as well as representatives of government line ministries and local authorities.

### 3.1 Labor

39. The household is the basic unit of organization of the fishery production system. Household members, under the supervision of the head of the household (*rab al-usra*), jointly provide labor in a number of tasks. They also rely upon reciprocal ties, both horizontal and vertical, with other households to ensure their own continued reproduction.
40. Extra-domestic hired workers are used in bigger boats (*sanbuuqs* and larger *huris*, see below paragraph 37), especially when more sophisticated equipment (such as surrounding nets) is used. It is generally believed that crew number is a very important factor affecting production. However, more hired crew means also more costs or smaller shares for the boat owner. Furthermore, in order to be efficient, crew must be skilled.
41. The majority of small boats is engaged in single-day fishing (almost daily during the entire year), while larger boats may organize 5 to 10-day fishing expeditions. However, this largely depends on the seasonality of fishing activities (see below Table 8 for an estimation of the frequency and the total annual number of the fishing expeditions)

#### **Red Sea and Hadramut areas**<sup>12</sup>

Fish harvesting is mostly a full-time, male activity. Women are almost completely cut off from any aspect of direct fishing, and their role in fish processing, at least among the fisher communities on the Red Sea, seems irrelevant. Children of poorer households may already have a role in fishing activities when they are 10-year old.

For the fisher communities on the Red Sea, fisheries constitute a full-time and exclusive job. Alternative livelihoods are very limited. Agriculture (dates under irrigation) is possible only in a very few places close to *wadi* (where underground water is available). Other communities are also involved in salt pan mining (production) – examples in some communities north of Al-Mukha.

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<sup>12</sup> In all this report, from now onwards, 'Red Sea area' designates the Al-Mukha – Dhubaab area, while 'Hadramut area' designates the Burum and Mayfa' area.

42. The fishing expertise of individual fishers (i.e., the duration in fishing) is a key element, because all fish activities, at the different production cycles, needs know-how. Fishing expertise also dictates behavior and codes of conduct, such as best practices in resource management and conservation.
43. The total number of persons (men) directly involved in fisheries (fish harvesting) is about 60,000 (that is about 20,000 on the Red Sea coastline and 40,000 on the Arabian Sea). However, a much larger population (difficult to estimate) is involved in different fisheries-related activities, such as fish products processing and marketing, transport, boats building and repairing, etc.

### 3.2 Assets

44. The ownership of a boat, motor engine and other fishing equipment, is considered as the most important element for the sustainability of the fishery production system. Social differentiation is based on the ownership of these productive assets, as they dictate fishing strategies, and influence economic behaviors and attitudes. However, household members do not necessarily need to own these assets, but at least do need to have access to them (through a variety of arrangements).

#### Boats

45. Two basic types of boats may be found in all Yemeni coastal areas:<sup>13</sup>
  - (i) The *huri* is the most common: it is a canoe-like boat (from 6 to 20 meters long) of 15, 20 or 25 tons hold capacity, with an outboard engine; its crew is generally made up of 2 to 6 persons. Originally, the *huri* was for inshore use, but today, larger *huris* (with 2 OBM, each of 75 Hp) are built and use for offshore fishing. They are all powered by OBMs. Only larger *huris* are made of wood, the small and medium are made in fibreglass.<sup>14</sup> The small *huris* are single-day fishing boats, and their fishing areas are close to shore, within a range of about 20 nautical miles. Small *huris* can be seen anchored or lying on the beach, at all fishing centers. They cannot be operated when the seas is too rough (at least in the Red Sea, between October and December). The largest *huris* are called *qathifas* (7-11 mt long, with 15-45 Hp, with 3 people on board) and can carry up to 2.5 tons of iced fish, with duration of trips of up to one week. The fiberglass *huri* is increasingly preferred because it is relatively affordable.
  - (ii) The *sanbuuq* is a large wooden boat, with an inboard engine. There are different types of *sanbuuqs*, ranging from 25 to up to 70 tons hold capacity; 12 - 15m long keels with 150 - 250 horsepower diesel engines).<sup>15</sup> The *sanbuuq* operates like the larger *huri*, with the difference in terms of total duration of fishing trips (up to 10 days at sea), capacity (up to 5 tons of iced fish), and size of the crew (10 to 20 persons or more).
46. The large boats are driven by OBMs of 15-40 horsepower. Many boats carry two OBMs, one being kept in reserve in case of mechanical breakdown

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<sup>13</sup> According to a recent report prepared by the FCU, there are 14,000 fishing vessels in Yemen.

<sup>14</sup> The term FRP (Fibre reinforced glass) is generally accepted to mean fibre reinforced plastic. The names fibreglass reinforced polyester, resinglass, and glass reinforced plastic (GRP) are also used. This material is a plastic and is unique in that it is made by the user *in situ*. It is composed of a series of reinforcements and liquid chemicals which when brought together in specific proportions can be formed into strong, solid but flexible shapes. There are no FRP construction plants on the Red Sea. In the Yemeni coast in the Gulf of Aden there are 9 FRP building yards owned by the private sector and by the CFC.

<sup>15</sup> It has been reported that the Gulf of Aden includes more than 8,200 boats, of which at least 1000 *sanbuuq* (mainly located in Aden, Mukalla, al-Hami, Al-Qarn and Qusayir), 15-20 mt in length, made of wood and driven by 40-75 horsepower inboard diesel engines. Most of them are engaged in shark fishing using nets and long-lines. In the Aden area, *sanbuuq* use surrounding nets (500-600 mt long) for small pelagics. In the Red Sea, there is an estimated number of more than 1,600 *sanbuuq* (PERSGA, 2002).

47. The cost of boats is relatively high or very high. The cost of a *huri*, for instance, varies according to its size:

- a small 15-ton boat may cost about 600,000 YR (including motor);
- a 20-ton about 800,000 YR in addition to about 500,000 for the engine;
- a large 25-ton *huri* about 1,500,000 in addition to 1,000,000 for two engines.

48. The costs related to a 20-22 mt long *sanbuuq* (18 mt keel long) are higher:<sup>16</sup>

- Vessel: 3,000,000 YR
- Engine (200 Hp): 2,000,000 YR
- Ice holds: 250,000 YR
- Fishing gear:
  - 700,000 YR (40 nets x 90 mt long, depth 8-9 in. mesh for kingfish)
  - 300,000 YR (15 nets x 90 mt long, depth 10-12 in mesh for sharks)
  - 70,000 - 150,000 YR (shrimp gear, depending on trawl nets)

#### ***Hadhramut area***

The vast majority of boats are 7-9 meters long, slender and shallow and made of FRP (wooden boats are rare). Outboards of 40 hp account for 50% of total sales of outboards.

In Burum all the fishers use 15 or 40 h.p. engines. For instance, the Burum Fisheries Society (BFS) has 53 FRP small *huris* ranging from 9-11 mt overall length and 2 wooden small *huris* of 7 mt total length.

The fleet generally operate short trips (with departures in the late afternoon and return at dawn) and does not use ice on board. Only larger *sanbuuqs* in some areas of the Red Sea used ice on trips of several days.

#### ***Red Sea area***

For the estimated 20,000 active fishers, there are 32 different landing centers (with a total of 1,610 *huris* and 620 *sanbuuqs* - 1997 figures). The most important of these landing centers (in terms of number of fishermen) are the following: Hodeidha (28%), Al-Khawkhwa (18.7%), Khobah (9.3%), Bal Al-Mandab (6.2%), Meidi (3.1%) and Al-Mukha (2.5%).

In the Red Sea, major centers for the artisanal construction of wooden *sanbuuqs* are in Al-Khwakhwa, Salif and Al-Umaya (Khoba). However, operations are limited, as the cheaper fiberglass boats are increasingly replacing wooden boats.

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<sup>16</sup> A *sanbuuq* lasts on average for 20 years. It takes a crew of 15-20 members.

Types of boats



Fiberglass small *huri* boat  
(with lamp for nighttime  
fishing)

A fiberglass larger *huri*  
with a 3-person crew and  
one outboard motor



Large *sanbuqs*  
(below: a shrimper *sanbuuq*)





**Al-Khawkhwa**



Building and  
repairing boats

**Al-Mukha**

**Wahija Coast**  
(south of Al-Mukha)



### Fishing gears

49. Manual fishing methods include a variety of fishing gear,<sup>17</sup> such as handlines, trolling lines, longlines, traps, cast nets, beach seine-nets, gill nets and round haul nets, and so on, according to fish species (see Inset 6 below). All this equipment is relatively expensive for boats using surrounding nets: between 200,000 and 1,000,000 YR (according to their number, type, and characteristics). A boat should normally be equipped with different types of nets, according to the seasons and the types of species harvested.
50. In Yemen, there are basically two types of nets: nets with 10 holes per cubit, which allow small fish to escape; and nets with 20 holes per cubit (which catch small fish and are therefore forbidden by some fishing cooperatives, although there are no official regulations concerning their use). The most common fishing gear used by Yemeni fishers are presented in Inset 6 (all these products are easily available with different suppliers, even at the village level).

#### Inset 6:

#### Major fishing methods of artisanal fishers

- **Handlining** (*gandala* or *nafla*): Nylon lines (1.6 to 1.8 mm diameter), with 2-6 hooks, with mackerel or sardine used as bait. Use on Huri and sanbuuq to catch kingfish, carangids, groupers and emperors (at 5 to 200 mt depths)
- **Surface long lines** (*shakka sala* or *shakka sabi*): 60-80 mm lines in diameter, 300-5—mt long (with floats attached) to catch sharks, tunas, and other large pelagic species
- **Trolling** (*tashweet*): Trolling lines are used by *huri* to catch large pelagic fish.
- **Rock lobster traps** (*sakhawi* or *fikhakh*): Traps are made locally of a rectangular metal rod frame (covered with plastic coated wire mesh)
- **Cast nets** (*magdafa*): Nylon cast nets of 1.5-2 cm for catching sardines and small pelagics
- **Gill nets** (*shabak Khaishuum*): Made of synthetic fiber, with varying mesh sizes, to catch Indian mackerel and kingfish (usually at nights)
- **Round-haul (or surrounding) nets** (*tahleeq*): Purse-seine nets (nylon material, for 2.5-5 nets) used for schooling pelagics
- **Shrimp trawling** (*shibak ganbari*): Nets are made locally from gill nets, to catch shrimps in shallow inshore.

(See also PERSGA, 1977)

### Other equipment

51. Some boats are equipped for nighttime fishing (with an electric generator and neon lamps). The cost of the small electric generator varies (on the Red Sea area, for instance, between 15,000 YR (Chinese model) and 90,000 YR (Japanese model).

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<sup>17</sup> It may be useful to point out that a fishing gear is the tool with which aquatic resources are captured, whereas the fishing method is how the gear is used. Gear also includes harvesting organisms when no particular gear (tool) is involved. Furthermore, the same fishing gear can be used in different ways. A common way to classify fishing gears and methods is based on the principles of how the fish or other preys are captured and, to a lesser extent, on the gear construction (see [www.fao.org](http://www.fao.org)).

52. Only a minority of fishermen in the Red Sea area use navigation instruments, from the simple compass to GPS (very common is the Magellan type, whose cost is about 30,000 YR).
53. The lack of ice and ice storage on the boats is considered as a major constraint of the entire artisanal industry. However, large boats take ice (about 1,000 kg per fishing expedition)

### 3.3 Fish harvesting

#### Seasonality of fish harvesting

54. Fishing is a highly seasonal activity, which depends on climatologic elements (variations in winds and sea conditions) as well as on fish behavioral factors (some fish species is available throughout the year, others only at certain times of the day or at certain seasons).<sup>18</sup> Artisanal fishing is mostly concentrated within 40 km from shore. There are high seasonal variations in terms of fish harvesting, depending on the species and their characteristics.

#### ***Hadhramut area***

- Period June-September (south-west monsoon): While catch of sardines stops completely, catches of other fish stocks increase. Shark is the only stock which is not affected by the monsoon (use of large *sanbuuqs* fishing out to seas and around the Socotra Archipelago).
- Period March-April: peak of Yellowfin tuna catches.
- Lobster fisheries is closed from June to September, and the most productive period is from October to December.

#### ***Red Sea area***

For the communities on the Red Sea, there are two fishing seasons, with different frequencies and timing.

- During the peak season (April-September), an average household makes two fishing operations over a 24-hour period: (i) an early morning expedition (from 5:00 to 13:00 hours) and (ii) an overnight expedition - only during moonless nights (from 19:00 to 02:00 hours).
- During the off-season (October-March): This period is considered as a difficult season (mainly because of the strong winds called *azyab*). Fishermen make only one daytime fishing tour (from 6:00 to 12:00). Some boats have to go far away from the coast (from Dhubaab and Al-Mukha to the waters east of the Hanish Islands, in Eritrea). Others migrate to Bab Al-Mandab and to the East and tend to stay there for several months, living in their boats or in small huts, selling their fish in local markets, and sending back money to their families.

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<sup>18</sup> Pelagic stocks, for instance, are closer to the shore during the month preceding the upwelling and migrate offshore after the upwelling to avoid the oxygen-depleted coastal areas (PERSGA, 1997).

**Table 7: Seasons (Yemeni coastal areas)**

PERIOD	ENGLISH	ARABIC
April-June	Pre-monsoon	<i>Futtur</i>
June-Sept.	Monsoon	<i>Shamal</i>
Sept-Nov	Post-monsoon	<i>Futtur</i>
Nov-March	Winter	<i>azyab</i>

55. Table 8 estimates the number of fishing expeditions (according to the seasons) undertaken by an average fisher in Al-Mukha area, as well as the number of hours spent in fishing (including the trip to and from the fishing grounds).

**Table 8: Estimation of annual fishing expeditions of an average fisher household (by season) (Al-Mukha, Red Sea)**

Season	Number of fishing expeditions		Number of fishing hours	
	Daytime	Nighttime	Daytime	Nighttime
Peak season (Apr – Sept)	150	80	1,050	500
Off season (Oct-Mar)	100	-	600	-
TOTAL	250	80	1,650	500

[Estimations on the basis of : 24 fishing days per month; and 7-hour fishing expeditions during peak season, and 6-hour expeditions during off-season]

**Major types of fish**

56. From an economic point of view, the dominant species in the Yemeni waters is the Yellowfin tuna. However, in terms of quantity, the sardines are the dominant species (at least in the Gulf of Aden eastern waters). Sharks are very important, but they require special attention<sup>19</sup>. The bulk of the catch consist of pelagic species (only in the Red Sea waters demersal fish are very abundant).
57. The Hadhramut coastline has several diverse habitats with their associated ecosystems and biota. They range from small lagoons, palm groves, rocky shores and globally significant sandy beaches for green turtles (*Chelonia mydas*) nesting grounds.

<sup>19</sup> Its population is characterized by small sharks. Industrial trawlers practice finning and dumping the carcasses.



***A Longfin African conger (left) and a Needlefish***



***A small Octopus***

**Fish catches**



***A Black runner***



***An Annandale's guitar fish***

### **Hadhramut area**

The Yemeni waters in the eastern Gulf of Aden and the Arabian Sea are endowed with the richest fishing grounds in Yemen. The major factors contributing to this richness are the following;

- (a) The wider continental shelf of Mahra due to the large mountainous blocks of Sherwain, Fartak and Fatk protruding into the sea,
- (b) The intensity of the Arabian upwelling system that occurs during the monsoons and enriches the overall productivity of these waters estimated at 2 tons/km<sup>2</sup> compared with an average productivity of 0.2tons/ km<sup>2</sup> in tropical waters,
- (c) The availability of suitable trawlable grounds which were during the past three decades subjected to intensive bottom trawling for demersal fish and cuttlefish,
- (d) The diversity of the coastal and marine habitats, with their associated ecosystems, is significant in terms of fisheries resources,
- (e) The fisheries resources consist of important commercial pelagic and demersal fish and invertebrates.

### **Large Pelagic Fisheries**

58. There are different species of pelagic fish in Yemen waters, the principal ones being tuna (Yellowfin tuna, bonita tuna, skipjack tuna), kawa kawa, king and Spanish mackerel, trevallies, swordfish and marlin). These pelagics are mainly caught by the artisan fisheries (see also Table 10).
59. In order to catch the large pelagics, fixed gill nets are used as well as longlines, handlines, purse seines and trolls. There are no regulations controlling the harvesting of these fish, as the fishing season lasts the entire year.

### **Small Pelagic Fisheries**

60. The main small pelagic fish are sardines, Indian mackerel, chub mackerel and anchovies. These fish are caught by the artisan fishers using purse seines, beach seines and cast nets. Sardines (the Indian oil sardine and the fringe scale sardine) are sun-dried on the beach and used as fertilizer or fed to camels) (See also Table 10).
61. Industrial fishery vessels mainly caught chub mackerel by using trawls. In 1989, the catch of chub mackerel by the former USSR industrial fleets amounted to approximately 24,000 tons.
62. Specific regulations are in force today for controlling the harvesting of sardines in certain Government districts such as Hadhramut, such as the prohibition against the use of purse seines in certain months or at night.

### **Hadhramut area**

The main commercial catches are large pelagics particularly Yellowfin tuna, Longtail tuna, Bluefin tuna, Kingfish and Sharks. Demersal fishes include groupers, emperors and snappers. Among the invertebrates the artisanal fishers catch cuttlefish mainly *Sepia pharaonis* and rock lobsters mainly *Palinurus homarus*

The cuttlefish fishery operates from April to October with two peaks in the catches in May-June and mid-August to October, as spawning occurs in shallow waters less than 30 mt deep in February-March and in August-September. Females die after spawning and the juveniles migrate into deeper waters about 100m.deep. Adults and juveniles are thus vulnerable to fishing by small boats and large trawlers.<sup>20</sup>

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<sup>20</sup> See: Al Mahra Development Project Formulation Report- IFAD May 1999.

**Inset 9 :**

**Major current fisheries regulations**

Major fisheries that are currently regulated are the following:

- Rock lobster (seasonality, fishing methods, minimum allowable size and ban on taking egg-bearing females;
- Cuttlefish (seasonality, permitted trawling areas, size of cod-end net mesh)
- Demersal fish (allowable trawling area and size of cod-end net mesh)
- Shrimp (seasonality)

(Source: FSR, 1999)

***Demersal Fisheries***

63. The most important demersal fishes in Yemen waters are: groupers, emperors, scavengers, snappers, sea breams, barracuda, sharks and rays. Demersal fish are caught by both traditional and industrial vessels.
64. Artisan fishermen use handlines and traps to catch demersals, while industrial fishing vessels use trawls to catch them.
65. The Table 9 below gives the most important species of fish caught and the seasons during which they are caught and their approximate locations. The Map 10 presents the geographic distribution of major fish stocks.

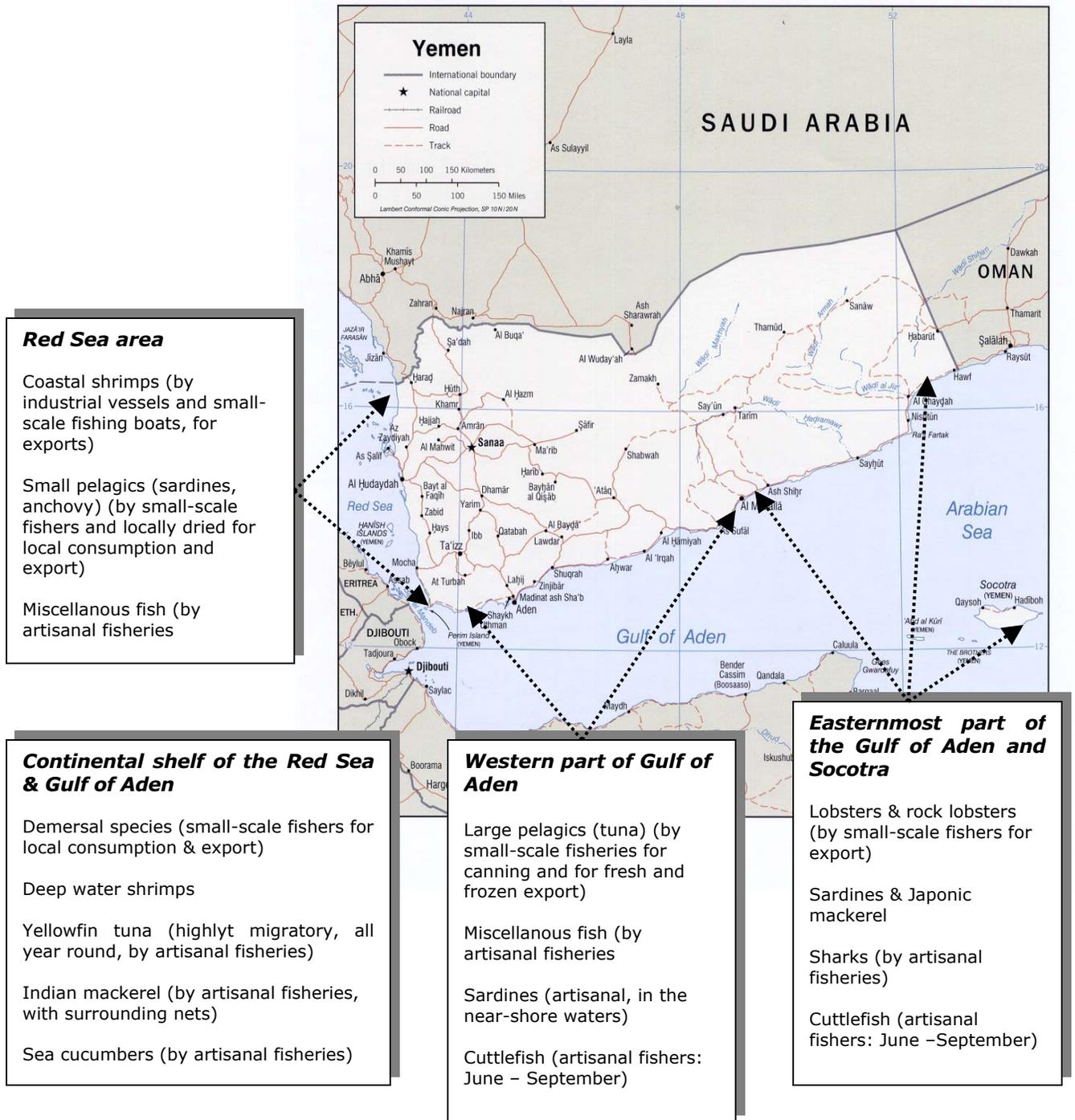
**Table 10:**

**Major species of fish caught in Yemeni waters**  
(with seasons of catches, fishing gears and locations)

<b>SPECIES</b>	<b>Local Name</b>	<b>Species Name</b>	<b>SEASON</b>	<b>FISHING GEAR</b>	<b>LOCATION</b>
<b>Pelagic</b>					
Sardines	Aida	<i>Sardinella longiceps</i>	Sept.-May	Cast nets, beach seines	Gulf of Aden
Ind. mackerels	Bagha	<i>Rastrelliger kanagurta</i>	Sept.-May	Cast and gill nets	Red Sea, Gulf
Tunas	Shirwa	<i>Euthynnus affinis</i>	Sept.-May	Purse, gillnets, handlines	Gulf of Aden
Kingfish	Dairak	<i>Scomberomorus com.mersoni</i>	Sept.-May	Reignets, longlines	Eastern part Gulf Aden
Shark	Lokham	<i>Carcharhinidae</i>	Sept.-May	Trolling, surface longlining	Red Sea, Gulf of Aden
<b>Demersal</b>					
Sea Breams	Afsh	Sparidae	Whole year	Handlines, bottom trawl	Red Sea
Ribbonfish	Homalan	<i>Trichiurus sp.</i>	Apr.-May	Bottom trawl	Red Sea
<b>Invertebrates</b>					
Shrimp	Rubian, gambari	<i>Penaeus semisulcatus</i>	Sept.-April	Bottom trawl & lamp	Red Sea
Rock lobster	Shuruuk Sakhri	<i>Panulirus homarus</i>		Gill nets & traps	Mukalla & Socotra areas
Sea cucumber	Kheiar Albahr	<i>Holot Huria scabra</i>		Diving	West of Aden & Red Sea Islands



**Map 11: Distribution of major fish stocks in Yemeni seawater**



### Situation of fish resources

66. The information system concerning stocks targeted by small-scale fishers is poorly developed. One of the problems is to obtain the information from the fisher communities themselves, particularly when marketing takes place outside the formal networks. However, in the light of different sources, the following elements can be highlighted.

- *Demersal fish*: Heavily overfished. Concentrated off the coasts of Hadramawt and Al-Mahra governorate.
- *Pelagics*: Large species (Indian mackerels, Spanish mackerels) are still more abundant and more valuable. The catch of small pelagics is mostly sun-dried on the beach and sold as fertilizer or fed to camels (Al-Mahra governorate)
- *Invertebrates*: Increasingly depleted on account of deregulated small-scale fisheries.

### Distance of fishing grounds

67. The distance of fishing grounds depends on the species looked for and on the seasons.

#### Red Sea area

Fish stocks (especially kingfish and different demersal species) are found at 1 to 2 hours from the coast.

Nowadays, fishing grounds for sharks are the farthest (about 2.5 – 3 hours from the coast) in Eritrean territorial waters: local fishers point out that young sharks are now rare, because of heavy fishing by Eritrean fishermen.

### Fish catches

68. Total annual catches of Yemeni artisanal fisheries are estimated at about 228,000 tons (see table 12). However, it should be pointed out that landing statistics are generally not reliable for several reasons, including the fact that only fishery products for export are weighted.

**Table 12:**

**Volume of fish production (ton) (1990-2003)**  
(total production and cooperatives production) (Source: FCU, 2004)

	1990	2000	2001	2002	2003
<b>Total</b>	77,091	114,750	142,198	179,584	228,000
<b>Cooperatives</b>	67,410 (=87%)	98,965 (86%)	122,493 (=86%)	155,477 (=86%)	209,000 (=91%)

69. Fish are sold individually or by bundles. Some landings are not recorded, and some fishery products, like sea cucumbers, are not recorded as they are processed and sold directly to traders for export markets. Only shrimps are sold by weight (both at landing sites and wholesale markets)

**Table 13:**

**Major fishing locations on the Gulf of Aden coastline**  
(with percentage of boats and fishermen for the area)

LOCATION	% of total boats	% of fishermen
Ras Al-Ara	2.5	2.5
Aden	20.6	15.2
Shuqra	5.1	5
Ahwar	1.2	1.2
Bir Ali	3.8	4.8
Mukalla	20.6	15.2
Shihir	10.3	10.1
Al-Hami / Diss	6.8	5
Quasyir	7.7	10.1
Sayhut	6	10
Qishn	4.3	7.6
Al-Gheyda	10.3	12.6
<b>TOTAL</b>	<b>Estimated number: 5,800 (in 1997)</b>	<b>Estimated number: 19,700 (in 1997)</b>

(Source: Our calculation from the FSR, 1999)

**Fish harvesting-related conflicts**

70. Major conflicts are linked to the competition between artisanal fisheries and industrial fisheries, especially on the harvest periods and techniques of some species. For instance, in the Gulf of Aden, until recently, there have been frequent conflicts between cuttlefish trawlers – mainly foreigners – and local fishers:

- Trawlers were allegedly using illegal practices;<sup>21</sup>
- The trawlers cut or destroyed fishing gear used by the artisanal fishermen;
- There was a direct competition for cuttlefish and demersal fish;
- Habitat was destroyed by use of heavy trawl gear.

Today, however, after the 2003 ministerial Resolution forbidding foreign trawlers, the situation considerably improved and the decision had several positive consequences on local economies and the livelihoods of fisher households.

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<sup>21</sup> It is reported that the heaviest concentrations of cuttlefish are found in shallow waters and illegal trawling is operated within the three mile limit and shallower than the law allows – trawlers have also been shot by armed fishermen) (PERSGA, 2002).

**Table 14**

**Number of fishermen and boats  
on the coastal areas of the Governorate of Ta'izz**

LOCATION	Number of fishers	Number of boats (FPR)	Number of Sanbuuq
Al-Mukha	402	180	-
Dhubaab	835	250	6
Bab el—Mandeb	228	99	2

(Source: Working groups of the FMCP, 2004)

### 3.4 Fish processing

71. As the fishers do not take ice on board, fish are not iced until after the first sale at auction: catches are thus stored on board on the open deck, often uncovered, in the bilges or sometimes in wooden boxes (with danger of contamination from bacteria left over from previous catches). It is reported that in Hadhramut areas, some Yellowfin tuna is gutted on board, but most is gutted as it is landed.<sup>22</sup>
72. In general, fish are not headed or gutted at sea. Fish is traditionally salted, smoked or dried. Some fishery products are systematically processed: for instance, sea cucumbers are boiled, processed and dried on the western part of the Gulf of Aden.<sup>23</sup> The day-boats do not use ice and ice is used only by traders, for their own use. The ice is used only by multi-day boats. The price of ice is 3-4 YR per kg (it is estimated that a large boat can take up to 2,000 kg of ice per fishing expedition).
73. It should be pointed out that artisanal fish processing does not provide employment to a large number of people, although there is a lack of data concerning the employment generated by private companies. It has been estimated that a total of 2,000 to 3,000 people are employed in the private fish export and processing operations, with a range of between 5 and 200 employees per enterprise.<sup>24</sup>
74. In the Hadhramut coastline, there are three fish canning plants; two privately owned, mainly for tunas. In addition there are several ice plants, freezing plants, and cold stores for processing fish, cuttlefish and rock lobsters for exports. These companies are mostly supplied by fish from the catches of the artisanal fish. Obviously, fisheries represent an important economic sector in Hadhramut. Beneficiaries of jobs other than fishing are estimated at 87,000 individuals

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<sup>22</sup> Fishery Sector Review, 1999

<sup>23</sup> According to the MFW, in 2000, the total capacity of operational ice plants in the coastal areas in Yemen was about 1,300 tons/day - they were owned by the public (NCFMS) and the private sectors, and were distributed in 55 locations. The total operational Freezing Capacity for fish and fishery products was 245 tons/day spread along 22 locations for both the public and private sectors in 2000. Finally, the total operational cold storage capacity for frozen fish and fishery products in 2000 was 9,430 tons only spread in 30 locations and owned by both the public and private sectors (Source: GDSPF- MFW Statistical Report for 2000).

<sup>24</sup> PERSGA, 2002

75. It is reported that 1,350 individuals are involved in fisheries processing and transportation related activities in the onshore plants mentioned above. The total number given was 5000 persons in 2003.<sup>25</sup>
76. Still in the Hadhramut, women are employed in the fish and fishery products processing plants and canneries and they number as follows:
- Al-Ghuwaizi Fish Canning Factory: 380 women out of 700 workers
  - Tuna Canning Factory: 82 women out of 250 workers
  - Saba' Fish Canning Factory: 120 women out of 260 workers
  - At-Tamimi Company: 30 women out of 70 workers
  - CFC Rock Lobsters Plant-Mukalla: 15 women out of 70 workers

(The total number of women employed in fish processing activities is 627, representing about 47% of the total number of employees).

### **Fish for internal consumption**

77. The proportion of catch directly consumed by the fisher households depend on a number of factors, such as: volume of fish catches, seasons, types of fish harvested, distance of landing site from market or auction places, local market behavior, and the like.
78. It may be estimated that in the Red Sea Area, about 20% of the fisher households consume a relatively high proportion of their catches (>75-80%). This proportion is even higher for the households that are not members of fisheries cooperatives. On the contrary, in the southern coastal areas, along the Arabian Sea, this proportion is relatively lower. Diagram 15 presents the use of the fish catch of an 'average fisher household'.
79. Overall, per-capita fish consumption in the coast areas is very high. But in the rest of the country, except for a few major urban areas with good road connections, the consumption is very low: it has been estimated that the average yearly consumption in the whole country is only about 5 kg per capita, which leaves considerable scope of increased consumption.<sup>26</sup>

## **3.5 Fish marketing**

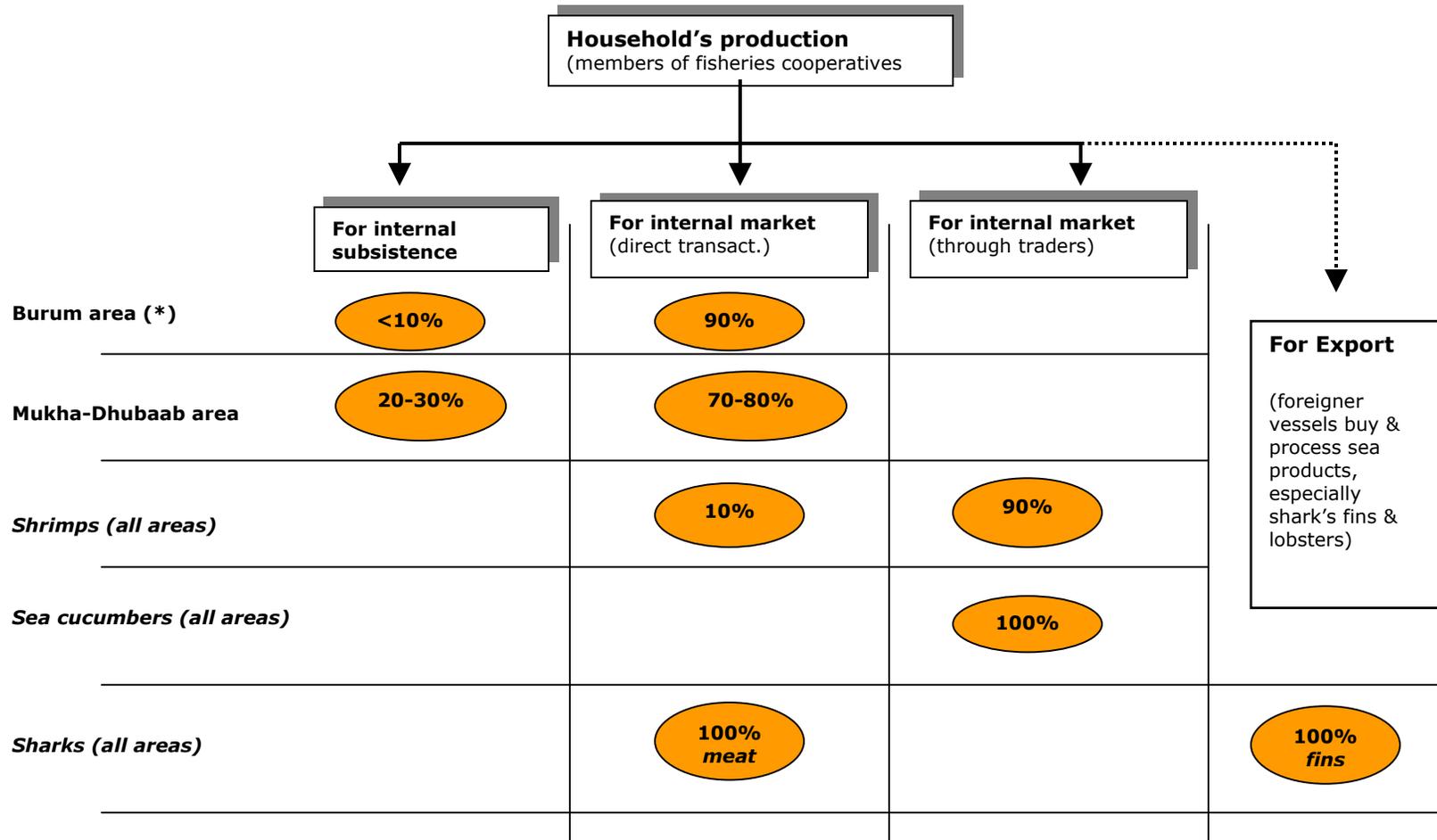
80. There are number of ways in which producers can sell their products. The dominant mode seems to be through the local assembly markets, held in towns and villages.
81. A broker (*dallaal*) will match buyer (or trader) with seller (trader or fisher), in return for a commission. In areas where access to assembly markets is difficult, the typical channel is for fishers to sell to mobile collectors who go from a landing site (or an auction site) to another. Another common practice is for fisher to have their own transport and to take their produce to the wholesale market (operating in big towns) themselves. Below the wholesale level, there is a 'semi-wholesale' market.

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<sup>25</sup> MFW Hadhramut Branch Eng. N. Bawazir Deputy D.G-personal communication Nov 2004.

<sup>26</sup> Fishery Sector Review, 1999.

**Diagram 15: Use of fish catches at the household level (*average household*) (estimations)**



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 (\*) All fish except lobsters, sharks, shrimps, and sea cucumber

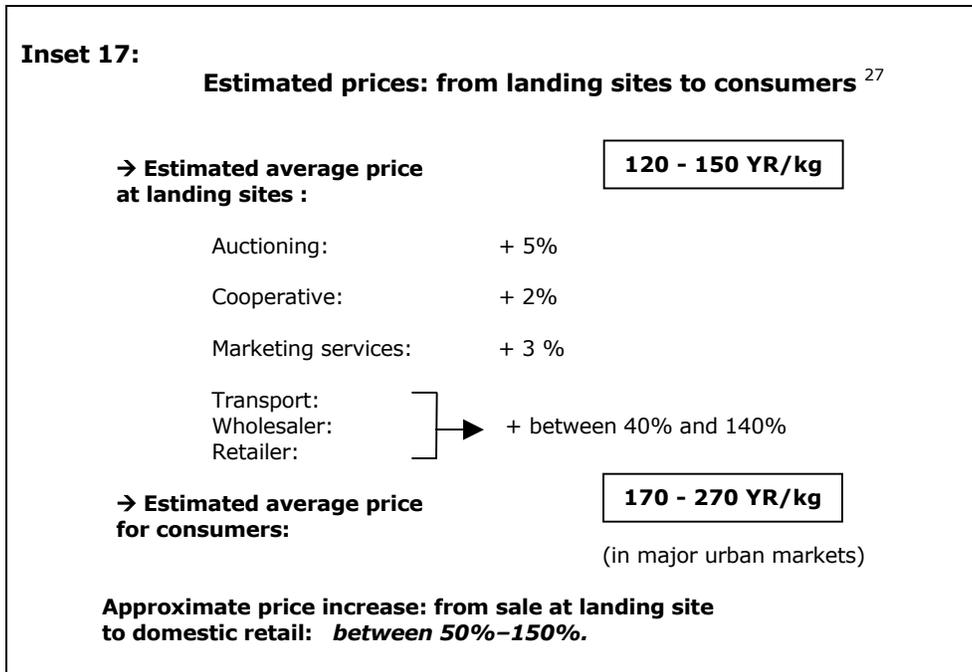
**Table 16: Estimated commercial value of some fish stocks**

SPECIES	YR/kg 1999 (*)	YR/kg 2004 (**)
Yellowfish tuna	100	120
Other tunas	80	70
Miscellaneous fish	80	120
Rock lobster	450	850 (Borum)
Cuttlefish		350 (Borum)
Small sharks	80	130
Large sharks		40
Kingfish	350	520
Breams	80	100
Shrimp	450	680 (Red Sea)
Groupers	90	150
Indian mackerel		45
Barracuda		90
Jackfish		110
Caranx		120

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 (\*) Our calculation from data of the 'Fisheries Sector Review' 1999 and from statistics of fisher cooperative Burum - Mayfa'

(\*\*) Our own estimations

82. Catches are sold in reed baskets, fish boxes, by the string, or simply place on the ground. Table 16 gives an estimation of the price of major fish products. Inset 17 provides more detailed information about the marketing chain, from the fisher to the consumer, through a number of intermediaries (auctioneers, traders, etc.): it shows, among other things, that, from landing site to the consumer, the price increases by a range of about 50 to 150%.
83. Little care is taken to handle the product in an hygienic way or at least in a way which preserves the quality of the stock. However, especially on the Red Sea coastline, the weight of fish catches is estimated by eye, not physically weighted.



### 3.6 Household economy: income and expenditure

84. After deduction of costs related to boat maintenance and fuel as well as of 10% of the catch for different purposes (for cooperatives 2%, auctioneers 5% and governmental taxes 3%), the total fish catch is divided into two shares:

- half for the boat owner;
- half for all crew members. For big fish, however, which are caught with hooks, the proportion is 1/3 for the owner of the boat and 2/3 for the crew). The owner of the boat takes also his share from the second half if he has personally participated in the fishing expedition.

85. The Inset 18 presents in detail household incomes, by separating the income of the owner of a boat and the income of two hired crewmembers: more specifically, it compares the income of a small *huri* (7 mt long, with an OMB of 15 to 40 Hp) and that of a larger *huri* (11 mt long with an OMB of 55 to 75 Hp). The Inset presents a situation that is common in many parts of Yemen, especially on the Red Sea.

86. On the other hand, the Inset 19 presents another situation which is quite common on the Hadhramut area, as well as in several other areas in the Gulf of Aden and Arabian Sea Yemeni coastal communities (e.g. all Hadhramut Governorate fishers and Bir Ali fishers in Shabwa, and which is more biased in favor of crew members.<sup>28</sup>

87. The results are that annual income varies between a minimum of 88,000 and maximum of 205,000 YR (48- to 1,120 \$), according to the size of the *huri*. Monthly incomes are only an average, as seasonal fluctuations are very high (it may be estimated that the proportion of the income of the peak-season - April to September - is about 60-70% of total). It should also be pointed out that for certain fish stocks (such as lobster or shrimp), fishers may earn a higher income, that is an average of 30,000 YR (about 164 \$) per month.

<sup>27</sup> See also FSR 1999, based on figures provided by the Central Statistics Office.

<sup>28</sup> In order to understand the meanings of all these figures, it should be pointed out that the average salary of a teacher in a primary school is about 12,000 YR per month (about 65 \$).

**Inset 18 : Fishing revenues** (average household (by type of boats, 3 crew members) *Red Sea area*

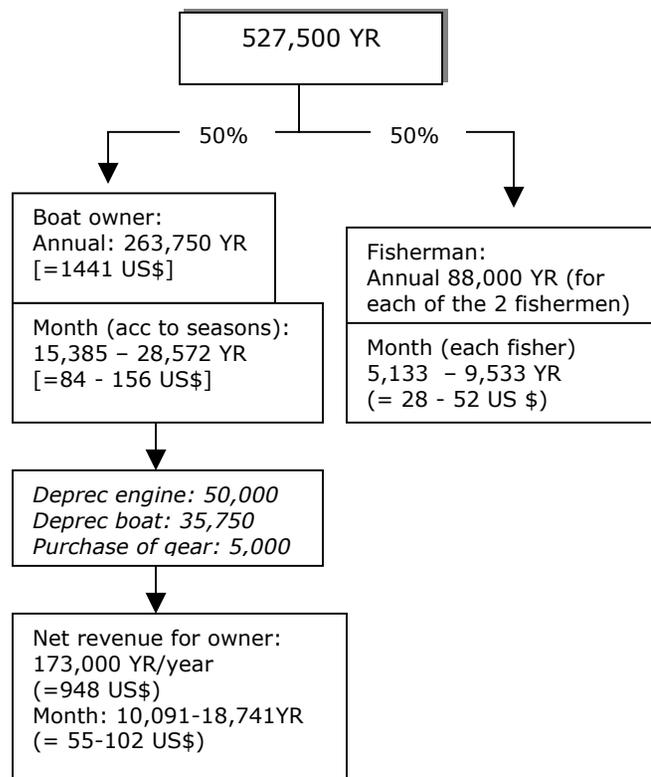
**SMALL HURI (7 mt length, 5.5. keel; OMB:15-40 Hp)**

Annual gross revenue  
from fishery products: 977,500 YR (= 5,341 US\$)

Deduction 10%: 97,500 YR  
(Auctioneer, NFSCM, coop) (=583 US\$)

Operational costs: 350,000 YR  
(fuel & oil) (=1912 US\$)

Annual net revenue: 527,500 YR  
(= 2883 US\$)



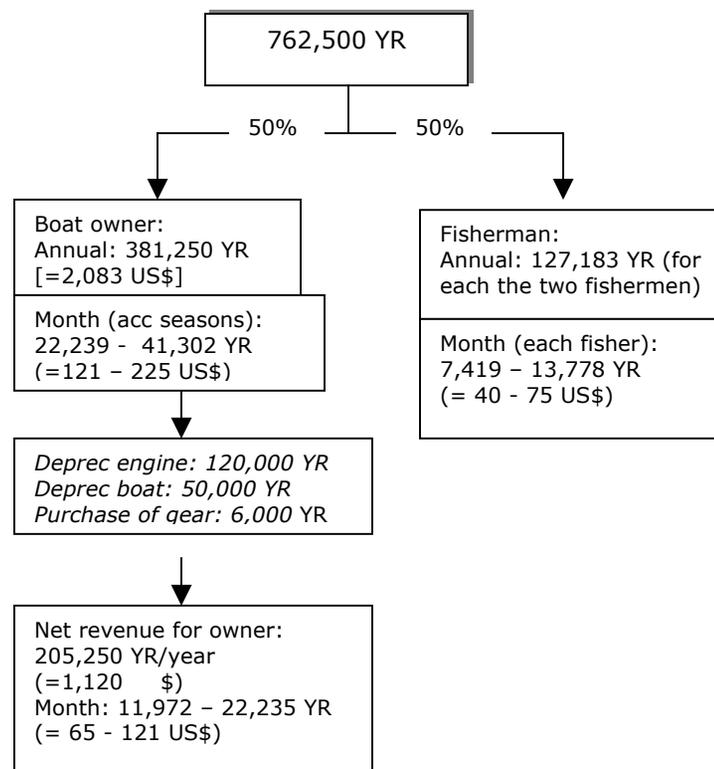
**LARGE HURI (11 mt length, 7-8.5 keel, OMB:55-75 Hp)**

Annual gross revenue  
from fishery products: 1,425,000 YR (=7,787 US\$)

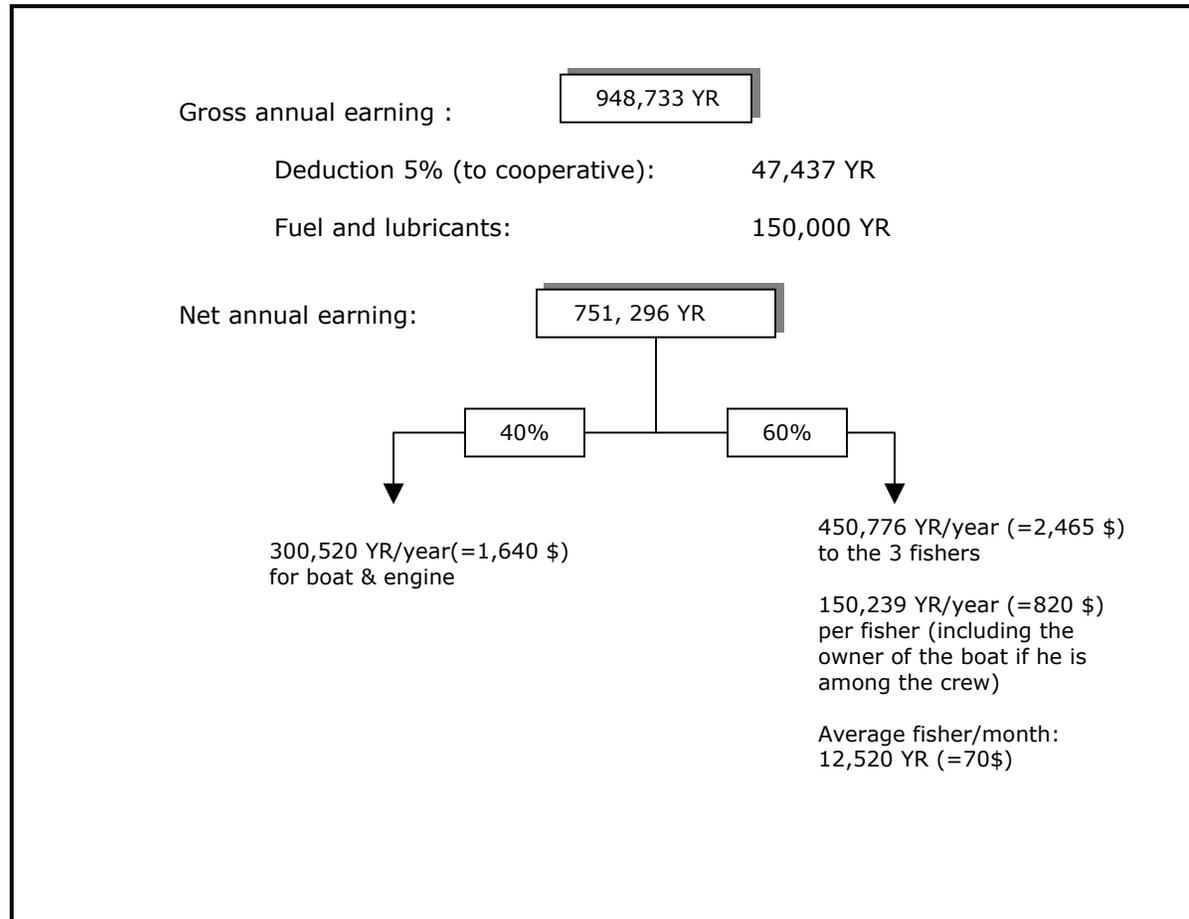
Deduction 10%: 142,500 YR  
(Auctioneer, NFSCM, coop) (= 779 US\$)

Operational costs: 520,000 YR  
(fuel & oil) (=2841 US\$)

Annual net revenue: 762,500 YR  
(= 4167 US\$)



**Inset 19 : Fishing revenues** (average household, large *huri*, 3 crew members) **Hadhramut area**



88. Table 20 presents general estimations concerning annual expenditures of households, by taking the example of a middle range and of a poor household.

**Table 20: Estimation of annual expenditures of fisher households (YR)**

CATEGORY	Average household	Poor household
Clothes	3,000	1,000
Medical	500- 1,000	250 - 300
Water	2,500- 4,000	0 – 1,000
Transport	1,000	0 - 500
Food	100,000- 130,000	70,000 – 80,000
Qat (*)	10,000- 40,000	0 - 10,000
Social & religious obligations <sup>29</sup>	3,000	1,000
Debt repayment	6,000	3,000
Fishing assets	2,500- 5,000	0
Insurance	6,000	-
Others	1,500- 2,000	2,000
<b>TOTAL</b>	<b>136,000 – 200,000</b>	<b>77,250- 98,800</b>

(\*) It should be pointed out that consumption of *qat* is low among fishers in Burum- Maifa' area, as it was only introduced after Yemen unification and is not part of the tradition of the households.

89. The purchase of new boats, fishing gear and engines is mainly made possible through loans from the Cooperative Agricultural Credit Bank (CACB), which has several branches in the country and whose main sector is in the fisheries sector (about 80-90%). Some funds for fisheries loans have been provided by the Ministry of Fish Wealth: the CACB receives a management fee of 2.5% and charges the borrower an interest rates of 11% (commercial bank rates amount at about 25-30%).

90. In addition, the Agricultural & Fisheries Production Promotion Fund (AFPPF) – deriving its funds from revenues generated by the tax on sale of diesel all over the country<sup>30</sup>- provides funds to support micro-projects formulated by cooperatives or groups of producers.

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<sup>29</sup> In Yemen, the annual payment of the religious tax (called *zakat* or *wajibat*, litt. 'obligation') amounts to 2.5% of total annual earnings or, more precisely, earnings that the owner has actually kept for one year. The same principle applies to property used for producing earnings (e.g. real estates rented, cars, or boats). This explains that, among fishers, only the owners of boats are expected to pay the *zakat*. In addition, as most fishers are heavily in debt to auctioneers/money lenders (see below), from a legal point of view, they actually do not have the obligation pay the *zakat* and are therefore exempted. *Zakat al-fitr* is another religious per capita tax – imposed to each person (young or old, male or female) at the end of the Ramadan. It is normally in kind and is equivalent to 3 kg per person and distributed to the needy.

<sup>30</sup> More precisely: 2.5 YR from each liter of diesel sold in Yemen.

**Table 21: The economy of an average fisher household: An Overview**

<b>DHUBAAB Area (Red Sea)</b>	<b>BURUM Area (Gulf of Aden)</b>
<b>Size of hhd:</b> 7 persons	<b>Size of hhd:</b> 7 persons
<b>Assets:</b> 1 small 15-ton <i>Huri</i> : 600,000 YR (including OMB) Equipment: 150,000 YR	<b>Assets:</b> 1 small <i>huri</i> : 500,000 YR (including OMB)
<b>Number of fishing expeditions:</b> Peak season day: 150 Peak season night: 80 Off-season day: 100 Off-season night: 0 TOTAL: 330	<b>Number of fishing expeditions:</b> Peak season day: 130 Peak season night: 170 Off-season day: 60 Off-season night: 0 TOTAL: 360
<b>Number of fishing hours (daily):</b> Peak season day: 7 Peak season night: 7 Off season day: 6 Off season night: 0	<b>Number of fishing hours (daily):</b> Peak season day: 8 Peak season night: 8 Off season day: 5 Off season night: 0
<b>Annual number of fishing hours</b> Peak season day: 1,050 Peak season night: 500 Off season day: 600 Off season night: 0 TOTAL: 2,150	<b>Annual number of fishing hours</b> Peak season day: 1,040 Peak season night: 1,360 Off season day: 300 Off season night: 0 TOTAL: 2,700
<b>Monthly income from fishing:</b> Owner: About 14,500 YR Crew member: About 8,300 YR	<b>Monthly income from fishing:</b> Owner: About 17,000 YR Crew member: About 9,000 YR
<b>Annual income from fishing:</b> Owner: About 174,000 YR Fisher: About 100,000 YR	<b>Annual income from fishing:</b> About 153,000 YR
<b>Annual expenditure:</b> Food: 130,000 YR Qat: 40,000 YR Water: 4,000 YR Clothes, etc.: 3,000 YR Social oblig.: 3,000 YR Fishing assets: 5,000 YR Debt repayment: 5,000 YR Insurance: 6,000 YR Other: 5,000 YR TOTAL: 195,000 YR	<b>Annual expenditure:</b> Food: 100,000 YR Qat: 10,000 YR Water: 2,500 YR Clothes, etc.: 3,000 YR Social oblig.: 3,000 YR Fishing assets: 2,500 YR Debt repayment: 6,000 YR Insurance: 6,000 YR Other: 5,000 YR TOTAL: 130,000 YR
<b>BALANCE :</b> Owner: - 27,000 YR Fisher: - 100,000 YR	<b>BALANCE :</b> About: + 15,000 YR

**Inset 22:**

**The Agriculture and Fisheries Production and Promotion Fund ( AFPPF )**

The APFPF, one of the institutions and instruments aimed at supporting development efforts in areas of agriculture, fisheries and animal wealth, provides support, directly or indirectly, through agricultural and fisheries cooperatives and the Agricultural Credit Bank (ACB). The fund is considered an important instrument for stimulating economic activity and for raising rates of economic growth, which is considered essential for combating poverty. Priority is given to the poor rural families to enable them to increase their incomes and improve their livelihoods, and accordingly contribute to the stability of the rural communities in economic and productive activity and to curtail the migration to the cities.

During 1995-2000, the fisheries sector absorbed 59% of the total number of projects financed by the APFPF. The APFPF implemented around 11,863 projects at a cost of YR 11,863 million, with the number of beneficiaries reaching 6.1 millions. Around 35% of the projects were allocated to multi governorate projects. The resources were allocated to finance projects in all the governorates and the percentage of allocations was proportional to the distribution of the population accordingly.

Finally, in providing its funding, the APFPF relies on providing interest-free loans, in addition to providing grants, yet this approach encompasses the risks of non-repayment, which could lead to increased insistence on collaterals that enable only the rich to benefit. This will create an unfavorable climate for the farmers, fishermen and the associations of poor group.

[Source: YEMEN, PRSP (2003-2005) , May 2002]

91. In its approach, the AFPPF aimed at reducing burdens arising from higher prices on fish production inputs and requirements, enabling the beneficiaries to continue their activities and improve efficiency, though the funding of a number of projects and activities related to fish production and marketing with community efforts. In the areas of fisheries, the AFPPF supports a variety of project such as: ice plants (credit), auction sites (50% subsidized), purchase of small fiberglass boat (50% subsidized), fishing gear (40% subsidized), etc. The activities of the AFPPF take place within the context of poverty reduction initiatives.<sup>31</sup>

### **3.7 Major stakeholders**

92. Marketing of fish involves a complex number of 'actors', from the fishermen themselves to licensed auctioneers, fishmongers, wholesale traders, transporters using insulated or refrigerated trucks and pick-ups to transport fish to inland market centers, other auctioneers or middlemen in urban markets, owners of storage facilities, traders who are engaged in sale at retail and, finally, consumers.
93. In addition, there are those who sell fishing equipment to fishermen, ice, ice containers, fuel for engines, and the like. In this way, the fishing production system creates a web of relationships between operators at different levels.

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<sup>31</sup> For a micro-project concerning the purchase of a small fiberglass boat for a group of 3 people, and whose cost is about 600,000 YR (about 3,300 \$), the AFPPF provides a grant of 300,000 YR and the beneficiaries have to make a contribution of 300,000 YR plus 3% to the Bank for administrative costs – another 3% of administrative costs is paid by the Fund directly to the Bank.

### **Auctioneers**

94. In the past, on the Red Sea coastline, the auction (*haraaj*) has been the preferred method of selling fish by Yemeni fishers. Auctioning as a system for wholesale marketing was then established in most major fishing landing centers after the unification in 1990.
95. Nowadays, the auction system may be provided by:
- a licensed, free-lance auctioneer (*muharrirj*) who perceive a commission (5% of action charge). The private auctioneer is a well-known person, usually from the area (these professional auctioneers play an important role in the fishing communities, as they can also provide credit to buyers or to fisher households); or
  - an individual auctioneer who provide his services to fisheries cooperatives and receive a fixed salary (about 10,000- 12,000 YR/month) – the auctions taking place in a special auction platform (called *makan al-haraaj*), which is managed by the cooperative. The auctioneer himself can be member of a cooperative or even a member of its board (but not its chairman).
96. The auctioneer fix the prices by using different criteria: the market; the quantity landed; the prevailing price from competing sources; the size of the fish; the way the fish has been caught (the net is favored against any form of hook, for instance); the way the fish has been handled by the fisher in the boat; etc. The fish are sold by weight (kg), by the string, or by individuals.

#### **Inset 23:**

#### **The Ministry of Fish Wealth (MFW)**

The MFW has authority to regulate fishing, issue licenses, supervise processing and marketing of fish and fishery products for local consumption and export.

The MFW provides specifications for imports and/or manufacturing of fish gear and other equipment.

The Ministry has the overall responsibility for the management and development of Yemeni's fish resources.

Finally, it is responsible for the enforcement of laws and regulations concerning marine resources.

### **Hadhramut area**

Auctioning is taken care by Fisheries Cooperatives, some of them holding auctions at the landing sites, others using landing quays or auction sites. Cooperatives charge a fee of 2% for payment into a 'social fund' (more established cooperatives charge extra charges for different purposes).

### **Red Sea area**

A traditional system of auctioning takes place: locally appointed private auctioneers command the auction process.<sup>32</sup> The auctioning is a strictly observed traditional system which controls the relationships between the fisherman and the auctioneer. Also on the Red Sea coats areas, some fishermen tend to avoid auctioneers and try to sell directly

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<sup>32</sup> 'The senior auctioneer command the auction process. The senior auctioneer conducts the day's affairs and assists in the collection of fees from fishermen including his own 5-10 percent of the value of sales. As the auctioneers both earn and deal with large volume of cash, they can provide credit to buyers to facilitate transactions and to fishermen and their families for both fishing and social affaires' (PERSGA, 2002)

their harvests. This is especially true in remote locations where there are no auction facilities. The individual fisher arranges then the transport of his catch to nearby auction sites by using local transport facilities.

In the communities of the Red Sea area, the majority of the catch is sold at beach auctions, according to local traditions. But more organized auctions exist in some locations – Midi, Hodeidha, Al-Khawkhwa or Al-Mukha, for instance – and fisheries societies collect 2% of the catch value (as contribution to a 'social affairs' fund). NCSFM charges 3% of the value of the fish sold locally (marketing fee), but do not assist the auctioning process itself (its representatives collect information on prices, according to the different species). The largest auction center on the coasts of the Red Sea is in Hodeidha: it is managed by NCSFM (port, landing facilities, auction hall, and provision of electricity and water, although the auctions are run by private auctioneers).

### **Traders**

97. Three types of private individual traders may be found along the Yemeni coasts:

- The large trader (*wakiil*) who is mainly interested in certain species of fishery products (such as sea cucumber, shark fins or shrimps), for external markets (export). Usually, these traders establish seasonal contracts with local fishermen and cooperatives (which allow them to fix the prices and not to pass through auctioneers). They usually sell the products to NCSFM or to government fish canneries or to private companies.
- The medium to large private trader who essentially cover internal market (urban areas). They can take the products to another wholesale auction elsewhere, to exploit regional variations in terms of costs and preferences. These traders may themselves occasionally ensure transport of the products (with their own private insulated trucks) and/or the sale (they may own retailer shops in urban areas). These traders usually use the services of professional auctioneers (although they may have direct deals with fishermen).
- The small private traders or retailer (*qatha'a*, litt.: [the person who] cuts [fish]), who operate only at local level, by buying relatively small quantities of products from fishermen and sell them in local markets.

98. In some places, especially where the most active cooperatives and Societies operate (especially in the Gulf of Aden area), the traders themselves have to pay a levy (a charge on the value of fish bought).

### **Red Sea area and Hadhramut areas**

All production is bought by the private sector (with a percentage exported directly to Saudi Arabia for retailers or wholesale markets).<sup>33</sup>

Catches by artisanal fishers is bought by private traders and companies as well as by NCSFM and CFC.

In addition to private individual traders, there are some private fish trading companies, especially on the Red Sea coastline. However, each company exploits a different product: shrimp on the Red Sea coast (exported as frozen product); yellowfin tuna in the Hadhramut (frozen and stored, before sold to NCSFM and the Fish Canneries); dried shark in different parts of the country; etc.

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<sup>33</sup> It has been estimated that 60% of fish and 90% of shrimp production is thus exported to Saudi Arabia (Fishery Sector Review, 1999).



*Downloading fish catches at landing sites*

## Fish marketing



*An informal auction place on the beach*



*An auction center managed by a cooperative (Salif, Hodhaida)*

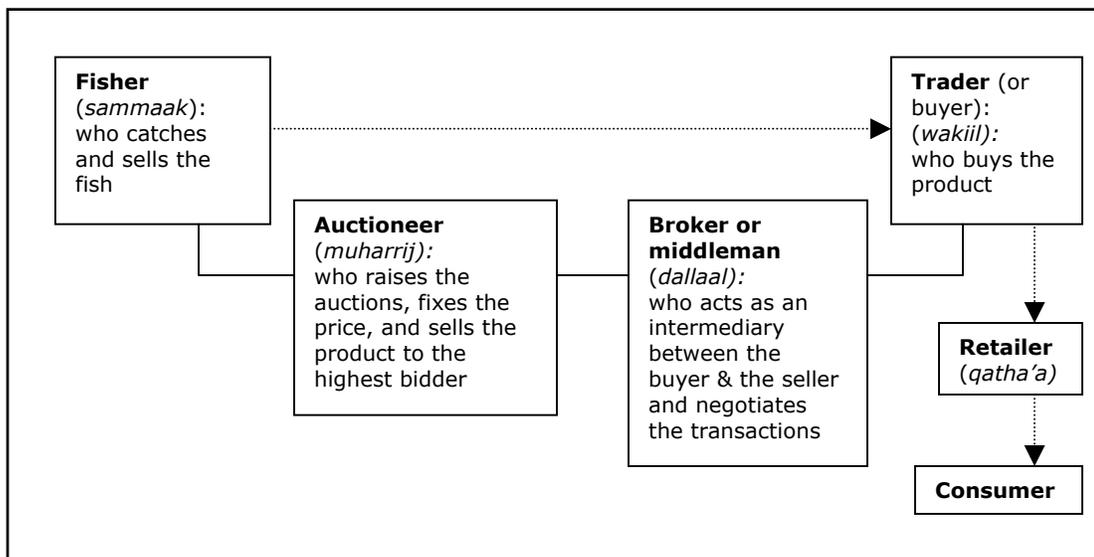
**Middlemen and brokers**

99. The intermediary or middleman (*dallaal*), is an authorized or accredited agent (also called *wakiil*), who is in charge of the transaction – the fisher himself does not participate in the sale and the *dallaal* is the only one who discusses with the buyer.

100. In the traditional rural Yemeni society, the intermediary usually belonged to the same tribe of the fisher and had the charge to help the producer/member of his tribe to avoid direct contacts with the market place.

**Inset 24:**

**The 'marketing chain': from the fisher to the trader and the consumer**



**3.8 Fisheries cooperatives**

101. It should be pointed out that an evaluation of the Yemeni fisheries cooperatives was beyond the scope of the present assessment, as this would have involved a different approach and would have required more time. However, in the following sub-section, some of the major characteristics of these cooperatives are presented and some of their major challenges. Section 5 will formulate more precise long-term recommendations.

**Status and objectives**

102. Yemen, there are well established fisheries cooperatives (or cooperative societies). The Third Fisheries Project funded by the World Bank supported fisheries cooperatives, by providing facilities for landing, auctioning,, and storage of fish and for ice-making and boat repair. Large loans were provided by the Fourth Fisheries Development Project for the purchase of boats, engines and nets. The initiatives strongly strengthened the artisanal fleet.

103. The establishment of fisheries cooperatives is governed today by the Law n. 18 of 1994, which states, among others, that: 'The Ministry of Social Affairs is the responsible authority, while the Ministry of Fish Wealth is the competent ministry in technical matters'. The Government' policy considers the cooperatives as the principal organizational structure for the development of artisanal fisheries.

104. According to the Yemeni Fisheries Cooperatives Union<sup>34</sup> - whose headquarters is in Sana'a and which has nine branches in different parts of the country - a total of 120 cooperative societies formally participate in the Union (out of a total of 134 cooperatives).<sup>35</sup> In 1990, there were only 15 cooperatives (only on the Gulf of Aden).
105. A cooperative has a Board of directors usually made up of 6 persons, all elected for a one-year term (renewable): a chairman, a secretary general, an administrator and three members. In theory, these members can be ousted if they do not fulfil their duties (however, underlying political affiliations seem to be the real causes of common attempts to change the *status quo*).
106. Before the 1980s, the cooperatives were considered as 'leverage for economic development, but also a political instrument to counterbalance the tribal power'.<sup>36</sup> With a lack of other institutions, cooperatives have been and still are the only organizations able to support the development of small-scale fisheries, through the involvement of village organizations. However, as it will be argued in the next Section, their roles have to be redefined in the light of (i) the lessons learned from the past (particularly in terms of constraints) and (ii) the findings of a better assessment of the changing political and institutional environment.

**Inset 25: Key rights and responsibilities  
of cooperative members**

**Rights**

- Receiving loans
- Benefiting from health services
- Benefiting from pension funds
- Participating in decision-making process
- Purchasing fish equipment at lower price
- Receiving dividends from cooperative income
- Being informed about major activities undertaken by the Board of Directors

**Obligations**

- Paying annual subscription
- Using auction platforms managed by the cooperative
- Using auctioning services provided by the cooperative through certified auctioneers
- Participating in regular meetings organized by the Boards of directors
- Electing officials of the Board of directors

**Current assessment of the fisheries cooperatives**

107. According to the areas and the communities, there are different types of cooperatives, at different stage of development and with different functions. Three major categories are identified here below:<sup>37</sup>

- *The fully-operational cooperatives:* These cooperatives have been created in the 1970s and the 1980s and their members have therefore developed a certain culture of self-help

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<sup>34</sup> See FCU, 2003.

<sup>35</sup> According to the official International Cooperative Association (ICA) a cooperative is "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through jointly-owned and democratically-controlled enterprise". A cooperative comprises a legal entity owned by its members, with no passive shareholders. Unlike a union, a cooperative may assign different numbers of votes to different members; typically a cooperative is governed proportionally according to each member's level of economic interest in the cooperative. However, many cooperatives maintain a strict "one member, one vote" policy to avoid the concentration of control by an elite. Cooperatives may be generally classified as either consumer or producer cooperatives, depending on their function. (see [www.coop.org](http://www.coop.org)).

<sup>36</sup> Mermier, 1997

<sup>37</sup> According to the results of focus-group discussions with members of the FCU and individual cooperatives.

organizations. They have an average number of about 400 members, own key assets (such as gas station, processing areas and sheds, landing sites, cold stores, insulated trucks, etc.) are able to provide a large variety of services to their members (including auctioning and social security), and may produce a surplus - this allowing them to embark on some income-generating projects (agricultural plantation, investment in small boat-building yards) and some social activities. In the Red Sea area, only four cooperatives belong to this first category. The institutional performance of these cooperatives (in terms of general governance principles, such as accountability, transparency, etc.) is good or satisfactory: their members know their rights and obligations, are regularly informed about their activities, participate in major decisions and have a moderate to satisfactory knowledge of financial issues (budget, income, and expenditure).

- *The semi-operational cooperatives:* These cooperatives, with an average of 100-200 members, are able to undertake a number of activities. However, having been created more recently, they have only a few assets and are able to provide only a limited number of services to their members. Their sources of revenue are limited, mainly linked to auctioning (a total of 5% of the value of the catch) and sale of shares to the members. Their institutional performance is moderate or low, but there are potentials for improvements: their members only know basic rights and obligations, but do not seem to actively participate in major decisions; furthermore, their knowledge of financial issues is weak.
- *The 'run-down cooperatives':* These cooperatives are relatively new, small, with little or no assets at all. The members pay their annual fees, some leaders regularly participate in major meetings: but the cooperatives are not able to undertake any significant economic or social activities. One reason is that they were created under the wrong assumption that cooperatives were a simple means to obtain funds (from the government as well as from external donors) and an easy way to get income (from auction fees). Therefore, members do not actively participate in decision-making processes and have only a marginal knowledge of 'what a cooperative is about'.

**Inset 26:            Reasons for not joining a cooperative**

Especially along the Red Sea coast, a large proportion of fishermen operate on their own and do not belong to any cooperative. The reasons given are the following:

- Small or very small catch (with a significant proportion reserved to internal consumption),
- Direct sale of products at landing site, or transport of catches to nearby auctions by pooling transport facilities within the village; or sale to private traders, private companies, NCSFM or CFC;
- Little interest in benefits and services provided by local cooperatives,
- Political affiliations or tribal differences preventing individuals from joining locally established cooperatives,
- Lack of formal contacts with the industry (this is the case of people who came back after the first Gulf war and who, with some assets and equipment, tried to enter into fisheries, but without the needed social capital and know-how).

108. In October 2003, the FCU carried out a general assessment of the fisheries cooperatives, by using four major criteria: (i) legal set up; (ii) administrative management (with some

governance-related criteria); (iii) production parameters (with efficiency criteria); and (iv) marketing efficiency (also with efficiency parameters).<sup>38</sup> The findings pointed out that

- The cooperatives along the coast of the Gulf of Aden or the Arabian Sea are well functioning. For instance, in the Governorate of Hadhramut, out of 20 cooperatives, 19 were considered as 'good' and 1 as 'bad'. Along the Yemen Gulf of Aden coastline there are now about 74 cooperatives and 6 in Socotra. In the Hadhramut Governorate alone, there are 20 fishermen cooperatives societies with a total of 8,522 members (representing 81% of the total number of 10,537 fishers in the governorate). Two of these cooperatives were established in 1966: the first one, for instance, the Mukalla Fishermen Cooperative Society, has 1,248 members out of 1,398 total number of fishermen.<sup>39</sup> Their governance is good or satisfactory: their members know their basic rights and obligations, are regularly informed about their activities, participate in major decisions and have a moderate to satisfactory knowledge of financial issues (budget, income, and expenditure).
- On the opposite, in the Red Sea Coast, out of 37 cooperatives, the performance of only 5 was considered as 'good', that of 13 as 'moderate' and that of 19 as 'unsatisfactory'. According to the cooperatives, one of the main reason of the bad performance of the cooperatives is their excessive dependence on the activities of the National Corporation for Services and Fish Marketing (NCSFM) – its intrusion into the activities of the cooperatives creating a sense of real frustration.

109. In the southern areas along the Gulf of Aden coast, fisheries cooperatives are numerous, operational in a satisfactory manner, and have different objectives (see Inset 27). Some cooperatives already existed during the British occupation. Then, during the socialist period, a number of cooperatives were organized under the law (1971-1973). Tribal values of self-help and solidarity, a strong social capital and the existence of different forms of collective action were also important factors explaining their development. On the contrary, in many of the areas along the Red Sea, communities are marked by impersonal linkages and weak social capital, as well as by a process of increasing detribalization. Another reason is that, in spite of the reunification, the administration (and some politicians) still considers cooperatives as part of the 'socialist apparatus' that the former People's Democratic Republic of Yemen (PDRY) had attempted to create and, therefore, still perceive them in a negative way.

**Inset 27:**

**Major Objectives of fisheries cooperatives  
in the southern region**

- To improve the economic and social status of their members
- To promote collective works by their members in fish production and collective leadership
- To distribute the income from production
- To provide all necessary facilities and equipment for fish production as well as cold storage, transport, etc.
- To undertake marketing of fisheries products to achieve generate at a lower cost
- To establish health centers, social security, and cultural centers
- To assist in providing housing facilities to its members.

*(From the Ministerial decree n. 311)*

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<sup>38</sup> See FCU, 2003.

<sup>39</sup> It is worth mentioning that the first fishers' cooperatives in Yemen were established in Mukalla and in Shihri in 1966.

110. On the Hadhramut coastline, the Burum Fisheries society is one of the most important organization. In 2000, the BFS had only 86 members, and in 2003 the number was 103. The increase of production in 2003 (1,152 tons, while in 2002 only 561 tones) could be attributed in the increase in catches particularly cuttlefish after the ban on trawlers by Ministerial Decree issued in May 2003.

**Red Sea area**

The fishermen's societies are not involved in fishing, marketing providing supplies. They provide some social security functions, may give limited loans to their members.

**Current Cooperatives' roles and functions**

111. Major current roles and functions of Yemeni fishing cooperatives:

- Sale of fishing equipment (boats, gears, engines, ice plants and chill stores)
- Provision of marketing services (fish storage, auctions), of transport (some cooperatives own insulated trucks – which are either rented to private traders on a daily basis or used directly by them to transport fish to major inland auction centers), and of fuel supplies. Cooperatives and societies generate income from profits on fish sold in local markets and to the National Corporation for Services and Fish Marketing, NCSFM. Cooperative societies receive a percentage (2%) of the value of the fish catch from their members, towards social security and other functions. These cooperatives are not involved in direct fish marketing.
- Provision of financial services (enabling members to obtain credit, acting as agent for the fisheries credit programme of the Cooperative Agriculture Credit Bank, CACB) and social security (between 2 to 5% of the value of fish catch from their members are put in a social security system).
- Sale of food: some cooperatives assume the role of consumer cooperatives (by buying food and other items from wholesale dealers and selling them to the fishing communities)
- Processing activities: Some cooperatives are involved in processing of some products (shark, sea cucumber, etc.). Technologies are quite rudimentary (drying, grading and packing, and the product is of low quality).
- Provision of small social welfare benefits (credit for education, health, etc.)
- Workshop facilities: especially in the southern regions, some cooperatives operate workshops, but most of them lease their workshops to private mechanics.

**Inset 28:**

**The National Corporation for Services  
and Fish Marketing (NCSFM)**

The NCSFM had been created in 1992. Its main objectives are: to develop fisheries economically and socially, develop and improve the administration of fishing harbors, develop food security through improved marketing, etc.

Its major activities are: buying fish at auction and selling to the private sector, collecting marketing fees, controlling/managing fish auctions, operating and maintaining cold-stores, operating public retail outlets, managing fishing ports; fish processing, freezing, and packaging, and operating vessel repair facilities.

Its major sources of revenue is from 2% levied both on the industrial and artisanal fisheries.

However, the NCSFM is increasingly seen as an obsolete institution, whose roles and functions should be delegated to fisheries cooperatives, the private sector as well as, in the case of the provision of water and electricity services and their maintenance, to local governments.

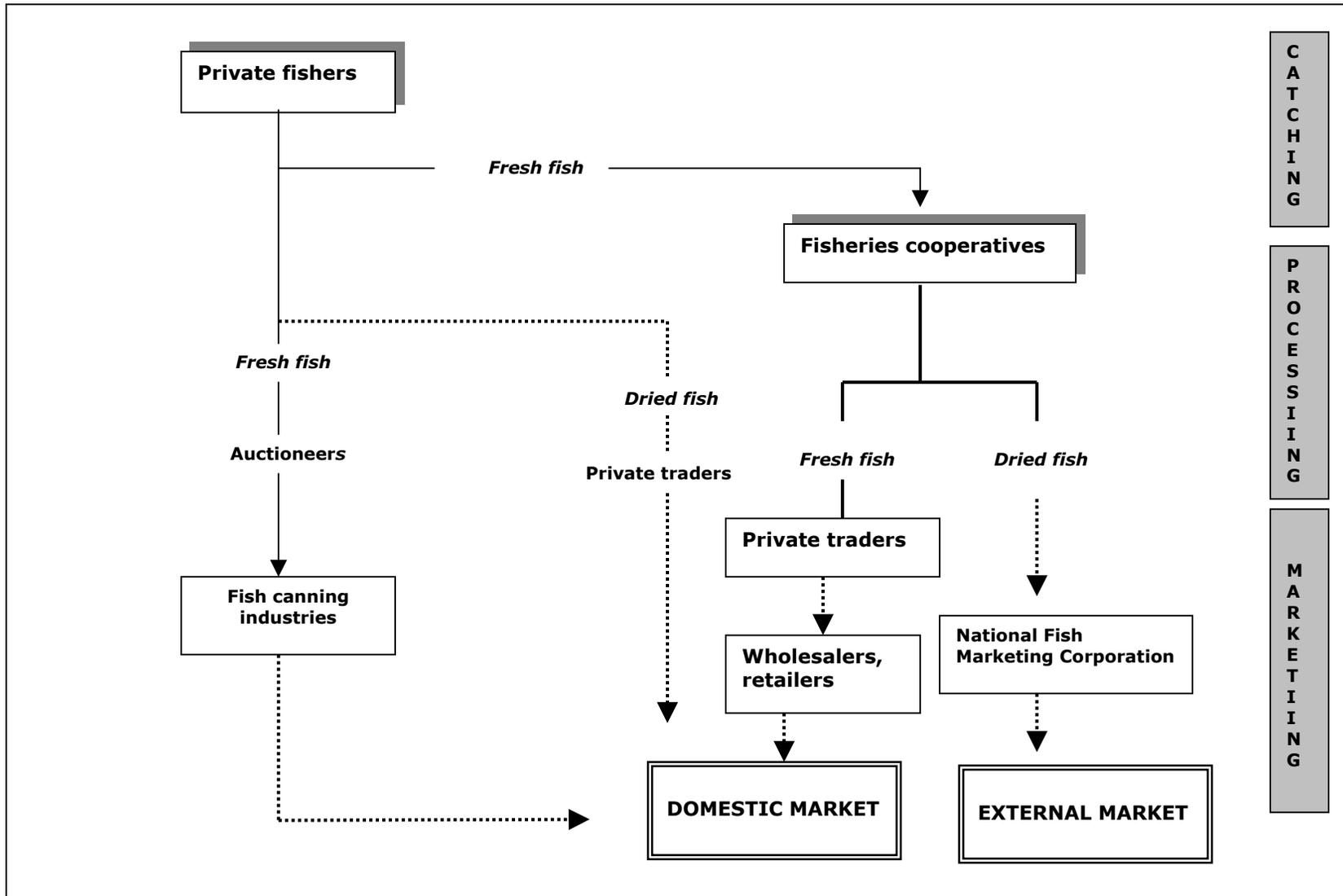
112. Only a very limited number of Cooperatives own fishing vessels and are directly involved in production (shark).
113. In the Red sea coastal area, cooperatives tend to be involved in the provision of social security functions and sometimes in the provision of limited loans to their members (from funds accumulated by the 2-5% of fees from auctioning), but they are rarely involved in fishing, marketing of fish or provision of supplies to fishermen.
114. A common source of income of cooperatives/societies is the auctioning of fish (through a levy of 2 to 10% of the value of the fish sold). Other income is generated by some cooperative through the sale of engines, spare parts, fishing gear and fuel and (more infrequently) though the sale of ice and storage of fish.
115. Major expenditures of the cooperatives relates to sickness benefits for their members and health coverage. Some cooperatives support social infrastructure, schools, water supply, and health clinics.

[The Diagram 29 presents the flow of fish products and the various marketing channels, as well as the involvement of different stakeholders – including cooperatives - at different stages]



Diagram 29:

Flow of fish products and marketing channels (artisanal fisheries)



# 4

## MAJOR ISSUES AND CONSTRAINTS OF SMALL-SCALE FISHERIES

This fourth section puts into perspective the data presented and analyzed in the previous section. Its objective is to provide an overall picture of small-scale fisheries and to identify major trends, issues and tendencies. In this way, beyond the specific cases of the areas surveyed, the section proposes a preliminary, general interpretation of the social and economic situation of small-scale fisheries in Yemen.

Particularly stressed are the following elements: the characteristics of the economy of fisher households and its potentials; the major constraints faced by fisheries cooperatives as well as by the private fishers; and the major risks and dangers faced by fisher households.

Finally, the section proposes a general typology of small-scale fisheries in Yemen, on the basis of key parameters, such as availability and use of labor, assets, and production objectives.

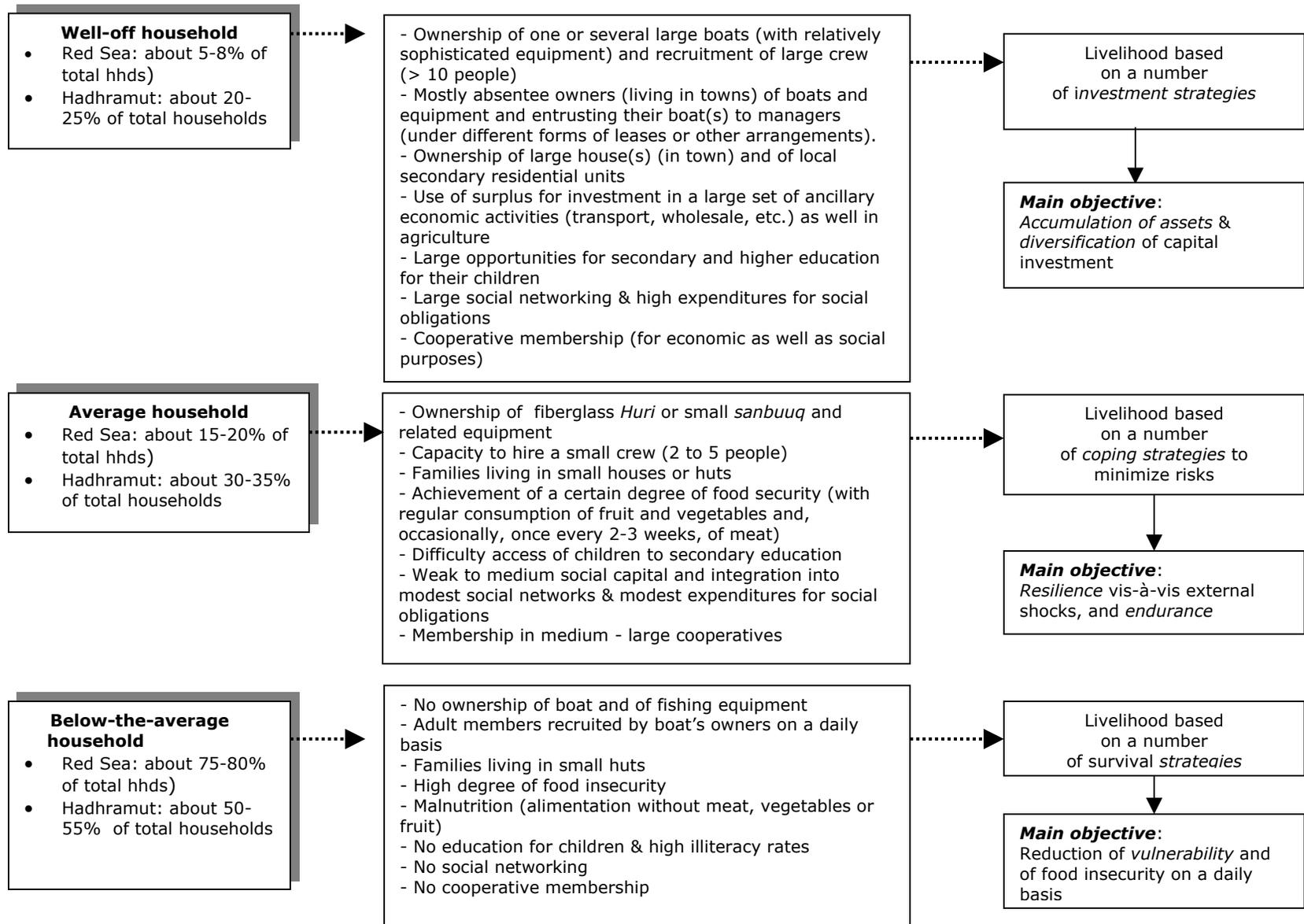
### 4.1 Overview of the fisher household economy

116. In the light of the previous findings, the Diagram 30 presents a 'stratified' view of the fishers households of the two areas surveyed. In line with the methodology presented in Section 2, three key types of households are considered. For each type of household a number of variables are assessed (in terms of assets, labor and resources) and specific objectives. Obviously, the classification does not reflect changing situations, as households can move upwards or downwards because of more or less predictable external factors.

- Firstly, the *average* or *middle range* household represents a household, which, in terms of labor, assets, size and social capital,<sup>40</sup> is (according to local perceptions) between the well-off/wealthy household and the household near or below the threshold of poverty. The key concept characterizing the livelihood of this group of households is *resilience*, i.e. the capacity to stand up to and recover from external shocks, and *endurance* (or the ability to sustain seasonal hardship). Production activities are based on a number of *coping strategies* (aimed at minimizing and averting risks, and maximizing benefits), whose primary result is to achieve a satisfactory level of market stability and food security – through the diversification of rural and non-rural activities, the seasonal migration towards better fishing grounds, etc. The implication of the household in market transactions is generally significant. However, as previously pointed out (see Table 21), the average household can reach a difficult balance between income and expenditure: it is somehow trapped in a situation of persistent indebtedness, where deferred payments go from one year to another and/or where local private moneylenders (who usually are the auctioneers themselves) have a significant control over its economy.

<sup>40</sup> The notion of 'social capital' refers to the social relations, networks and norms that help individuals and their households to gain access to livelihood resources.

**Diagram 30: Socio-economic stratification of Yemeni fisher households**



- Subsequently, the *below-the-average* type of household represents the household, which in terms of assets, labor and resources, is in a weaker position than the average (no ownership or control of boats, of fishing equipment, etc.; no capacity to hire workers, but rather need for looking for wage labor, etc.). The key word, which defines the situation of this household, (locally called with the general term *faqir*, pl. *fuqaraa*, poor or destitute) is great or extreme poverty (*faqr*) or, more precisely, *vulnerability* to external shocks (with a high or severe level of food insecurity). Its economic behavior is essentially characterized by the adoption of a number of short-term *survival strategies* (which, dictated among others, by the lack of basic capital, include the sale of the labor force of their members and the absence of labor investments) and the very low integration into local social networks.
  - Finally, the third group is made up of the *well-off households*. The key words that define the situation of these households is *accumulation* and *investment*, as they are endowed with strategies mainly aimed at maximizing profits, enlarging investment opportunities, accumulating assets, and sustaining economic growth.
117. The Diagram 31 synthesizes a number of general issues and illustrates how a fisher household functions and what its different production options are. It presents the different elements (labor, capital and resources) and their linkages. For the subsistence-oriented households, labor and capital is basically intended to ensure food security; for the market-oriented households, investments aim at maintaining or increasing the capital (for a more complete typology of fisher households see Table 33 below). Within this conceptual framework, poverty and wealth are the results of complex mechanisms related to social, economic and ecological factors.
118. In addition, the Flowchart 32 presents, in a more dynamic manner, the potential evolution of a fisher household, by taking into account key variables. What the flowchart points out is that the situation of the fisher household economy is not static, but may change over time under the influence of internal factors (such as availability of domestic and/or extra-domestic manpower, availability of credit and of essential assets, volume of catches and of income, participation in social networks, as well as other capabilities and 'entitlements', etc.), and external factors (such as loans or subsidies.



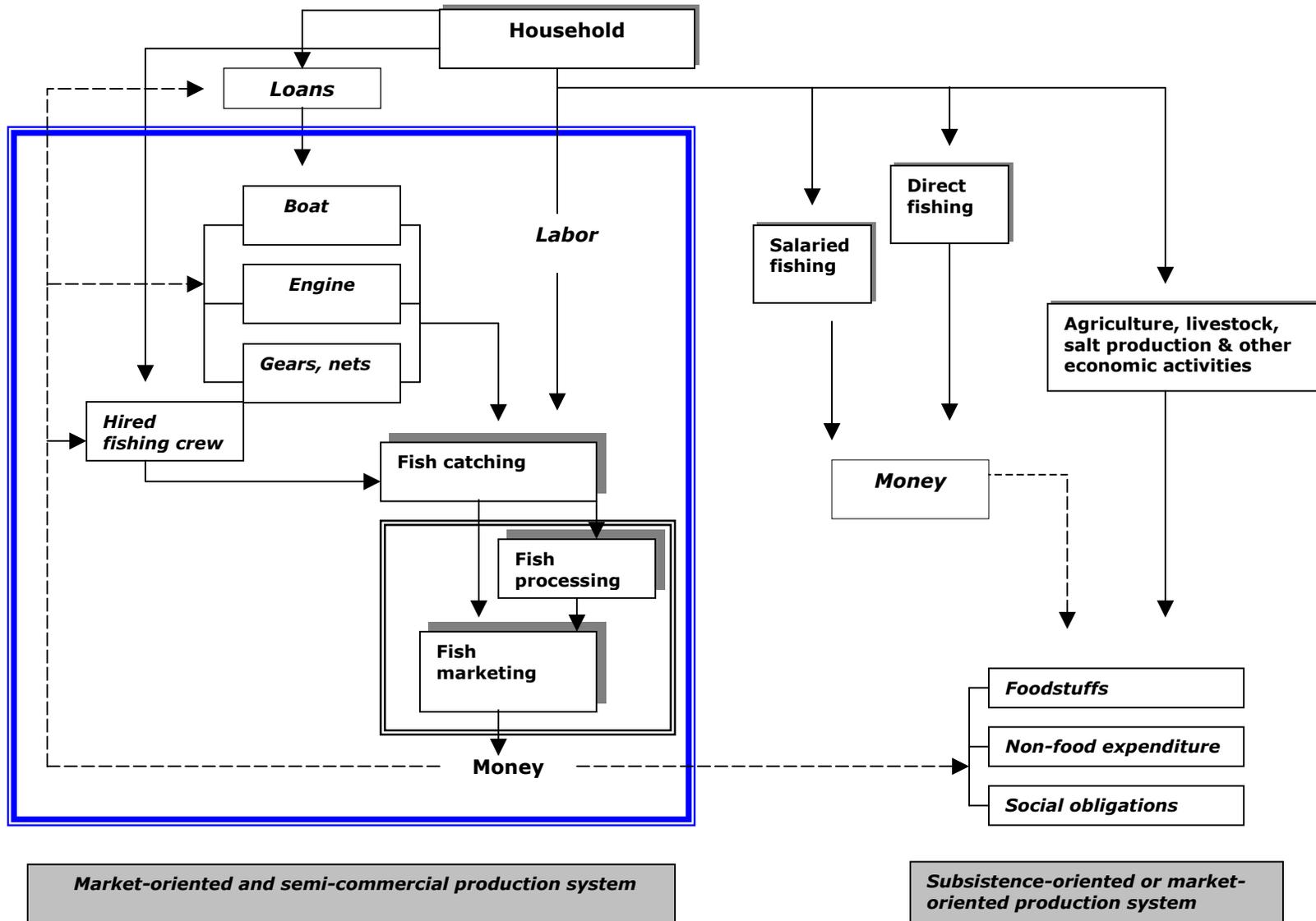
**Good profits from the sale of shrimps**



**Small catch of a young fisher**

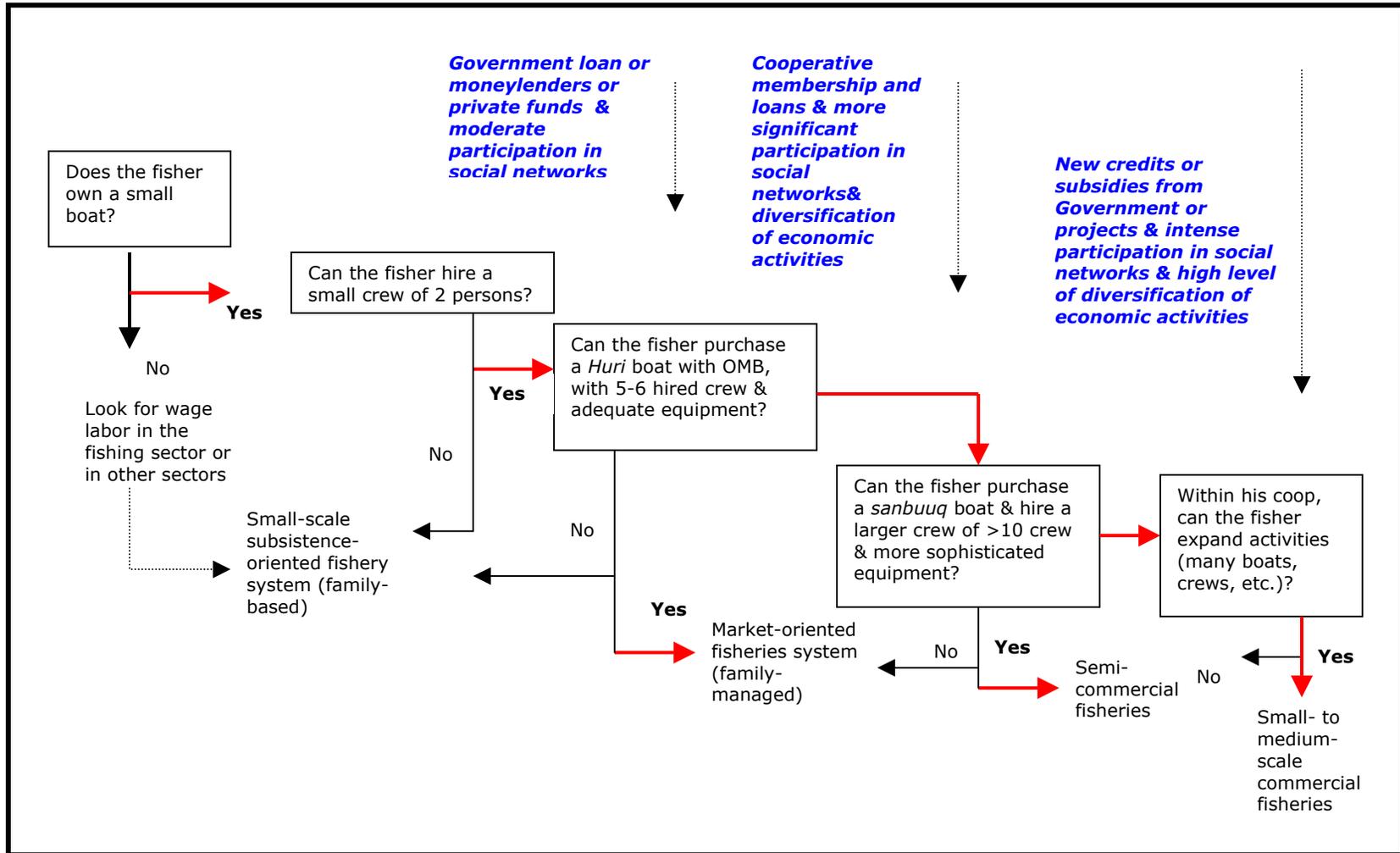
Diagram 31:

Fisher household economy



**Flowchart 32 :**

**Evolution of a small-scale fisher**



## 4.2 Constraints faced by cooperatives

119. The Section 3 has provided a general description of the fisheries cooperatives and their roles and functions. It has also provided a preliminary assessment of their situation. The following sub-section analyses the internal and external constraints that fisheries cooperatives are currently facing in the areas surveyed, in particular, and in Yemen, in general.

### (i) External constraints

#### ***Government's influence***

120. Cooperatives are often seen (and act as) government-funded and semi-public institutions.<sup>41</sup> They have problems in positioning themselves as member-led, self-administered, collective business organizations. Little room is then left to members to set up their own agendas.

#### ***Questionable practices***

121. An easy access to additional and external sources of credit (Social Fund, AFPPF, and to other state subsidies) has often prevented cooperatives from operating as member-owned, business units, and has understated the importance of the mobilization of their own resources.

#### ***Too ambitious development objectives***

122. Too often cooperatives are not only expected to attain economic objectives, but also to realize broad social goals in order to reduce poverty (such as to provide credit to their members at low interest rates, to ensure social security to their members, etc.).<sup>42</sup> Historically, this is due to the absence of public infrastructure and services. However, it has prevented them from focusing on economic goals and acting as profit-making entities.

123. Multipurpose cooperatives (social and economic goals) have obviously several potential advantages: members can satisfy diverse needs at the same place, save time, and benefit from economies of scale – this is particularly true in situations where the local administration is not able (or committed) to make significant investments in social services. However, the provision of social services entails more complex organizational requirements, specific skills (i.e., micro-finance) and may overload management.

#### ***Unfavorable environment and weak economic base***

124. Especially in the Red Sea area, many cooperatives operate under extremely difficult conditions, as members are poor and produce little surplus.

125. Some cooperatives have to operate in areas where the economy has still a low level of monetization, fisheries infrastructures are not developed or inadequate (e.g., in terms of ice plants, jetties or protected quays, auction platforms), and fish processing technology is still rudimentary or inappropriate.

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<sup>41</sup> A recent assessment of Yemeni agricultural cooperatives found that more than 80% of the resources were provided by government: that was considered as a significant danger of politization, state-driven agendas, etc. (see CCE, nd). Large fisheries cooperatives received important loans from the 4h Fisheries projects (European Union's grants): but eventually it was very generously decided by the government that the debt could be condoned to the cooperative, which had reimbursed at least 50% of the initial loan. Finally, it should also be reminded that MFW pays the salaries of some employees (directors and others) of large fisheries cooperatives (especially in the South) and that cooperatives which manage auction places (and get auction fees) are exempted from paying taxes to local municipalities (we were not able to understand the rationale - or the legality - of this practice).

<sup>42</sup> For instance, in 2003, the total loans provided by the Burum Fishers' Society to its 29 members amounted at 4,182,500 YR (about 22,855 US\$), of which only 22.5% has so far been reimbursed (the cooperative automatically deducts 15% of the earnings of the individual fisher to pay the debt).

## **(ii) Internal constraints**

### ***Limited member ownership***

126. In a large number of cooperatives, members do not participate actively in the activities of cooperatives, as they are promoted and managed from above. When members join a cooperative only to gain services, short-term economic dividends or credit, they are unlikely to feel responsible for it and do not show strong sense of ownership and responsibility.

### ***Leadership***

127. Leaders of many cooperatives do not have the necessary human capacities, the technical know-how, the managerial skills and the business knowledge to lead the cooperatives into the private sector as member service entities.

### ***Focus and business model***

128. Too many cooperatives, even the best ones, lack focus on objectives and outputs and do not fully operate as business units. In Yemen, fisheries cooperatives seem to share with agricultural cooperatives a number of barriers and constraints blocking them from entering and competing in the market economy and making it difficult for them the transition to the private sector. Major common issues are the following:<sup>43</sup>

- (i) a weak understanding of business operations and low levels of business and technical skills (for instance, for monitoring and evaluating all business activities),
- (ii) general low levels of innovation and flexibility (partly due to their dependency on government offices and involvement in government programs,
- (iii) limited access to markets, in particular the lack of linkages to formal sector enterprises,
- (iv) lack of a long-term strategy and business plan (including a resource mobilization strategy, through service fees and business operations),
- (v) insufficient capacity to identify examine and prioritize potential economic activities and effectively implement those selected,
- (vi) little or no linkages to (and little economic potential to establish linkages with) commercial financial institutions, and general weakness in accessing to credit services,
- (vii) weak commercial linkages with other cooperatives operating in the same sub-sector or in other affiliated sectors.

### ***Individual vs. collective interests***

129. Structural problems often arise over issues of common property and of the need to reconcile long-term institutional objectives with short-term individual concerns.

### ***Role of apex organization***

130. Apex organizations, such as the newly (2003) created 'Yemeni Fisheries Cooperatives Union' (FCU), are certainly needed to shape the development agenda of the sector and to exercise a control function. However, their role has to be clarified. Experiences from other countries or from other types of cooperatives clearly show that an excessive dependence of individual cooperatives on their Union may also have detrimental effects (especially if the Union leadership does not adopt basic principles of good governance).

### ***Governance and management problems***

131. Inadequate management and accounting, bad governance, lack of transparency and accountability characterize many cooperatives and their operational procedures and standards are low or very low.

### ***Potentials***

132. However, in spite of all these constraints, with adequate institutional and technical support, the Yemeni fisheries cooperatives constitute a key factor for the development of small-scale

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<sup>43</sup> According to the document 'Yemen Agricultural cooperatives' (CCE, nd).

fisheries and are likely to consistently increase their contribution to the national economy, generate income for their members, and create employment.

133. Improved legal and regulatory frameworks would help define and support the role of cooperatives in the development of the sector. They would also create an enabling atmosphere, which would help a smooth integration of fisheries cooperatives into a market-oriented economy. (See more specific recommendations for cooperatives in Section 5).

### **4.3 Major variables and constraints of small-scale fishers**

134. It is also important, in the light of the findings of the previous sections and from the point of view of the private small-scale fisher households, to identify some key variables affecting local livelihoods:

- *Environmental degradation:* The livelihoods of fisher households are strongly affected, by high rates of population growth, rapid coastal development, coral reefs destruction, over-fishing of lucrative high value species, urban development, and ships waste, as well as – although this seems less documented – by agrochemicals and industrial waste, discharge of untreated or inadequately treated sewage, disposal of solid waste, and current or potential oil spills,.
- *Low and/or inappropriate technology:* Because of poverty and/or lack of education and access to information, a large proportion of fisher households use inappropriate technology (such as gillnets instead of lobster traps in catching lobsters or destructive fishing, gillnets instead of longlines for the shark fishery; inappropriate methods of handling catches at sea; poor processing infrastructure - i.e., techniques which could reduce post-harvest losses and enhance marketability of fishery products; lack of standard processing methods and technologies). The relaxation of control of the public sector on the fishery after 1994 seems also to have encouraged unsustainable practices.
- *Lack of training and skills:* This factor is mainly due to the inadequacy of fisheries extension services (resulting from weak public sector institutions involved in the fisheries sector and lack of information). The lack of management measures has resulted in depleting the fishing grounds of some of key fish stocks.
- *Lack of enforced diving regulations:* Fishermen do not use proper gear to collect sea cucumbers from their underwater sea-grass habitats. Such malpractice exposes their lives to high risks and possible death.
- *Marketing bottlenecks:* Major problems of local marketing are the following:<sup>44</sup>
  - Lack of code of practice and instructions on how to handle fishery products,
  - Lack of capital to make investments,
  - Lack of appropriate hygienic conditions
  - Lack of storage facilities,
  - Lack of apparatus and procedures to control the quality of fish
  - Weak transportation networks,
  - Competition with large-scale commercial fisheries,
  - Inadequacy of existing auction platforms,
  - Lack of guidelines from MFW or from municipalities on fish control quality

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<sup>44</sup> See PERSGA , 1997

**Inset 33:**

**Current problems  
faced by fishermen in Al-Mukha**

During a focus-group discussion in Al-Mukha, fishermen have been requested to report their perceptions on major local fisheries-related problems. Here some of their answers:

- The NFCM is consistently taking 3% from auctions, but their role in providing assistance to fisher communities is not clear.
- The procedures adopted by the CACB are not accepted: the CAB is perceiving loan interests of 11% even during the off-season. The fishermen believe that CACB's procedures should take into account the seasonality of fishing activities, which is a fundamental aspect of their livelihood.
- People are systematically paying an insurance premium of 6,000 YR/year to one of local insurance companies (one of the most common being the 'Mareb Company'). However as the companies do not have local branches, it is the bank itself (CACB) which represents them – and this creates a high degree of confusion and misunderstanding.
- People rarely benefit from their insurance scheme as they hardly know their rights and the different procedures, which could allow them to get some benefits (from losses of equipment, accidents, etc.).
- A major reason of dissatisfaction in Al-Mukha concerns the recent construction of a section of a new road (from the harbor to the main Al-Mukha – Aden road) and its negative environmental impact (by preventing seawater from flowing into the bay (where shrimps and mangroves, among others, were previously found). Fishermen strongly complain that the decision of building the road (rather than a small bridge) was unilaterally made by the construction company, without any consultation of the community leaders, without any acknowledgment of local knowledge of the marine environment, and without an appropriate environmental impact assessment. (See photo below).



***The road obstructing the flow of seawater  
into a bay (Al-Mukha)***

135. However, from a more positive points of view, the subsidized credit programs implemented under various fisheries projects through the Cooperative Agriculture Credit Bank (CACB) designed to fit fishermen's needs have been highly successful. The major reasons of the success appear to be: a decentralized organization, simple procedures

aimed at facilitating the access of clients to credit and simple systems of loan repayment. Effectiveness of joint (cross) loan guarantees supported by six fishermen. Liberalization of markets made fisheries more profitable.

136. Local fishermen show also a relatively high degree of environmental awareness. Their traditional know-how and practices should be supported and improved. Two examples are given here:

- The creation of artificial reefs (damaged by foreign trawlers) by local individual households is widely reported in many places in Yemeni. Individual fishermen's actions aim to rehabilitate reef habitat and reef associated fauna (by simply throwing wood - from old boats or dead trees - car and boat body shells and wreckage, tires, into special areas (average deep about 25-35 mt), to help the creation of reefs.<sup>45</sup>
- Fisher communities attempt to define regulations and restrictions concerning the use of marine resources. In the Socotra Archipelago, for instance, the following restrictions have been reported:
  - An island-wide ban on the use of nets for an 8 day period over the full moon period (in some areas hook and line, or fish traps, may be permitted during this period);
  - In certain areas, all fishing is banned between 10 a.m and 2 p.m. daily.
  - Strict control in the use of fish traps in many areas, due to the belief that they are too efficient for the low demand for demersal fish.
  - In many areas, there is an 8-10 day ban on the use of nets during the full moon period.
  - In other parts, fish traps are banned since they are considered to catch too many unmarketable fish.<sup>46</sup>

137. With efficient organizations (fisheries cooperatives), fisheries facilities, access to credit, enforcement of good regulations and the like, SSFs can bring a substantial contributions to local economies and livelihoods and incomes from fish harvests can be substantial.

#### **4.4 Risks of small-scale fisheries**

138. The analysis of the previous sections only indirectly pointed out the hazardous and risky nature of artisanal fisheries. In addition, from a social point of view, the majority of people involved in small-scale and artisanal fishing are frequently outside the reach of the occupational safety and health services available to other types of workers.

139. The Inset 32 presents some of the major risks of artisanal fisheries. In addition, it should be pointed out that the thousands of oil tankers passing through Yemeni waters every year constitute a major threat to local livelihoods, as major accidents are very real (with tragic results in terms of habitat destruction and oil pollution).

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<sup>45</sup> Examples provided by fishermen in Al-Mukha (October 2004).

<sup>46</sup> Hariri, 2004

**Inset 34: Major risks of artisanal fisheries**

**Bad weather** constitutes a cause of small boat accidents often resulting in capsizing, grounding, becoming lost and collisions. The use of fiberglass boats (which, once turned down, do not float, but sink rapidly) has made more dangerous this kind of accidents.

**Loss of power** is a major cause of accidents (small fishing boats are powered by an outboard motor and do not carry a spare engine or sailing rig).

**Fire on board** is an extremely dangerous with outboard engines and carrying large amounts of spare fuel.

**Economic hardship** or even transitory financial difficulty may also cause fishermen to take extra risks.

**Fishing operations.** People can be swept overboard, various injuries may occur during fishing both from contact with fishing gear and deck mechanisms, and from bites e.g., from sharks, stings and tail kicks by fish and other marine animals.

#### 4.5 Towards a general typology of small-scale fisheries in Yemen

140. Table 35 presents a preliminary, general typology of the artisanal small-scale fishers in Yemen, by identifying different configurations where criteria - such as labor, domestic vs hired workers), use of production and type of assets - and by indicating the general localization of each group.
141. The *fishery production system* involves a set of dynamic and changing interactions between natural resources (the fish stock), capital (boats, gear nets, all sort of equipment, as well as indigenous techniques and know-how) and labor (essentially made up of family members but also of hired crews).
142. The typology, which should further be tested, aims not only at presenting a comprehensive and dynamic (as opposed to a monolithic and static) picture of the present status of small-scale fishers, with their internal characteristics and differentials, but also at sustaining wider policy orientations which fit the variety of the situations.

#### 4.6 Current trends and changes of the fishery industry

143. Today, Yemeni SSFs seem to be caught between two trends:
- On the one hand, the political and administrative decentralization process offers more opportunities to control their own development through community-based management or co-management of natural resources.
  - On the other hand, the globalization, with its overriding political and economic consequences, is affecting the lives of artisanal fishers well beyond their control. The high pressures exerted by industrial fisheries (with over-fishing and destruction of fish habitats), adds another set of constraints and threats.

**Table 35: General typology of the fishery production system of small-scale producers in Yemen**

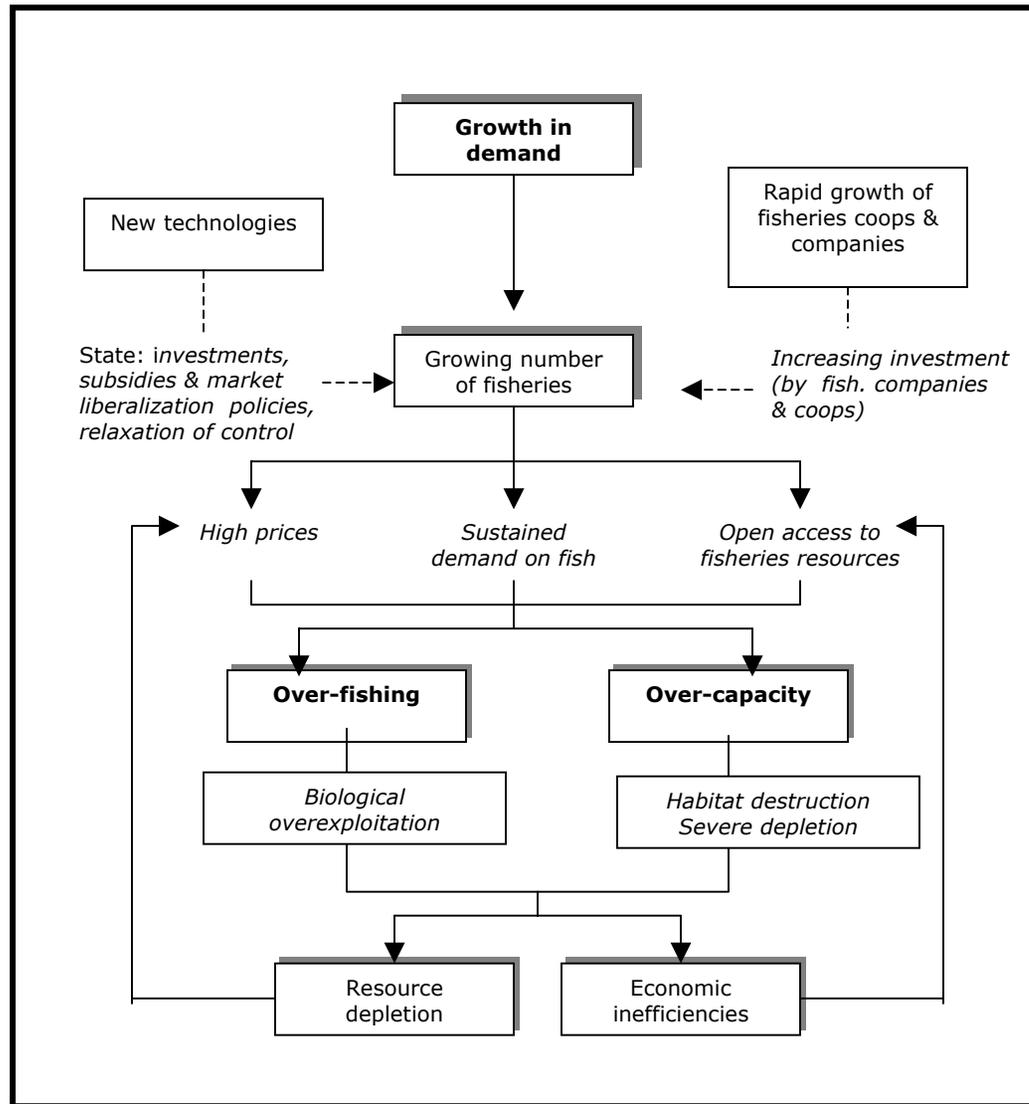
RANGE	CATEGORY	LABOR	ASSETS	PRODUCTION
Small-scale	Subsistence-oriented	Exclusively family members	The majority of the fishers are hired as crew by owners of large boats and share a small part of the production	Almost the total fishery product is reserved for internal consumption (no leftovers for market). Large proportion of cash obtained from wage labor for food expenditures.
	Market-oriented	Managed by family members, with occasional hiring of small crews	Ownership (or rental) of a fibreglass boat, with OMB (with a 2-3 person crew).	At least 50-75% of production reserved for local markets. The rest is locally processed or for internal consumption. Some productive investments.
	Semi-commercial	Managed by family members, with permanent use of hired crew. Short trips to close fishing grounds and seasonal fishing migrations	Small <i>huri</i> with outboard motor, with essential equipment	At least 95% of production is sold (or processed) for local markets. Large productive investments
	Commercial	Managed by the family members, but with permanent use of large crew (>10 people)	Larger <i>huri</i> or <i>sanbuuq</i> . Frequent short fishing trips up to 10 days. More sophisticated fishing equipment (GPS, mobile phone, etc.)	100% of the production for local markets. Considerable productive investments (not only in fisheries).
Small-scale to medium-scale	Commercial	Family management, with regular use of very large hired crew(s)	Large fleet, comprising several <i>huris</i> and/or <i>sanbuuqs</i> . Fishing expeditions of about 10-15 days. More sophisticated navigation equipment.	Almost the entire production is bought by wholesalers and transported to urban markets or exported.

144. It is commonly believed that the existing legal framework for control of fisheries activities does not enable effective management and protection of resources. However, the 2003 ministerial Resolution forbidding the use of foreign fishing vessels and its positive consequences on the economy of artisanal fisheries is a good example of what can be done in the future by well-advised policy-makers (with no renewal of licenses, all industrial fish catches have been eliminated, mainly cuttlefish, demersal fish and shrimps).
145. Finally, the Diagram 36 visually presents, in a concise manner, complex issues that contribute to explain the precarious status of Yemeni fisheries.
146. A number of economic and technological circumstances as well as dubious and short-ended policies have created a rapid growth of the sector, with sustained demand and higher prices for fish and fish products, in a context where traditional measures concerning the access to and use of common property resource increasingly eroded.
147. Open and free accesses to the resources and the absence of defined property rights have created the conditions favoring over-exploitation.
148. The result – over-fishing added to over-capacity – creates a situation of a ‘downward spiral’, which leads to inefficient economies and resource depletion as well as to a downward spiral of poverty for an increasing number of households.

#### **4.7 Overview and major findings**

149. Among the general key issues raised by the previous analysis, the more important are the following:
- The great variety of stakeholders involved in the small-scale fisheries, each stakeholder having its own agenda, priorities, and objectives. This variety stresses the need for higher levels of consultation, dialogue and cooperation;
  - The great willingness of the fisher communities to stay in the business, to use marine resources in a sustainable manner, to preserve traditional know-how and skills, and to adopt more appropriate technology.
  - The different aspects of a lack of management (or, even, mismanagement), which contributes to create a considerable depletion of the fish stocks and degradation of the resource base. This stresses the need for adequate regulatory frameworks and enforcement procedures and regulations;
  - The complexity of the technical, economic, social, and ecological problems faced by the fisher households and communities. This stresses the need for approaches addressing their development in a coherent and comprehensive manner as part of an integrated approach to local development;
  - The need for the creation of more effective linkages between institutional management and development, capacity building and financial facilities;
  - The importance of integrated approaches in development that guarantee sustainability (through conservation and utilization of fisheries and aquatic resources); equity (through a balance of the interests of competing resource users); and efficiency (through an effective management of marine resources).
  - The need for a differential approach, which takes into account the specific (and different) priorities and goals of fisher households.

**Diagram 36: Major factors explaining current trends in Yemeni fisheries**



**Public assistance to fisheries sector**

In an effort to increase production, government subsidies have been provided in different manner: low cost fuel, low interest rates for loans, outright grants for the construction of boat or purchase of gear, etc. In addition, some policies have led to overexploitation of fishery resources. The total production went from 77,000 tons in 1990 to 228,000 tons in 2003.

**The downward spiral**

Over-fishing and over-capacity lead to a downward spiral: As prices increase, catches per fishing vessel fall and profits diminish; fishers are pushed to overfish to maintain supplies and guarantee their livelihoods, by causing new depletion of stocks and endangering their long-term availability

150. There is today an increasing recognition of the role of an institutional dimension in the management of natural resources. That marks an important shift toward conservation and ecosystem-based management, away from a simple 'stock- and species-based management'. It has been pointed out that 'institutions establish the rules of the game for resource management, and determine, among other things, the process by which management decisions are made'.<sup>47</sup>
151. On the other hand, there is also a recognition that governance should shift toward community-based and comanagement approaches to emphasize fisher participation and decentralization of management authority and responsibility.<sup>48</sup> In other words, the objectives have shifted from increasing production to sustaining stocks and ecosystems, and from maximizing short-term interests to addressing both short-term and long-term interests.



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<sup>47</sup> Hanna, 1998.

<sup>48</sup> Berkes et al., 2001

## 5 GOVERNANCE, MANAGEMENT & DEVELOPMENT OF SMALL-SCALE FISHERIES

This fifth and final section of this report looks forward to issues related to the governance, management and development of small-scale fisheries and, in the light of the findings of the previous sections, formulates a number of operational recommendations.

After a preliminary definition of some key terms, the section formulates a number of operational recommendations for the future Fisheries Management & Conservation project, mainly concerning: (i) the roles and functions of major stakeholders; (ii) new forms of management (co-management) of the fishery resources in a more transparent, democratic, accountable, and efficient manner; (iii) the importance of strengthening or building the technical and managerial capacities of all local stakeholders; (iv) the meaning of an efficient, participatory and result-based planning exercise, which stresses the importance of the formulation of comprehensive fisheries management plans (FMPs), reflecting a long-term vision of the development of the sector, rather than the identification of a multitude of short-term small initiatives; and, finally, (v) the importance of defining strong partnerships and strategic alliances with a variety of on-going or future projects/programmes.

In conclusion, the report proposes an additional component to the present, temporary FMCP's matrix, in order to complement the other components with a community-driven approach aimed at improving the livelihoods of small-scale fishers in a sustainable manner.

### 5.1 Definition of key concepts

#### **Governance**

152. Governance is about decision regarding the fisheries resources and the ecosystems, ways of using these resources, the exercise of powers and stewardship, and the manner in which decision are made.

#### **Management**

153. Fisheries management is more than ensuring that fishing capacity does not exceed the ability of fish resources to sustain catches. It rather refers to activities undertaken to protect, conserve and rehabilitate the resources, including policy action such as regulations and material interventions.

154. The concept of fisheries management may be defined as 'The integrated process of information gathering, analysis, planning, consultation, decision-making, allocation of resources and formulation and implementation, with enforcement as necessary, of regulations or rules which govern fisheries activities in order to ensure the continued productivity of the resources and accomplishment of other fisheries objectives'.<sup>49</sup>

#### **Development**

155. Development refers to a set of interrelated activities that develop a resource and its users and stakeholders: fisheries development increases production from the resource;

<sup>49</sup> FAO, 1997.

economic development improves employment and livelihood opportunities, through economic growth; community development improves social services and economic infrastructures; finally, social development improves people's capacity to participate in governance and find local solutions to problems and opportunities.<sup>50</sup>

### **Local economic development**

156. The concept of *local economic development* refers to a process in which a number of institutional stakeholders (local authorities, the private sector and community economic groups) form partnerships to mobilize and manage local and externally accessible resources, and to stimulate the economy in a locality. Local economic development is 'about local people working together to achieve sustainable economic growth that brings economic benefits and quality of life improvements for all in the community'.<sup>51</sup> The emphasis is on locally driven initiatives, drawing on local and external actors and resources, to harness human, institutional and entrepreneurial potential through dialogue, democratic participation and partnership. The 'local economic development' approach is action-oriented.

### **Institutional development**

157. The notion of 'institutional development' may be defined as the establishment (and enforcement) of clear rules (set of incentives and constraints or '*rules of the game*') for local institutional stakeholders (i.e., '*the players*') as well as the strengthening of these institutional stakeholders. Thus, institutional development is about (i) institutions/ organizations (or the institutional architecture); and (ii) institutions/ norms (or the institutional arrangements between organizations). Local institutions are essential to local development and poverty reduction. They also shape actors' identities, power and strategies.

### **Civil society**

158. By 'civil society' is meant modern political, economic, legal and cultural projects and organizations, which articulate and promote the variegated interests of the populace independently of state institutions.<sup>52</sup>

## **5.2 Major recommendations for a medium- and long-term approach**

159. In the light of the findings of the previous analysis, major recommendations are proposed here. They concern: fisheries cooperatives, local authorities, and the MFW. They are also related to new forms of joint management (or: co-management) of the fishery resources, capacity building (for all the stakeholders), participatory planning exercise, and issues related to strategic partnerships and alliances.

### **a) CONCERNING FISHERIES COOPERATIVES**

160. In Yemen, fisheries cooperatives have been conceived and, more or less successfully developed, as the only organizations not only capable to support the sound development of artisanal fisheries, but also to tackle a great variety of social and economic problems of their members. They have been designed to fill a vacuum between the central state and the populations, as well as to provide necessary 'safety nets' to their members, especially the poorest; they have formed (and still form) 'the fertile ground for democratic interactions among the members of society, thus guaranteeing the continuation and growth of democracy itself'.<sup>53</sup>

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<sup>50</sup> See Berkes et al., 2001

<sup>51</sup> See World Bank's Web site on local economic development, LED ([www. http://www.worldbank.org/urban/led/](http://www.worldbank.org/urban/led/))

<sup>52</sup> Carapico 1998

<sup>53</sup> M. S. Hasan in As-Suswa, 2003

161. Today, however, in the light of new political, administrative and economic contexts - such as the increasing potential role of the private sector in local economic development and the emergence of locally-elected, democratic and legitimate local governments - the fundamental role of the fisheries cooperatives needs to be redefined, and their leadership need to be prepared and trained for more specific, economic functions.<sup>54</sup> However, they will still constitute, as FAO's policy documents point out, an outstanding form of 'civil society organizations' with the potential to play an important role in developing a strong 'social capital' in rural areas that is regarded as a pre-requisite for food security and sustainable development.<sup>55</sup>
162. Each fishery cooperative (regardless its own development stage) should increasingly be considered as part of a wider network of stakeholders involved in the governance, management and development of the sector. In this network, cooperatives should constitute a key element according to their mandate and nature. In other words, fisheries cooperatives should increasingly become more focused on conducting business operations in a dynamic, flexible and assertive way, and should leave to local authorities, line departments and the private sector their respective roles and functions.<sup>56</sup>
163. Through a set of innovative institutional arrangements, fisheries cooperatives should increasingly adopt a 'business unit-operating' model. Furthermore, they should increasingly become an integral part of the private sector, with independent, business-oriented and self-reliant procedures and mechanisms.
164. Adequate reforms and arrangements should contribute to remove a number of barriers and constraints that at present block cooperatives from entering and competing in the market economy and making it difficult for them the transition to the private sector.
165. More-focused fisheries cooperatives should aim at:
- Developing as an advocacy organization on behalf of their members, by acting as representative bodies for a widely diverse constituency;
  - Continuing to provide 'safety nets' for their poorest members, especially where other institutions are not yet in place (local authorities, micro-finance institutions, etc.);
  - Mobilizing the resources of their members in order to undertake different business-like activities and provide economic services;
  - Developing post-production operations, such as food handling, processing, distribution and marketing enterprises;
  - Strengthening an internal self-sustaining management, technical and production capacity, through the establishment of appropriate systems, mechanisms and procedures;
  - Participating in the control of good quality product and healthy processing conditions (on the boats; in auction place and markets; in landing site; in insulated trucks; etc.) and transportation and storage conditions;
  - Promoting a comprehensive, participatory, and coherent planning process for fisheries management, beyond the short-term identification of individual micro-projects, and sustaining a local vision concerning the future of fisheries development;
  - Actively participating in the preparation and implementation of fisheries management plans (FMPs).

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<sup>54</sup> In Yemen, as elsewhere in the developing world, structural adjustment programmes, a decline in donor financing of government budgets deficits and market liberalization have also modified the economic context in which cooperatives operate.

<sup>55</sup> See [www.fao.org](http://www.fao.org)

<sup>56</sup> It has been pointed out by Yemeni analysts that the destiny of cooperatives will be their evolution into decentralized structures of local government and administration (A. M. Al-Harbi in As-Suswa 2003).

**b) CONCERNING DISTRICT AUTHORITIES AND LOCAL COUNCILS**

166. In March 1999, under the pressure from a national conference on decentralization, the Yemen Parliament adopted the *Local Authority Law*, a model for national decentralization.<sup>57</sup> Municipal elections were held for the first time in February 2001. The law meant to transfer power and budgetary resources to local governments and consolidates local authority for planning, development, and administration into one elected body: the municipal council. Subsequently, a number of factors (such as political opposition, difficulties in demarcating new municipal districts, and a lack of institutional commitment) slowed down the implementation of the Local Authority Law. But the municipal elections held in February 2001 included 26,832 candidates for 6,614 district municipal council seats and over 2,500 candidates for 418 provincial municipal council seats. These officials served a two-year transitional term as the first elected municipal representatives in Yemen's history. (See also Inset 37).

**Inset 37: Decentralization and local authorities**

Government policies addressing to local governance and decentralization dates back to at least 1995 when public sector reforms including decentralization aimed at democratizing Yemeni society and empowering local communities.

The Local Authorities Law, passed in early 2000, initiated a comprehensive reform of the Yemeni Governance system through the establishment of three levels of Government: central, governorate and district.

This led to the first ever election of Local Councils in 2001, in 332 Districts and 20 Governorates. The Law also provides a clear and comprehensive legislative framework for decentralization based on the following principles: (i) popular participation through elected councils; (ii) financial decentralization; (iii) and decentralization of administrative and services delivery functions. Subsequently, about 400 councils and local administration staff received a substantial training, accounting units have been established to serve a few local councils, and budget have been transferred to all Governorates and a few districts.

A Council has a number of specialized Committees and an Administrative Body made up of the heads of the branches of the Central Ministries in the district. The Executive Bureau is composed of the Director General as chairman, the Secretary General of the local council as deputy chairman and the heads of the branches of the ministries. The Bureau, *inter alia*, prepares the annual budget, the development plan of the district, supervises and follows up the implementation of projects in the district. The offices of the ministries represented do not include fisheries. The issues pertaining to the fisheries sector and fishers cooperatives are handled through the office of Social Affairs.

167. To facilitate and accelerate the development of the economy, to promote democracy, and to enhance economic and social integration, the Yemeni Government has recognized that it needs a system of decentralized democratic governance, where local budgetary autonomy is increased, local authorities keep revenues collected at the local level and fiscal transfers will be distributed by the central government to municipalities. It should be pointed out that in a decentralized and democratic system local authorities:

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<sup>57</sup> Some analysts believe that democracy in Yemen took on a liberal Western pattern and became necessary because of national reunification (M.J. Qasim in As-Suswa 2003). Thus, among all Arab countries, Yemen plays a pioneering role in the development of democracy (S.E. Ibrahim, *ibid.*).

- Are recipients of formal powers from the central state to establish, collect and impose taxes and fees; to mobilize local resources; to manage resources from their own budgets; and to allocate material resources to different functions;
- Have a range of precise rights and obligations with separate existence and functional autonomy (legal, financial and technical), and a formal mandate to provide a range of services to their respective constituencies;
- Have the power to formulate bylaws and regulatory frameworks (within precise domains) on social and environmental issues, the capacity to establish agreements with the organizations of civil society and the private sector, and the institutional mandate for economic and social development, environment, sanitation, education, culture, health, municipal police, etc.;

168. It is in this context that some coastal Districts may have a crucial role in the development of SSFs, as part of a more comprehensive social and economic development and have a particularly important role to play in ensuring the sustainability of the local natural resource base by:

- managing the relationships of populations with their physical environment and their productive and renewable marine resources;
- supporting viable institutions governing access to and use of fisheries resources;
- defining mechanisms and procedures aimed at preventing, managing and solving conflicts arising from the access to and use and control over these resources,
- playing a key role by providing an institutional support to the preparation of local fisheries management plans.

169. Five major aspects are analyzed here below to emphasize the unique role of local councils (which means 'roles that no other institution could implement in a legitimate manner'): networks and alliances regulatory frameworks, planning, training and information, and infrastructure and service delivery.

***(i) Networks, alliances, and synergies***

- Coordinate the wide range of finances, technical research and advisory services supplied by government line departments, by creating strategic linkages and networks.
- Play a crucial role in convening local stakeholders in order to build a common understanding of strengths, weaknesses and potentials of local SSFs.
- Assist in the creation of coalitions of local businesses, cooperatives and individual fishers.
- Facilitate the synergies and alliance between interlinked businesses (large as well medium and small) working on the fisheries sector as a whole, in order to produce important externalities and spillovers (this would include procurement, bulk purchase, co-operation in production, joint marketing, and the like).
- Establish and maintain lines of communication with and between the cooperatives.
- Promote and supervise new networking mechanisms and procedures through the use of communication technologies (creation of 'cyber-fisheries centers' with database on technical and economic information, e-market, and the like).
- Organize periodical fora aimed at connecting local stakeholders and creating a coherent vision for local economic development.
- Promote linkages between large fishing companies and small and medium fisheries enterprises, through a set of arrangements (sub-contracts, co-operation agreements, etc.) in fields where smaller firms have greater competitive and comparative advantages



**Office of the District of Bab el-Mandeb and of the local council (in Dhubaab)**

## Institutions



**The new office of the District and local council in Salif (Hodhaida Governorate)**



**Collecting data for the MFW/ Statistics department at an auction center**

**b) Organizations and regulations, and legal apparatus**

- Create and maintain at local level an enabling environment that allows fisheries cooperatives to function as autonomous, private sector enterprises (this would involve improved legal and regulatory frameworks at local level for business and community-base initiatives)
- Promote the creation and/or the strengthening of organization of producers, association of small-scale fishers, associations of businesses.
- Formulate guidelines for quality control of fishery products.
- Promote small and medium fisheries enterprises by linking business development service providers and local fisher associations and cooperatives
- Create incentives aimed at attracting large scale private investors
- Support environmental protection (by advocating biological and chemical analysis of the sewage waters and assessing their impact on fisheries)
- Mediate conflicts between local users and cooperatives as well as between local stakeholders and outside resource users

**c) Planning**

- Support participatory diagnostics of the local artisanal fisheries sector (with its strengths and weaknesses) and supervise the preparation of fisheries management plans, within the context of coherent and comprehensive local development plans,
- Favor a holistic vision of local development, by supporting a diversification of local economy, proposing alternatives livelihoods, especially to women and youth, providing adequate information to user groups, and by promoting the organization of appropriate training programmes.
- Formulate and financially support specific initiatives aimed at improving the management of fisheries: the creation, for instance, of a municipal patrol team for patrolling coastal waters and enforcing laws and regulations.
- Strengthen the economic focus of local development planning and budgeting, by giving high priority to collective socio-economic infrastructure, such as fish markets and fish landing sites.

**d) Training and information**

- Play a brokering role between public/private institutions of training and education by informing them about the specific problems of SSFs in their jurisdictions and supporting them in the preparation of appropriate curricula.
- Facilitate the provision of specialized technical services to fishers (private fishers as well as members of fisheries cooperatives) through training programmes covering a set of domains (technologies, financial and market-related issues, management and conservation of fisheries resources, techniques aimed at reducing catch waste, etc.).
- Stress the importance of basic literacy and numeracy campaigns aimed at providing a better understanding of bank loans, mortgages, and credit and their impact on fisher household economy as well as at helping cooperatives at putting up realistic goals and setting milestones.
- Guarantee that all social categories of local fisher communities may benefit from training and other initiatives, by positively discriminating in favor of women and women associations, in order to foster their participation in development.

**e) Infrastructure and services delivery**

- Promote and develop infrastructure and trade facilities that encourage business growth.
- Access to existing funds (such as AFPPF, Social Funds, etc.) (see Inset 38.)

- Facilitate the provision of infrastructure and social services, by involving the private sector, the cooperatives and the communities through a range of operational service delivery partnerships (outsourcing public works).<sup>58</sup>
- Open government procurement opportunities to all elements of the private sector, including cooperatives
- Facilitate the provision of a set of basic services and small scale infrastructures to fishers, such as fish processing facilities, fish landing sites, ice production and the like.

**c) CONCERNING THE MFW AND ITS ROLE IN SUPPORT TO SMALL-SCALE FISHERIES**

170. To accompany the new management and development paradigm on small-scale fisheries, the MFW will be increasingly led to:

- Promote in a pro-active manner the involvement of the private sector in key areas of the SSFs, such as quality, control, surveillance, fisheries management, and trade development and strategy; repairs of boats and engines; ice production;
- Strengthen the role of the Fisheries Cooperatives Union and build its technical and managerial capacities, especially in order to assist fisheries cooperatives to create a self-sustaining fisheries management, technical and production capacity;
- Support and implement an integrated and coordinated fisheries management system, in order to manage artisanal and industrial fisheries – through appropriate regulations to substantially reduce the role of industrial fisheries

**Inset 38: The Yemeni Social Fund for Development (SFD)**

The main goals of the Yemeni Social Fund for Development (SFD), established in 1997 as an administratively and financially autonomous agency, are to alleviate poverty and improve the living conditions of poor Yemenis by providing basic social and economic services—including education, health care, water supply and microfinance—creating job opportunities and building the capacity of its local partners.

The SFD uses innovative participatory approaches that enable communities to identify their needs, set priorities and participate in all phases of the project cycle—ensuring that its projects meet the real needs of communities. Its goals are achieved through three main programs:

- The *Community Development Program*, which develops social and economic infrastructure and improves access to basic services.
- The *Capacity Building Program*, which builds the capacity of local partners such as communities, nongovernmental organizations (NGOs), government agencies, consultants and contractors.
- The *Small and Micro-enterprise Development Program*, which focuses on providing microfinance services— through intermediaries such as NGOs—and developing financial and non-financial services for small entrepreneurs.

Since its creation, the SFD's projects have reached about 7 million direct beneficiaries—about half of them female—and generated 10 million days of employment. The SFD has indirectly affected the fishery sector by investing its financial resources (about 167 million US\$) in education (61%), water (19%), health (10%), rural roads (7%), and micro-finance (2%).

(Source: [www.sfd-yemen.org](http://www.sfd-yemen.org))

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<sup>58</sup> Recent thinking 'local economic development' points out that local governments, outside the public works and procurement policies, are most effective where they facilitate the provision of support by specialist service providers, whether public, non-governmental or private, rather than trying to take these roles on itself.

- Promote legal and regulatory frameworks providing a formal role to fisheries cooperatives and to the private sector in a number of activities.
- Liaise with the Ministry of Local Administration (MOLA) in order to delegate to local governments a key leadership and necessary authority in the governance, management and development of SSFs.
- Liaise with MWE to develop a long-term vision of fisheries resources development, through the full involvement of all local stakeholders, and the control of the industrial fisheries.
- The role and function of the General Department for Corporation and Cooperatives should perhaps be increased to better cover the social and economic aspects of fishermen, beyond the support to formal cooperatives.

**d) CONCERNING THE 'CO-MANAGEMENT'**

171. Current thinking on environmental governance and management of natural resources emphasizes the importance of different forms of 'co-management' among stakeholders. Two types of co-management are in principle possible:

- (i) the government consults fishers before introducing regulations; or
- (ii) the fishers, with advice from the government, design, implement and enforce laws and regulations.

172. An effective 'co-management system' should perform the same functions as any fishery management process (such as develop goals for resource conservation, develop rules to allocate resources between competing interests, monitor the status of fish stocks, and ensure the enforcement of rules and the resolution of conflicts).<sup>59</sup>

173. In addition, the co-management paradigm should be based on three basic principles:<sup>60</sup>

- *Subsidiarity* by which all planning and implementing activities is the responsibility of the level closest to the grass-roots, because of the comparative advantage of each institution (a higher authority would act only if a lower authority cannot act or has proven its incapacity to act). Thus, according to this principle, in order to be effective, fisheries management should be done on a small ecological scale, needs to be designed to fit this smaller scale, and should focus on local-level management, decentralization of management authority and responsibility.
- *Complementarity*, by which each institutional level will operate in its own areas of action according to its own responsibilities and the principle of 'tangled powers', (whereby the same area of action may be affected by different institutional levels, in a different manner but at the same time);
- *Equity*, by which the rights over local resources of all local stakeholders are legally recognized and legitimized.

174. As the Diagram 39 points out, a 'co-management organigramme' puts stakeholders together, not in a competitive way, but as members of a network. In this context, responsibilities (for instance, those of the central government and of local governments in the establishment of regulatory frameworks) may overlap, provided that clear 'spheres of governance' are defined.

175. There is no blueprint for an effective co-management, but a variety of arrangements from which to choose to suit a specific context.

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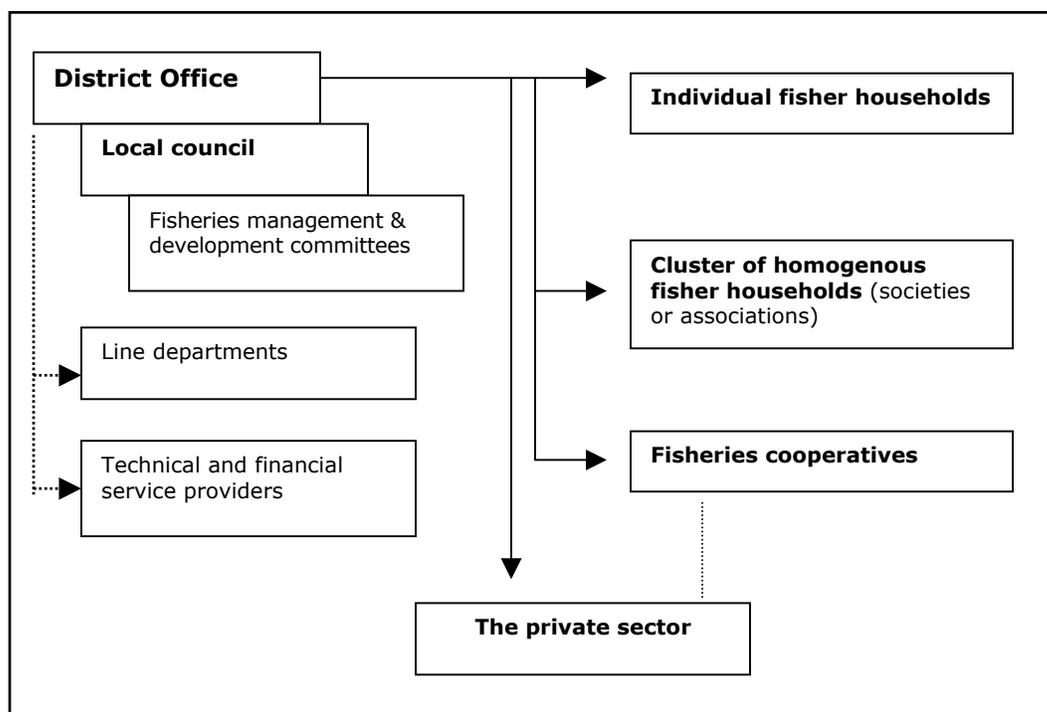
<sup>59</sup> Hanna, 1998

<sup>60</sup> See Bonfiglioli, 2003

176. Co-management should be viewed as a participatory and flexible process of resource management, through a learning process, whereby information is shared among stakeholders. It is a management strategy that provide and maintains a forum or structure for actions on participation, rule making conflict management, power sharing, leadership, dialogue, decision-making, negotiation, knowledge generation and sharing, learning, and development among resource users, stakeholder and government.<sup>61</sup>

177. It should be pointed out that in principle co-management should not constitute a major problem in Yemen, because an impressive range of associations and activities emerged in the second half of this century (these including labor unions, self-help projects, development cooperatives, clubs, private schools, welfare associations, political parties, discussion groups and publishing ventures such as newspapers, and political pamphlets).<sup>62</sup>

**Diagram 39: The co-management framework at the local level**



**e) CONCERNING BUILDING LOCAL CAPACITY**

178. Capacity building and strengthening is a major cross-cutting issue for all the stakeholders:

- Private fishermen for their more active involvement in all the aspects of the fishery industry, as service providers (carpenters, mechanics, etc.), for processing and transporting fishery products, as well, when this is possible, in extra-fisheries activities (irrigated agriculture, animal husbandry, handicraft, etc.).

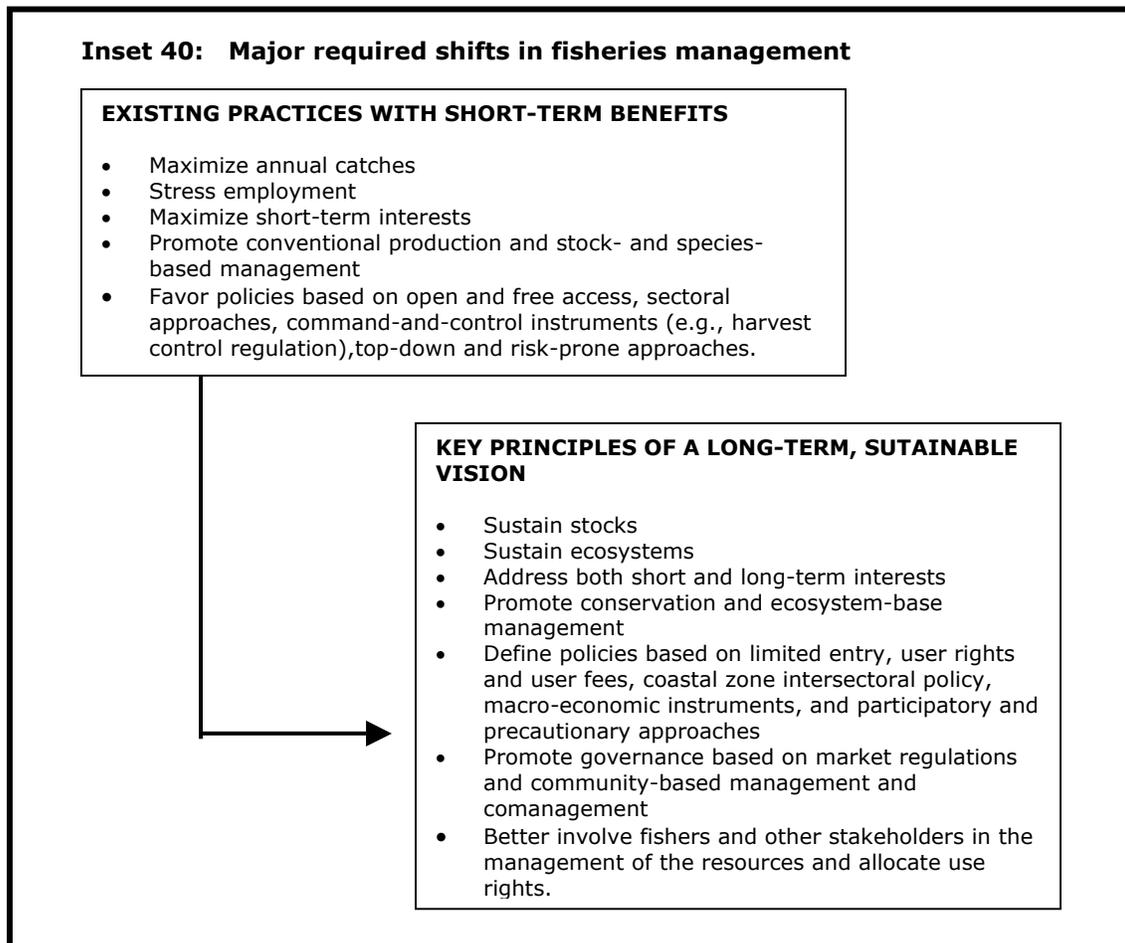
<sup>61</sup> Berkes et al., 2001

<sup>62</sup> Carapico, 1998

- *Fisheries cooperatives* for their actual and potential in the identification, design, implementation and monitoring of development activities as well as in the provision of some technical services to their members.
- *Local governments* in their specific role to plan, programme, budget, implement and monitor different aspects of local development as well as to exercise legality controls. This comprises their capacity to respond to local needs and priorities; their capacity to provide technical and financial support and their capacity to deliver services at low cost.
- *Line governmental services* (both at governorate and district level) in their role to provide appropriate technical support to local authorities and community organizations.

**f) CONCERNING THE PLANNING EXERCISE**

179. At present, as previously mentioned, planning procedures and mechanisms are very weak at the fisheries cooperative level. Investment is operated on an *ad-hoc* basic, micro-project by micro-project. Even the most active cooperatives, let alone individual fishers, when asked about the future, obviously give a wide ranging *wish-list* of priority needs, or a 'shopping list' of varied, and often ill-assorted, initiatives which lack a vision of development (the most common of these initiatives being the following: construction of fuel stations, workshop to repair boats, auction centers, ice plants, and the like). Inset 40 present major aspects of the necessary shift in fisheries management that should inform a new holistic and comprehensive planning.



180. In addition, the Inset 41 provides an indicative structure of a comprehensive fisheries management plan (a concise document of 10 to 15 pages), which could guide the planning exercise of cooperatives and societies of fishers.<sup>63</sup>

**Inset 41:**

**Indicative structure of a fishery governance,  
management & development plan at local level**

1. **RESOURCES:** Identification of resources, assessment of the state of the resources, and resource estimation, quality and boundaries
2. **STRATEGIC PRIORITIES:** Identification of local major strategic priorities, in the light of sectoral policies
3. **STAKEHOLDERS:** Identification of major stakeholders in artisanal fisheries (local authorities, line departments, user groups, cooperatives, service providers, and the like)
4. **CO-MANAGEMENT AGREEMENTS:** Definition of clear and specific roles, functions, rights, and responsibilities of all institutional stakeholders.
5. **MANAGEMENT OBJECTIVES:** Establishment of a set of management priority objectives in the following domains: fish harvesting, discarding, processing, and marketing; investment options; quota and transferable quota; reserved areas; seasonal regulations; data gathering; market regulations, education & capacity building, etc. Management objectives will conform to basic principles, such as: ecological sustainability, socio-cultural acceptability, financial viability, technical feasibility and management viability.
6. **INVESTMENT PLAN:** Establishment of a pluri-annual investment plan, reflecting strategic priorities and management objectives, which includes a logical framework (with expected outputs, specific targets, activities and performance indicators, as well as specific responsibilities)
7. **BUDGET:** Definition of financial inputs on the basis of internal and external resources (both current and potential)
8. **PROCEDURES:** Establishment of a set of procedures related to rule-making, decision-making, procurement, co-management arrangements, conflict prevention, minimization of fishing-related risks, management & solution, and enforcement of decisions. These procedures will reflect basic principles of good governance, such as transparency, efficiency, accountability, participation and equity.
9. **MONITORING & EVALUATION:** Establishment of mechanisms aimed at collecting and updating data (especially on the status of fish resources); monitoring, control and surveillance mechanisms; evaluation of results, according to clearly established performance indicators.

**g) CONCERNING PARTNERSHIPS AND STRATEGIC ALLIANCES**

181. This approach for a comprehensive management and development of SSFs will require strong partnerships and strategic alliances with a variety of on-going and future projects and programmes.

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<sup>63</sup> A detailed fisheries management plan was prepared for Socotra and the Socotra archipelago in 2001 as part of the GEF-funded project on the Conservation of the Biodiversity of the Socotra Archipelago. Although the plan was never implemented, it could also serve as a model for other FMPs in Yemen.

182. Two examples are provided below: the first from an existing project supporting decentralized local authorities (Inset 42); and the second from a future project supporting an integrated approach to coastal management and development (Inset 43).

**Inset 42: Supporting the role of Local authorities in local development**

An UNDP/UNCDF project aims, with the collaboration of several donors (among them the European Union and USAID) at building the required capacity of the newly established Local Authorities, in selected governorates and districts. This project, known as the "*Decentralization and Local Development Support Project*" (DLDSP), signed in July 2003 with the Ministry of Local Administration (MOLA), aims at achieving the following key objectives:

- Articulating a national strategy to guide decentralization reforms;
- Developing a local capacity building programme for MOLA, with support to its implementation from donors;
- Improving the policy and legal framework for inter-governmental fiscal transfers;
- Developing and testing technically sound and participatory procedures for district-level public expenditure management; and
- Establishing pilot structures and systems for state and civil society support at central and local levels that hold local authorities accountable.

During its initial phase (2004-2005), the DLDSP has covered 6 Districts in two Governorates. With additional funds from the Social Fund and USAID, the project will now be able to increasingly extend its activities to a total of 24 Districts.

Within the context of this project, Districts, by meeting a number of conditions, may access to a local development funds, which is calculated according to an allocation formula, which takes into account several criteria. The estimate average allocation per district is around 18 million YR (about 98,000 US\$/ per year), in addition to the fiscal transfer from the central government (also amounting at about 18 million YR). Most of the District covered by the first phase (among them some coastal districts, such as Al-Mukha and Burum) have already prepared and approved detailed local development plans.

**Inset 43: Integrated coastal management**

With the financial contribution of other donors, UNDP is in the process of formulating a new project on '*Integrated coastal management for sustainable development and conservation of the Yemeni Red Sea*'.

The proposed programme adopts an innovative strategy, essentially leveraging:

- (a) overarching policy frameworks and processes for sustainable development and conservation;
- (b) top-down optimization and enhancement of the marine resource based, coastal economy;
- (c) bottom-up rural development and mobilization programmes for coastal and fishery communities.<sup>64</sup>

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<sup>64</sup> UNDP, 2004

### 5.3 Towards an operational framework for a fisheries project

183. In the light of the findings of the previous assessment, the present report includes a preliminary proposal to integrate into the existing matrix of objectives and strategies of the Fisheries Conservation and Management Project (FCMP) an additional component directly related to the SSFs (or, alternatively, to improve the formulation of the fifth component, by better stressing a community-driven type of development and the importance of coherent and comprehensive planning at local level, by involving all local stakeholders).<sup>65</sup>
184. The proposal of the present report is based on the assumption that, under the present matrix, the specific issues related to the governance, management and development of SSFs are unlikely to be addressed in a satisfactory and sustainable manner.
185. The proposal of the present report is in line with the vision of poverty reduction defined by the PRSP. It also reflects the general principles of the Community-Driven Development (CDD) approach, which the World Bank is increasingly supporting in different parts of the world.<sup>66</sup>
186. The proposal (whose matrix is presented in Table 44) highlights the importance of a number of long-term strategies and policies, such as:
- A better definition of the key role of local governments in local social and economic development, in general, and in fisheries management, governance and development, in particular. In the current Yemeni political and institutional context, the role of local government is highlighted and enhanced by the 1999 Local Authority Law (and confirmed by the 2001 local elections), which transfers power and budgetary resources to local governments and consolidates local authority for planning, development, and administration into one elected body: the municipal council.
  - The definition of an institutional framework aimed at creating and strengthening the organizations of good governance and defining adequate co-management rules and regulations concerning the access to and use of fisheries resources. Among these organizations, formal current and future fisheries cooperatives as well as informal associations of fisher households (pre-cooperatives).
  - The acknowledgement of the essential prerogatives of local governments in the provision of collective infrastructures and public social services, and the importance of necessary reforms aimed at modifying the current responsibilities of semi-public entities (such as the NCSFM, e.g., in the domain of provision of water and electricity).
  - The emphasis on the strategic assumption that effective local government is crucial for the sustainable livelihood and well-being of fisher groups and for improving the dialogue between local institutions, civil society and the private sector;

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<sup>65</sup> The present FCMP matrix includes five components: (i) assessment of marine resources and management & control of these resources by MFW; (ii) administration and management of the sector by MFW; (iii) quality control of fish products; (iv) coastal infrastructure; and (v) support for commercial activities and services for fishermen in rural areas (this component includes the creation of an effective enabling framework for cooperative union and individual cooperatives) (World Bank, 2004).

<sup>66</sup> The '*Community-Driven Development*' (CDD) approach was designed to complement the efforts of sectorial programmes by harnessing the considerable social capital of communities (geographical entities) or groups with common interest (groups and associations). The CDD operates 'on the principles of local empowerment, participatory governance, demand-driven responsiveness, administrative autonomy, greater downward accountability, and enhanced local capacity' (see: [www.worldbank.org](http://www.worldbank.org)).

- The participatory preparation of fisheries management and development plan at local level, under the supervision of local authorities and the collaboration of district officers, as an integral part of a more comprehensive local development plan. A FMP will also specify the nature and characteristics of local 'co-management'.
- The need to sustain new forms of fisheries cooperatives, more focused on conducting business operations (while highlighting the specific social and economic roles and functions of local authorities, line departments and the private sector).
- The importance of institutional arrangements aimed at helping the adoption by fisheries cooperatives of a independent and self-reliant business model.
- The emphasis on a set of reforms and arrangements, which should contribute to remove the barriers and constraints, which block cooperatives from entering and competing in the market economy.
- The strategic role of an earmarked funding facility specifically addressing fisheries management & development-related initiatives and aimed at increasing the capital investment capacities of local governments (to be experimented on a small-scale) - local government's investment capacities being currently limited.<sup>67</sup> Local governments (and local user groups) would access to this fund only if they meet a number of minimal conditions, including the preparation of a comprehensive local development plan comprising a fisheries management plan. It should also be pointed out that the establishment of the fund should take into account the policy of the Ministry of Finance of not allocating additional resources to local governments for maintenance costs. However, in the specific case of fisheries, this problem could be solved through institutional arrangements between local governments, on the one hand, and fisheries cooperatives and the private sector, on the other hand (concerning different forms of leases or of sub-contracts for maintenance and up-keeping).<sup>68</sup>
- The crucial importance of re-thinking the management of artisanal fisheries in a more comprehensive and coordinate way. What matters is not just the definition of quotas and the creation of landing sites or ice factories. Fisheries development should be considered as part of a 'local economic development' paradigm.
- Finally, the proposal is based on the unifying notion of *enablement*:
  - (i) political enablement, with new relationships established among a variety institutional stakeholders, within the context of reforms supporting democratic decentralization;
  - (ii) market enablement, whereby a set of coordinated initiatives aims at making markets working better and at strengthening fisheries artisanal enterprises;
  - (iii) community enablement, whereby concrete measure are taken in order to strengthen fisher community organizations and group users (including women associations), through participatory planning and decision-making.

187. Within the timeframe of the future IDA-supported FCMP, the proposed community-development component could be started on an experimental basis and would strengthen strategic partnerships with other programmes and/or projects. A number of factors would then trigger an up-scaling of the approach in the second phase.

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<sup>67</sup> These investments are made possible by fiscal transfers from the central government (at present, transfers to districts represent about 0.8% of national revenue, in addition to transfers for salaries of local staff) and by local revenues.

<sup>68</sup> For the World Bank, the provision of a untied fund to local communities and user organizations (through local government) would thus allow the FCMP to integrate some characteristics of a Community-driven development (CDD) project.

**Table 44:**

**Proposed matrix for a small-scale fisheries component of the FCMP**

OBJECTIVE	STRATEGIES	POLICIES	INSTITUTIONAL DEVELOPMENT	INVESTMENT PROGRAMS
<p><b>1. Improve the governance, the management and the development of small-scale fisheries</b></p>	<p>1.1 Strengthen the capacities of local stakeholders to plan, implement, manage, finance, and maintain fisheries activities</p>	<p>Better define the roles and functions of Local Authorities in local development, in general, and in fisheries governance, management &amp; development, in particular.</p> <p>Define institutional linkages between MFW, MWE and MOLA to coordinate the preparation of local development plans and FMPs</p> <p>Redefine roles and functions of NCSFM in artisanal fisheries</p> <p>Develop the capacity of fishery department at district level (in selected districts)</p> <p>Strengthen the planning capacities of the Fisheries Cooperatives Union</p> <p>Provide legal backup and institutional framework to a system of co-management of fisheries resources at local and national level</p> <p>Stress linkages between fisheries development policies and poverty reduction poverty (see PRSP).</p>	<p>Strengthen the technical capacities of the District administration (with executive officers/expert on fisheries &amp; cooperatives in a number of Districts)</p> <p>Develop cooperation &amp; partnership with programs &amp; projects supporting Local authorities' planning and budgeting</p> <p>Enabling market institutions</p>	<p>Train selected stakeholders on planning, fisheries management planning, financial and technical management, and governance</p> <p>Participatory preparation of experimental fisheries management plans FMPs, (as part of local development plans, prepared by Local Authorities) with the assistance of the fishery department, within the context of more comprehensive coastal area management plans</p> <p>Define mechanisms and procedures for co-management of fisheries resources</p> <p>Coherent initiatives aimed at providing a sustained support to poor households living on the coastal areas (professional training, diversification of household economy, alternative livelihoods, etc.)</p> <p>Technical assistance to MFW and FCU</p>

<p>[1. Improve the governance, the management and the development of small-scale fisheries]</p>	<p>1.2 Define and create a financial facility aimed at allowing local stakeholders to make sustainable investment in artisanal fisheries on the basis of comprehensive fisheries management plans (FMPs)</p>	<p>Strengthen decentralized mechanisms in SSFs development, by delegating financial resources &amp; managerial responsibilities to Local Authorities.</p> <p>Strengthen decentralized mechanisms for procurement and disbursement of earmarked funds</p> <p>Define financial arrangements with the AFPPF and SFD</p> <p>Define minimum conditions allowing Districts to access funds &amp; criteria concerning access to and use of allocations by cooperatives and other institutional stakeholders (user groups or interest associations)</p> <p>Define guidelines for annual evaluation of institutional performance of concerned stakeholders</p>	<p>Define legal framework with Ministry of Finance</p> <p>MoU between Districts and fisheries cooperatives &amp; the private sector for the delegation of responsibility in the provision of specific services (maintenance and up-keeping of specific infrastructures, data gathering, monitoring and evaluation, etc)</p>	<p>Creation of earmarked fund on fisheries governance, management &amp; development (on a limited number of Districts in coastal areas) (*)</p>
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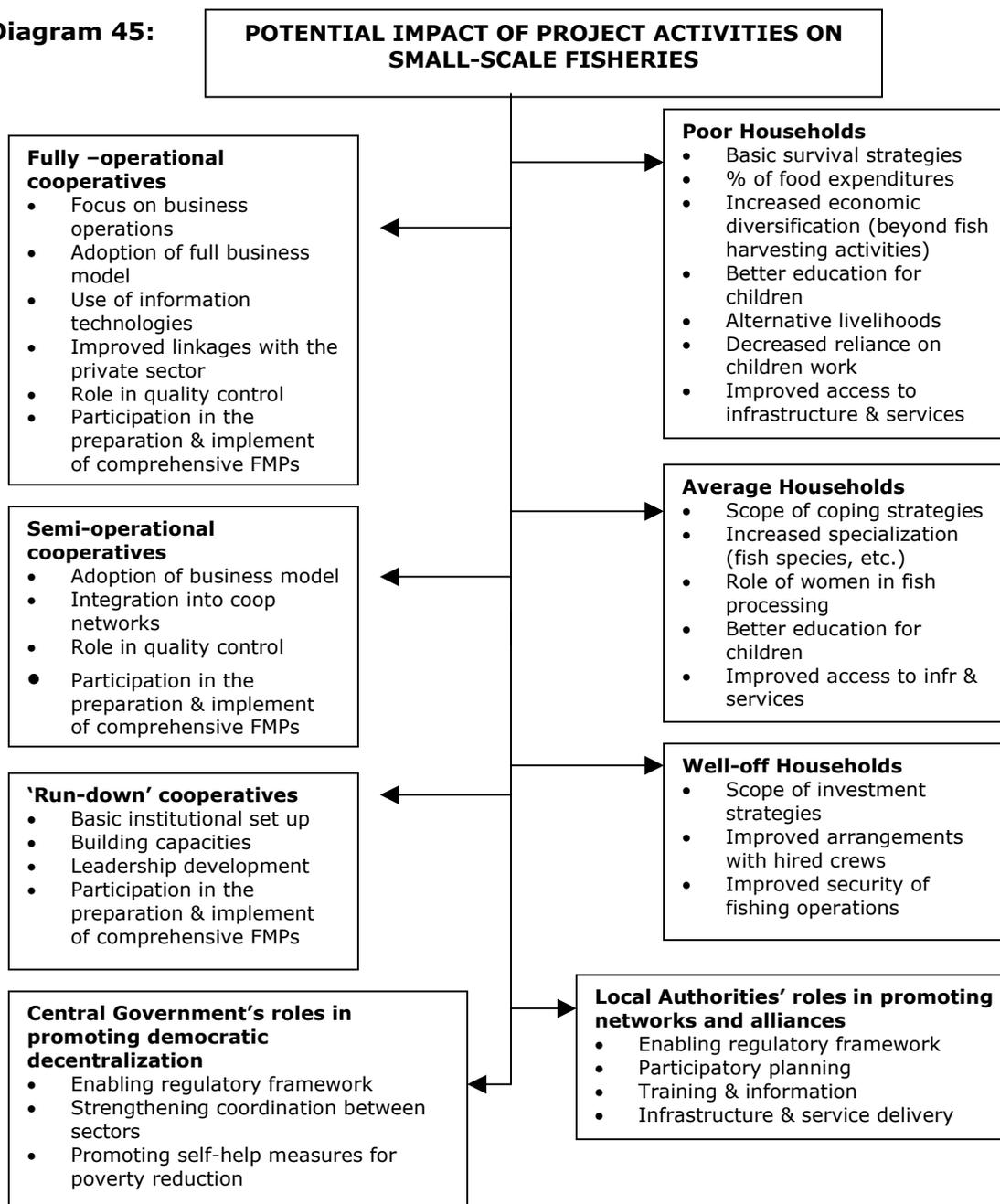
(\*) This report recommends that, during its first phase, the FCMP should cover only a limited number of pilot Coastal Districts: 10 coastal Districts (4 from Red Sea coast, 5 from Gulf of Aden coast and 1 from Socotra), with a total population estimated at about 800,000 people.

- The proposed '*Small-scale fisheries development fund*' could be an earmarked facility of about US\$250,000 per District over 4 years (i.e, a total facility of 2,5 million US\$ to be allocated to the 10 pilot districts according to an equitable formula): each District would thus know its own nominal annual allocation, in order to define its 4-year investment plan for fisheries-related initiatives.
- An '*Operation Manual*' would define the minimum conditions allowing each District to access to the earmarked fund, such as: presence of an MFW/expert at the district level; preparation and approval (by Local Authorities) of an FMP integrated into local development plans; efficient disbursement and allocation of fiscal transfers from the Central state to local districts through the Governorate; financial contributions from the Governorate to the earmarked fund (for instance, from the '*Sanduq Wadhafa*' (or 'cleaning fund'), - a fund directly managed by a Governor - for hygienic measures linked to fishery products processing and marketing etc.). The Operation Manual would also define eligible investments, eligible beneficiaries, matching contributions by beneficiaries, etc.

**Impact on institutions and livelihoods**

188. The Diagram 45 provides some indications on the best ways of assessing and monitoring the impact of the project activities on small-scale fisheries and the livelihoods of their households. The diagram separates different impacts on different stakeholders and, within each stakeholder it identifies a number of specific variables. This scheme could easily be developed into a complete set of indicators for monitoring and evaluation. Data would be regularly collected through 'rapid socio-economic assessments', by adopting the basic methodology used by the present preliminary assessment (see Section 2 and Annex 1).

**Diagram 45:**



## 6

## General conclusion

189. In Yemen, in spite of all the multiple problems faced by SSFs, it is widely recognized that they can provide a growing contribution to national economy, while improving food security of the population, reducing poverty, and generating wealth.
190. The MFW has recently confirmed its position concerning the relationships between the industrial and the artisanal sectors and has stressed the economic role of small-scale fishers. Its policy clearly states that in the future, industrial fishing will only be allowed on stocks and in areas that are not being adequately exploited by the small-scale and intermediate size fishing boats.
191. In addition, the World Bank's '*Fisheries Sector Strategy Note*' for Yemen highlights the importance of a gradual transfer of the responsibility for coastal fish resources to local communities, and of adequate measures to prepare and assist those communities to responsibly execute such role.
192. In this favorable political environment, by benefiting from appropriate reforms and regulatory frameworks, the different stakeholders - local authorities, fisheries cooperatives, community-based user groups, line departments and the private sector - can work together to jointly create an enabling economic environment. They can manage existing fisheries resources in a concerted and sustainable manner, and put in place an appropriate institutional architecture, in order to reduce poverty, stimulate the economy, and increase economic growth and employment.



## Appendixes

### Appendix 1: Little English – Yemeni Arabic Glossary of basic fisheries-related terms (\*)

Auction:	Haraaj
Auctioneer:	Muharrrij
Auction place:	Makan al-haraaji
Bay:	Khor
Boat	
<i>Medium:</i>	Huri
<i>Bigger Huri</i>	Qadhifa
<i>Large:</i>	Sanbuuq
Broker:	Dallaal
Clan:	Fakhd
Community:	Mugtama'at
Cooperative:	Ta'aawuniyyat
<i>Fish. coop.:</i>	Ta'aawuniyyat samakiya
Coastal area:	Saahil
District:	Mudiriyah
District Manager:	Mudiir
Elder:	Akel
Family:	Usra (beyt)
<i>Head of family:</i>	Rab al-usra
Fish:	Samak
<i>Dry fish:</i>	Samak mugaffaf
Fisher:	Sammak (or: sayyad)
Fisheries:	Masawed (asmak)
Fisheries cooperatives:	Ta'aawuniyyat samakiya
Fisheries society:	Jameyyah samakiya
Governor:	Muhafez
Governorate:	Muhafaza
Hamlet:	Mahallah
Household:	Beyt (usra)
<i>Head of hhd:</i>	Rab al-usra (rab al-beyt)
Ice:	Thalj (or: barad)
Inland:	Baadiya
Kingfish:	Dairak
Landing site:	Makan al-inzal
Line (fishing):	
<i>Handlining:</i>	Gandala (or: nafla)
<i>Surface longline:</i>	Shakka sala
<i>Bottom longline:</i>	Shakka Qaa'i
<i>Trolling line:</i>	Tashweet

Local council:	Majlis mahalli
Market:	Suq
Monsoon (season):	
<i>June to Sept.</i>	Shemal
<i>October to May</i>	Azyiab
Net (general):	Shabak
<i>Cast nets:</i>	Magdafa
<i>Gill nets:</i>	Shabak khaishuum
<i>Surrounding net</i>	Tahleeq
Pilot (boat):	Rubban (or: nakhuda)
Poor:	Faqiir ( <i>pl.</i> fuqaraa)
Poverty:	Faqr
Port:	Mina'a
Private sector:	Kita' a Khas
Retailer:	Qatha'a
Rock lobster:	Shuruk Sakhri
Sardine:	Aida
Sea:	Bahhr
Sea cucumber:	Kheiar Al-bahhr
Shark:	Lokham
Shrimps:	Rubian (or: gambari)
Trader:	
<i>Authorized agent:</i>	Wakiil
<i>Middleman:</i>	Dallaal
Trap (lobster):	Sakhawi (or: fikhakh)
Tribe:	Qabiila
Tuna :	
Yellowfin tuna :	Thamad
Bliefin tuna :	Shirwa
Village:	Qarya ( <i>pl.</i> Qura)
Valley:	Wadi
Water catchment:	Masaqit al-miah

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(\*) *For different types of nets and lines see Inset 6, Section 3*  
*For fish species, see Table 9, Section 3*



## APPENDIX 2:

### List of persons met during the assignment

#### Sana'a

H.E. Dr. Ali Mohammed Mugawar, Minister of Fish Wealth  
Mr. Hashem G. Al-Shami, FAO Representative in Yemen,  
Mr. Ibrahim Thabet, FAO, Assistant Representative  
Mr. Naji Abu-Hatim, Sr. Rural Development Specialist, The World Bank  
Mme Flavia Pansieri, UNDP Resident Representative  
Mr. Fouad Ali Abdulla, UNDP, Team Leader Natural Resource Management  
Mr. Isam S. Luqman, General Director, Agricultural & Fisheries Production Promotion Fund (AFPPF)  
Mr Aladeen Shawa, CTA, Decentralization and Local Development Support Project (UNDP/UNCDF project, MOLA)  
Mr. Hasson M. Muhaimdan and Awadh Saeed & their colleagues at the FCU  
Mr Edoardo Zandria, Socotra Conservation & Development Project (UNDP)

#### Ta'izz

H.E. Mr. Ahmed Abdulla Al-Hajri, Governor of Ta'izz.  
Mr. Omar Awadh Subeeih, General Director of the 4<sup>th</sup> Fisheries Development Project,  
Mr. Mohammed Abdulsalam Al-Dahdali, Director general of MFW office  
Mr. Khattaab, Decentralization and Local Development Support Project (UNDP/UNCDF)

#### Al-Mukha

Mr. Muhammad Abullahi Al-Hasili, member of Local council and president of the Ziyaadi Cooperative  
Mr. Salla Zayed Bakri, Chairmna of Mokha Cooperative with other members  
Mr. Abdalaah Al-Usaili, Chairmna, Al-Riaidi Cooperative with other members  
Mr. Abdo Shermani, Chairmna Al-Matrah Bab-el-Mandab cooperative with other members  
Mr. Abdul Ilah M. Awadh, Sectretary General al-Hakam Fishing Society  
Fishermen representing several fisher communities around Al-Mukha

#### Dhubaab

Mr. Ali Alawi, Deputy District Director, Bab-el-Mandeb District  
Abdul Kareem Ahmed Andallah, Chairman, Najmat Al-Bihar Cooperative  
Abdo M. Al-Shurmani, Chariman, Matrah & Swaida Cooperative, Bab el-Mandab  
Fishermen representing several smaller villages around Dhubaab

#### Salif (Hodheida)

Mr. Ali Ibrahim Shawk, president of the Salif Fishermen cooperative, Salif  
Mr. M. Mukhtar, Secretary General As-Salif Cooperative  
Several auctioneers and traders in the auction place

#### Hodheida

Mr. Uwe Zajonz, CTA, UNDP-GEF "Protection of Red Sea Ecosystems' project  
Mr. Murthada Alwan, Director General

#### Mukalla

Mr. Salem Al- Ghurayyeb, Director General MFW Branch –Hadhramut  
Mr Nader Bawazir, Deputy Director General MFW Branch Hadhramut  
Mr Ali Bin Shuba, Chairman FYC and Chairman of Mukalla Fishers Cooperative (MFC)  
Mr. Khaled Balaffair, Decentralization and Local Development Support Project (UNDP/UNCDF)  
Mr. Omar Saeed Bamuzahem, Chairman of Burum Fishers Cooperative (Branch of MFC)  
Mr. Saeed Bamarzook, Head of Statistics Department of MFC  
Mr Omar Thambeet, Director General of Ministry of Social Affairs and Labor (MSAL) Branch in Hadhramut  
Mr. Salem Ribaki- Head of Fisheries Societies section (MSAL) office Hadhramut

**Burum**

Mr Awadh Bahanhan- Director General Burum and Maifa' District- Chairman of Local Council

Mr .Awadh Khamis- Secretary General of the Local Council

Mr. Mohammad. Omar Basulum- Chairman of Burum Fishers Society

Groups of people representing fisher communities of the Burum & Mayfa' District

**Rome (by phone)**

François Dauphin, Chief, TCIE Service, Middle-East, North Africa, Europe and Central Asia, FAO

**Washington (by phone)**

Mrs. Mesky Brhane, Social Scientist, Water, Environment, Social & Rural Development Department, The World Bank

**Appendix 3 :**  
**Small-scale fisheries: A research tool (from Excel file)**  
*(Automatic calculations in gray cells)*

<b>AREA 1 :</b>		
<b>COMMUNITIES:</b>		
<b>Type of Household: AVERAGE Household</b>		
<b>HOUSEHOLD LABOR</b>		
Average hhd size		#
# of hhd members with education of >10 years in school		#
# of hhd members with education of 5-10 years in school		#
# of hhd members with education <5 years		#
# of hhd members with no formal education at all		#
# active hhd members in fish catching		#
# active members in fish processing		#
# active members in marketing		#
# active members involved in waged labor (High S)		#
# active members involved in waged labor (Off seas)		#
# of years in fishing (hhd's head)		#
# of hired crew members (High season)		#
# of hired crew members (Off season)		#
Cooperation with cluster of hhds (or: associations)		Y/N
Membership in cooperative		Y/N
Women participating in fish harvesting		Y/N
Women participating in fish processing		Y/N
Women participating in fish marketing		Y/N
<b>HOUSEHOLD'S ASSETS</b>		
# of owned small Huri fiberglass		#
# of owned medium Huri		#
# of owned medium sanbuuq		#
<b>Value of owned boat (fiberglass)</b>	<b>0</b>	<b>Rs</b>
<b>Value of owned boat (medium Huri)</b>	<b>0</b>	<b>Rs</b>
<b>Value of owned boat (medium sanbuuq)</b>	<b>0</b>	<b>Rs</b>
<b>Total value of boats owned</b>	<b>0</b>	<b>Rs</b>
# of days of renting Boat 1 (fiberglass)		#
# of days of renting Boat 2 (sambuk)		#
# of days of renting Boat 3 (Huri)		#
# of owned OMB for small Huri (fiberglass)		#
# of owned OMB for medium Huri		#
# of owned engine for medium sanbuuq		#
Value of OMB for small Huri	<b>0</b>	Rs
Value of OMB for medium Huri	<b>0</b>	Rs
Value of engine for sanbuuq	<b>0</b>	Rs

<b>Total value of engines owned</b>	<b>0</b>	<b>Rs</b>
Ownership of gears, nets, hooks, etc		Y/N
Value of equipment for small Huri		Rs
Value of equipment for medium Huri		Rs
Value of equipment for sanbuug		Rs
<b>Total value of gears owned</b>	<b>0</b>	<b>Rs</b>
Facility for ice on boat		Y/N
Facility for reserve of fuel on boat		Y/N
<b>HOUSEHOLD'S FINANCE</b>		
Loan scheme from bank / gov		Y/N
Interests from bank loan		YN
If YES, how much		%
Loans from private		Y/N
Interests from private loans		Y/N
If YES, how much		%
Average amount of loans from bank / gov		Rs
Average amount of loans from private people		Rs
<b>TECHNICAL ASPECTS OF FISHING</b>		
Average distance of fishing grounds (High season)		hr
Average distance of fishing grounds (Off season)		hr
# of Kg of ice needed (High season)		kg
# of Kg of ice needed (Off season)		kg
Cost of ice per fishing expedition		
Number of fishing trips (total high season: day time)		#
Number of fishing trips (total high season: nighttime)		#
Number of fishing trips (total high season)	0	#
Number of fishing trips (total off season: day time)		#
Number of fishing trips (total off season: nighttime)		#
Number of fishing trips (total off season)	0	#
Number of fishing hours (total high season: day time)		hr
Number of fishing hours (total high season: nighttime)		hr
Number of fishing hours (total high season)	0	hr
Number of fishing hours (total off season: day time)		hr
Number of fishing hours (total off season: nighttime)		hr
Number of fishing hours (total off season)	0	#
		#
<b>FISHING PRODUCTION</b>		
<b>FISHING: Estim total catch per month (High Season)</b>		kg
<b>FISHING: Estim total catch/month (Off season)</b>		kg
Proportion of fish production consumed by hhd		%
Proportion of fish processed by hhd (smoke, etc.)		%
Proportion of catch bought by traders at auction place		%
Proportion of wasted catch or discarded catch		%

**Small-scale fisheries in Yemen**

<b>AGRICULTURAL ACTIVITIES</b>		
# of members involved in agricultural activities		#
# of agricultural workers hired		#
Size of land cultivated by the hhd		ha
Size of land with cereal production		ha
Cost of agric inputs (manure, fertilizer, seeds, etc.)		Rs
Total cereal production by hhd (year)	0	kg
Size of land for cash crops (qat, etc.)		ha
Estimated cash crop production (qat)	0	kg
Estimated proportion of cereal sold (year)		kg
Estimated proportion of cash crop sold (year)		kg
<b>ANIMAL HUSBANDRY ACTIVITIES</b>		
# of members involved in animal husbandry		#
# of large stock owned by hhd		#
# of small ruminants owned by hhd		#
# of large animals sold by hhd (year)		#
# of small ruminants sold by hhd (year)		#
<b>HOUSEHOLD'S OTHER ECONOMIC ACTIVITIES</b>		
# of members involved in petty trade		#
# of members involved in handicraft		#
# of members involved in other economic activities		#
Quantity of rice consumption per day (tot hhd)		kg
Quantity of rice need per month		
Total rice hhd requirement (year)		kg
Estimated value of rice (cheap quality) needed (year)		Rs
Estimated value of rice (high quality) needed (year)		Rs
Estimated cost of daily meal for family		Rs
Estimated cost of food expenditure (year)		Rs
<b>HOUSEHOLD INCOME FROM FISHING</b>		
FISHING : Net income from sale fishing (High Season)		Rs
FISHING: Net income from sale fishing (Off)		Rs
<b>GRAND TOTAL INCOME FROM FISHING</b>	<b>0</b>	<b>Rs</b>
<b>Hhd INCOME from renting OMB</b>		Rs
<b>Hhd INCOME from renting other fishing equipment</b>		Rs
<b>WAGE LABOR</b>		
Income from fishing wage labor (High season)		Rs
Income from fishing wage labor (Off season)		Rs

**Small-scale fisheries in Yemen**

Income from other employment (year)		Rs
<b>Total income from wage labor</b>	<b>0</b>	<b>Rs</b>
<b>HOUSEHOLD INCOME FROM SALE OF PRODUCTS</b>		
From sale of cereal		Rs
From sale of cash crop (qat)		Rs
From sale of large animals		Rs
From sale of small ruminants		Rs
From sale of animal products (milk, skin, labor, etc.)		Rs
<b>Total form sale of animal &amp; anim products</b>	<b>0</b>	<b>Rs</b>
<b>Grand total income</b>	<b>0</b>	<b>Rs</b>
<b>HOUSEHOLD EXPENDITURE FOR FISHING</b>		
Cost of fuel (total trips High season)		Rs
Cost of fuel (total trips Off season)		Rs
Ice expenditure (total cost High season)		Rs
Ice expenditure (total cost Off season)		Rs
<b>Total expenditure for fishing</b>	<b>0</b>	<b>Rs</b>
<b>Total repayment of loans per YEAR</b>		Rs
<b>HHD expenditure for essential food - rice (year)</b>	<b>0</b>	Rs
<b>HHD expenditure for Education &amp; Health (year)</b>		Rs
<b>HHD Expenditure for Clothes etc. (year)</b>		Rs
<b>HHd expenditure for water (year)</b>		Rs
<b>Hhd Zakat and other religious duties (year)</b>		Rs
<b>HHD taxes &amp; Licenses (year)</b>		Rs
<b>HHD expenditure for renting agricult workers (year)</b>		Rs
<b>HHD Expenditures for social obligations (year)</b>		Rs
<b>HHD expenditures for Qat (year)</b>	<b>0</b>	Rs
<b>HHD Expenditure for agricultural inputs (year)</b>		Rs
<b>HHD other Expenditures (transport, etc.) (year)</b>		Rs
<b>GRAND TOTAL EXPENDITURE</b>	<b>0</b>	Rs
<b>BALANCE (Income - Expenditures)</b>	<b>0</b>	Rs

## BASIC COSTS

### BOATS

Price of a BOAT (small Huri fiberglass)		Rs
Price of a BOAT (medium Huri)		Rs
Price of a BOAT (medium sanbuuq) 20 t)		Rs

### ENGINE

Price of OMB (for small Huri fiberglass)		Rs
Price of a OMB (medium Huri)		Rs
Price of a engine (sanbuuq) 20 t)		Rs

### EQUIPMENT

Cost of basic equipment (small Huri)		Rs
Cost of basic equipment (medium Huri)		Rs
Cost of basic equipment (sanbuuq)		Rs

### BASIC FOOD

Rice per kg (cheap type)		Rs
Rice per kg (best quality)		Rs
Wheat (bread) per kg		Rs

### FUEL

Cost of fuel per trip (High Season)		Rs
Cost of fuel per trip (Off season)		Rs

### ICE

Cost of ice (per kg)		Rs
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### QAT

Cost of qat (daily consump family)	0	unit
Cost of qat (annual consump family)	0	Rs

Kcalories / Ratio Kc/proteins	Kcal	Ratio prot/cal
1 kg fish	1100	200
1 kg cereale	3500	120
1 kg rice	3460	70





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- الدور الإستراتيجي لتسهيل تمويلي محدد يخصص بشكل محدد لإدارة الموارد السمكية وتمييتها والمبادرات التمهيديّة المرتبطة بذلك ويهدف إلى زيادة قدرات الإستثمار الرأسمالي وقدرات السلطة المحليّة التي هي حالياً محدودة جداً

وفي الختام فإن هذا التقرير يناقش بأن المكوّن المقترح في مشروع (FMCP) يمكن البدء فيه على أساس تجريبي ويتبنى طرقاً أساسية ووسائل لبرنامج تنموي يستند على المجتمع ويؤكد على إعطاء الصلاحيات للجهات المحليّة والحاكمية المشاركة، والإستجابة المبنية على الطلب، والإستقلالية الإدارية، وإعطاء مسؤوليات وسلطات أكبر للجهات الأدنى، وتنمية وتعزيز القدرات المحليّة

ويمكن أن يتم التنفيذ لهذا المكوّن (الفرعي) في النهاية من خلال المشاركة الإستراتيجية مع المشروعات/البرامج الجارية أو الجديدة وهناك عوامل يمكن أن تطلق تعزيز وتحسين هذا التوجه في المرحلة الثانية للمشروع.



• يتم التخطيط حالياً في الجمعيات التعاونية السمكية على أساس ارتجالي عند الحاجة ad hoc ، وما يفتقر إليه - خارج قائمة المشروعات الصغيرة والاستثمارات- هو وجود رؤيا مشتركة طويلة المدى تتعلق بتنمية القطاع السمكي. إن إعداد خطط إدارة المصايد بالمشاركة: كجزء من خطط التنمية المتكاملة المحلية وفي النهاية كجزء من خطط الإدارة المتكاملة للمناطق الساحلية يجب أن تعتبر شرطاً مسبقاً للتوجه الجديد في الحاكمية وإدارة وتنمية المصايد الصغيرة ويقدم هذا التقرير بعض الاشارات الأولية لإعداد خطط إدارة الموارد السمكية ويحدد المبادئ الأساسية للرؤيا طويلة المدى

في الختام فإن هذا القسم يشتمل على مقترح أولي يهدف إلى تكامل التوصيات السابقة في مصفوفة الأهداف الحالية والاستراتيجيات في مشروع إدارة الموارد السمكية والحفاظ عليها FMCP. وعلى وجه الخصوص فإن التقرير ينشئ مكوّناً فرعياً جديداً لمعالجة المشكلات المحددة في المصايد الصغيرة ويهدف إلى تحسين الحاكمية لها وإدارتها وتنميتها ويتكوّن المقترح من استراتيجيتين أوليتين أساسيتين:

(i) تقوية القدرات لجميع الشركاء المحليين من أجل تخطيط وتنفيذ وإدارة وتمويل واستمرارية الأنشطة السمكية

(ii) تحديد وإنشاء تسهيل مالي يهدف إلى السماح لكافة الشركاء المحليين بإقامة استثمارات في القطاع السمكي الحرفي (المصايد الصغيرة الساحلية) في إطار قاعدة الخطط المتكاملة لإدارة المصايد السمكية

وتم تحديد عدد من السياسات والمبادرات التمهيديّة للتنمية المؤسسية وبرامج استثمارية لكل من هاتين الإستراتيجيتين ويسلط المقترح الضوء على أهمية إيجاد توجهات للسياسات على النحو التالي:

- تحسين المشاركة الإستراتيجية بين وزارة الثروة السمكية والوزارات والإدارات القطاعية الأخرى ووزارة الإدارة المحلية والأجهزة الحكومية الأخرى مثل صندوق الدعم الزراعي والسمكي ، والمؤسسة العامة للخدمات السمكية والتسويق، وصندوق التنمية الإجتماعية
- تحديد أفضل للدور الرئيسي للسلطات المحلية في التنمية الإقتصادية والإجتماعية بشكل عام وفي إدارة وتنظيم مصايد الأسماك ، والحاكمية، والتنمية بشكل خاص
- إيجاد (تحديد) إطار مؤسسي يهدف إلى خلق وتقوية تنظيمات الحاكمية الجيدة وتحديد قواعد وأنظمة الإدارة المشتركة الكافية المتعلقة بالوصول إلى واستخدام الموارد
- الحاجة إلى استمرارية اشكال جديدة من التعاونيات السمكية تركز أكثر على العمليات التجارية

3. أهمية المبادرات التي تستهدف تقوية وبناء الفنية والإدارية لجميع الشركاء المحليين
4. دور وضع برنامج تخطيطي فعال مبني على النتائج يسهم فيه الشركاء ويؤكد على أهمية إنشاء خطط سمكية متكاملة لإدارة الموارد السمكية بدلاً عن تحديد عدد من المبادرات الصغيرة التي تقتصر على رؤية متماسكة
5. أهمية علاقة شراكة قوية وروابط استراتيجية بين عدد من برامج المشروعات التي يجري تنفيذها والمشروعات المستقبلية والتي لا تتناول قضايا إدارة وتنظيم المصايد السمكية فحسب بل كذلك الحاكمية المحلية وديمقراطية المشاركة وتخفيف حدة الفقر

وفي ضوء ما وجدته الدراسة في الأقسام السابقة، فإن القسم الخامس – بعد تحديد معاني عدد من المصطلحات الأساسية مثل الحاكمية، الإدارة، التنمية، التنمية الاقتصادية المحلية والتنمية المؤسسية- يبرز عدداً من التوصيات الإجرائية تتعلق بالشركاء الرئيسيين مثل جمعيات الصيادين التعاونية، السلطات المحلية ووزارة الثروة السمكية كما تتعلق كذلك بأشكال جديدة للإدارة السمكية المشتركة وأشكال كافية لبناء القدرات لجميع الشركاء وبرنامج مشاركة شامل والقضايا الخاصة بالشراكة الاستراتيجية والتحالفات بسبب الخصائص المشتركة. يناقش هذا القسم مثلاً الآتي:

- هناك حاجة ملحة لتحديد الدور الأساسي للجمعيات التعاونية السمكية في ضوء المضامين الاقتصادية والسياسية والإدارية الجديدة على التعاونيات السمكية أن تركز أكثر على العمليات التجارية بصورة ديناميكية، مرنة وتوكيدية وتبني نموذج وحدة عمل تجاري business unit وتشغلها وتصبح جزءاً مكملاً للقطاع الخاص مع التوجه العملي المستقل وإجراء عمليات معتمدة على الذات وترك أدوار وأعمال محددة للآخرين ويجب إعداد القيادات وتدريبها لمهام إقتصادية محددة واتخاذ عدد من الإصلاحات التي يجب أن تساهم في التغلب على المعوقات والحوجز التي تمنع في الوقت الراهن الجمعيات التعاونية السمكية من الدخول والمنافسة في اقتصاد السوق.
- في إطار البيئة السياسية التي وجدت بموجب قانون الإدارة المحلية – حيث أقرت الحكومة اليمنية الحاجة إلى منظومة للحاكمية اللامركزية ونقلت صلاحيات موارد الموازنة وأدوار جديدة في التنمية المحلية للمجالس المحلية- فإن التقرير (الدراسة) يناقش بأن السلطة المحلية قد يكون لها دور بالغ الأهمية في تطوير المصايد الصغيرة الساحلية كجزء من مسؤولياتها في التوجه نحو التطوير الشامل والتنمية المحلية. لقد تم تحليل خمسة أدوار رئيسية للمجالس المحلية هي الشبكات وعلاقات التحالف، الأطر التشريعية والتنظيمية، التخطيط، التدريب والمعلومات، والبنية التحتية وتقديم الخدمات
- يؤكد التفكير الجاري الخاص بتوفير الحاكمية البيئية وإدارة الموارد البيئية على أهمية إنشاء أشكال مختلفة للإدارة المشتركة يشارك فيها جميع الشركاء المحليين. وتعتمد الإدارة المشتركة على عدد من المبادئ الأساسية مثل التفريع subsidiarity والتي تكون فيها كافة الأنشطة التخطيطية والتنفيذية مسؤولة المستوى الأقرب إلى أدنى الوحدات grass roots، التكاملية complementarity والتي يقوم فيها كل مستوى مؤسسي بالعمل في المجالات الخاصة به حسب مسؤولياته والمساواة equity والتي تكون فيها حقوق كل مشارك في الموارد معترف بها قانونياً

• تتسم الأسرة المتوسطة بمستوى معقول من التحمل والقدرة على النهوض واستعادة حياتها ( resilience-الرجوعية) بعد اية صدمة خارجية والأنشطة الإنتاجية لهذا النوع من الأسر مبنية على عدد من استراتيجيات التكيف تهدف أساساً إلى تقليص المخاطر إلى الحد الأدنى وتحقيق أقصى المنافع. وتنتمي حوالي 20% من أسر الصيادين في المناطق التي تم مسحها على ساحل البحر الأحمر إلى هذه الفئة بينما تساوي النسبة في مناطق خليج عدن 30%-35%.

• وتقع الأسر دون المتوسطة في موقع أضعف فيما يختص بالعمالة والأصول والموارد(الافتقار إلى القوارب ومعدات الاصطياد، بيع قوة العمل ، الافتقار إلى الاستثمارات الأساسية، إنعدام الأمن الغذائي إلى آخره) وقابليتها لعدم تحمل الصدمات الخارجية vulnerability والاستراتيجيات الاقتصادية لهذه الأسر تكون موجهة بالضرورة نحو البقاء survival وهناك حوالي 70%-80% من أسر الصيادين في المناطق التي تم مسحها على ساحل البحر الأحمر تنتمي إلى هذه الفئة بينما النسبة في مناطق خليج عدن هي 50%-55%

• أما الأسر التي هي في وضعية أفضل فوق المستوى المتوسط فهي تمتلك الأصول (قوارب ومعدات) ولديها عمالة أساساً طواقم أو بحارة مستأجرين واستراتيجية هذه الفئة تنصف بتراكم الأصول وتنوع الإستثمارات(بما في ذلك الاصطياد، والتحضير والتوزيع) والنمو الاقتصادي. وبينما 5% من أسر الصيادين على البحر الأحمر تنتمي إلى هذه الفئة فإن النسبة في حضرموت أكبر حوالي 20%-25%

كما تمت مناقشة المعوقات الداخلية والخارجية التي تواجه جمعيات الصيادين التعاونية مثل التأثير والسيطرة الحكومية، البيئة غير الملائمة، ضعف القاعدة الاقتصادية، تنوع الأهداف الاجتماعية والاقتصادية، محدودية الملكية لدى الأفراد، ضعف القيادة، غياب التركيز وثنائية المصالح الفردية والجماعية إلى آخره. وفي هذا القسم تم أيضاً تحليل المتغيرات الرئيسية التي تؤثر على معيشة الصيادين (استنزاف المخزون السمكي، النمو الساحلي السريع، تدمير الشعاب المرجانية إلى آخره) المستوى غير الملائم للتكنولوجيا، الافتقار إلى التدريب والمهارات ، والافتقار إلى تنفيذ وتطبيق القوانين.

وفي الختام تم اقتراح نمطية عامة للمصايد السمكية الصغيرة على أساس نفس المعايير المعلمية parameters التي تم استخدامها لتحليل المستوى المعيشي المحلي مع تحديد أربع (4) منظومات فرعية هي التوجه نحو الكفاف، التوجه نحو السوق، التوجه شبه التجاري والتوجه التجاري. ويستنتج هذا القسم عدداً من القضايا التي تعكس توجهات نماذج paradigms جديدة في إدارة الموارد السمكية مثل:

1. تحديد أدوار ووظائف كل من الشركاء المرتبطين بقطاع المصايد الصغيرة الساحلية(الجمعيات التعاونية السمكية، سلطات المديرية، المجالس المحلية، وزارة الثروة السمكية)
2. الأشكال الجديدة للإدارة الديمقراطية والمشاركة(إدارة مشتركة للموارد السمكية وبطريقة أكثر شفافية وقابلة للمحاسبة وأكثر فاعلية)

- يمكن تقدير متوسط الدخل السنوي لأسرة الصياد مالك الهوري بين 173000-205000 ريال يمني (950-1100 دولار أمريكي) وكل واحد من أعضاء الطاقم الاثنين في الهوري يحصل سنوياً على دخل بين 88000-127000 ريال يمني (480-695 دولار أمريكي)
- هناك تذبذب كبير في دخل الصياد اعتماداً على موسم الإصطياد
- تتفاوت الدخول كثيراً حسب الأنواع التي يتمك اصطيادها فالجمبري والشروخ الصخري والمخصص انتاجهما للتصدير يولدان دخلاً أعلى للصياد
- لا تستغل الأسر السمكية مباشرة في تسويق الأسماك ولكنها تعتمد على شبكة من المحرّجين والتجار و الناقلين وبائعي التفاريق إضافة إلى عدد من الذين يوفرّون الخدمات الأخرى مثل إنتاج وبيع البرد، بيع الوقود وبيع شباك ومعدات الإصطياد الأخرى.
- إن زيادة السعر المحلي بين ما يحصل عليه الصيادون في مناطق إنزال الأسماك وبين ما يدفعه المستهلكون في أماكن البيع بالتجزئة تقدر بين 50%-150% تقدر المصروفات السنوية للأسرة المتوسطة بحوالي 200000 ريال يمني (1100 دولار أمريكي) وتشكل الصريفات على الغذاء 65% منها (غير أن هذه النسبة أعلى في الأسر الأفقر)

يحدّد التقرير أهم الشركاء ذوو العلاقة بالمصايد السمكية الصغيرة ويحلل أدوارهم ومهامهم وهؤلاء الشركاء هم الصيادون الخاصون، المحرّجون، المقدمون لمختلف الخدمات، التجار، بائعو التفاريق، الناقلون والجمعيات التعاونية السمكية إضافة إلى ممثلي الوزارات والأجهزة الحكومية والسلطة المحلية. إنها شبكة متداخلة العلاقات وتعتمد على العلاقات التقليدية للمصلحة الخاصة. ولقد تم التحليل بوجه خاص لجمعيات الصيادين التعاونية السمكية بسبب دورها الحالي والمستقبلي في تطوير المصايد السمكية الصغيرة (الساحلية) حيث أنها تؤدي حالياً عدداً من الوظائف والأدوار الاجتماعية والإقتصادية (بيع معدات الاصطياد للصيادين، تقديم خدمات التسويق، تقديم خدمات مالية، بيع الأغذية وتوفير منافع بسيطة في الضمان الإجتماعي إلى آخره) وحددت ثلاث مجموعات من الجمعيات التعاونية للصيادين حسب أدائها وفعاليتها حيث اتضح أن المستويات الأعلى في الأداء تتحقق فيالسواحل الجنوبية والشرقية مثلاً في الجمعيات التعاونية السمكية في م/حضر موت تم اعتبار (19) من (20) من التعاونيات السمكية جيدة بموجب مسح قام به الاتحاد التعاوني السمكي في 2003 ويقدر في محافظة حضر موت بأن 90% من الصيادين ينتمون إلى الجمعيات التعاونية السمكية وعكس ذلك على ساحل البحر الأحمر ككل فمن باب المندب إلى ميدي شمال الحديدة أعتبرت خمس (5) جمعيات تعاونية سمكية جيّدة من بين سبعة وثلاثين (37) وعلى الرغم من ذلك فإن 20% فقط من الصيادين في منطقة باب المندب -المخا ينتمون إلى الجمعيات التعاونية السمكية.

تقدم الدراسة في القسم الرابع صورة شاملة عن المصايد الصغيرة (الساحلية) وتحدّد القضايا والاتجاهات الرئيسية عن طريق وضع المعلومات التي تم تقديمها وتحليلها في القسم السابق في منظور مستقبلي حيث يقترح تفسيراً أولاً عاماً للحالة الاقتصادية- الاجتماعية للمصايد الصغيرة في اليمن ويؤكد القسم الرابع بوجه خاص على العناصر التالية: صفات الاقتصاد الأسري للصيادين وإمكاناتها، المعوقات الهامة التي تواجه الجمعيات التعاونية السمكية والصيادين الأفراد وأهم المخاطر ولأخطار المرتبطة بمعيشة أسر الصيادين

وبموجب الطريقة التي تبنتها الدراسة فإنه تم تقديم صورة مركبة لأسر الصيادين تبين مايلي:

مثل تنظيم العمل، الحصول على وامتلاك الأصول، ووجود الموارد وكلها تشكل جزءاً من التعريف العام للمنظومة الانتاجية. لقد تم تسليط الضوء على هذه المعايير وأجريت مقابلات مع الأشخاص الرئيسيين الذين يوفرّون المعلومات مثل الصيادين، أعضاء المجلس المحلي، قيادات الجمعيات التعاونية السمكية والممثلين عن الادارات الرسمية الأمر الذي لم يسمح بالتعرف على الاختلافات الجغرافية ( مع المعوقات والامكانات المحددة لها ) فحسب بل سمح كذلك بتقييم التحديات العامة والخاصة التي يواجهها المنتجون ( جمعيات وتعاونيات الصيادين والأسر المنتجة غير الأعضاء).

تتسم المناطق التي تم مسحها بالظروف المناخية القاسية، شحة الأمطار، ندرة المياه الجوفية وكذلك بالمؤشرات البشرية المنخفضة مثل التعليم، التغذية، الصحة وارتفاع نسبة الأمية. وفي المخاضوباب هناك حوالي 20,000 صياد ناشط يقومون بتوفير العيش لأسرهم البالغ أفرادها حوالي 140000 شخص ونسبة النمو السكاني عالية حوالي 3.7% بحيث أنه من المتوقع أن يصل السكان إلى الضعف في 17 عام وفي بروم و ميفع على ساحل حضرموت هناك 5300 صياد ناشط ضمن 17700 من السكان ويوفرّون العيش لحوالي 40000 من أفراد عائلاتهم وفي المنطقتين تعتبر مهنة الصيد طوال الوقت أما الأنشطة المعيشية الأخرى مثل الزراعة والرعي واستخراج الملح فهي محدودة وتقتصر على بعض المواقع التي تتوفر فيها المياه الجوفية غير أن شبكة من العلاقات الاقتصادية المعقدة موجودة ليس بين مجتمعات الصيادين المختلفة فحسب بل كذلك بينها وبين مجتمعات المزارعين والرعاة التي تعيش في المناطق الداخلية أو الوديان.

ويشكل القسم الثالث لب التقرير إذ يعطي صورة شمولية مقارنة لوضعية المصايد الصغيرة في المنطقتين اللتين تم مسحهما و يحلل المنظومة الانتاجية بمراحلها المختلفة- الاصطياد، التسويق، التحضير، التوزيع- ومختلف مكوناتها- العمالة، الأصول، المعدات الأساسية والتقنيات – كما يتم في هذا القسم تحليل مستويات المعيشة لأسر الصيادين كما وكيفاً بمنهجية تؤكد على أهمية العوامل الموسمية التي تؤثر على أنشطة الاصطياد.

تعتبر ملكية القارب، الماكينة ومعدات الاصطياد من شباك وغيرها أهم عنصر لاستمرارية منظومة الانتاج السمكي والتميز الاجتماعي يعتمد على ملكية هذه الأصول الانتاجية(أو على الأقل الحصول عليها) حيث أنها هي التي تحدد استراتيجية الاصطياد وتؤثر على السلوك والتوجهات الاقتصادية. يستخدم الصيادون اليمينيون أنواعاً من القوارب المصنوعة من الفاير جلاس يسمى الواحد منها هوري وقوارب خشبية أكبر تسمى الصنابيق ( أحياناً يسمى القارب الخشبي الكبير هوري إذا استخدم ماكينة بحرية خارجية أو إثنيتين) وبصورة عامة يستخدم الهوري لرحلة اصطياد ليوم بطافم صيادين من 3 أفراد وعادة تكون منطقة الاصطياد قريبة من الساحل في حدود 20 عقدة بينما الصنبوق يعمل فيه كحد أدنى 10 أشخاص وتمتد رحلة الاصطياد لمدة 10 أيام أو أكثر قليلاً. ومع الأخذ في الاعتبار الموسمية العالية، تقدم الدراسة تحليلاً على الأسرة المتوسطة في المنطقتين اللتين تم المسح فيهما وتقدم تقديرات لعدد الساعات في البحر، القيمة التجارية للأسماك التي تم اصطيادها، متوسط الدخل، أهم الصريفات السنوية الخاصة بالاصطياد، المصروفات الأخرى خارج عمليات الاصطياد، الأنماط التقليدية لمحاصصة الانتاج بين أفراد الطاقم ومالكي القوارب وما شابه ذلك. وحصيلة الصورة المركبة لنتائج الدراسة متعددة الأوجه للاقتصاد الأسري مثلاً كالتالي:

- تقوم الأسرة المتوسطة بحوالي 330 رحلة صيد في السنة 70% منها في الموسم الأفضل من أبريل إلى سبتمبر

## موجز تنفيذي

يقع التقييم الحالي للمصايد السمكية الصغيرة (الساحلية) في اليمن في إطار إعداد مشروع سمكي جديد تمّوله مؤسسة التنمية الدولية (هو مشروع الحفاظ على وتنظيم إدارة المصايد السمكية FMCP) مدته خمسة أعوام ويهدف مع أهداف أخرى إلى تقديم الدعم المؤسسي ودعم السياسات وتنمية وتقوية الجمعيات التعاونية السمكية وتشكل المصايد السمكية الصغيرة (الساحلية) في اليمن منظومة إنتاجية كثيفة العمالة تعتمد على اصطياد الأسماك والأحياء البحرية الأخرى بواسطة وحدات صغيرة يستخدمها الصيادون ويمارس هذا الإصطياد الحرفي ما بين 60,000-70,000 صياد يوفران المعيشة لحوالي 400,000 شخص كما أن عدداً كبيراً من الناس يشتغلون في أعمال مرتبطة بالمصايد السمكية الصغيرة إضافة إلى أن هذه المصايد تسهم في الأمن الغذائي المحلي وتوفر مصدراً مهماً للنقد الأجنبي ويسهم القطاع السمكي بصورة إجمالية بنسبة 2%-3% من الناتج المحلي الإجمالي

تم في القسم الأول من الدراسة تعريف المصايد السمكية الصغيرة عن طريق تسليط الضوء على صفاتها الأساسية مثل وجود مستويات دخل واستثمارات منخفضة، وكميات ضئيلة من رأس المال والطاقة، واعتماد كبير على الخدمات التي يقدمها وكلاء وسيطون خارجيون، واعتماد كبير على الموسمية، ومستويات غنتاج متواضعة نسبياً واستخدام تكنولوجيا بسيطة في رحلات اصطياد قصيرة. وبعد ذلك تم تقديم الطريقة العامة للدراسة فبينما روجعت طرق الاصطياد والانتاج السمكي ركزت الدراسة بصورة متكاملة على فهم مستويات المعيشة لأسر الصيادين ومجتمعاتهم. وتحاول الدراسة الحصول على فهم شامل ومركّب لمعيشة أسر الصيادين بواسطة معرفة وتحديد الخيارات المختلفة المتوفرة لها، والمعوقات التي تواجهها، واستراتيجياتها في التكيف والبقاء والاستثمار وكذلك تأثير الأسر على العوامل البيئية المحيطة بها (مثل الموسمية) وكذلك مضمون الاقتصاد السياسي حيث تركز طريقة الدراسة أساساً على الاقتصاد المنزلي وهو مفهوم يرجع إلى الأنماط الكلية لاستمرارية الأسر المنتجة و أنشطة إعادة الانتاج لأعضائها والأسرة- كوحدة للاستهلاك والسكن والانتاج الاقتصادي وإعادة الانتاج الاجتماعي- تمثل وحدة أساسية في التحليل وفي المناطق التي تمت تغطيتها في الدراسة الحالية فإن متوسط أفراد الأسر يتكون من 7 أفراد والقرية هي الشبكة الاجتماعية المباشرة التي تندمج وتتفاعل فيها كل أسرة وخارج القرية تنتمي الأسر إلى مجتمعات سمكية متجانسة مبنية على المصالح والأولويات المشتركة.

والمجتمعان اللذان تم إختيارهما للتحليل الأكثر عمقا للمصايد السمكية الصغيرة و اردان في القسم الثاني وأحدهما على الشريط الساحلي المطل على البحر الأحمر (المخا- ذوباب في محافظة تعز) والآخر على الشريط الساحلي شرق خليج عدن (بروم- ميفع في محافظة حضرموت). لقد كان الغرض الأول للدراسة أن تشمل على مجموعات أسرية تعمل كأعضاء في جمعية تعاونية للصيادين ومجموعات أسرية تعمل كأفراد غير أعضاء في جمعيات تعاونية سمكية. ولكن على الرغم من أخذ هذا المعيار في الاعتبار إلا أن هذا المعيار وضع في إطار منظور مستقبلي لمعايير أكثر ضرورة