

**ANALYSIS OF THE IMPLEMENTATION AND IMPACT OF THE FAO CODE
OF CONDUCT FOR RESPONSIBLE FISHERIES SINCE 1995**



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ANALYSIS OF THE IMPLEMENTATION AND IMPACT OF THE FAO CODE OF CONDUCT FOR RESPONSIBLE FISHERIES SINCE 1995

by

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PREPARATION OF THIS DOCUMENT

This document was prepared by FAO consultant Gilles Hosch to provide the twenty-eighth session of COFI (2009) with a global analysis of the implementation and impact of the Code of Conduct for Responsible Fisheries since its adoption in 1995. The analysis provided in this document represents a first consolidated attempt to review progress in implementation and impact of the Code since the inception.

Hosch, G.

Analysis of the implementation and impact of the FAO Code of Conduct for Responsible Fisheries since 1995.

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ABSTRACT

This circular analyses the implementation and the impact of the FAO Code of Conduct for Responsible Fisheries since 1995. In doing so, it first establishes a picture of fisheries and aquaculture sectors before the publication of the Code and 13 years after, in order to detect major changes in both sectors. While fundamental changes in the fisheries sector remained few, the aquaculture sector displays a rather important degree of change, where practices in farm management and environmental management, amongst others, seem to have undergone broad and significant improvements.

The document bases its analysis on country-level implementation of Code principles and provisions, and then looks into how various sector related players have endorsed and adopted the Code, and contributed to its implementation. This analysis shows that in many domains, implementation of the Code has been slow on the ground, but that in some domains, such as the implementation of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU), countries have been fast to embrace the Code and implement its instrument in the ways prescribed. The study also shows that a very vast and diverse range of sector stakeholders across the entire spectrum have endorsed the Code and do pursue its stated objectives.

The key impacts of the Code relate to its broad-based endorsement, and the ways in which it has shaped policies, legal and management frameworks worldwide, as a universally applicable international policy instrument, and how it has brought across into the fisheries domain the key principles of sustainable and responsible development inherent to the United Nations Conference on Environment and Development (UNCED) and its Agenda 21. The Code has been a facilitator of change towards more responsible and more sustainable approaches, but quantifying these, and relating them directly and primarily to the Code is not something that would appear reasonable. However, advances in domains such as combating IUU fishing have been Code-driven to a noticeable extent.

CONTENTS

Preparation of this document.....	iii
Abstract.....	iii
Acknowledgements.....	vii
Acronyms and abbreviations.....	viii
1. INTRODUCTION	1
1.1 The Code of Conduct for Responsible Fisheries – its origins and essence	1
1.1.1 Origins	1
1.1.2 Essence of the Code.....	1
1.2 Scope of this report	4
2. WORLD FISHERIES AND AQUACULTURE SITUATIONS: 1995 AND 2008	5
2.1 Fisheries	6
2.1.1 International legal framework.....	6
2.1.2 Trends and status in world fisheries production	7
2.1.3 World fishing fleet evolution	9
2.2 Aquaculture	11
2.2.1 Legal framework.....	11
2.2.2 Aquaculture and the environment.....	13
2.3 Trends and status in world fish supply and utilization.....	15
3. CODE IMPLEMENTATION EFFORTS SINCE 1995.....	16
3.1 What “implementation effort” means and how it can be measured	16
3.2 Country-level implementation	17
3.2.1 Monitoring efforts to date	17
3.2.2 General country feedback on Code implementation.....	19
3.2.3 Fisheries.....	21
3.2.4 Aquaculture.....	37
3.2.5 Code-related instruments	40
3.3 Industry associations	47
3.4 Regional fishery bodies and regional fisheries management organizations.....	51
3.5 FAO and its Programme of Work and Budget.....	53
3.5.1 Development of the Code, Code-related instruments and Technical Guidelines ..	54
3.5.2 Dissemination and promotion of the Code package	58
3.5.3 Monitoring of the implementation of the Code and its related instruments	58
3.5.4 Other FAO initiatives.....	59
3.5.5 The FishCode Programme	61
3.6 Civil Society in action.....	63
3.6.1 WWF and TRAFFIC	64
3.6.2 CFFA	64
3.6.3 IUCN.....	65
3.6.4 RSPB and BirdLife International.....	65
3.6.5 The Earth Justice Foundation and Greenpeace	66
3.7 Other international efforts in awareness raising and capacity building	67
3.7.1 The World Bank.....	67
3.7.2 WSSD-JPOI.....	68
3.7.3 OECD and the HSTF	69
3.7.4 MSC.....	69
3.7.5 SADC.....	71
3.7.6 BOBP-IGO	71
3.7.7 SEAFDEC.....	72
3.7.8 NACA	73
3.8 The Margarita Lizárraga prize.....	74

4. IMPACT OF THE CODE	75
4.1. Overall impact.....	75
4.2. Direct impacts attributable to the Code.....	77
4.3. Impact of the Code too slow?.....	78

5. CHALLENGES TO THE CODE AND RECOMMENDED ACTION TO FURTHER THE IMPLEMENTATION OF THE CODE.....	79
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ANNEXES

I Terms of Reference	83
II Bibliography	85
III FAO Technical Papers directly relevant to the Code.....	90
IV Selected Industry Association Codes for Aquaculture	91
V Selected Industry Association Codes for Fisheries.....	92
VI IPOA–IUU related meetings and workshops.....	93
VII PSM Model Scheme related meetings and workshops	95
VIII Strategy-STF related meetings and workshops held between 2005 and 2008.....	98

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ACRONYMS AND ABBREVIATIONS

ACP	Africa, Caribbean, Pacific
ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
ASFA	Aquatic Sciences and Fisheries Abstract
BCIMQ	Biennial Code implementation monitoring questionnaire
CBD	Convention on Biological Diversity
CCAMLR	Convention for the Conservation of Antarctic Marine Living Resources
CCRF	Code of Conduct for Responsible Fisheries
CFFA	Coalition for Fair Fisheries Agreements
CFP	Common Fisheries Policy (EU)
COFI	Committee on Fisheries (FAO)
COLTO	Coalition of Legal Toothfish Operators
CPUE	Catch per unit effort
DWFN	Distant Water Fishing Nation
EAF	Ecosystem approach to fisheries
EIA	Environmental impact assessment
EJF	Earth Justice Foundation
EU	European Union
FA	Fisheries Agreement
FEAP	Federation of European Aquaculture Producers
FIGIS	Fisheries Global Information System (FAO)
FOC	Flag of convenience
FONC	Flag of non-compliance
FPA	EU Fisheries Partnership Agreement
GAPCM	Groupement des aquaculteurs et pêcheurs de crevettes de Madagascar
HELCOM	Baltic Marine Environment Protection Commission
IC	Information and communication
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICFA	International Coalition of Fisheries Associations
IGO	Intergovernmental organization
IOTC	Indian Ocean Tuna Commission
IPOA	International Plans of Action
IPOA–Capacity	International Plan of Action for the Management of Fishing Capacity
IPOA–IUU	International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing
IPOA–Seabirds	International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries
IPOA–Sharks	International Plan of Action for the Conservation and Management of Sharks
ICZM	Integrated coastal zone management
IOT	Indian Ocean Tuna Cannery
IOTC	Indian Ocean Tuna Commission
IUCN	World Conservation Union
IUU	Illegal, unreported and unregulated (fishing)
LIFDC	Low-income food-deficit country
LVFO	Lake Volta Fisheries Organization
MCS	Monitoring, control and surveillance
MDGs	Millennium Development Goals
MFR	Management for Responsible Fisheries (FishCode project)
MPA	Marine protected area
MSC	Marine Stewardship Council
NAFO	Northwest Atlantic Fisheries Organization
NASCO	North Atlantic Salmon Conservation Organization
n.d.	no data

NEAFC	North East Atlantic Fisheries Commission
NGO	Non-governmental Organization
NORAD	Norwegian Agency for Development Cooperation
NPOA	National Plan of Action
OECD	Organization for Economic Cooperation and Development
OEFC	Observatoire économique de la filière crevette (Madagascar)
OPRT	Organization for the Promotion of Responsible Tuna Fisheries
OSPAR	Commission for the Protection of the Marine Environment of the North-East Atlantic
PE	Programme entity (FAO)
PWB	Programme of Work and Budget (FAO)
RECOFI	Regional Commission for Fisheries
RFB	Regional fishery body (no direct management mandate)
RFMO	Regional fisheries management organization (direct management mandate)
RP	Regular Programme (FAO)
RSPB	Royal Society for the Protection of Birds
SADC	Southern African Development Community
SAR	Search and Rescue (at sea)
SEAFDEC	Southeast Asian Fisheries Development Centre
SEAFO	Southeast Atlantic Fisheries Organization
SFLP	Sustainable Fisheries Livelihood Programme
SoC	Statement of Commitment
SOCU	Sub-Regional Operations Coordinating Unit (SRFC)
SOFIA	State of World Fisheries and Aquaculture (biennial FAO report)
SOWA	State of World Aquaculture (biennial FAO report)
SRFC	Sub-Regional Fisheries Commission (West Africa)
Strategy-STA	Strategy and Outline Plan for Improving Information on Status and Trends of Aquaculture
Strategy-STF	Strategy for Improving Information on Status and Trends of Capture Fisheries
SWIOFC	South West Indian Ocean Fisheries Commission
SWOT	Strengths, Weaknesses, Opportunities and Threats
TAC	Total allowable catch
TED	Turtle exclusion device
TG	Code-related Technical Guidelines (FAO)
TOR	Terms of reference
TRAFFIC	Wildlife Trade Monitoring Network
UN	United Nations
UNCED	UN Conference on Environment and Development
UNEP	United Nations Environmental Programme
UNFSA	Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UN Fish Stocks Agreement, 1995)
UNGA	United Nations General Assembly
UNICPOLOS	UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea
VMS	Vessel Monitoring System
WCPFC	Western and Central Pacific Fisheries Commission
WSSD-JPOI	Johannesburg Plan of Implementation of the World Summit on Sustainable Development
WWF	World Wildlife Fund

1. INTRODUCTION

1.1 The Code of Conduct for Responsible Fisheries – its origins and essence

1.1.1 Origins

The United Nations Convention on the Law of the Sea (UNCLOS) was adopted in 1982. It had been preceded by the widespread introduction of exclusive economic zones (EEZ) in the 1970s, and came to establish extended coastal State jurisdictions over those zones. EEZs, extending 200 nautical miles out from shore, gave coastal States rights and duties for the management of some 90 percent of the world's marine fisheries resources – the remaining 10 percent being made up of highly migratory, straddling and other high seas fish stocks.

In the late 1980s it became clear that global marine fisheries development was running at a pace which resources were unlikely to be able to sustain. Development and exploitation was often rapid and uncontrolled, fuelled by strong and growing world demand for fisheries products. Unregulated fisheries targeting high seas and straddling fish stocks exacerbated this situation. The need for new approaches to fisheries development, planning and management rapidly became apparent – approaches that would embrace principles of conservation, environmental responsibility and sustainability.

Based on these concerns, the nineteenth session of the Committee on Fisheries (COFI) (1991) called for the development of concepts which would lead to responsible and sustainable fisheries. The Code of Conduct for Responsible Fisheries (the Code) finds its origins in this call. A number of other fora then quickly endorsed the idea of developing a Code, including the 1992 Cancún International Conference on Responsible Fishing and the 1992 United Nations Conference on Environment and Development (UNCED).

At the same time, two major international fisheries instruments were being developed. These were the 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (the Compliance Agreement), and the 1995 United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (the Fish Stocks Agreement).

On the basis of these developments, the FAO Governing Bodies recommended the formulation of a global Code of Conduct for Responsible Fisheries which would be consistent with these instruments, and which would establish principles and standards applicable to the conservation, management and development of all fisheries in a non-mandatory manner. The Code was adopted by the FAO Conference in October 1995. Although voluntary in nature, the Code integrates (binding) principles inherent to UNCLOS, the Compliance Agreement and the Fish Stocks Agreement, alongside a host of voluntary principles of best practice, aiming to promote rational, responsible and sustainable utilization of world fisheries resources.

1.1.2 Essence of the Code

The Code is the first international instrument of its type to have been developed for fisheries. It was originally conceived with particular attention paid to marine fisheries, and high seas fisheries more specifically.¹ At the time, the latter were perceived as some of the most vulnerable fisheries world wide.

The Code “*provides principles and standards applicable to the conservation, management and development of all fisheries.*”² While inland fisheries are not directly referred to in the text,³ the Code is applicable to inland fisheries where appropriate – and has been widely promoted to be read in that way. However, the Code has been drafted with marine fisheries *in mind*. This partly owed to the fact that the Code integrated principles and clauses of three international instruments (UNCLOS, Compliance Agreement and Fish Stocks

¹ See: FAO (1995). Code of Conduct for Responsible Fisheries (CCRF). Annex 1. Paragraph 5.

² See: FAO (1995). Code of Conduct for Responsible Fisheries (CCRF). Article 1.3.

³ Note: CCRF article 6.8. states that “*all critical fisheries habitats in marine and fresh water ecosystems, such as wetlands, mangroves, reefs, lagoons, nursery and spawning areas, should be protected and rehabilitated as far as possible and where necessary.*” Sound management of inland fisheries resources is implicitly referred to in this article.

Agreement) which all deal with ocean regimes and marine fisheries exclusively,⁴ and that a number of important marine fisheries showed alarming signs of over exploitation and exhaustion at the time.

The Code further states that “*it also covers the capture, processing and trade of fish and fishery products, fishing operations, aquaculture, fisheries research and the integration of fisheries into coastal area management.*” Apart from the fact that this substantially widens the scope from being limited to issues of responsible planning and management of fish stocks only, aquaculture is a domain that directly falls under the scope of the Code as well. A full article of the Code (article 9) deals with aquaculture development in particular; while a number of the other topics covered (e.g. processing and trade) apply to aquaculture production to various degrees.

In essence, the objective of the Code is to promote the rational and sustainable exploitation of world fisheries resources through responsible fisheries management and conservation. The Code firmly inscribes fisheries into an ecosystem and environmental perspective. Twelve articles (see box 1) form the Code. The first five (introductory articles) establish the nature, scope and objectives of the Code, highlight the relationship between the Code and other international instruments, indicate how the Code is to be implemented, monitored and updated, and what the special requirements of developing countries are. Developing countries being custodians of the largest share of world fisheries resources, the Code places a strong emphasis on supporting developing countries in their efforts to implementing the Code.

Box 1. Code articles

1. Nature and scope of the Code
2. Objectives of the Code
3. Relationship with other International instruments
4. Implementation, monitoring and updating
5. Special requirements for developing countries
6. General principles
7. Fisheries management
8. Fishing operations
9. Aquaculture development
10. Integration of fisheries into coastal area management
11. Post-harvest practices and trade
12. Fisheries research

Box 2. FAO Technical Guidelines published (with year of publication)

- | | |
|------------------|---|
| No. 1. | Fishing operations (1996) |
| No. 1. Suppl. 1. | Vessel monitoring systems (1998) |
| No. 2. | Precautionary approach to capture fisheries and species introductions (1996) |
| No. 3. | Integration of fisheries into coastal area management (1996) |
| No. 4. | Fisheries management (1997) |
| No. 4. Suppl. 1. | Conservation and management of sharks (2000) |
| No. 4. Suppl. 2. | The ecosystem approach to fisheries (2003) |
| No. 5. | Aquaculture development (1997) |
| No. 5. Suppl. 1. | Good aquaculture feed manufacturing practice (2001) |
| No. 5. Suppl. 2. | Health management for responsible movement of live aquatic animals (2007) |
| No. 6. | Inland fisheries (1997) |
| No. 7. | Responsible fish utilization (1998) |
| No. 8. | Indicators for sustainable development of marine capture fisheries (1999) |
| No. 9. | Implementation of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (2002) |
| No. 10. | Increasing the contribution of small-scale fisheries to poverty alleviation and food security (2005) |

The Code is complemented by technical guidelines (TG) which have been developed gradually since the adoption of the Code in 1995. The development of TGs is called for in article 5 of the Resolution of the twenty-eighth session of the FAO Conference which adopted the Code. TGs provide detailed guidance on how to implement specific provisions of the Code. Fifteen technical guidelines have been produced to date,

⁴ The only UNCLOS topics associated with inland fisheries are found under articles 66 and 67, detailing responsibilities for anadromous and catadromous fish stocks. Only marine water issues are provided for.

and distributed widely. The technical guidelines underscore FAO's commitment to promote and assist the implementation of the Code. Technical guidelines No. 6 address inland fisheries. These guidelines represent an effort to orient the interpretation of the Code, which was "*primarily elaborated to meet the needs of marine capture fisheries, and in particular industrial fisheries*",⁵ towards the needs of the inland fisheries sector.

Although pre-dating the Code, the Compliance Agreement is interpreted as an instrument which forms an integral part of the Code.⁶ At the time of its adoption, the Compliance Agreement was a highly innovative international instrument, which firmly established, for the first time, the duty of flag States to license their vessels for fishing on the high seas, and putting in place the necessary controls to ensure that they were respecting conservation and management measures applicable to high seas fishing zones and stocks.

Another set of instruments, in the form of International Plans of Action (IPOAs), has been developed in the years following the adoption of the Code. To date, IPOAs address four fisheries areas of specific global concern. They are voluntary in nature. FAO Members are encouraged to translate them into national plans of action (NPOAs), and to implement them. The IPOAs – just like the Compliance Agreement – fall within the overall framework of the Code, and form an integral part of it. The following are the IPOAs currently in existence (with years of adoption in brackets):⁷

1. IPOA–Sharks (1999)
2. IPOA–Seabirds (1999)
3. IPOA–Capacity (1999)
4. IPOA–IUU (2001)

The IPOA's, much like the Code, are structured as an international instrument. The texts put forth, nature and scope of the plan, guiding principles, objectives, standards and best suggested practices to address given challenges of fisheries management. The IPOA–Sharks addresses the management of world shark resources, recognized globally as one of the pressing ecological challenges facing global fisheries management efforts at the turn of the millennium. TG No. 4 supplement 1 (2000) – Conservation and management of sharks – can be likened to TG No. 9 in the sense that it can also be interpreted in part as a guide to implement the IPOA–Sharks, underlining the interwoven nature of the Code and its associated instruments.

The IPOA–Seabirds aims at reducing incidental bycatch and mortality of seabirds in industrial fisheries, while the IPOA–Capacity encourages States to assess fishing capacity in their respective fisheries, and adjust it – if necessary – in a bid to address fishing overcapacity, lower than optimal economic returns, overfishing and looming stock collapses.

The IPOA–IUU, probably the one having received the most international attention in recent years, encourages coastal States, flag States port States and regional fisheries management organizations (RFMOs) to put in place mechanisms necessary to eliminate illegal, unreported and unregulated fishing. IUU fishing is currently recognized as one of the main culprits for unsustainable fishing world wide.

FAO Members have been encouraged to develop their respective NPOAs to support the implementation of the IPOAs.

The latest mechanisms to integrate the suite of Code-related instruments are related to the *Strategy for Improving Information on Status and Trends of Capture Fisheries* (Strategy–STF). It was approved by consensus at the twenty-fifth session of COFI in 2003. Article 6 of the Strategy–STF places it within the framework of the Code. The Strategy–STF aims at providing "*a framework for the improvement of knowledge and understanding of fishery status and trends as a basis for fisheries policy making and management for the conservation and sustainable use of fishery resources within ecosystems.*"⁸ The

⁵ See: FAO (1997). FAO Technical Guidelines for Responsible Fisheries. No. 6. Inland fisheries, page 2 (Introduction).

⁶ See: FAO (1993). Compliance Agreement. Preamble. 11th paragraph. And; FAO (1995) CCRF. Article 1.1. And; FAO Conference Resolution 15/93, paragraph 3.

⁷ The first three IPOAs were adopted by the twenty-third session of COFI in 1999. The IPOA–IUU was adopted by the twenty-fourth session of COFI in 2001.

⁸ See: FAO (2003). Strategy for Improving Information on Status and Trends of Capture Fisheries. Article 12.

Strategy–STF was completed in 2007 by the Strategy–STA – geared towards aquaculture status and trends information – adopted by the twenty-seventh session of COFI in 2007.

Both strategies are voluntary in nature, but work quite differently from IPOAs in the sense that FAO retains a central information pooling and management role, making it an integral and full implementation partner. Formal agreements establishing collaborative linkages between data sources (countries and regional fishery bodies – RFBs) and the FAO form the core implementation mechanism of the Strategy–STF.

1.2 Scope of this report

To provide background to the report, it is useful to reproduce in full text article 4 of the Code, in order to highlight the different responsibilities that the text lays down for implementing, monitoring and updating the Code;

4 – Implementation, Monitoring and Updating

4.1 All members and non-members of FAO, fishing entities and relevant subregional, regional and global organizations, whether governmental or non-governmental, and all persons concerned with the conservation, management and utilization of fisheries resources and trade in fish and fishery products should collaborate in the fulfilment and implementation of the objectives and principles contained in this Code.

4.2 FAO, in accordance with its role within the United Nations system, will monitor the application and implementation of the Code and its effects on fisheries and the Secretariat will report accordingly to the Committee on Fisheries (COFI). All States, whether members or non-members of FAO, as well as relevant international organizations, whether governmental or non-governmental should actively cooperate with FAO in this work.

4.3 FAO, through its competent bodies, may revise the Code, taking into account developments in fisheries as well as reports to COFI on the implementation of the Code.

4.4 States, and international organizations, whether governmental or non-governmental, should promote the understanding of the Code among those involved in fisheries, including, where practicable, by the introduction of schemes which would promote voluntary acceptance of the Code and its effective application.

Article 4.1 establishes a very broad base for the implementation of the Code, and the fulfilment of its objectives. This base encompasses all States, all organizations, and all professionals involved in the sector. Although “global organizations” are referred to, no specifically defined role is attributed to FAO at implementation level. FAO is hence invited to contribute to the implementation of the Code in the same way as any other organization, State or private entity. Since the inception of the Code, FAO’s efforts to promote and facilitate implementation are largely aimed at providing advice to developing countries on how to achieve the objectives listed in the Code – as directed by the FAO Conference.⁹

Article 4.2 singles out the FAO as the entity responsible for monitoring the implementation of the Code and for reporting to COFI on its findings. So far, FAO has reported to COFI on implementation progress through a bi-annual monitoring exercise, which analyses country, RFMO and Non-governmental Organization (NGO) efforts to implement the Code. This monitoring has given rise to succinct reports and statistical appendixes (the latter based on country responses) to a customized set of questionnaires (BCIMQ).¹⁰ The way this particular monitoring has been carried out is under review by FAO, in order to enhance its outputs. It represents the formal implementation monitoring carried out by FAO during the first 12 years of the Code’s existence.

⁹ Article 4 of the Resolution of the twenty-eighth session of the FAO Conference which adopted the Code requests FAO “to make provision in the Programme of Work and Budget for providing advice to developing countries in implementing this Code (...).”

¹⁰ The latest one being: FAO (2007). Progress in the implementation of the 1995 Code of Conduct for Responsible Fisheries, related international plans of action and strategy. COFI/2007/2. Rome, FAO. 13p.

Article 4.3 entitles the competent bodies of FAO to revise the Code on the basis of monitoring and evaluation of Code implementation and the changes that occur in world fisheries over time.

Article 4.4 invites all States and all organization, including FAO implicitly, to promote the acceptance, adoption, endorsement, and application of the Code in the widest sense possible. Promotion of the Code is hence a task shared by all States and organizations.

Several Code evaluations have been carried out by FAO in 2008. Auto-evaluation type assessments formed the core of these evaluations – with the FAO setting out to assess its own performance as a promoter and implementer of the Code.

This report analyses two specific domains, that are largely external to FAO's actions. They are to;

1. assess in how far the Code and its related instruments have been implemented over the past 13 years – throughout the range of entities as identified in article 4.1;
2. evaluate the changes that have occurred in the fisheries and aquaculture sectors over the past 13 years, indicating that there has been a broadening and deepening of the Code's implementation.

These points are in direct response of FAO's monitoring and evaluation duties, as laid down in article 4.2. Some of the work under point one will draw from existing bi-annual monitoring work, while other sources will be tapped for complementary information. The assessment under point 1, completed by a comparative outlook on world aquaculture and fisheries status (then and now), shall permit under point 2 to assess what changes have occurred and what real impact there has been.

One of the profound challenges of this assessment will be to establish causal relationships between the Code and whatever positive impacts that could be detected. Two immediate reasons to this are the fact that the Code integrates the principles and standards of three international instruments ruling fisheries, and that other principles and standards professed by the Code represent common-sense, sound economic and natural resource management practice, and pursue desirable outcomes of sustainability, food-security, etc. In a catalytic framework of good governance and political will, Code standards and principles would be naturally implemented without the need to read the Code.

Finally, following the first two points, the report will address a third point. It is to;

3. present a set of conclusions, and make recommendations to the implementation entities listed in article 4.1, and the FAO, on how to accelerate (or improve) the implementation of the Code, not excluding possible amendments to the Code itself (article 4.3).

This last section will provide comments on how the Code could or should evolve in the future, and how its position as a global standard for the responsible conservation and management of fisheries and aquaculture resources could be reinvigorated – should this prove necessary.

2. WORLD FISHERIES AND AQUACULTURE SITUATIONS: 1995 AND 2008

In order to evaluate the impact of an instrument, it is necessary to define a situation as it was before the instrument was put in place, and then characterize its evolution, and establish what the situation is today. To characterize the evolution of world fisheries and aquaculture sectors would however be largely beyond the reach of the present report. It would entail voluminous analyses which in themselves would have to fill hundreds, if not thousands of pages.

Therefore, this section will describe some of the most characteristic denominators of world fisheries and aquaculture as in 1995, and then most recently, reflecting largely on the “responsible” and “sustainable” dimensions that the Code introduced, in order to establish a picture of how the situation today compares to the situation back then in some very characteristic ways – and gain an insight into how the situation today might differ from the time when the Code was published. It is recommended to read this section in conjunction with other FAO publications on the State of World Fisheries and Aquaculture (SOFIA), and the State of World Aquaculture (SOWA), especially those of the mid-nineties, and then the more recent ones published in 2004 and 2006. This section will hence only reflect a distillate of some of the important issues.

2.1 Fisheries

Box 3. provides a snapshot into the development of world fisheries over the decade following UNCLOS, and preceding the Code. It underlines both the importance of the new regime that UNCLOS brought along, and the problems coastal States faced throughout the eighties and early nineties to come to grips with extended jurisdictions and chase improved but largely elusive, resource management outcomes.

2.1.1 International legal framework

On the first of January, 1995, UNCLOS had entered into force just over a month earlier. The new international regime of extended State jurisdictions over EEZs 200 nm miles wide had just become binding; and with it, the clauses of UNCLOS that deal with fisheries in specific. The provisions of UNCLOS specific to fisheries fall under Part V, which defines the regimes, and the rights and duties of States, with respect to the EEZ,¹¹ and under Part VII, which defines the regimes, and the rights and duties of States, with respect to the high seas.¹²

Much thinking about the need for new and extended fisheries specific instruments was going on, based on the worrisome outlook that world fisheries were projecting at the time. The high seas regimes touched upon by UNCLOS marked a clear deviation from historic customary international law, making the high seas and the exploitation of fisheries resources therein evolve from *res nullius* (without law) to *res communis* (law of the commons).

Eleven years after the adoption of UNCLOS, the Compliance Agreement was adopted. The central provision of the Compliance Agreement is the putting in place of a national license authorizing vessels to fish on the high seas, and to apply such license conditions as necessary to ensure that conservation and management measures applicable to the zones and species targeted be respected.

The negotiation of the Code of Conduct and the Fish Stocks Agreement had started a few years earlier. It had become pertinently clear that UNCLOS provisions for the management of transboundary and straddling fish stocks, as well as high seas fisheries were limited, and needed broader attention and a more detailed international legal framework.

Both the Code of Conduct and the Fish Stocks Agreement were adopted in the latter half of 1995. Overall, the period ending in 1995 can be characterized as a period where mounting international concern over diminishing marine fisheries resources had brought about a lot of activity (and results) in redefining international fisheries regimes in the zones beyond the traditional territorial sea over which coastal States had jurisdiction and exclusive rights of exploitation. These zones did now not only extend to the outer limits of the EEZs, but theoretically encompassed the entire ocean spaces of the world's surface.

One of the best examples to underline how the international regime had shifted from free and open high seas to monitored and managed high seas is UN resolution 44/225 of 1989 (following UNCLOS, but pre-dating the more recent instruments), calling for a moratorium on all large-scale pelagic driftnet fishing on the high seas by 30 June, 1992. Such a resolution would have been largely unthinkable before the adoption of UNCLOS.

Box 3: Abstract from FAO's 1993 review of world marine fisheries in the wake of UNCLOS

FAO Fisheries Department,
Marine fisheries and the law of the sea: a decade of change
Special chapter (revised) of *The State of Food and Agriculture 1992*.
FAO Fisheries Circular, No. 853. Rome, FAO. 1993. 66 pp.

ABSTRACT

Ten years after the signing of the United Nations Convention on the Law of the Sea, which marked the end of an era of freedom of the seas, this paper examines the changes that have occurred in marine fisheries and the adjustment made in the redistribution of benefits from the seas. While a few coastal states have gained large benefits and a few distant-water fishing nations have incurred large losses, there has been continued investment in large-scale vessels and a significant growth in fishing effort on the high seas beyond the 200-mile limits. The difficulty of improving the management of domestic fisheries and the required improvements in the competence of nations to exercise their newly gained authority are noted. While the 1980s might be considered a period of adjustment to the dramatic changes in the law of the sea, environmental issues have gained increasing significance during the decade and are posing difficult challenges particularly to the small-scale fishing communities in the coastal zones. Before the benefits from the ocean's fisheries can be fully realized, many tasks have to be completed, including concerted national and international efforts for better fisheries management.

¹¹ See UNCLOS articles 61 to 73.

¹² See UNCLOS articles 116 to 120.

On the first of January, 2008, UNCLOS had been in force for over 13 years, and the Code had been around for the same period of time. The Fish Stocks Agreement had entered into force in December 2001 – just over 6 years earlier, and the Compliance Agreement had entered into force in April 2003 – almost 5 years earlier.

At FAO, the period between 1995 and 2008 is characterized by the development of voluntary instruments attached to the Code, promotion of the Code, and assisting FAO Members to implement its provisions. The most publicized of voluntary instruments related to the Code has certainly been the IPOA–IUU, adopted in 2001.

The IPOA–IUU’s provisions on port State duties have also led to the publication of a Model Scheme on Port State Measures to Combat Illegal, Unreported and Unregulated Fishing,¹³ and to discussions from this time onwards for the development of a binding international instrument on port State measures. Controlling fisheries transactions in port has become one of the preferred ways to think about the exercise of necessary and sufficient controls over fisheries activities. This underlines one of the general trends in marine fisheries management, which first came to develop legal international mechanisms to bring global fisheries resources into the fold of management powers (national or regional), and then to develop instruments that permit not only to regulate – but to ensure regulations are properly implemented at the stocks, zones and fleet levels in a practical manner. The strategic structure of the IPOA–IUU, linking monitoring, control and surveillance (MCS) functions to coastal State, port State and flag State duties, was an expression of a pragmatic and new way of approaching regulation and the management of fisheries.

The year 2008 does not mark the end of a period in the same way as the year 1995 might have, but rather more the early years of a period where new international instruments for fisheries management entered into force, and started to be implemented. The development of new initiatives, such as the one on port state measures, draw a picture of dynamic development in the ways “managers” think about fisheries. MCS, still struggling for recognition as a concept of fisheries management in 1995, has been recognized as a full and necessary part of the fisheries management cycle, and the binding port state measures initiative is a direct expression of this fact.

2.1.2 Trends and status in world fisheries production

1995 also marked the end of a period over which world fisheries catches (wild capture fisheries) had continuously increased. Global marine fish catch was essentially the same in 2005 (84.2 million tonnes),¹⁴ to what it was in 1995 (84.3 million tonnes).¹⁵ A marked contraction had occurred in 1998 (78.3 million tonnes), attributed to an El Niño event. The levelling off of the continuous expansion of world marine capture fisheries harvests had started in 1988. It is a simple indication that global marine fishing power had finally reached the overall regenerative capacity of marine ecosystems (with respect to fish) – all fleets and target stocks averaged.

Inland fisheries on the other hand, show no such signs of global levelling off. Catches have continuously expanded through 2005 to reach 9.6 million tonnes, representing a 33 percent increase over the 13-year period (7.2 million tonnes in 1995). However, SOFIA 2006 notes that: “*In the case of inland fishery resources, there is widespread overfishing, arising from either intensive targeting of individual large-size species in major river systems or overexploitation of highly diverse species assemblages or ecosystems in the tropics.*”

Marine capture fisheries in general were not faring well in 1995, and calls from the scientific community warning of a world fisheries crisis had started to multiply.¹⁶ It became clear that coastal States overall had not been doing well in tackling their new responsibilities under extended jurisdictions. The first issue of the FAO’s *The State of World Fisheries and Aquaculture* (SOFIA) in 1995 stated that “*many of the world’s major and commercially important species of fish and /or fishing areas are subject to overexploitation.*”¹⁷ It

¹³ Endorsed by the twenty-seventh session of COFI in 2005.

¹⁴ FAO (2000). *The State of World Fisheries and Aquaculture – 2000*. Rome, FAO. 142p.

¹⁵ FAO (2006). *The State of World Fisheries and Aquaculture – 2006*. Rome, FAO. 162p. Latest global catch figures available at the time this document was written.

¹⁶ See: Science Daily 26 November 1997. www.sciencedaily.com/releases/1997/11/971126043219.htm

¹⁷ See: FAO (1995). *The State of World Fisheries and Aquaculture – 1995*. Rome, FAO. 55p.

further noted that “FAO has previously highlighted the decline in the landings and stock conditions of high-value demersal and shellfish species, and the frequent substitution of these species of a lower economic value. Particular concern focused on the considerable excess in fishing capacity as a primary cause for the overexploitation of resources (...).” This goes to highlight that “fishing down the trophic chain” was well underway in the early nineties, substituting target stocks high up in the trophic chain with species lower down in the food chain.

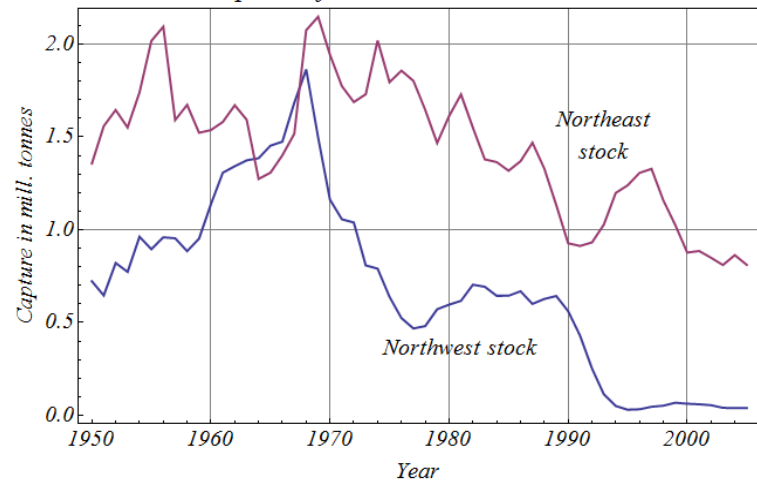
In terms of overall status, SOFIA 1995 states: “At the beginning of the 1990s, about 69 percent of the world’s conventional species were fully exploited, overexploited, depleted or in the process of rebuilding as a result of depletion. This situation is globally non-sustainable and major ecological and economic damage is already visible.” This latter statement is also in direct reference to the dramatic collapse of the northwest Atlantic cod stock, which occurred in the early nineties (see Figure 1). This stock had been fished for at least four centuries prior to its collapse, and has been described as one of the most prolific stocks in the world history of fisheries. Its collapse sent some 10 000 fishing households in the United States of America and Canada scrambling for new livelihoods. While the non-recovery of the stock can be assigned to ecological factors, and a permanently modified ecosystem, the collapse of the stock has been assigned to the development and deployment of technologically advanced factory trawler fleets throughout the 1960s which tripled catches and reduced the spawning stock to levels of functional extinction.

In 1995, SOFIA already singled out climate change and related impacts as factors which could adversely affect fisheries. The 1972 collapse of the Peruvian anchoveta fishery, then one of the most important fisheries in the world, was at least in part attributed to climatic factors. The composition of the catch following recovery of the anchoveta remained altered. Low levels of anchovy landings in the Black Sea were caused by an invasion of jellyfish that could also be attributed in part to climatic factors.

In 2005, the overall status and glum outlook as applicable to world marine capture fisheries in 1995 had not really improved. To the opposite; the situation remained largely unchanged. SOFIA 2006 notes the following: “Since FAO started monitoring the global state of stocks in 1974, there has been a consistent downward trend from almost 40 percent in 1974 to 23 percent in 2005 in the proportions of underexploited and moderately exploited stocks, which are those offering some potential for expansion. At the same time, there has been an increasing trend in the proportion of overexploited and depleted stocks, from about 10 percent in the mid-1970s to around 25 percent in the early 1990s, where it has stabilized until the present, while the proportions of fully exploited stocks declined from slightly over 50 percent in 1974 to around 45 percent in the early 1990s, increasing to 52 percent in 2005.” This implies that in 2005, some 77 percent of the world’s conventional species were fully exploited, overexploited, depleted or in the process of rebuilding.

Figure 1: Capture of Atlantic cod 1950-2005

Capture of Atlantic Cod 1950–2005



Source: FAO Fishery Statistics programme (FIGIS Online).

Sofia 2006 also notes that “The situation seems more serious for certain fishery resources that are exploited solely or partially in the high seas and, in particular, for straddling stocks and for highly migratory oceanic sharks. This confirms earlier observations that the maximum wild capture fishery potential from the world’s oceans has probably been reached and reinforces the calls for more cautious and effective fisheries management to rebuild depleted stocks and prevent the decline of those being exploited at or close to their maximum potential.” This finding puts a question mark behind the track record and impact of some of current high seas fisheries management and conservation regimes, and the effectiveness of institutional arrangements tasked with conceiving and implementing such regimes.

Adverse and largely uncertain ecosystem effects related to the massive removal of top predators have been studied by Worm *et al.* in 2006. Fisheries related impacts are making systems more vulnerable, less predictable, and possibly accelerating or compounding the adverse effects of overfishing.¹⁸ More importantly, the same group of scientists predicted a collapse¹⁹ of all taxa currently fished by the middle of the twenty-first century (40 years from now) – under a scenario of prevailing current trends. Although these results have been questioned from members within and outside the scientific community, they emphasize the extremely delicate “phase” that world fisheries have entered.

One should also exert caution as not to overemphasize the depletion of one set of resources over another. Maguire *et al.* (2006), pointing out the grim status of key oceanic fisheries resources, note that: “About 30 percent of the highly migratory tuna and tuna-like species, more than 50 percent of the highly migratory oceanic sharks, and nearly two-thirds of the straddling stocks (including other high seas stocks) are considered overexploited or depleted. While it is important to manage these fisheries responsibly, it is also appropriate to put them in perspective: most fishing occurs within EEZs, and fisheries for other high seas fish stocks, for which there is concern about the adequacy of governance instruments, account for a small fraction of the total catch. Legitimate concerns about other high seas fish stocks should not divert efforts to apply the Code of Conduct for Responsible Fisheries to EEZ fish stocks and fisheries that need urgent attention, particularly small-scale coastal fisheries upon which millions of people are critically dependent.”²⁰

With respect to the recurring debates on whether fisheries, or rather a set of other factors (such as pollution or climate change) might be responsible for the massive declines in stock abundance and species diversity observed in commercial fisheries throughout the world, Worm *et al.* note in 2007,²¹ that “Although there may be disputes about driving causes in individual cases, for global fisheries as a whole there is no reasonable doubt that most major declines in stock biomass and in corresponding yields are due to unsustainable levels of fishing pressure.”

2.1.3 World fishing fleet evolution

In 1992, the number of fishing vessels had increased to 3.5 million units (26 million GRT), representing an increase of 136 000 vessels over 1989.²² The rate of increase had slowed down since the early 1980’s. The Asian fleet made up 42 percent, and the Russian Federation 30 percent of the world fleet in GRT (excluding non registered small scale vessels). In 1992, the world’s fishing fleet represented 30 percent of the world’s total shipping over 100 GT. The world fishing fleet – as a result of poor economic performance (overcapacity and dropping catch rates) – was estimated to incur losses in excess of USD50 billion per year. This gave rise to slow replacement of old vessels, a noticeable dip in new constructions having been detected as of 1990. Falling catch rates per GRT on a global level had been established since the 1970s, and were ongoing. Solutions to the overcapacity problem and the coming of age of national fleets have been addressed by States in different ways, some evaluating the options of scrapping, refitting or rebuilding fleets, others attempting to transfer fleets to non-adjacent areas through joint-venture arrangements and bi-lateral or multi-lateral fisheries agreements. There was a marked concern in 1995 that the ageing of the world fleet also entailed the decline of its efficiency – aggravating the competition for available resources.

At the end of 2004, the world fishing fleet consisted of an estimated 4 million units, an increase of a further 500 000 units (or > 14 percent) over 1992 figures. 1.3 million of these units were decked and engine powered units. Of the other units (2.7 million), about a third is powered. Asia now accounted for 86 percent of all decked vessels, followed by Europe (7.8 percent) and North and Central America (3.8 percent).²³ The world

¹⁸ Worm, B. *et al.* (2006). Impacts of Biodiversity Loss on Ocean Ecosystem Services. Science. Vol. 314. pp. 787-790.

¹⁹ “Collapse” is defined as a >90% decline in baseline abundance.

²⁰ Maguire, J.J. *et al.* (2006). The state of the world highly migratory, straddling and other high seas fish stocks, and associated species. FAO TP 495.

²¹ Worm, B. *et al.* (2007). Response to Comments on “Impacts of Biodiversity Loss on Ocean Ecosystem Services”. Technical Comment. Science. Vol. 316. 2p.

²² FAO (1995). The State of World Fisheries and Aquaculture – 1995. FAO, Rome. Page 16. This includes all decked and un-decked vessels – including non motorized small-scale vessels.

²³ There is a likely artefact in these numbers, when comparing them to the previous paragraph (1992 situation), as SOFIA 2006 is unclear about which continent the former Russian Federation fleet is attributed to. SOFIA 2006 (pages

situation with respect to capacity reduction schemes is very colourful. The EU and China have put in place capacity reduction schemes in 2003²⁴ and 2002 respectively. Developed fishing nations such as Norway, Japan, the Russian Federation and the United Kingdom, have effectively reduced units – however without significant reduction in fishing power (in terms of KW, and disregarding technological improvements and rampant catch efficiency). Table 1, adapted from Table 9 of SOFIA 2006, provides a snapshot of fleet evolution of seven major fishing nations or blocks between 2000 and 2005 (their combined marine catches range between 38 and 41 percent of the world total).

Table 1: Evolution of world fleets between 2000 and 2005 – selected countries

Country and fleet characteristics		2000	2005	Evolution (in %)
China	Number	487 297	513 913	5.5
	Tonnage (GT)	6 849 326	7 139 746	4.2
	Power (KW)	14 257 891	15 861 838	11.2
EU-15	Number	95 501	83 677	-12.4
	Tonnage (GT)	2 022 244	1 791 195	-11.4
	Power (KW)	7 632 221	6 787 611	-11.1
Iceland	Number	892	927	3.9
	Tonnage (GT)	175 099	177 615	1.4
	Power (KW)	438 526	447 260	2.0
Japan	Number	337 600	320 010 ¹	-5.2
	Tonnage (GT)	1 447 960	1 342 120 ¹	-7.3
	Power (KW)	–	–	–
Norway	Number	13 017	7 723	-40.7
	Tonnage (GT)	392 316	373 282	-4.9
	Power (KW)	1 321 060	1 272 375	-3.7
Republic of Korea	Number	89 294	87 203 ²	-2.3
	Tonnage (GT)	917 963	721 398 ²	-21.4
	Power (KW)	13 597 179	16 743 102 ²	23.1
Russian Federation	Number	2 653	2 256	-15.0
	Tonnage (GT)	2 424 035	1 176 211	-51.5
	Power (KW)	2 808 349	1 942 064	-30.8

Source: FAO (2006). SOFIA. (¹ 2003 figures; ² 2004 figures)

While the EU-15 block has effectively managed to reduce its domestic fleet by 12.4 percent, hand in hand with a similar reduction in fishing power (11.1 percent), Norway and Korea stand out for capacity reduction strategists where units have been lost (an astonishing 40.7 percent for the Norwegian fleet), while fleet power has either been maintained or substantially increased. In the Russian Federation, half the tonnage has been decommissioned over the five-year period ending 2005, resulting in a much larger decommissioning of power, than number of units – which represents the atypical situation.

China, the world's top fish producer and a noteworthy distant water fishing nation (DWFN), has not managed to adjust capacity in any domain, having added 5.5 percent of new units, almost the same in tonnage, and over 10 percent in power. Korea beats China's figures with a fishing power surge of a whopping 23.1 percent. Iceland – a net increase country between 2000 and 2005, has in fact reduced its fishing capacity in the three categories since 2001 (not reflected in the Table).

The emerging global picture is that the expansion of the world fishing fleet in numbers of units is probably levelling off. For the selected countries in Table 1, the combined evolution in numbers of units shows a drop of 6.9 percent. Overall tonnage for the same group of countries has dropped by 24.4 percent, but overall power has expanded by 5.4 percent. Capacity evolution varies wildly between countries. Even for the European Union (EU), it is not clear if the global capacity trend of its fleet is negative, such as suggested in Table 1. Spain, a prominent EU fishing nation, figures amongst those countries where a vessel is more likely

25 and 26) also notes major imperfections in collecting global fishing fleet data – hence conferring a *limited value* to trend analysis.

²⁴ The EU “Entry-Exit” scheme, requiring that new fishing vessels be directly compensated by the withdrawal, without public aid, of equivalent capacity.

to be exported than to be decommissioned, when being replaced with a new one – resulting rather in a geographic transfer of capacity, than in global net capacity reduction. A 2001 European Parliament report estimated that over 10 percent of its fleet (i.e. 3 721 vessels) under EU beneficial ownership was registered under flags of convenience (FOCs).²⁵

2.2 Aquaculture

Like fisheries, aquaculture is a sector which has been in existence for a few thousand years already. Although fundamentally different from capture fisheries in the way aquaculture operates, article 9 of the Code is dedicated to *Aquaculture development*. Aquaculture is to be likened to farming, as fishing is to be likened to hunting. Apart from the fact that both produce fish, consume vast amounts of energy, and target similar markets, few commonalities exist between these sectors. The challenges they face are often grossly different.

It is necessary to underline that aquaculture, in the same vein as farming or fishing, covers the entire range from extensive small-holder systems producing for family or community sustenance, to cash-intensive super-farms operating purely for profit and returns on investment.

2.2.1 Legal framework

In the countries where aquaculture existed in the past (especially in Asia), legal frameworks to regulate the activity have been in place for a long time. Those texts generally dealt with land tenure issues related to fish ponds, and regimes ruling the commons (lakes, streams and land) used to develop such activities. In countries where aquaculture was not a mainstream activity, none or very little legal substance was in existence to regulate this activity until well into the seventies, eighties and nineties of the twentieth century. This is fundamentally different from fisheries law, which has been in existence under various forms in most coastal and landlocked States for centuries.

Aquaculture law in general is hence a still relatively new discipline. In contrast to fisheries, aquaculture is much more affected by a large number of related legal issues, which include land tenure, water, environment, food safety and fish health law.²⁶ Developing aquaculture laws in line with existing regulations in these other domains (i.e. without creating conflicting regimes) remains a challenge for most countries. The environmental dimension of aquaculture development is one of the issues which has caused most concern, and received more and more attention over time.

Industrial aquaculture expansion can be traced back to the late sixties. Early ventures in shrimp and salmon aquaculture – all protein consuming high-end luxury species – (Asia, Latin America and Europe) made for large profits, and created a gold rush effect. Expansion was rapid and largely unregulated, causing significant environmental damage in coastal zones throughout the world. Aquaculture development was facilitated by major scientific advances in spawning and rearing brood stock in captivity, diet formulation and feed manufacturing processes, as well as selective breeding techniques and fish genetics. Legislators in general faced a fast-evolving sector which was hard to keep up with, lest to regulate. Today, like a range of Pacific Island States for instance, a host of countries still lack aquaculture regulations altogether.

By the early 1990s, a wide array of countries had started to include provisions for aquaculture in their fisheries acts. The assimilation of aquaculture provisions inside fisheries acts remains a widespread feature of aquaculture law today, and should also be understood as a sign that regulators were uncomfortable about, or incapable of providing their fast developing aquaculture sectors with dedicated and comprehensive framework laws. Many of the provisions in fisheries acts were partial and many texts limited themselves to providing a set of enabling clauses for later aquaculture regulation.

Where aquaculture legislation was developed, it has often been only partial in scope, addressing pressing issues of the moment. Legislation overall was limited, uncertain and inappropriate, and often hindered the sustainable and responsible development of the sector. Limited regulation was partly driven by external

²⁵ European Parliament (2001). Revised working document 3; On the role of flags of convenience in the fisheries sector. Committee on Fisheries. DT\452747EN.doc; PE 309.162/REV. 5p.

²⁶ Many of the basic ideas in this section are sourced from chapter 7 on fisheries. In FAO (2002). Law and Sustainable Development since Rio. Rome, FAO. 376p.

factors, such as the need to enact food security laws to comply with quality standards of importing nations, or domestic environment law, which sought to protect coastal zones and specific ecosystems (e.g. mangroves) endangered by indiscriminate aquaculture development.

The development of aquaculture legislation is a process that has been drawn out, and cannot readily be segmented into particular phases or “moments”. Still today it ranges from “none” in some places, to “partial” in others, to “comprehensive” in yet other countries. While some nations developed comprehensive frameworks rather early on, others – as indicated earlier – remain without any framework at all to date. However, there seems to be a noticeable trend towards more comprehensive control and regulation over aquaculture sectors. One of the indicators for such a trend is the development of more and more stand-alone base laws dealing exclusively with aquaculture.

In the same way as some would argue that aquaculture as a sector would have greatly benefited from having been endowed with a *Code of Conduct for Responsible Aquaculture* of its own (instead of being assimilated into a text essentially focusing on fisheries), many fisheries administrations have started to realize that the profoundly different nature of the two sectors actually calls for dedicated texts sustaining the responsible development of the sector.²⁷ However, past practice, and the fact that fisheries and aquaculture share similar needs in post harvest legislation, also often implies a partial rethinking of fisheries base laws for reasons of legislative coherence.

By way of an example, the situation of Angola would appear typical of many developing countries still today. Angola revised its fisheries law in 2003, and adopted its new Law on Living Aquatic Resources in 2004. While the proposal of separating aquaculture from fisheries had been strongly suggested by a host of technicians on the drafting team at the time, proposing to subsequently endow aquaculture with a distinct, comprehensive and dedicated text, this was decided against for reasons of institutional and technical capacity constraints. In Madagascar, the 1993 Ordinance on Fisheries and Aquaculture has recently undergone a full review, and the final draft of the new fisheries ordinance that was submitted to government for consideration at the end of 2007 has separated fisheries from aquaculture – arguing that these two essentially different sectors needed stand-alone and dedicated base laws.

In countries, where fish farming is a more prominent activity, dedicated base laws have been in existence for a while. Examples would include Peru, and its 2001 Aquaculture Promotion and Development Law, or the New Zealand Marine Farming Act, which dates back to 1975, and was put in place two decades before the Code was published.

Since aquaculture development is a mostly national affair, and as such a sovereign matter, no binding international agreements or conventions ruling aquaculture exist. The Code of Conduct and other similar voluntary Codes dealing with aquaculture in particular represent the mainstream international avenues to help regulate the sector on the larger scale, and to encourage responsible practices. Relevant policy instruments that have been developed since 1995 include, but are not limited to the Bangkok Declaration and Strategy of 2000,²⁸ the Code of Conduct for European Aquaculture of 2000, and the International Principles for Responsible Shrimp Farming, 2006.²⁹ These instruments represent efforts to go beyond the Code, and develop more detailed principles, guidelines and best practices for a wide-ranging set of issues relevant to aquaculture policy and law making, and sustainable industry development.

²⁷ Text box 1 (page 8) of the Technical Guidelines. No. 5 “Aquaculture development” states: “*Frequently, aquaculture is still under a general fisheries basic legislation, and is often not being recognized as the aquatic equivalent to agriculture. There is much scope for increasing awareness of both public institutions and the the general public about aquaculture and its similarities with agriculture.*”

²⁸ NACA/FAO (2000). Aquaculture Development Beyond 2000: the Bangkok Declaration and Strategy. Conference on Aquaculture in the Third Millennium, 20–25 February 2000, Bangkok, Thailand. Bangkok, NACA and Rome, FAO. 27p.

<ftp://ftp.fao.org/docrep/fao/006/ad351e/AD351e00.pdf>

²⁹ FAO/NACA/UNEP/WB/WWF (2006). International Principles for Responsible Shrimp Farming. Network of Aquaculture Centres in Asia-Pacific (NACA). Bangkok, Thailand. 20p.
www.globefish.org/files/shrimp-principles-2006_530.pdf

2.2.2 Aquaculture and the environment

One of the most important issues facing aquaculture development is its impact on the environment. These impacts include, *inter alia*, genetic impacts on wild fish stocks, on water quality, as well as land use for the development of fish ponds.

Since the avenue of intensive coastal aquaculture in Asia and Latin America, hundreds of thousands of hectares of coastal mangrove stands have given way to shrimp farms,³⁰ and have profoundly modified coastal ecosystems and their integrity. Mangroves provide coastal communities with a range of “*ecological services*” which include, but are not limited to the prevention of coastal erosion, the protection of coral reefs, the provision of nursery grounds for commercial species, and a source of timber, food and traditional medicines. The 2004 tsunami which ravaged the shores of the Indian Ocean basin in South-East Asia, South Asia and Africa showed that human mortality and the destruction of infrastructure inland was substantially lower in coastal areas where mangrove stands had remained intact.³¹ The same finding applied to super-cyclone *Orissa* which devastated India’s east coast in 1999. In a punishing way, these events brought home the fact that human impacts on coastal ecosystems and environments are creating extreme vulnerabilities directly affecting the same populations. One of the important causes for mangrove clear cutting throughout the region is coastal fish pond development for aquaculture.

However, impacts of aquaculture on the environment are certainly not limited to mangrove clear cutting. The potential impacts of aquaculture on the environment had been singled out throughout UNCED’s Agenda 21. Some of those mentioned include the hazards related to new species introductions,³² or the need to consider aquaculture in “*the environmentally sound management of freshwaters and related coastal ecosystems*”.³³ This was part of a growing trend in global awareness that marked the late eighties and early nineties. In 1997, Barg and Philips state: “*During the last decade, issues such as sustainable development, environmental interactions and long-term sustainability of aquaculture received increasing attention at local, national and international levels (...). The need to address environmental interactions and sustainability issues for the benefit of sustainable aquaculture development has been reiterated at several global intergovernmental conferences, including the World Food Summit (WFS, 1996), the International Conference on the Sustainable Contribution of Fisheries to Food Security (FAO/Japan, 1995), and the FAO Ministerial Conference on Fisheries in 1995 (FAO Ministerial Conference, 1995). Awareness of the major beneficial and adverse environmental interactions of aquaculture is also reflected in UNCED Agenda 21, Chapters 14, 17 and 18.*”³⁴

In the mid-nineties, the debates on sustainable aquaculture focused largely on the environmental impacts of capital-intensive shrimp and salmon farms in coastal areas, while other forms of inland and subsistence aquaculture producing protein at affordable rates for rural consumers were often being neglected in the debates.³⁵ However, the need to provide enabling environments for the sustainable development of aquaculture activities across the entire range of the spectrum, and providing a basis for poverty alleviation and enhanced food security through aquaculture contribution, had been stated in various forms. In this vein, the World Food Summit in 1996 agreed “*to promote the development of environmentally sound and sustainable aquaculture well integrated into rural, agricultural and coastal development*”.³⁶ This had earlier been reflected in Chapter 14 of Agenda 21, where it states: “*To enhance the self-reliance of farmers in developing and improving rural infrastructure, and to facilitate the transfer of environmentally sound technologies for integrated production and farming systems, including indigenous technologies and the sustainable use of biological and ecological processes, including agroforestry, sustainable wildlife*

³⁰ By 2002, Thailand alone was estimated to have sacrificed some 65,000 ha of mangrove stands for shrimp pond development (Upadhyay, Ranjan and Singh, 2002).

³¹ A host of relevant sources back this assertion. A range of testimonials can be found under: <http://www.twinside.org.sg/title2/gtrends39.htm>

³² See: UNCED (1992). Agenda 21, Chapter 17. Paragraph 17.83.

³³ See: UNCED (1992). Agenda 21, Chapter 18. Paragraph 18.39 (h).

³⁴ Barg, U. and Philips, M.J. (1997). 2.4 Environment and sustainability. In Review of the state of world aquaculture. FAO Fisheries Circular. No. 886, Rev.1. Rome, FAO. 1997. 163p.

³⁵ Idem.

³⁶ World Food Summit (1996). World Food Summit Plan of Action, paragraph 32 (g). in Rome Declaration on World Food Security and World Food Summit Plan of Action; World Food Summit, 13-17 November 1996, Rome, FAO. 43p.

*conservation and management, aquaculture, inland fisheries and animal husbandry;*³⁷ The ideas of “sustainable use of resources” and “environmentally sound practice” as applied to aquaculture are deeply anchored in all texts.

In 2006, referring to the environmental dimension of aquaculture, FAO³⁸ reported that: “*Over the past five years, considerable progress has been made in the environmental management of aquaculture, addressing many of these key concerns. Public pressure as well as commercial pressure or common sense has led the aquaculture sector to improve management, and increasingly it is recognized that aquaculture has positive societal benefits when it is well planned and well managed.*”; adding that significant increases in global awareness and sensitivity towards the environmental issues related to aquaculture had been achieved over the past decade.

The report asserts that improved management regimes of coastal and inland facilities have significantly reduced aquaculture effluents and waste through a variety of recently developed techniques, including filters, sedimentation ponds, biofiltration,³⁹ etc. – and leading in some cases to operations producing discharges close to zero. For the Mediterranean basin, in 2005, it was estimated that aquaculture contribution to N and P loading was less than 0.1 percent of the total loading originating from agriculture and sewage.⁴⁰ The report adds that: “*Most published studies concerning the impact of aquaculture wastes conclude the only significant impacts are localized effects from organic pollution on the sediments.*”

Improvements in salmon feed technology and management have led feed conversion ratios to improve over time, reducing the organic and nutrient discharges into surrounding waters.

Area management, the introduction of mandatory Environmental Impact Assessments (EIA) for new aquaculture developments, and the assessment of the carrying capacity of the aquatic environment has led to a practice in a range of countries where environmental impacts are now mitigated through environmentally suitable site selection.

With respect to mangrove clear cutting, the 2006 State of World Aquaculture (SOWA) report notes that greater awareness of the importance of mangroves has induced many concerned governments to put in place legislation protecting mangrove forests, and regulating their use, all the way to banning further clearing.⁴¹ Although implementation is still uneven amongst countries, various studies suggest that globally, less than 10 percent of mangrove habitat loss is directly attributable to aquaculture. Mangrove replantation and restoration projects exist in Asia, Africa and Latin America, and some have managed to restore important stands previously destroyed by aquaculture development.

Other areas, such as fish feed production and contaminants and residues also have important environmental dimensions.

Major advances in feed production technology and intensive research into alternative feeds are noted – necessary to reduce the dependence on fishmeal and fish oils and avoid the so-called “fishmeal trap” (FAO, 2002)⁴², which has the potential of stunting worldwide growth of the feed-based sector sooner or later. Freshwater aquaculture is the front runner in adopting alternative feeds and altering feed composition, benefiting from greater opportunities in sourcing non-marine feed ingredients, such as slaughter house wastes, brewery wastes, and agriculture milling byproducts.

³⁷ See: UNCED (1992). Agenda 21, Chapter 14. Paragraph 14.26.b.

³⁸ FAO (2006). State of world aquaculture 2006. FAO Fisheries Technical Paper. No. 500. Rome, FAO. 134p. Note: most of the points raised in this latter part of this section originate from chapter 5 (*Resource use and the environment*) of that Technical Paper.

³⁹ Neori, A., Chopin, T., Troell, M., Buschmann, A.H., Kraemer, G.P., Halling, C., Shpigel, M. and Yarish, C. 2004. Integrated aquaculture: rationale, evolution and state of the art emphasizing sea-weed biofiltration in modern mariculture. *Aquaculture*, 231: 361-391.

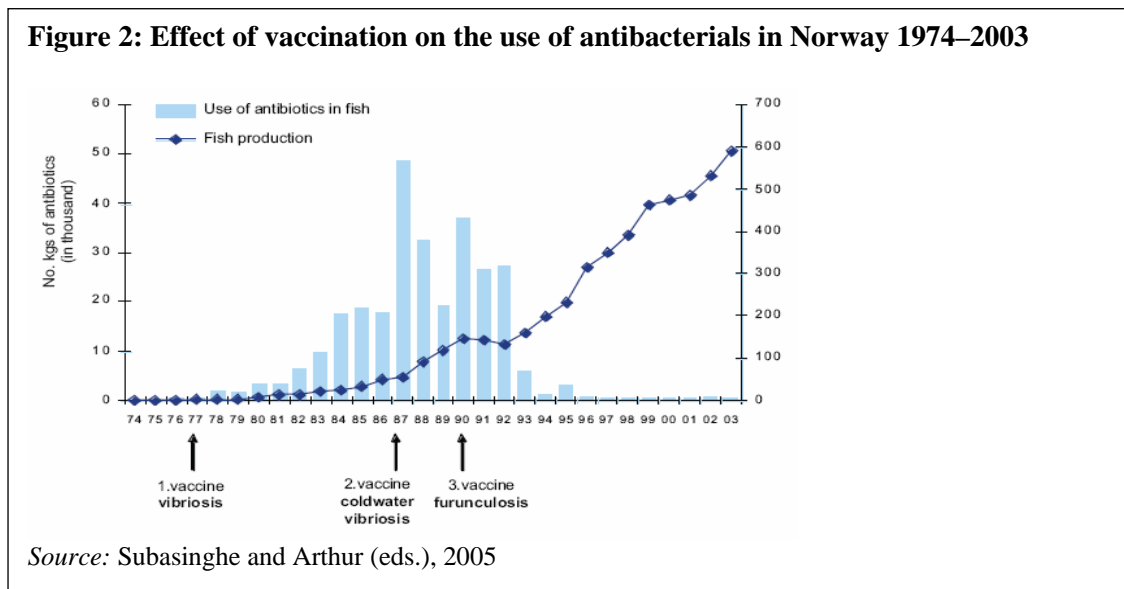
⁴⁰ Karakassis, I., Pitta, P. and Krom, M.D. (2005). Contribution of fish farming to the nutrient loading of the Mediterranean. *Scientia Marina*, 69: 313–321.

⁴¹ The ban of mangrove clear cutting for shrimp farming now applies to almost all of Asia.

⁴² FAO (2002). Use of fishmeal and fish oil in aquafeeds: further thoughts on the fishmeal trap, by New, M.B. & Wijkstrom, U.N. FAO Fisheries Circular. No. 975. Rome, FAO.

The use of therapeutic drugs in intensive fish farming has also changed for the better in recent years. Therapeutics include agents used for the effective treatment, and/or prevention of disease, and include antimicrobials (including antibiotics), antiparasitics, fungicides, biologics, hormones, chemicals, solutions, and other compounds. SOWA 2006 notes that: “*The use of therapeutics, especially antibiotics, is now strongly regulated in many countries, again due to the strict requirements of many nations, including importing markets. Antibiotic use has diminished significantly in some countries after the development of fish vaccines, as with salmon in Norway; the sharp decline took place after the vaccine against furunculosis caused by the bacteria *Aeromonas salmonicida* was developed.*” (see Figure 2). Overall, the use of chemicals and pesticides has dwindled due to tighter regulation and the stringent demands of export markets, as well as in relation to better management techniques (such as “cluster management” of small-scale shrimp farmers). Many antibacterials and veterinary drugs are banned from use in aquaculture.

Overall, there is an emerging picture of more environmentally aware operations, producing lesser impacts on the environment. However, the distribution of improvements, and deteriorations, is uneven, and a lot more remains to be achieved. However, the overall trend in aquaculture seems to be pointing towards operations which are more environmentally aware, better planned, more responsible and sustainable in 2008, than they were back in the early nineties.



2.3 Trends and status in world fish supply and utilization

Global production in 1995, all capture and aquaculture sources combined, stood at 116.1 million tonnes. Annual per capita food fish supply was estimated to stand at 15.3 kg. In 1997, per capita fish supply in LIFDC was about half that of the richest countries. This had been standing at only a fifth in the early 60s – marking a gradual closing of the gap.⁴³ In 1995, aquaculture was providing just over one fifth of overall world fisheries production.

In 2005, total world fisheries production had risen to 141.6 million tonnes.⁴⁴ Annual per capita food fish supply was estimated to stand at 16.6 kg – the highest ever recorded. Aquaculture was now supplying over a third of world fish production, and had virtually doubled total output from 15.8 million t in 1993⁴⁵ to 47.8 million t in 2005.⁴⁶ With world capture fisheries supply firmly level, this goes to underline the importance of aquaculture production and development in supplying the world with protein for human consumption. The Asia-Pacific region produces 91.5 percent of the world aquaculture production.⁴⁷ Europe produces 3.54 percent, Latin America and the Caribbean 2.26 percent, and sub-Saharan Africa a mere 0.16 percent of the

⁴³ See: FAO (2000). The State of World Fisheries and Aquaculture – 2000. FAO, Rome. Page 30.

⁴⁴ FAO (2006). The State of World Fisheries and Aquaculture – 2006. FAO, Rome. 162p.

⁴⁵ FAO (1995). The State of World Fisheries and Aquaculture – 1995. FAO, Rome. 55p.

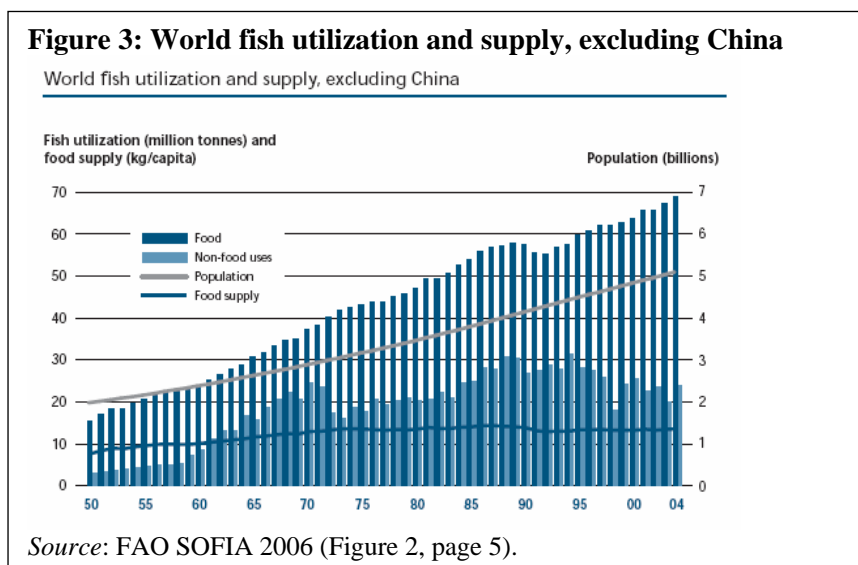
⁴⁶ These figures exclude aquaculture production of aquatic plants

⁴⁷ FAO (2006). State of world aquaculture 2006. FAO Fisheries Technical Paper. No. 500. Rome, FAO. 134p.

world production (2004 figures). This highlights the importance of Asia (and China in particular⁴⁸) as the world's fish production power house.

World fish consumption for non-food uses have fluctuated (mostly) between 20 and 30 million tonnes annually since the late 1960s, and have actually displayed a downward trend since the mid-nineties (see Figure 3). Long term trends show that *per capita* availability of food fish has almost doubled between 1950 and 2005, which in many senses is counterintuitive to the looming world fisheries crisis that many scientists are warning of.

World trade in fisheries products is likely to have doubled between 1995 and 2008 (export value). In 1995, the export value of all traded seafood products was slightly more than USD50 billion. In 2006, this figure had risen above the USD90 billion mark. Over the 13 year period under review, total production will probably have risen by some 30 percent over 1995 figures, while prices in export value will have doubled.⁴⁹ This phenomenon indicates that seafood as a global commodity has substantially gained in value, and that its importance to national economies and the global economy is rising. Some of the high-value species, combined with deteriorating stocks, have seen their values go through the roof. By way of an example, in the United Kingdom, Cod used to cost 6£/kilo in 2003 – already substantially up from prices paid for Cod in the late nineties. This price stood at 30£/kilo in 2008. Today, many European consumers complain that fish is becoming “unaffordable”.



3. CODE IMPLEMENTATION EFFORTS SINCE 1995

3.1 What “implementation effort” means and how it can be measured

This section sets out to gain an insight into what kind of efforts have been undertaken by a range of relevant national, regional and international actors in furthering the implementation of the Code. The Code being a soft law instrument, its implementation can be *soft* in many ways too. Some of the principles inherent to the Code stem from binding arrangements – and will hence be transcribed into national legal frameworks over time. However, many of its other principles are non-binding in nature, represent suggested best practice in many cases, and would often translate into policy first, and later into applied management practice, and then possibly into law – but not necessarily.

The fact that the Code talks in common sense terms to responsible politicians, managers, fishers and aquaculturists, setting out to exploit fisheries resources in a sustainable manner, makes the analysis of

⁴⁸ China's contribution to total Asian aquaculture production in 1992 was 60 percent. In 2004 it had expanded its contribution to total Asian production to 75 percent.

⁴⁹ 2008 figures are not yet available, but are likely to hit projected levels (i.e. 147 million tonnes of production and >USD100 billion in export value).

implementation efforts a little problematic. A host of actions fully in line with the Code's spirit and principles have been implemented across the world since the publication of the Code – but not necessarily through inspiration of the Code, and/or not necessarily in making reference to the Code. A great many such actions actually predate the Code by decades. Other actions have been clearly inspired by, and linked to the Code. Some of these, such as a host of FAO activities, are directly aimed at promoting the Code's integration into national, regional and international efforts targeting the responsible management of fisheries resources.

However, in terms of managing the world's fisheries resources in a more sustainable and responsible manner, it is of lesser relevance whether *good* actions have been implemented in direct response to the Code, or simply through independent analysis and responsible, environmentally and socially aware decision making – in line with the Code.

This section is mindful of the context in which relevant national, regional and international actors operate, and seeks to establish in how far the Code was promoted, and in how far Code principles were directly or independently implemented.

3.2 Country-level implementation

3.2.1 Monitoring efforts to date

The Code's implementation by countries – at government and fisheries administration levels – is the starting point for the analysis. It is at this level, where policy making and management practice will yield direct insights into what has been done until now to implement the provisions of the Code. For all stocks falling under the management responsibility of sovereign States, whether landlocked or coastal, whether fisheries or aquaculture, it is the policy letters and the regulatory frameworks put in place by individual countries that will provide a “front line” indication of Code implementation.

Background material on which such a global analysis can be based is not available in plentiful supply. Although good sector analyses do exist for a wide range of countries throughout the world, they are generally not trying to establish in how far Code provisions have been weaved into policy and regulatory mechanisms – and would involve a lot of reading between the lines if one were limited to using such reports in order to come up with a coherent picture.

FAO, through its mandate to monitor progress in Code implementation (see section 1.2.), has prepared synthetic reports to COFI on a biennial basis. The first one of these reports was produced in 1998 (published in 1999), and overall, six have been produced to date,^{50,51,52,53} including the 2008

Box 4: Weaknesses of the FAO questionnaire and biennial monitoring of Code implementation, identified in an auto-evaluation exercise of 2008, executed by FAO's evaluation service.

- *The monitoring is based on self-assessment with no external control of the information provided by countries (and organisations) in the questionnaires. In addition to there being an element of member countries possibly not wanting to report on their problems but rather give a positive description of their efforts, biases may also occur because of how questions – as well as answers – are interpreted.*
- *There is a lack of clearly defined bench marks that can be quantitatively measured in an objective way.*
- *The response rate is low and it is hence not possible to arrive at a global situation analysis.*
- *The questionnaire does not contain enough questions allowing for more detailed analysis of progress and there is not enough focus on constraints.*
- *Different countries are at different implementation stages and it is difficult to have one questionnaire covering all potentially available scenarios.*
- *The way the “trend” analysis is made does not appear to give solid results. The report only gives a comparison with the last biennial survey and do not include the full time series of available results. The analysis is likely to be compromised by changes in response rates and depend on which individual countries have participated in the different surveys (unless it can be assumed that the countries responding – the sample – are representative of all member countries).*

⁵⁰ FAO (2000). Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action. COFI/2001/3. Rome, FAO.

⁵¹ FAO (2002). Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action. COFI/2003/3. Rome, FAO.

report, which is to be submitted to COFI in 2009. These reports seek to establish how far regulators, NGOs and RFBs have come in adopting and implementing provisions of the Code on a global scale.⁵⁴ Information from these three entities is collected through a biennial Code implementation monitoring questionnaire (BCIMQ).

FAO has also produced four independent assessments of Code implementation, focusing on article 9 (Aquaculture development) of the Code, to inform COFI Sub-Committee on Aquaculture sessions in 2002, 2003, 2006 and 2008.⁵⁵ FAO also produced a single independent report on the implementation of article 11 of the Code (Post-harvest practices and trade), to inform COFI Sub-Committee on Fish Trade which was held in Bremen in June, 2008.⁵⁶ All five of these reports source their data from the BCIMQ, and are not substantially different from the mainstream reports – with the difference that they only look into aquaculture matters on one hand, and trade on the other, and provide a little bit more analysis.

The University of British Columbia has carried out an overall assessment of “compliance” of 53 selected countries (representing 96 percent of world marine fish catch) with the Code’s article 7 (fisheries management) under a separate and independent initiative in 2006.⁵⁷ Its results have been reported from various sources to suffer from a host of similar drawbacks troubling the FAO biennial monitoring reports.

In 2006 and 2007, FAO also published a series of reviews of the state of world marine capture fisheries management for the Indian and Pacific oceans, based on work carried out in 2003.^{58,59} Although these provide useful insights with respect to the management framework of a large number of countries bordering these ocean basins, the questionnaires on which the reviews have been based were not trying to establish in how far Code provisions had been adopted and/or implemented. Although useful at individual country level, it limits the use of the reviews in establishing implementation of Code provisions on a wider basis.

The biennial Code implementation monitoring reviews produced by FAO for COFI represent the most reliable information currently in existence. However, this source also suffers from a set of limitations. The reviews are based on a questionnaire that was first developed and sent out to FAO members in 1998. The questionnaire has changed little since 1998 – allowing for the repeated collection of same data. This in itself is an asset, as it enables analysts to establish trends. However, data analysis itself has evolved over time. In 2002, a statistical appendix was first produced, which tried to quantify a range of the responses given by countries, and complementing the basic text. This appendix was substantially refined in 2004. This entails that 2006 data have few data to compare against, except those of 2004 – limiting trend analysis.

It is the number of returns from FAO members (see Table 2) and the quality of responses that cause most concern. On one hand, the relative number of returned questionnaires from any given continent is not sufficient to establish meaningful statistics representative for whole continents,⁶⁰ and on the other hand the quality of responses are questionable on many occasions – responses to any given field of enquiry sometimes reflecting more the ideal situation toward which fisheries administrations strive, rather than providing responses to the factual status of affairs. Box 4 provides a list of weaknesses as reported in an internal FAO

⁵² FAO (2004). Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action. COFI/2005/2. Rome, FAO.

⁵³ FAO (2007). Progress in the implementation of the 1995 Code of Conduct for Responsible Fisheries, related international plans of action and strategy. COFI/2007/2. Rome, FAO.

⁵⁴ The 1998 questionnaire was only addressed to FAO Member countries.

⁵⁵ e.g. FAO (2006). Progress made on the implementation of the aquaculture related provisions of the Code of Conduct for Responsible Fisheries. FAO Fisheries Sub-committee on Aquaculture Meeting document COFI:AQ/III/2006/3. New Delhi, India, FAO.

⁵⁶ FAO (2008). Monitoring implementation of article 11 of the code of Conduct for Responsible Fisheries. FAO Meeting document COFI:FT/XI/2008/9. Rome, FAO.

⁵⁷ UBC (2006). Evaluations of Compliance with the FAO (UN) Code of Conduct for Responsible Fisheries. Pitcher et al. (eds). Fisheries Centre Research Reports 14(2). 1191 pages.

⁵⁸ FAO (2006). Review of the state of world marine capture fisheries management: Indian Ocean. De Young, C. (ed.). FAO Fisheries Technical Paper. No. 488. Rome, FAO. 458p.

⁵⁹ FAO (2007). Review of the state of world marine capture fisheries management: Pacific Ocean. De Young, C. (ed.). FAO Fisheries Technical Paper. No. 488/1. Rome, FAO. 170p.

⁶⁰ With the exception of the North American continent, where the United States of America and Canada have both responded in some years, giving a 100% response rate and representative results for that continent.

auto-evaluation report, assessing the effectiveness in implementing FAO Programme Entity 2HA02 “Implementation of the Code of Conduct for Responsible Fisheries (including inland fisheries and aquaculture) and related instruments”.⁶¹

Table 2: Response rates to the FAO biennial Code implementation monitoring questionnaire

	1998 ⁶²	2000	2002	2004	2006
Responses from member countries (number of questionnaires returned)	69	103	105	49	70
Responses from member countries (% of total)	38%	56%	57%	27%	37%
Responses from IGOs (number of questionnaires returned)	N/A	4	N/A	N/A	N/A
Responses from RFBs (number of questionnaires returned)	N/A	14	19	17	19
Responses from NGOs (number of questionnaires returned)	N/A	4	5	4	9

Finally, the number of questions per article or Code-related instrument is limited – providing only a few insights into key domains of Code implementation. This largely owes to the fact that an inverse relationship exists between questionnaire length and questionnaire returns. The larger, more involved and more complicated the questionnaire, the less returns will be recovered. Figures and trends which are presented throughout the remainder of this chapter do hence provide ideas about status and global trends in fisheries, and do not apply to single countries, nor world regions, unless they are explicitly named as examples. Presented data should be viewed and used with weighted prudence – bearing in mind the nature of their statistical imprecision.

3.2.2 General country feedback on Code implementation

Throughout the period of monitoring, countries have been asked to provide feedback on which objectives and which themes of the Code are most relevant to them, and whether policies and legislation in the country were in conformity with the Code.

With respect to ranking Code objectives, the ranks assigned to these objectives have changed little since monitoring started in 1998. Table 3 regroups the overall priority ranks assigned to objectives since 1998.

It emerges from this Table that overall ranking of objectives has been very stable since 1998, except for objectives A and F. While the establishment of *principles for responsible fisheries considering all their relevant biological, technical, economic, social environmental and commercial aspects* (objective A) has evolved from high priority to top priority over time, the promotion of *the contribution of fisheries to food security and food quality giving priority to the nutritional needs of local communities* (objective F) has been slipping from top priority in 1998 to medium priority in 2006.

The rising importance of objective A would indicate a net increase in the importance of the Code in guiding national efforts in management planning and law making in line with principles of sustainability and responsibility as enshrined in the Code; i.e. using the Code as a reference tool to accomplish these tasks at the national level. The slipping of objective F, surprising in many ways, could well be due to the fact that per capita world fish supply has risen on a yearly basis over the last half century, that the gap between rich and poor nations in terms of per capita fish supply has constantly decreased, and that less attention is nowadays being paid to this objective as a consequence; on a purely needs-driven basis.

In terms of technical themes developed by the Code (its technical articles), the top three ranks assigned have virtually not varied at all since Code monitoring started, assigning ranks as follows:

⁶¹ Westlund, L. (2008) Auto-evaluation of Programme Entity 2HA02 (former 234A1) “Implementation of the Code of Conduct for Responsible Fisheries (including inland fisheries and aquaculture) and related instruments”. internal FAO evaluation report. in press. FAO, Rome.

⁶² In 1998, the first year of monitoring, the questionnaire was only sent to member countries and not to other organizations. Among the 69 returned questionnaires, only about half were complete.

1. Fisheries management (article 7)
2. Aquaculture development (article 9)
3. Fisheries research (article 12)

Table 3: Priority ranking of Code objectives by responding member nations since 1998

	2000	2002	2004	2006	Sum of ranks
Objective B: Establish principles and criteria to implement policies for the conservation of fishery resources and fisheries management and development.	1	1	1	2	5
Objective A: Establish principles for responsible fisheries considering all their relevant biological, technical, economic, social environmental and commercial aspects.	3	2	2	1	8
Objective F: Promote the contribution of fisheries to food security and food quality giving priority to the nutritional needs of local communities.	2	3	3	5	13
Objective E: Facilitate and promote cooperation in the conservation of fishery resources, fisheries management and development.	4	5	5	3	17
Objective G: Promote protection of living aquatic resources and their environments and coastal areas.	5	4	6	4	19
Objective I: Promote research on fisheries as well as on associated ecosystems and relevant environmental factors.	6	6	4	6	22
Objective J: Provide standards of conduct for all involved in the fisheries sector.	7	7	7	7	28
Objective C: Serve as an instrument of reference to improve legal and institutional framework for appropriate management measures.	9	8	8	8	33
Objective H: Promote trade in fish and fishery products in conformity with relevant international rules.	8	9	10	10	37
Objective D: Provide guidance to formulate and implement international agreements and other legal instruments.	10	10	9	9	38

Trade (article 11) has constantly scored lowest, and this reflects results in Table 3, as objective H “*Promote trade in fish and fishery products in conformity with relevant international rules*” ranks at the bottom of that list as well. This trend underlines one of the main weaknesses in countering illegal fisheries transactions on a global scale; i.e. countries are not investing enough efforts into certifying products, monitoring and controlling trade fluxes, and combating fraud at market level. In addition to this, this also signals that the market dimension of fisheries, the prime driving force of world fisheries, is still not readily integrated into the management of the sector world-wide.

With respect to overall figures on the conformity of national fisheries policy and legal frameworks with the Code, figures exist for 2002, 2004 and 2006. While the overall average of full conformity stood at 43.2 percent in 2002, it gradually increased to 49.2 percent in 2006. While both the United States of America and Canada reported to be in full conformity (giving 100 percent for the North American continent), only 36 percent of African nations reported to have achieved conformity. The overall intention to conform to the Code, for countries not conform as yet, rose from 26.1 percent in 2004 to 38.7 percent in 2006. Although these figures should be treated with due care, this set of figures would also indicate a trend of increased awareness and willingness of countries to integrate Code principles and mechanisms into national policy, legal and management frameworks.

3.2.3 Fisheries

This sub-section will be looking closely into the efforts that have been made by countries in implementing articles 7, 8, 10, 11 and 12 of the Code in the domain of fisheries. Article 6, which relates the general principles underpinning the Code is not analyzed, in order to avoid overlaps, as most generic article 6 provisions (e.g. preventing fishing overcapacity, applying the precautionary approach, etc.) are dealt with in detail in the ensuing articles, and/or related Code instruments (IPOAs, etc.) that are analyzed in section 3.2.5.

Article 7: Fisheries management

A limited amount of information on the adoption and implementation of fisheries management related principles enshrined in article 7 of the Code stems from the Biennial Code implementation monitoring questionnaire (BCIMQ). The information that is covered addresses the following domains:

- how many fisheries are endowed with fisheries management plans, and how many of those plans are actually implemented;
- what types of technical measures are adopted within those plans;
- information on the use of stock specific target reference points, their general status (exceeded or not), and potential remedial action;
- the use of the precautionary approach.

For this article, as for all others, this limited set of information falls far short of the scope of the article, and that a whole range of important issues, such as the ecosystem approach, adopted MCS mechanisms and sanctions, participation in relevant RFBs, etc. is not covered. This entails that the implementation of article 7 will largely hinge on the “indicators” that can be distilled from the four points covered in the above list.

With respect to management planning, there is one fundamental issue at stake which renders the interpretation of results difficult. The Code itself does not provide a definition of what a “*management plan*” stands for (see Code article 7.3.3). Still today, the interpretation of what a *management plan* is, how it is developed, what elements it contains, and how it is implemented, differs largely between people, countries, regions and continents. It is not uncommon for technicians related to the sector to call fisheries policy documents or fisheries regulations “management plans”. However, Technical Guidelines No. 4 on Fisheries management, in its Chapter 4, entitled “The management process”, as well as a range of other standard international texts,⁶³ provide a very clear definition and good guidance as to what a fisheries management plan is.

In the 2002 monitoring exercise, 36 African countries reported the combined existence of 139 inland and marine fisheries management plans – making it an average of almost 4 fisheries management plans per country. However, when looking at the list of countries that responded in 2002, and considering the present management frameworks in place (2008), it becomes clear that about 90 percent of these countries still today do not have a single classic⁶⁴ management plan in place. Among 10 African respondents in 2004, only 10 percent reported not to have any management plans in place (in actual fact, a maximum of one of the countries responding did have any classic fisheries management plan in place). In 2006, among 21 African respondents, 29 percent reported not to have any management plans in place – marking a seemingly harsh backward trend. These results reflect problems with the variability in results due to low questionnaire returns, as much as they reflect interpretation problems about what a management plan is, and what is not.

United States of America and Canada, on the other, report the combined existence of 210 fisheries management plans in 2002, a figure which rose to 277 in 2006. In this latter case, considering the technical capacity of fisheries administrations in North America, the information provided is deemed reliable, and the trend for increased management control over discrete fisheries through the use of formal management plans is noted.

⁶³ For an excellent and simple introduction into fisheries management planning, see for instance: Hindson, J. *et al.* (2005). How to manage a fishery. A simple guide to writing a Fishery Management Plan. Marine Resources Assessment Group (MRAG), London; Centre for Environment Education, Ahmedabad; Scales Consulting Ltd, London. ISBN 81-86385-98-3. 81p.

⁶⁴ As defined in Chapter 4 of the Code Technical Guidelines No. 4 on *Fisheries management*.

Overall, 20 percent of all countries responded not to have any management plans in place in 2004, rising to 26.3 percent in 2006. From experience, this backward trend is unlikely to reflect reality, but rather more a better understanding of what a management plan is, and providing more realistic feedback in country responses. Otherwise, these figures would imply the existence of situations where fisheries management plans existed, and where they were later dismantled and done away with. The 2004 report submitted to COFI noted on this subject that the obtained results at that time conveyed: “*mixed, and partially conflicting trends for fisheries management planning and implementation*”.⁶⁵ The most likely situation – not apparent from available results, but supported by empirical evidence and experience – is that the development of classic fisheries management plans in developing countries is largely stagnant (no significant up- or downward trend), as many of these countries continue to lack the technical capacity to developing them, as well as the capacity and resources to implement, monitor and adjust them.⁶⁶

Table 4: Priority ranking of adopted technical measures for managing marine fisheries by responding member nations since 2002

Marine fisheries – adopted technical management measures	2002	2004	2006	Average rank
Prohibiting destructive fishing methods and practices	1	1	1	1
Providing for stakeholder participation in determining management decisions	4	2	3	3
Providing for the protection of endangered species	2	5	2	3
Addressing selectivity of fishing gear	6	3	5	4.7
Ensuring the level of fishing is commensurate with the state of fisheries resources	4	7	3	4.7
Allowing depleted stocks to recover	2	6	7	5
Addressing the interests of small-scale fishers	7	4	6	5.7
Addressing biodiversity of aquatic habitats and ecosystems, including the identification of essential fish habitats	8	7	8	7.7
Addressing fishing capacity, including the economic conditions under which the industry operates	9	9	9	9
Making use of stock specific target reference points	10	10	10	10

With respect to technical measures adopted within management plans, a series of interesting results have been obtained for marine and inland water fisheries. Only technical management measures are analysed, as these are not necessarily inscribed within a formal management plan or framework. Tables 4 and 5 contain the collated data, available for 2002, 2004 and 2006.

The first salient result emanating from Tables 4 and 5 is that among the ten technical measures considered, the first priority has been attributed in all years and both fisheries to *Prohibiting destructive fishing methods and practices*.⁶⁷ This is an interesting finding, as it signals a broad and deep awareness about the impact of destructive fishing practices on stocks and habitat – and the recognized need to limit these impacts. Prohibiting destructive gears, such as poison or dynamite, is one of the simplest measures to adopt. Prohibiting classic and well established gears such as bottom trawls, rubbishing benthic habitats worldwide, though implicitly covered by the measure, is obviously not reflected in the answers – as bottom trawling remains one of the world’s most favoured fishing techniques. Very few countries, mindful of their sensitive benthic habitats – amongst them the Seychelles – have actually enacted and enforced total national bans on bottom trawling.

⁶⁵ FAO (2005). Progress in the implementation of the Code of Conduct for Responsible Fisheries and related International Plans of Action. COFI/2005/2. Rome, FAO.

⁶⁶ The 2004 World Bank report “Saving Fish and Fishers” supports this view under the following terms: “*While broad national fisheries policies and plans are important, they have to be translated into specific fishery-by-fishery management plans. This is often not done (...)*” (page 6).

⁶⁷ Article 8.4.2 of the Code encourages States to “*prohibit dynamiting, poisoning and other comparable destructive fishing practices.*”

Table 5: Priority ranking of adopted technical measures for managing inland fisheries by responding member nations since 2002

Inland fisheries – adopted technical management measures	2002	2004	2006	Average rank
Prohibiting destructive fishing methods and practices	1	1	1	1
Providing for stakeholder participation in determining management decisions	3	3	2	2.7
Addressing the interests of small-scale fishers	2	6	3	3.7
Addressing selectivity of fishing gear	7	2	3	4
Allowing depleted stocks to recover	4	5	5	4.7
Providing for the protection of endangered species	5	4	7	5.3
Addressing biodiversity of aquatic habitats and ecosystems, including the identification of essential fish habitats	6	8	6	6.7
Ensuring the level of fishing is commensurate with the state of fisheries resources	8	7	7	7.3
Addressing fishing capacity, including the economic conditions under which the industry operates	9	9	9	9
Making use of stock specific target reference points	10	10	10	10

The two bottom ranks were invariably achieved in both marine and inland fisheries for two of the most complicated and innovative technical measures that countries have been encouraged to implement for well over a decade now. These are the *Addressing fishing capacity, including the economic conditions under which the industry operates*, and the *Making use of stock specific target reference points*. These two bottom ranks strongly suggest that not enough attention is being paid to regulating capacity and economic performance of fleets, and to the putting in place of much more sophisticated, resource-oriented and flexible/adaptive management regimes – on a global scale. From a fisheries management point of view it would seem obvious that some of the top priority solutions to achieving sustainable world fisheries lay in effective capacity reduction schemes and enhanced fisheries management frameworks. Trends clearly indicate that not enough attention is being paid to these. In many instances, this is directly attributable to a lack of technical capacity of fisheries administrations worldwide to implement such schemes – limitations in technical capacity (and funding) having been identified time and time again as some of the main stumbling blocks for fisheries administrations to implement the Code.

Another, encouraging commonality between both tables is that *Providing for stakeholder participation in determining management decisions* is ranked twice as second-most important priority for both inland and marine fisheries. In addition, it appears that the priority attributed to stakeholder participation in fisheries management has been gaining ground over time (scoring from lower to higher ranks over time). Although the effectiveness of these measures is not known, experiences of stakeholder involvement in management planning, in both industrial and artisanal fisheries have been multiplying around the world over time, and there is a trend backed by empirical evidence that more and more management partnerships are being developed between administrations and the fishing sector, a perfect example being the Malagasy industrial shrimp fishery.⁶⁸

Two more technical measures are ranked differently between marine and inland capture fisheries. Because of the statistical limitations of these data sets, not too much significance should be read into these. The one presenting seemingly the largest difference is the following: *Providing for the protection of endangered species* and *Addressing the interests of small-scale fishers* are attributed inverse ranks in both tables, the interests of small-scale fishers being very important to inland fisheries managers, while less so in marine fisheries management. In marine fisheries management, the protection of endangered species outranks the

⁶⁸ Kasprzyk, Z. (2008). Shrimp fishing in Madagascar. In FAO (2008) Global study of shrimp fisheries. Gillett, R. (ed.). FAO Fisheries and Aquaculture Technical Paper No. 475. Rome, Italy. (in press)

interests of small-scale fishers by almost three points. Since small-scale fishermen represent the bulk of fishing interest in inland fisheries worldwide, this result does not necessarily come as a surprise. On the other hand, the conservation of emblematic aquatic species is much more geared toward marine species, than freshwater species. While sharks, whales, sea turtles, and seabirds are the object of intense conservation campaigning, very few inland aquatic species get any attention at all – so it is not surprising to find that less attention is attributed to these issues in inland fisheries. This is also an indication of the fact that the actions of conservation groups such as the World Wildlife Fund (WWF), the International Union for Conservation of Nature (IUCN), Greenpeace and Birdlife International are creating an impact, and force the hand of administrations to assign priority to the protection of these species. However, for marine fisheries, there seems to be a disquieting discrepancy between the priority given to endangered species protection over the interests of small-scale fishers – the latter being fundamental to securing functional and effective fisheries management regimes, especially in coastal fisheries.

With respect to the use of stock specific target reference points, it is of use to recall the results obtained in priority ranking of technical management measures above (Tables 4 and 5) – where these have been ranked as the measure given least priority of all measures listed for six years running. This puts the following results into their overall and relevant context. Statistics for this particular question only exist for 2004 and 2006.

In both years, over 50 percent of countries reported to have put in place stock specific target reference points. Given the low priority attributed to putting in place these mechanisms, the unknown, but low number of formal fisheries management plans or frameworks in existence in developing countries (a quasi pre-requisite for reference point management⁶⁹) and the limited research capacity in many countries, necessary to back such mechanisms, these results appear highly questionable. Southwest Pacific islands reported that management plans were in place in 75 percent of the countries, while in 80 percent of the cases, stock specific target reference points were reported to be in place for fisheries management. Such findings are odd.

In 2004, when asked about *indicators* other than stock specific target reference points used for managing stocks, a string of African, Asian and European countries listed *fishing gear controls* as one such *indicator*. Controlling fishing gear – ranked as a top priority for destructive gears above – is not an indicator, but a basic management measure. This highlights one of the fundamental and global challenges the Code faces. The technical vocabulary and scientific concepts used in the Code would not always seem to be clearly understood to all fisheries technicians and managers in developing and developed countries alike. The more complex parts of the Code, introducing more recent management concepts, such as reference point management and the precautionary approach (see below) lack general and thorough understanding. This goes hand in hand with the fact that a great many fisheries professionals in industry and administration might know of the Code, but have not actually read it – lest taken note of, and espoused its principles.

Exceeding stock specific target reference points, where they reportedly do exist, emerges as a worldwide phenomenon. 100 percent were being approached or exceeded in 2004, and over 100 percent were being approached or exceeded in 2006. This trend mirrors the dire status of world fisheries resources.

The same finding of weak understanding of certain principles also applies to the application of the precautionary principle in fisheries management. The precautionary principle was first endorsed as a general principle in international natural resource management in the early eighties.⁷⁰ The principle was formally introduced into fisheries management through the Code and the Fish Stocks Agreement⁷¹ 13 years later, and

⁶⁹ To manage a fishery making use of stock specific target reference points outside a formal management plan might be possible in theory, is however largely impractical, and not something commonly seen in practice.

⁷⁰ The World Charter for Nature, adopted by the UN General Assembly in 1982, contains the first international endorsement of the precautionary principle (without specifically naming it that) under article 11, reading: “(b) Activities which are likely to pose a significant risk to nature shall be preceded by an exhaustive examination; their proponents shall demonstrate that expected benefits outweigh potential damage to nature, and where potential adverse effects are not fully understood, the activities should not proceed;”.

⁷¹ Article 6 of the UNFSA reads as follows:

“Application of the precautionary approach
(...) 2. States shall be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.

can hence be regarded as still relatively new. It has since gained wide support through various forums.⁷² Table 6 traces the adoption of the precautionary principle reported by FAO Members from 2002 to 2006.

Table 6: Percentage of countries reporting to have adopted the precautionary principle to manage their fisheries

2002	2004	2006
76.2%	86.7%	93.2%

Source: FAO BCIMQ

If these results were true, stock recovery would be well underway in many depleted fisheries, and global trends in the bleak state of fisheries resources would not be what they are today. The above results more likely reflect the percentage of respondents that have heard of the concept, rather than administrations having adopted and/or successfully applied it. Generally, some of the novel concepts, such as “sustainability”, “responsibility” or “precaution” are being paid a good deal of recognition, but remain often untraceable in actual management frameworks – another challenge which the Code, and Code implementation monitoring are facing. In the same vein as a text of law, announcing the inclusion of Code principles in its preamble, would be expected to contain a host of these principles as legal substance, a management framework claiming to be precautionary would be expected to contain technical measures implementing the precautionary principle with traceable and Cartesian rigour. However, for the latter case, this is not yet so in over 90 percent of fisheries management frameworks today – as Table 6 suggests.

The above is supported by the sense gained from answers to a particular question of the BCIMQ, which asked countries to describe the manner in which the precautionary principle was applied. The answers covered the full array of possible management measures, such as regulating access, regulating fishing gear, closing fishing areas and seasons, surveying stocks, limiting numbers of landing sites, or putting in place community based fisheries management schemes. This conveys the implicit understanding that to many, the putting in place of management measures is “precautionary” *per se* – precautionary being understood much more as a quality of management, rather than a principle and particular management mechanism. Few countries did respond in technical terms, indicating how the management mechanism was actually applied. Such answers reported: *precautionary reference point management for specific stocks; setting MSY/MEY at three quarters of research indication, or applying precautionary approach to the introduction of GMOs*. In 2006, the report to COFI on Code implementation concluded in paragraph 8 that: “*This confirmed earlier*

3. *In implementing the precautionary approach, States shall:*

(a) *improve decision-making for fishery resource conservation and management by obtaining and sharing the best scientific information available and implementing improved techniques for dealing with risk and uncertainty;*

(b) *apply the guidelines set out in Annex II and determine, on the basis of the best scientific information available, stock-specific reference points and the action to be taken if they are exceeded;*

(c) *take into account, inter alia, uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points, levels and distribution of fishing mortality and the impact of fishing activities on non-target and associated or dependent species, as well as existing and predicted oceanic, environmental and socio-economic conditions; and*

(d) *develop data collection and research programmes to assess the impact of fishing on non-target and associated or dependent species and their environment, and adopt plans which are necessary to ensure the conservation of such species and to protect habitats of special concern.*

(...) 6. *For new or exploratory fisheries, States shall adopt as soon as possible cautious conservation and management measures, including, inter alia, catch limits and effort limits. Such measures shall remain in force until there are sufficient data to allow assessment of the impact of the fisheries on the long-term sustainability of the stocks, whereupon conservation and management measures based on that assessment shall be implemented. The latter measures shall, if appropriate, allow for the gradual development of the fisheries.*

7. *If a natural phenomenon has a significant adverse impact on the status of straddling fish stocks or highly migratory fish stocks, States shall adopt conservation and management measures on an emergency basis to ensure that fishing activity does not exacerbate such adverse impact. States shall also adopt such measures on an emergency basis where fishing activity presents a serious threat to the sustainability of such stocks. Measures taken on an emergency basis shall be temporary and shall be based on the best scientific evidence available.”*

⁷² UNGA Resolution 62/177 recognizes, among others, “*the urgent need for action at all levels to ensure the long-term sustainable use and management of fisheries resources through the wide application of the precautionary approach*”.

trends suggesting that (...) the precautionary principle remained poorly understood and little applied in fisheries management worldwide.”

In relation to article 7 of the Code emerges a global picture where modern principles of sustainable and responsible fisheries management – as enshrined in the Code – continue to be ill-understood and poorly applied. While some fisheries administrations are clearly moving into a new direction, aiming at curbing overcapacity and rebuilding depleted resources, a majority of countries would seem to be lagging far behind, and falling far short of expectations in implementing more comprehensive, integrated and knowledge-based management frameworks. This finding is not very different from conclusions reached 5 years ago by Flewwelling and Hosch (2003),⁷³ based on an analysis of marine capture fisheries management frameworks in countries bordering the eastern Indian Ocean basin, noting that: “*In summary, there has been considerable verbal and written support for sustainable fisheries management, international agreements (...), and for the FAO Code of Conduct for Responsible Fisheries and its IPOAs (...). In practice, however, these plans have generally not yet been adopted by national authorities, and hence, have not been implemented in the field.*”

First steps into the direction of more responsible and sustainable fisheries management have clearly been taken in isolated places. However, much more remains to be done if current trends in world fisheries are to be reversed.

Article 8: Fishing operations

Article 8 of the Code covers a very wide array of issues, governing the regulation of fisheries operations in general (certification of crews, working conditions of crews, search and rescue (SAR), etc.), the duties of States to monitor and control fishing operations at flag and port state levels, and the responsibility of States to ensure that impacts of fisheries operations on resources, the atmosphere, the aquatic environment, etc. be minimized. The MCS dimension of this article is important, countries finding themselves encouraged to put in place sufficient controls, and adequate enforcement mechanisms and capacity to ensure responsible and sustainable fisheries operations are achieved.

The issues covered in the BCIMQ are the following:

- steps taken by countries to ensure that only fishing operations authorized by the licensing authority are conducted within waters under national jurisdiction;
- steps taken by countries to ensure that fishing activities of vessels flying their flag, undertaken in waters beyond national jurisdiction, are reported, monitored and carried out in a responsible manner;
- measures taken to limit bycatch and discards;
- the introduction of satellite-based vessel monitoring systems (VMS).

Ensuring that only fishing operations authorized by the licensing authority are conducted within waters under national jurisdiction is a domain that is still relatively new to fisheries management. Until the early eighties, governments generally invested very little effort into fisheries law enforcement and fisheries inspection schemes. Most public resources were directed at research efforts, stock assessment and modelling, the definition of management regimes, and the setting of total allowable catches (TACs) and quotas. Monitoring fisheries operations, and enforcing the law where necessary, was not a classic task covered by fisheries management agencies. Over time, and owing in part to the monitoring needs of TAC and quota systems, monitoring programmes, such as observer programmes, were put in place; the need to put in place law enforcement mechanisms then became apparent very quickly, authorities realizing that putting in place regulatory frameworks without teeth, and the hope for voluntary compliance of the sector with the rules, was not good enough. MCS is sometimes portrayed as the *implementation arm of fisheries management* – invariably consisting of a set of measures which ensures regulations are respected, and that sufficient deterrence is generated in order to encourage compliance.

⁷³ Flewwelling, P. & Hosch, G. (2003). Subregional review: Eastern Indian Ocean. In FAO (2006). Review of the state of world marine capture fisheries management: Indian Ocean. De Young, C. (ed.). FAO Fisheries Technical Paper No. 488. Rome, FAO. 458p.

Table 7: List of the parties to the Compliance Agreement

Party	Acceptance	No. of vessels
Albania	8 Nov. 05	–
Argentina	24 Jun. 96	–
Australia	19 Aug. 04	–
Barbados	26 Oct. 00	–
Belize	19 Jul. 05	151
Benin	4 Jan. 99	12
Canada	20 May 94	6
Cape Verde	27 Jan. 06	–
Chile	23 Jan. 04	–
Cyprus**	19 Jul. 00	54
EC	6 Aug. 96	
Belgium*		64
Denmark*		160
Finland*		24
France*		167
Germany*		51
Greece*		133
Ireland*		96
Italy*		337
Netherlands*		301
Portugal*		185
Spain*		855
United Kingdom*		229
Egypt	14 Aug. 01	–
Georgia	7 Sep. 94	–
Ghana	12 May 03	110
Japan	20 Jun. 00	1 890
Madagascar	26 Oct. 94	0
Mauritius	27 Mar. 03	–
Mexico	11 Mar. 99	–
Morocco	30 Jan. 01	0
Myanmar	8 Sep. 94	–
Namibia	7 Aug. 98	6
New Zealand	14 Jul. 05	51
Norway	28 Dec. 94	125
Peru	23 Feb. 01	–
Republic of Korea	24 Apr. 03	–
Saint Kitts and Nevis	24 Jun. 94	–
Saint Lucia	23 Oct. 02	–
Seychelles	7 Apr. 00	–
Sweden**	25 Oct. 94	67
Syrian Arab Republic	13 Nov. 02	22
Tanzania	17 Feb. 99	–
United States of America	19 Dec. 95	847
Uruguay	11 Nov. 99	–

* European Community Member State

** Country accepted the Compliance Agreement prior to joining the European Community

Source: FAO, 2008

Between 2002 and 2006, around 90 percent of countries reported to have put in place partial or full licensing regimes for their fisheries. Still today, many, if not most, artisanal fisheries sectors in developing countries remain outside the remits of full authorization schemes.

In 2004, 67.4 percent of responding States reported to have taken steps to improve their MCS arrangements. In addition to this, another 22.5 percent reported to have strengthened legal frameworks, 15 percent pointed

out the existence of deterrent fines, and 12.5 percent reported to actively promote cooperation between countries – all of these latter points can be interpreted as specific improvements of the overall MCS arrangement also. In 2006, almost 81 percent of respondents singled out the strengthening of MCS arrangements. Other measures listed, which can be interpreted as specific improvements of national MCS arrangements, were the putting in place of vessel registries (15.4 percent), observer programmes (13.5 percent) and mandatory logbooks (11.5 percent). The overall sense gained from this is that MCS as a link in the chain of the fisheries management process is well recognized today, and its function is well understood to a large degree. In this domain – especially in developing countries – the real challenges to MCS lie in budgetary and human resource constraints of fisheries surveillance departments – governments often being unwilling or unable to invest the necessary resources into the policing of the sector. Another ubiquitous challenge fisheries MCS faces in many developing countries is an internal struggle over the question who is responsible for the policing of fisheries; the Navy, the Ministry of the Interior, or the Ministry of Fisheries. Both these aspects often give rise to MCS systems whose performances fall far short of expectations – leaving fishing grounds widely open and un-policed. A direct measure of this is the importance attributed to IUU fishing today.

The introduction of VMS is also a good indicator to gauge how MCS systems evolve, and how monitoring of national fleets, or foreign fleets in national waters, becomes more rigorous. In 2000, only 25 percent of reporting countries had adopted VMS to monitor their fleets. This figure rose quickly to 61.9 percent in 2002, to reach 67.8 percent in 2004, and 72 percent in 2006. This trend is unequivocal about the fact that VMS is being regarded as one of the most attractive technologies to monitor vessel movements and operations. Some of the countries having adopted VMS, such as Mozambique or Cameroon, have however been facing difficulties in effectively operating these advanced technologies under sometimes very limiting conditions – and taking full advantage of their capacities. Regional VMS systems, enabling RFMOs and associated regional fisheries surveillance units to follow international fleets targeting highly migratory, transboundary and high seas resources, remain very few.

With respect to steps taken by countries to ensure that fishing activities of vessels flying their flag, undertaken in waters beyond national jurisdiction, are reported, monitored and carried out in a responsible manner, it is of relevance to point out that we are entering the domain of the 1993 FAO Compliance Agreement⁷⁴ – a text which has been assimilated to the Code as a related instrument. The central clause of the Compliance Agreement urges flag States to duly authorize all fishing operations of its vessels targeting waters beyond national jurisdiction, and to put in place such license provisions that ensure that all relevant conservation and management measures applicable to those waters be respected.

Table 7 reproduces the list of countries that have signed the FAO Compliance agreement to date, providing also information on how many vessels they have licensed to fish in waters beyond national jurisdiction.

The Compliance Agreement entered into force on 24 April, 2003. A salient feature of the Agreement is that it has been accepted by relatively few parties, and that some of the world's most important fishing nations – such as China, Indonesia, India or Thailand – have not yet signed it. This finding, however, also serves to underline the point that ratification *per se* is not necessarily the best indicator to establish in how far binding international provisions have been integrated into national legal frameworks. While China has not signed the Agreement, it does have an authorization mechanism in place, and does issue high seas fishing licenses for vessels fishing beyond its EEZ. Madagascar, on the other hand, one of the early signatories of the Agreement, had not yet put in place a high seas fishing authorization by 2008.⁷⁵

In 2000, 34.9 percent of countries reported to have taken measures to ensure that fishing activities of vessels flying their flag, undertaken in waters beyond national jurisdiction, are reported, monitored and carried out in a responsible manner. In 2004, this figure had risen to 71.4 percent, and reached 76.2 percent in 2006 – indicating a long term rising trend. The technical steps taken to achieve good results in this domain also showed slightly increasing trends between 2004 and 2006. In 2004, improving MCS arrangements directed

⁷⁴ Article 8.2.6 mentions the Compliance Agreement explicitly, encouraging States who have not done so yet, to accept the Agreement, and to legislate in its sense.

⁷⁵ Madagascar informs the FAO that 0 vessels are licensed to fish in waters beyond national jurisdiction. While this is factually correct (such a license does not exist), a limited number of Malagasy-flagged vessels have been fishing in waters beyond national jurisdiction for years.

at high seas fishing fleets only scored 35.7 percent. In 2006, this had risen to 59.5 percent. Mandatory licensing and authorization regimes rose in importance from 21.4 percent in 2004, to 28.9 percent in 2006. These suggest that high seas fishing has been paid more and more attention to throughout the first decade of the twenty-first century.

Action to limit bycatch and discards is a domain which does not yield detectable trends. The issue of wastage of marine life remains as relevant as ever. It is estimated that at least 50 percent of the total declared world catch can be added to global catch figures as discarded bycatch. Yearly, this represents some 40 to 50 million tons of catch discarded mostly dead at sea as non-desirable bycatch. In 2002, 78.9 percent of countries reported to have addressed the issue partially or completely. This figure rose to 88.9 percent in 2004, and dipped back down to 80 percent in 2006. Technical mechanisms reported in 2004 and 2006 to address the issue were gear restrictions and controls, minimum catch sizes, seasonal and spatial closures, bycatch reduction regulations, and the putting in place of quotas for non-target species.⁷⁶

Many novel techniques for limiting unwanted bycatch in trawls have been developed, such as turtle excluding devices (TEDs) for instance. These ones' in particular are being advocated widely for fitting in tropical shrimp fisheries. The position of the United States of America, a significant producer and importer of tropical shrimp, limiting imports of shrimp products to certified fisheries, where the fitting of TEDs is mandatory (e.g. the Malagasy industrial shrimp fishery), has had an overall positive impact on limiting bycatch in this type of fishery – and has possibly been more effective in promoting change than many other initiatives, be they national or international.⁷⁷

Article 10: Integration of fisheries into coastal area management

This is a relatively short article – the shortest of the Code – and it places fisheries within the wider context of integrated coastal zone management (ICZM). ICZM is a relatively new discipline, which encourages authorities to manage the coastal domain and its resources in an integrated and concerted manner. The fact that article 10 focuses on fisheries alone, leaving aquaculture out, underlines the somewhat unbalanced approach which has often been attributed to the Code. In 2000, FAO notes that: “*The legal framework for the integration of fisheries into coastal area management exists in many developed countries, but most developing countries do not yet have a specific legal framework for this activity.*”⁷⁸ Apart from putting in place legal frameworks, the institutional arrangements for implementing ICZM in practice are convoluted, and many developed countries continue to struggle with these as much as developing countries do.

Conflicts in the coastal zone, between fisheries and other economic activities, are a good indicator to see how far management efforts have come in addressing and solving issues. Table 8 lists the major conflicts reported in fisheries by rank achieved since 2000.

Table 8: Ranks attributed to the importance of conflicts in the coastal zone

Existing conflicts in the coastal zone	2000	2002	2004	2006	Average rank
Conflict between coastal fisheries and industrial fisheries	1	1	1	1	1
Conflict between gear types operating in the coastal area	2	2	2	2	2
Conflict between fisheries and recreational development	3	3	3	3	3
Conflict between fisheries and mineral extraction activities	4	4	4	4	4
Conflict between fisheries and port development	6	5	5	6	5.5

⁷⁶ Also see the section on bycatch usage under the sub-section analysing progress in implementing article 11 provisions.

⁷⁷ Since 1987, The United States of America have required all shrimp boats in U.S. waters to use TEDs in their nets to protect sea turtles. A national bycatch management plan was developed in 1998.

⁷⁸ FAO (2000). Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action. COFI/2001/3. Rome, FAO.

Existing conflicts in the coastal zone	2000	2002	2004	2006	Average rank
Conflict between coastal fisheries and coastal aquaculture	5	6	6	5	5.5

Source: FAO BCIMQ

The picture emerging from this table is that there has been hardly any change in the conflicts such as they arise between fisheries and other activities in the coastal zone, on a global basis, over the past decade. The trends are firmly level. If substantial efforts had been undertaken in one or the other field, in response to political, environmental or other pressures, this would have given rise to some sort of trend over the 8-year period monitored. It is hence safe to state that, overall, little progress seems to have been achieved in integrating fisheries into ICZM on a worldwide basis. Ongoing and well documented conflicts between small scale and industrial fisheries in vast stretches of Asia and Africa for instance, would support this assertion for the top ranked cause of conflicts.

Table 9 establishes trends for the development of conflict resolution mechanisms in the various categories listed in Table 8. Unfortunately, no figures are available for 2000.

Table 9: Percentage (and ranks) of existing conflict resolution mechanisms in the coastal zone

Existing conflict resolution mechanisms in the coastal zone	2002	2004	2006	Average percentage
Conflict between coastal fisheries and industrial fisheries	61.9%	60.5%	76.4 %	66.3
Conflict between gear types operating in the coastal area	66.6%	62.8%	59.3 %	62.9
Conflict between coastal fisheries and coastal aquaculture	45.7%	58.1%	50.9 %	51.6
Conflict between fisheries and port development	40%	45%	50%	45.0
Conflict between fisheries and recreational development	39%	41.5%	49.1 %	43.2
Conflict between fisheries and mineral extraction activities	33.3%	34.2%	40.7 %	36.1

Source: FAO BCIMQ

Overall, with the exception of conflict resolution mechanisms targeting the use of different gear types in coastal zones, there is a rising trend in conflict mitigation or resolution mechanisms being put in place by countries. However, the trends are weak, and given the variability in the datasets, they should not be attributed too much importance. In this case, they fall well within the margin of error. The second interesting feature about the existing conflict resolution mechanisms is that the two top conflict areas where one type of fisheries interacts directly with another type of fisheries are the ones being paid most attention to. Although an ICZM issue – this is also a matter which is purely concerned with fisheries management, and is hence generally dealt with by one single agency. This is an indication of the fact that the need for new institutional solutions, cross-sectoral coordination and collaboration remain some of the most prohibitive elements to achieving effective ICZM frameworks.

Finally, the issue of conflicts between fisheries and extractive industries, ranked 4th in terms of importance in Table 8, comes last in terms of conflict resolution mechanisms addressing them. This underlines a finding backed by empirical evidence and experience, where national strategic economic planning efforts remain little able to consider key economic sectors, such as fisheries and offshore oil sectors, together (e.g. Mauritania, Nigeria, Cameroon, or Angola). Doing so would ensure that adverse impacts of one sector onto the other remain limited. This is necessary if one is to limit risks, and maximize overall environmental and economic performance of these sectors. The typical situation is one where top decision makers in Ministries of Economy, Mineral Extraction and Fisheries find it difficult to develop consultation arrangements which would lay the groundwork for consensus decision-making and optimizing results. Legal frameworks forcing them to do so are generally alack. Only a few countries worldwide, such as Norway, have managed to develop truly effective institutional arrangements in this sense to date.

In both 2004 and 2006, 45 percent of FAO Members reported that no legal framework for the integrated management of coastal zones was in place – indicating little advancement in this field. The 2006 report concludes that: “*The greatest difficulties facing the integration of fisheries into coastal area management remained those of an institutional nature, where poor collaborative linkages and communication between government agencies complicated common approaches and the translation of stated integrated management policies into applied management solutions.*”⁷⁹

Without intention to minimize efforts engaged so far – especially project based ICZM efforts that have been launched in many developing countries around the world in recent years – integrating fisheries into coastal area management is a domain that will require a lot more attention and dedicated efforts in the future. It would appear that aquaculture, through its more intimate link and dependency on coastal zones, has come much further in this domain than fisheries have.

Article 11: Post-harvest practices and trade

Trade and the global economy are the single-most important factors determining international fisheries development and trends. Trade is the most important driver of all commercial operations, and lies at the source of the profound changes the global fisheries sector has undergone since industrialization. These include trends in the increasing efficiency of operations, technology improvements, over-capitalization, concentration of production means, as well as rationalization, mechanization, and integration of production and marketing chains.

Within the Code, trade and post-harvest practices fall under one single article, as they are somewhat interdependent. Post-harvest practices and resulting seafood quality and safety standards have gained in importance in recent decades. Compliance with evolving food safety and quality standards today often determines access to lucrative markets for products – in the name of consumer protection. Good or enhanced post-harvest practice also substantially reduces post-harvest losses in regions of the world, where heat, humidity or insect infestations cause the loss of thousands of tons of raw protein every year.

The BCIMQ monitors the implementation of the following issues:

- the putting in place of effective food safety and quality insurance systems for fisheries products;
- measures taken to curb post-harvest losses and wastes;
- measures taken to improve uses of bycatch;
- traceability; and,
- measures to curb trade in illegal fisheries products.

The putting in place of effective food safety and quality insurance systems for fisheries products can solve several problems at once. Post-harvest losses can be reduced through enhanced seafood handling practices – enhancing food security where this is an issue, the health of consumers can be protected against common contaminations of poorly handled produce, and domestic and/or foreign market access is achieved through compliance with applicable safety and quality assurance standards. Table 10 lists responses to whether such “*effective*” systems had been put in place.

Table 10: Existence of effective food safety and quality assurance systems reported by FAO Members

2000	2002	2004	2006
57.7%	67.6%	78.3%	75.4%

Source: FAO BCIMQ

A global rising trend in frameworks addressing food safety and quality insurance is clearly detectable, with just over half the countries reporting to have put such systems in place in the period leading up to 2000, while six years later it was over three in four countries having put in place such systems. This underlines the importance and impact of safety and quality standards that have been put in place by blocks such as the EU –

⁷⁹ FAO (2007). Progress in the implementation of the 1995 Code of Conduct for Responsible Fisheries, related international plans of action and strategy. COFI/2007/2. Rome, FAO

now the most important seafood market worldwide,⁸⁰ and the United States of America. Failure to put in place such systems *in an effective manner*, and to comply with applicable handling, monitoring and inspection standards, can have devastating social and economic consequences for countries concerned. One of the most recent examples is the suspension in May, 2008, of Fiji from the list of countries authorized to export seafood to the EU – for non-compliance with EU safety and quality requirements.⁸¹

Blaha (2008)⁸², with respect to the EU market, underlines that: “*There is no way to escape some reading if you want to export to the European Union. However, if the idea of accessing over 470 million consumers in 27 countries at once is not worth understanding a couple of hundred pages, then the EU may not represent a priority market for you and your country. Exporting to the EU is not an obligation and it requires an equal amount of effort from the governmental authorities and from the private sector. Compliance and understanding of the required system of official assurances is paramount to access the EU market.*” – blahantly underlining that the onus resides on exporters to comply with applicable food safety and quality standards if markets are to be accessed. Here also, it can be safely stated that market forces and immediate financial and economic implications are the main drivers of change – essentially positive in this particular case.

Measures taken to curb post-harvest losses and wastes are a domain that are of primary importance to developing countries, since countries with access to advanced technologies and capital have generally developed mechanisms to avoid spoilage of catches at sea and following landing – in order to maximize returns. Today, waste minimization in industrial fisheries is often concurrent with minimization of financial losses (excluding bycatch and discards). With respect to wastage, situations can differ widely among developing countries. While it will be impossible to find a single stranded fish on a Ghanaian beach – no matter which size – following landings, this is not so in Mauritania, where landing places can be littered with rotting fish. Differences in culture and food insecurity might explain much of such particular phenomena. Table 11 renders figures for countries reporting to have taken measures to curb post-harvest losses and to minimize waste, including measures, reported in 2004 and 2006.

Table 11: Adoption of measures, and most reported measures to prevent post-harvest losses and wastage

	2004	2006
Measures exist	84.1%	79%
Enacting regulations, procedures and standards	43.2%	35.1%
Improving handling and conservation methods	36.4%	36.8%
Awareness raising and training	22.8%	29.8%
Implementing HACCP	20.5%	15.8%

Source: FAO BCIMQ

It emerges from these figures that about four in five countries have paid and continue to pay attention to the issue of minimizing post-harvest losses. However, when looking at the particular measures that are being implemented, there are no readily detectable trends. This owes partly to the fact that only data for two particular years are given. Overall, it appears that putting in place regulations is being considered twice as much, than awareness raising, training and catalyzing the implementation of HACCP systems. From the perspective of governments, this merely underlines the common fact that it is often a lot easier and faster to legislate, than to actually foster expected change in the field.

In terms of improving bycatch usage – one of the avenues to minimize discards, and increase output – trends are also largely elusive, if not puzzling. Table 12 traces the countries reporting to have taken measures to improve bycatch usage, and the most readily applied measures.

⁸⁰ The most recent figures available indicate that the EU has now a fish market worth USD 20.6 billion per year, and fish is the most traded animal commodity worldwide.

⁸¹ See: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:132:0016:0017:EN:PDF> and press: http://www.islandsbusiness.com/fiji_business/index_dynamic/containerNameToReplace=MiddleMiddle/focusModuleID=18055/overrideSkinName=issueArticle-full.tpl

⁸² Blaha, F. (2008). Exporting Seafood to the EU. International Trade Center – UNCTAD/WTO. Export Quality Bulletin No. 84. April 2008. 29pp.

It emerges from Table 12, that improving bycatch usage is probably not a top policy concern or key national strategy for most countries. In 2006, all indicators sampled were receding over 2004 figures. This is a rather atypical phenomenon with regards to overall Code implementation reporting results, and should be credited with due attention. Interestingly also, MCS appears as a rather important measure in 2006 (scoring 13.7 percent), not mentioned in earlier years. This could be an indication of a general new trend, that countries are moving from functioning as a promoter, supporting or catalyzing the development of novel approaches, to taking on a rather more repressive stand – forcing operators to comply with possible bycatch regulations, and leaving industry to figure out for itself how bycatch can be minimized at the source, or taken benefit of after landing. This would then constitute a further endorsement of the earlier finding that more vigorous enforcement of regulations, and hence MCS, is continuously gaining in recognition and importance as a fisheries management control tool. These figures also hint at a possible lack of ideas of numerous fisheries administrations as to how the riddle of reducing bycatch in well-established, capital-intensive multispecies fisheries can be solved.

Table 12: Adoption of measures, and most reported measures to improve bycatch usage

	2004	2006
Countries having taken measures to improve bycatch usage	61%	52.9%
Awareness raising and training	24.3%	15.7%
R&D and pilot projects	19.5%	15.7%
Distribution and re-use of bycatch	14.6%	9.8%
MCS	-	13.7%

Source: FAO BCIMQ

Traceability and the prevention of trade in illegally harvested resources are also relatively new disciplines. Traceability serves as much the purpose of applying quality and safety standards, enabling the identification of the place of origin – covered above – as it can serve the purpose of preventing the putting to market of seafood that was harvested by identified illegal, unlicensed, or otherwise non-compliant entities. Traceability schemes come in many forms, ranging from catch documentation schemes, practiced by RFMOs,⁸³ to health certification schemes practiced by importing blocks such as the EU,⁸⁴ all the way to producer-level labeling of products of particular or special interest.⁸⁵ Traceability schemes should enable processors, traders and consumers alike to know where the *fish in the box* or the *fish on the plate* originate(s) from. Traceability schemes permit to improve quality and safety of products, they enable market segmentation for specialized products, and they help curbing fraud.

Table 13: Percentage of FAO members where processors and consumers are able to identify the origin of fish and fisheries products

	2000*	2002	2004	2006
Consumers	–	39%	39.1%	41.5%
Processors	+	79%	84.8%	83.0%

* the 2000 report merely indicates that with respect to consumers, a much higher percentage of processors can trace the origin of raw material

Source: FAO BCIMQ

Table 13 regroups global indicators as to how many processors, and how many consumers are able to identify the origin of fish and fisheries products that they buy.

The figures reported in Table 13 do not readily yield any trends, and it would appear that traceability schemes globally have not substantially evolved over the eight year period monitored. At consumer level, this is backed by empirical evidence in many places around the world. In Luxembourg for instance, a

⁸³ See for instance the Catch Documentation Scheme put in place by CCAMLR for the tracing of Patagonian toothfish catches and landings. <http://www.ccamlr.org/pu/e/cds/intro.htm>

⁸⁴ See EU Commission Regulation EC 1664/2006 under: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_320/l_32020061118en00130045.pdf

⁸⁵ For a good example of the latter, consult the site of the artisanal line-caught sea bass producers of Brittany, France, under: www.pointe-de-bretagne.fr

landlocked EU Member country and third most important net worth per capita fish importing nation in the world (after Andorra and China, Hong Kong Special Administrative Region [SAR]),⁸⁶ it is generally impossible at retail level to trace the origin of fish down to country of origin. However, still in Luxembourg, FAO areas of origin are nowadays commonly attached to products, and the origin of fish is generally differentiated between aquaculture and capture fisheries – which was not generally the case 10 years ago. This serves to highlight that traceability is also a matter of gradients, ranging from none, to FAO area, to ZEE, to harvesting unit (vessel), to port of first landing, to processor and finally to trader. Some progress has been made in providing consumers with a little bit more detail about product origin, and new eco-labels are starting to raise eyebrows at consumer level, and put pressure on industry operators to become more transparent and responsible.

Some of the large tuna canning factories, such as the *Indian Ocean Tuna Cannery* (IOT) in Victoria, Seychelles, or *Pêche et Froid* in Diego-Garcia, Madagascar, have put in place in-house traceability schemes that enable the factory to trace the fish in a single can of theirs, on display on a shelf in a supermarket anywhere in the world back to the original fishing vessel, the vessel well number from which that particular tuna originates, the dates of landing, processing, shipping, etc. – to the most minute detail. In this particular example, i.e. tuna purse seine catches and landings in the Indian Ocean, traceability schemes in place are powerful instruments which work extremely well and to the benefit of consumers. It does not solve, however, problems of potential (and factually existing) catch area misreporting practiced by particular vessels in the same fisheries.

It would seem that global figures reported in Table 13 for processors able to identify the origin of raw material are overly optimistic. When looking deeper into the EU market, for example, it emerges that enormous quantities of illegally caught or misreported fish enters the EU market on a daily basis. The New York Times, in an article published in January, 2008,⁸⁷ states: *“In Europe, the imbalance between supply and demand has led to a thriving illegal trade. Some 50 percent of the fish sold in the European Union originates in developing nations, and much of it is laundered like contraband, caught and shipped illegally beyond the limits of government quotas or treaties. The smuggling operation is well financed and sophisticated, carried out by large-scale mechanized fishing fleets (...). The European Commission estimates that more than €1.1 billion in illegal seafood, or US\$1.6 billion worth, enters Europe each year. The World Wide Fund for Nature contends that up to half the fish sold in Europe are illegally caught or imported.”* Irrespective of which figure is closer to the truth, this essentially entails that very few European processors, buying raw material landed in European ports, and originating from developing countries, have a firm grasp on where the fish really originates from, and whether it has been harvested legally. The article further states: *“Tracing where the fish come from is nearly impossible, many experts say. Groups like Greenpeace and the Environmental Justice Foundation have documented a range of egregious and illegal fishing practices off West Africa.”*⁸⁸ *Huge boats, owned by companies in China, South Korea and Europe, fly flags of convenience from other nations. They stay at sea for years at a time, fishing, fuelling, changing crews and unloading their catches to refrigerated boats at sea, making international monitoring extremely difficult.”*

Generally speaking, this is not so for fish which is exported chilled on ice by air from artisanal landing sites in West Africa (e.g. Nouakchott, Mauritania) directly to European processors or traders. In these cases, the origin can be certified with a much higher degree of confidence. However, this represents only a minor amount of overall product fluxes, and fraud does also exist at this level. The majority of fresh seafood is shipped, transshipped and re-shipped by sea, and then landed in first world ports.

While traceability schemes manage to protect consumers to a certain degree in given fisheries and processing chains, most traceability schemes in place do not manage to mitigate pressing IUU fishing problems in the fisheries where they have been put in place.

⁸⁶ 98USD: annual worth of per capita net fish imports. (Andorra: 187 USD; Hong Kong 176 USD) (Data source: www.worldmapper.org ; Map 052 - version 5; 2006)

⁸⁷ Elisabeth Rosenthal (2008). Empty Seas: Europe's Appetite for Seafood Propels Illegal Trade. The New York Times. 15th January, 2008. Internet link: www.nytimes.com/2008/01/15/world/europe/15fish.html?pagewanted=print

⁸⁸ See reports under: www.ejfoundation.org/pdf/EJF%20pirate%20fish.pdf and www.ejfoundation.org/pdf/pirates_and_profiteers.pdf

Particular efforts made by countries to ensure that processors, brokers and dealers do not trade in illegally harvested fisheries resources are presented in Table 14. Most data for 2000 and 2002 come in qualitative form only – a tick in the table meaning that the particular measure was reported by at least one country, but no quantitative data being available.

The picture emerging from Table 14 provides a mixed picture of where combating trade in illegal fisheries resources is at. While only one in 3 countries declared having addressed the issue formally in 2000, over 2 in three were doing so in 2006. This is a >100 percent increase. This trend is likely to be statistically relevant, and it underlines that globally, there has been a significant increase in countries becoming aware of the phenomenon, and that they are at least intending to address it.

Table 14: Percentage of FAO members where measures have been taken to curb trade in illegally harvested fisheries resources – and types of measures adopted

		2000	2002	2004	2006
Measures exist		36.5%	☑	62.8%	68.6%
Measures	Control and inspection (MCS)	☑	☑	30.2%	39.2%
	Traceability and cert. of origin	☑	☑	20.9%	11.8%
	Deterrent penalty system	☑	☑	9.3%	15.7%
	Legal framework improvements	-	☑	16.3%	11.8%
	Awareness raising and education	☑	☑	4.7%	5.9%

Source: FAO BCIMQ

In terms of measures put in place to address the issue, one notices a rising trend of putting in place more repressive penalty systems, and better control and inspection routines (MCS). This is in line with recent trends in fisheries management, where fisheries administrations put more and more importance on square enforcement of enacted measures in order to achieve compliance. On the other hand, traceability regimes – whose weaknesses and limitations have been discussed in the previous sub-section – and legal framework improvements do not appear as the most eminent elements called upon to address illegal fish trade. Finally, a small number of countries have been reporting awareness raising and education programmes as a tool for combating trade in illegal fisheries products. However, it is especially the kind of awareness raising done by activist groups such as Greenpeace and the Environmental Justice Foundation in recent years that have contributed to highlight the enormous quantities of illegally harvested seafood products that are channelled through major first world fishing ports on a daily basis. Ultimately, it will be the improvements in legal provisions, the documentation and inspection regimes, and the sanctioning regimes put in place that will determine success in this domain. The overall picture emerging from Table 14 is that many more consistent efforts need to be made in this area of crucial importance.

Article 12: Fisheries research

In 1999,⁸⁹ FAO found that: “Direct involvement of the private sector in research is reported to be very small particularly in developing countries. Generally, the fishing industry contributes to government research through levies, licences and fees. Only in a few countries is the private sector directly involved in joint research projects and/or undertake its own research.” In most developing countries, and in a majority of developed nations, this remains true today. Only few examples of true and effective public-private partnerships in fisheries research and management exist today. Failure to achieve better collaborative links between administrations and the private sector continue to hinge on factors such as poor communication, distrust, and skewed perceptions of either parties’ motives. Although striving to achieve the same objective (i.e. the sustained and profitable exploitation of resources), both entities rarely sit on the same side of the table.

The BCIMQ covers the following topics related to fisheries research:

- important stocks for which reliable estimates exist (biomass, exploitation regime, etc.)
- are catch and fishing effort data collected in a timely, complete and reliable fashion;

⁸⁹ FAO (1999). Progress Report on the Implementation of the Code of Conduct for Responsible Fisheries. FAO, Rome.

- is there sufficient qualified personnel to generate information necessary to sustainably manage fisheries;
- which data types are integrating fisheries management plans;
- key data gaps, and measures and constraints to address these;

Table 15 regroups country feedback on the first three points, establishing how many stocks are covered by reliable estimates, whether reliable data in general are given, and if qualified technicians are available in sufficient numbers.

Table 15: Key figures on commercially important stocks monitored, availability of key data types, and availability of technical personnel

	2000	2002	2004	2006
Commercially important stocks for which reliable stock state estimates exist	40%	64%	44%	56.3%
Catch and effort data are collected in a timely, complete and reliable manner	n.d.	76%	68.9%	73.2%
Sufficient personnel to generate sufficient data for the sustainable management of the fisheries exist	“Not in many cases”	60%	73.9%	51.7%

Source: FAO BCIMQ

The data fed back by countries on these particular topics all display *yoyo* trends (i.e. indicators oscillate indiscriminately up and down between years) within a given range. There are no detectable trends, and data in effect behave much in the same way as *noise* would. The picture that can be established from these data is that, globally speaking, probably under half of national stocks of commercial importance have had reliable stock abundance, biomass and exploitation state indicators computed for them. This entails that the overall state of world capture fisheries, and current estimates of stocks depleted, over exploited, fully exploited, etc. – is also only built on a partial picture, as the state and fate of many (± 50 percent) commercially important stocks remains unknown.

Reliable catch and effort data are reported to be collected in a timely and complete manner in about three out of four countries. For many developing nations, this would however remain an overly optimistic statement, especially when considering artisanal fisheries. In actual fact, Africa as a continent consistently reported figures much lower than the global average. Many similar challenges remain for first world industrial fishing fleets, where governments do not always manage to collect catch and effort data in a way that would give rise to datasets that can readily be described as *complete and reliable*. The European Court of Auditors, in its December, 2007 (No. 7/2007)⁹⁰ *Special Report on the control, inspection and sanction systems relating to the rules on conservation of Community fisheries resources*, singles out “unreliable catch data” as one of the primordial causes for what it calls the “failure in the management of Community fisheries resources”.^{91, 92} The same applies in yet more important ways to the EU distant water fleet, whose ongoing poor catch reporting track record to distant water national authorities and EU authorities alike has been widely criticized and documented. When taking the EU as an example, two observations arise: a) complete and reliable fisheries data are probably limited to a few exceptionally well managed fisheries worldwide – of which none include high seas fisheries of highly migratory species; b) one of the core weaknesses of the BCIMQ emerges here, i.e. the reliability of the data generated. In this particular example, all responding EU members plus the EU reported the existence of 100 percent reliable and complete catch and effort statistics to the FAO in 2006 – a statement which was overturned by the 2007 Court of Auditors report as fundamentally wrong.

⁹⁰ See full report under: <http://eca.europa.eu/portal/pls/portal/docs/1/673627.PDF>

⁹¹ Paragraph 18 of the reports reads: “The basis for the TAC and quota system is catch quantity limitation. The quality of its implementation depends on the existence of, firstly, a recording and validation system (...) that provides complete and reliable data, and secondly, an effective system for monitoring that data, in order to avoid quota overruns. However, neither of the systems mentioned, taken as a whole, met these criteria.”

⁹² Paragraph 19 of the report reads: “The national systems for collecting, validating and compiling catch data are affected by numerous shortcomings, some of them serious, so that the quality of the data forwarded to the Commission is unreliable.”

On the question about the availability of sufficiently qualified personnel, a similarly mitigated picture emerges. Many countries do not have enough personnel at hand to generate sufficient knowledge to manage fisheries in a way that is based on best knowledge, and would guarantee responsible and sustainable management outcomes. This finding goes hand in hand with earlier findings on the relatively low number of fisheries managed on the basis of comprehensive fisheries management plans. It is an indication of the fact that, globally, not enough resources are being made available to train staff, and to recruit technically competent staff into fisheries research structures. In a host of developing countries, dedicated fisheries research facilities are alack altogether – while overall fisheries research funding is insufficient in many other places. In other instances yet, competent technicians do exist at the national level, but civil service salary scales are so unattractive that retaining competent staff in key positions often proves elusive.

3.2.4 Aquaculture

When compared to fisheries, and its overall contribution to current world fish production, which now roughly stands at one third, the biennial monitoring of Code implementation does not really do justice to the rising importance of the aquaculture sector. And yet, in a hundred years from now, people could well be looking back, and contemplate with curiosity the by-gone days when huge industrial fleets were still plying the oceans to catch fish – instead of simply farming them. As incongruous as this might seem to some today, mankind as a whole has well put its hunting days behind it, and replaced them with cattle breeding. In June 2008, Globefish estimated that aquaculture was set to equalize capture fisheries in the contribution of fish for human consumption in 2008.⁹³

The continued strong growth of global aquaculture output endows the sector with paramount importance, and its monitoring is essential in order to guarantee that forces at work and arising needs be properly understood and addressed.

The BCIMQ covers the following topics:

- countries with a formal legal and institutional framework for the development of responsible aquaculture;
- adoption of a code (or other instrument) of best practice at different levels (government, producers, suppliers, etc.);
- adoption of procedures to manage critical aspects (assessing impacts, monitoring operations and managing species introductions), their effectiveness and further needs;
- measures taken to promote responsible aquaculture practices at rural community, producer organization and fish farmer level.

Formal legal and institutional frameworks for the responsible development of national aquaculture sectors are a relatively new development in most countries, aquaculture having developed in a relative legal and administrative void in most countries where it was not a classic or traditional activity. Even in countries where aquaculture was a traditional activity, modern developments in intensive aquaculture where not legislated for – and called for the development of more comprehensive regulatory texts, and more dedicated institutions to ensure the proper implementation of new regulatory frameworks.

Table 16 provides figures on countries reporting that such formal legal and administrative frameworks have been put in place.

Table 16: Percentage of countries having put in place a formal legal and institutional framework for the responsible development of aquaculture

2000	2002	2004	2006
41.3%	n.d.	31%	86.7%

Source: FAO BCIMQ

What arises from Table 16 figures is that there seems to have been a massive rise in institutional and legal frameworks put in place between 2004 and 2006, addressing the aquaculture sector. Important regional differences remain. In 2002, the monitoring report pointed out that “*There were some differences by region*”

⁹³ www.globefish.org/files/FISHERIES%20EXTRACT%20FINAL%20FULL%20PDF%20602.pdf

in Members' responses concerning whether or not they had legal and institutional frameworks in place with which to promote responsible aquaculture development. On a regional basis, Asian, European and both North American Members tended to have higher proportions of legal and institutional frameworks than the other regions. Frameworks range from specific aquaculture legislation, dedicated sections of the fisheries act, to several pieces of legislation spread over different levels of government (e.g. state/provincial and national governments) and different government ministries. Some Members without frameworks indicated that it was their intention to develop them." Today it would appear that especially Africa as a whole continues to lag behind. Aquaculture development remains embryonic, and the continent as a whole does not manage to take advantage of the possibilities offered by aquaculture today.

The Code encourages States to promote responsible aquaculture practices in a variety of ways, and in a variety of key domains. One of the ways to do this is through the development of codes (or other instruments) of best practice. Such codes can be developed to target different stakeholders, such as government itself, rural farmers, industrial producers, feed manufacturers, suppliers, etc. Table 17 regroups figures for a range of different stakeholders for which such codes were produced.

Table 17: Relative number of countries having adopted codes of best practice at different levels

	2000	2002	2004	2006
Government	30.8%	50.5%	36.4%	38.7%
Producers		31.4%	29.6%	37.1%
Suppliers	-	17.1%	20.5%	16.1%
Manufacturers	-	16.2%	15.9%	16.1%
Other	-	18.1%	13.6%	12.9%

Source: FAO BCIMQ

The trends inherent to Table 17 are firmly level for most categories. For government and producers, about one in three countries have developed a code of best practice, while less than one in five have done so at supplier and manufacturer level. Some progress may be detectable at producer level. It also serves to underline here, that large regional disparities do exist. Asia is by far the most prominent leader in this domain, generally doubling or tripling the percentage values of other regions for all years that data have been collected. In 2006,⁹⁴ seven responding Asian countries reported 100 percent adoption of codes of best practice at government level, and 71.4 percent at producer level. This clearly underlines Asia's lead in this domain, and the Asian predominance in world aquaculture production. In combination with the previous subsection, it also suggests that countries put more effort into developing legal frameworks, but might be lagging behind in making these known and disseminating the "best practice" principles on which these frameworks are generally constructed.

Expanding aquaculture sectors command the adoption of procedures to manage critical aspects of the sector's development. These include the assessment of environmental impacts, the continuous monitoring of aquaculture operations, and the management of alien species introductions – three key areas that have been singled out as particularly critical. These domains are associated with the rise of modern and intensive aquaculture, and the need to limit potential impacts on the environment. Table 18 regroups information about the adoption of these procedures, and their perceived effectiveness.

Table 18: Relative number of countries having adopted procedures to manage critical aspects of aquaculture development

	2000	2002	2004	2006
EIA of aquaculture operations	36.5%	69.5%	80.4%	77.4%
Effectiveness		n.d.	21%	17%
Monitoring of aquaculture operations		73.3%	71.7%	75.8%
Effectiveness		n.d.	37%	15%

⁹⁴ FAO (2006). Progress in the implementation of the 1995 Code of Conduct for Responsible Fisheries, related international plans of action and strategy. COFI/2007/2. Rome, FAO.

	2000	2002	2004	2006
Minimizing effects of alien species introd.		73.3%	71.7%	74.2%
Effectiveness		n.d.	33%	20%

Source: FAO BCIMQ

The data available are not completely homogeneous. For 2000, only an overall figure of 36.5 percent exists for countries reporting to have adopted procedures in these domains. It appears that there has been an overall, more than two-fold increase in the adoption of such procedures since 2000. This is probably in line with how frameworks have evolved on the ground, and is supported by findings held back in Table 16 (evolution of administrative and legal frameworks). The major worry here lies in the fact that in 2006, on average, less than one in five country reports these procedures as being fully effective. This underlines the novelty of the sector, and the challenges administrations are facing in framing up a booming, fast evolving and highly technical sector. This is backed by needs identified by administrations to improve effectiveness in these three domains (Table 19).

Table 19, adapted without modifications from the 2006 statistical appendix,⁹⁵ lists the identified needs of administrations to improve the effectiveness of these procedures. The need to strengthen technical capacity is ranked first twice, and second once – making it overall the most important challenge administrations face worldwide. This particular weakness of administrations besieges other agricultural domains – sharing common ground with aquaculture – such as the use of genetically modified organisms in food production systems.

Table 19: Identified needs for improvement in three critical domains of aquaculture operations (by descending order of importance)

Rank	Environmental assessments of aquaculture operations	Monitoring of aquaculture operations	Minimizing harmful effects of alien* species introductions
1	Improvement of assessment scope and techniques (12.5%)	Improvement of technical capacity (19.1%)	Improving technical capacity (21.7%)
2	Strengthening of technical capacity (12.5%)	Improved monitoring (coverage; species; facilities) (4.3%)	Strengthening the legal framework (6.5%)
3	Monitoring (frequency and/or coverage) (12.5%)	General improvements (not specified) (12.8%)	Control of released species (4.3%)
4	Institutional strengthening (8.3%)	Institutional strengthening (4.3%)	Research (incl. evaluation of natural resources) (4.3%)
5	More dissemination & wider application (2.1%)	Development of contingency plans (2.1%)	Upgrading/adding laboratory facilities (4.3%)
6	–	–	Strengthening of institutional collaboration (4.3%)

Source: FAO BCIMQ 2006

Note: The percentage value indicated after each tabulated need represents the fraction of all countries having put a particular mechanism in place, and which still needs improvement. For the first two columns, the tabulated issues cover 100 percent of all issues reported. For the last column, listed items cover a cumulative 91.3 percent of all reported issues. The remaining issues include translation of texts for extension (2.2 percent), and the need for regular assessments (2.2 percent). *alien: includes non-native and genetically altered stocks

The Code encourages countries to take measures to promote responsible aquaculture practices at rural community, producer organization and fish farmer level. Positive communication with, and support to the producer end is hence suggested as a means of achieving solid outcomes in bringing about responsible aquaculture. A host of measures to achieve this were pointed out by countries in 2002, and included the following: “developing responsible policies and best practices backed by appropriate legislation, developing management plans, strict controls on the introduction of exotic species, training for artisanal production, creating awareness among stakeholders for responsible behaviour, farming of indigenous species, the

⁹⁵ FAO (2006). Progress in the implementation of the 1995 Code of Conduct for Responsible Fisheries, related international plans of action and strategy. COFI/2007/2. Rome, FAO.

promotion of farming practices appropriate to the socio-economic status of farmers, the promotion of integrated aquaculture-agriculture practices, implementing regulations against the use of chemicals that adversely impact the industry and the environment, enhancing monitoring of operations, developing more environmentally-friendly technology, greater emphasis on extension, accreditation of hatcheries and the involvement of communities in management, strengthening aquaculture cooperative, applied aquaculture research and strengthened Monitoring Control and Surveillance (MCS).” This line up of measures provides a sense that options are broad and varied. The 2004 and 2006 reports produced more structured statistics on key measures put in place by countries, and are presented in Table 20.

Table 20: Relative number of prominent measures taken to promote responsible aquaculture practices in support of rural communities, producer organizations and fish farmers. Ranked by descending order of importance

	2004	2006
Extension programmes and awareness campaigns	55%	33.3%
Legal framework improvement	35%	42.1%
Promotion of small-scale farming	15%	24.6%
Credit schemes	20%	8.8%
Developing management plans for the sector	-	15.8%
EIA and authorization schemes	10%	17.5%

Source: FAO BCIMQ

Data in this table are difficult to interpret, as only two years are given. Not too much importance should be attached to apparent trends, yet, a few things would appear to emerge from this; the first one being that important amounts of effort are being invested into extension programmes and awareness campaigns. It would seem (bearing in mind the limitations of these datasets), that attention paid to extension programmes and awareness campaigns have diminished over time. The opposite is true for legal framework improvements, ranking second in 2004, and first in 2006. The latter supports the earlier finding that institutional and legal frameworks are becoming more and more developed, and that globally speaking, governments are moving more and more into a position of regulator, away from a position as promoter and active driver in the development of the sector. This assertion is also supported by other elements in Table 20, such as an apparent diminishing importance attributed to credit schemes, and conversely, the development of sectoral management plans and mandatory environmental impact assessment (EIA) and authorization schemes. Overall, this paints a picture of moving from a largely deregulated sector to a more and more regulated one.

3.2.5 Code-related instruments

Seven instruments are formally linked to the Code. These are the Compliance Agreement, the four IPOAs and the two Strategies-STF and -STA.

IPOA–Capacity

COFI, in its twenty-seventh session final report notes that: “(...) a number of Members stated that overcapacity was as important an issue as illegal, unreported and unregulated (IUU) fishing.”⁹⁶

In actual fact, fishing overcapacity is likely to be the single most important factor affecting the sustainability of world fisheries, hindering efforts to achieve sustainable exploitation regimes. In many of the world’s most important industrial fisheries – many today in developing countries, as well as in many of the world’s most important artisanal fisheries (e.g. Southeast Asia and West Africa), fishing overcapacity is the primary root cause of stock declines, ecosystem changes, poor economic performance of the sector, and ultimately social strife.⁹⁷ Fishing overcapacity is likely to occur in all fisheries where access is not properly regulated and/or strictly limited; this phenomenon has generally been referred to as the *tragedy of the commons*, and prevails in many industrial and most artisanal fisheries world wide. The forces at work entail that new entrants into

⁹⁶ See: Article 16. In FAO (2007). Report of the twenty-seventh session of the Committee on Fisheries. FAO Fisheries Report No. 830. Rome, FAO. 74p.

⁹⁷ By way of an example, the exodus of young West Africans by pirogue from West Africa to the Canary islands in recent years is largely driven by failing agriculture and fisheries sectors, and rising prices for food commodities.

the fishery will only stop from entering the fishery after the returns from the fishery have become much lower than input costs – making many, if not most, fisheries run at a net loss. Subsidy schemes benefiting national fishing fleets further distort the picture, and contribute to overcapitalization and the maintenance of overcapacity. The number of entrants and the fishing pressure exerted often leads to the collapse of target stocks – and the financial ruin of local fishing units that depended on them. While estimates vary, world fisheries are currently estimated to run at a net loss worth dozens of billions of US dollars⁹⁸, and the global resource rent from capture fisheries is largely negative. Access regulations in line with biological potential, and the limitation of fishing capacity, are the *conditio sine qua non* for profitable, sustainable and responsible fisheries management.

Formulating national action plans to manage capacity is one of the mechanisms proposed by the IPOA–Capacity to address capacity in a coherent and integrated manner.⁹⁹ From information available to FAO,¹⁰⁰ by 2000 no country had initiated the formulation of an integrated and coherent national plan of action to reduce capacity, but some countries, such as Japan, reported that they had carried out substantial cutbacks in some fleets.¹⁰¹ In 2002, 8.6 percent of responding countries reported to have completed their national capacity assessment.¹⁰² However, some of the same countries reported not to have carried out the same assessment in the progress report published two years later (2004)¹⁰³ – another indication that BCIMQ data are affected by the sometimes limited knowledge and/or understanding of technicians responding to questionnaires. In 2004, the Code implementation monitoring report noted: “Overall, stated trends have evolved little since last year’s evaluation.” – referring to an independent capacity-focused progress assessment that had been published by FAO in 2004 – based on 2003 data.¹⁰⁴

In 2004, 16.7 percent of countries reported to have finished their capacity assessment, with 68 percent reporting that a preliminary capacity assessment was underway. In 2006, however, the key indicator (i.e. completed capacity assessment) had slipped back to 7.1 percent - reflecting a status similar to the one that had been reported in 2002. Overall, it is safe to state that little progress has been made in assessing national fishing capacity, and in formulating national plans of action to manage fishing capacity. Despite advances in some particular fisheries, overcapacity remains one of the key stumbling blocks preventing the improvement of global fisheries management. See Table 29 for additional figures.

IPOA–IUU

In 2006, the General Assembly of the UN: “(...) emphasizes once again its serious concern that illegal, unreported and unregulated fishing remains one of the greatest threats to marine ecosystems and continues to have serious and major implications for the conservation and management of ocean resources, and renews its call upon States to comply fully with all existing obligations and to combat such fishing and urgently to take all necessary steps to implement the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing of the Food and Agriculture Organization of the United Nations;”¹⁰⁵ Similar points had been raised by the UN General Assembly in 2002 with respect to IUU fishing (see UNGA resolution 57/142), underlining the high importance attributed to IUU fishing in recent years.

The term “IUU fishing” was added to the fisheries vocabulary only quite recently. This occurred within the Commission of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR), and its first formal appearance is traced back to a 1997 CCAMLR meeting agenda. The concept gained in

⁹⁸ in excess of USD50 billion per year in 1992.

⁹⁹ See: Article 8. ii) In FAO (1999). International Plan of Action for the Management of Fishing Capacity. Rome, FAO.

¹⁰⁰ FAO (2000). Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action. COFI/2001/3. Rome, FAO.

¹⁰¹ Japan, in 2000, reported to have scrapped 20% of its large-scale tuna long-lining fleet in 1999.

¹⁰² FAO (2002). Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action. COFI/2003/3. Rome, FAO.

¹⁰³ FAO (2004). Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action. COFI/2005/2. Rome, FAO.

¹⁰⁴ FAO (2004). Implementation of the International Plan of Action for the Management of Fishing Capacity (IPOA–Capacity): Review and Main Issues. FAO Fisheries Report TC IUU-CAP/2004/4. Rome, FAO.

¹⁰⁵ UN General Assembly Resolution on Sustainable Fisheries A/RES/61/105 - paragraph 33. UN, New York; 2006

support quickly, and emphasizes the importance of MCS as a fisheries management tool. IUU fishing is now recognized as a phenomenon with a much higher deleterious impact on world fisheries than anyone would have acknowledged a decade or so earlier. The IPOA–IUU was endorsed by FAO Members in 2001.

IUU fishing is highly endemic in certain regions of the world. In waters off the coasts of countries like Sierra Leone or Liberia, up to 80 percent of all observed fishing operations can be unlicensed and illegal.¹⁰⁶

Acts of fish being stolen by foreign fishing units have received more press coverage and public attention than weak domestic fisheries management practices, even though both can (and do) produce similar results. While the first one encompasses eye-catching acts of international piracy¹⁰⁷ and resource plunder, the other one is generally perceived as an ongoing and well known worry of sovereign nature.

The Code established a 2005 deadline for the completion of national plans of action to combat and eliminate IUU fishing. No country had developed an NPOA–IUU by 2002 – owing to its newness. Table 21 traces the development of NPOA–IUVs since 2002.

Table 21: Status of NPOA–IUU development

	2002	2004	2006
Countries having taken steps to develop a plan	43.8%	48.7%	75.5%
Countries having finished the development of the plan	-	29.8%	47%

Source: FAO BCIMQ

It emerges from this table that progress in the formulation of NPOA–IUVs has been very rapid, culminating in almost half of responding Members to have developed their NPOA–IUU by 2006. This indicates that the need to act against IUU fishing has been broadly recognized, accepted and acted upon by countries across the board. A good example is the maritime SADC region, where a Ministerial Conference convened in Windhoek in July of 2008 resulting in the signature of a Statement of Commitment, vowing to take firm action, and making the necessary efforts to eliminate IUU fishing.¹⁰⁸ Table 22 underlines how countries of that particular region have moved forward in developing national plans.

These results contrast harshly with results obtained for the IPOA–Capacity, which has been in existence for a couple of years longer, and whose implementation has been lingering ever since its publication. One of the main reasons that underpins the different rates with which these two IPOAs are being translated into national plans of action owes to the fact that the IPOA–Capacity mainly invites States to address a very difficult and politically sensitive issue of national fisheries management, while the IPOA–IUU provides for a politically often welcome invitation to weed out illegal foreign elements from national fisheries sectors – amongst others. One of the main issues faced by the IPOA–IUU is that IUU fishing has been reduced in the minds of many to signify “*pirate fishing*” only. Comprehensive NPOA–IUVs that have been developed in developing countries with FAO and other assistance have been slow in getting adopted and implemented, as comprehensive NPOA–IUVs also address national problems of illegal fishing, unregulated fishing, unreported fishing, shortcomings in flag State and port State controls, and membership in RFMOs – to mention but a few. The phenomenon of identifying IUU fishing largely with foreign entities carrying out illegal operations is not limited to developing countries, and poses one of the most serious challenges in translating the IPOA–IUU into effective, fully framed and implemented NPOA–IUVs today.

¹⁰⁶ Based on aerial surveillance data gathered by SOCU between 1997 and 2001. Collected data refer to the percentage of non-licensed (i.e. pirate) operations.

¹⁰⁷ The true term “pirate” refers to a vessel without registration. In fisheries however, the term “pirate” is now widely being used to refer to foreign vessels fishing in the waters of a coastal State without having been duly authorized to do so, and without having been issued a valid fishing license.

¹⁰⁸ See: <http://news.bbc.co.uk/2/hi/africa/7486169.stm>

Table 22: Status of NPOA–IUU development and implementation in the coastal SADC region (adapted from Hosch, 2007)

		Decision	First draft	Final draft	Adopted	Active
1	DRC	1	0	0	0	0
2	Angola	1	½	0	0	0
3	Namibia	1	1	1	1	1
4	RSA	0	0	0	0	0
5	Mozambique	1	1	½	0	0
6	Tanzania	1	½	0	0	0
7	Madagascar	1	1	½	0	0
8	Mauritius	0	0	0	0	0
percentage		75	50	25	12.5	12.5

Two regional plans of action (RPOA–IUUs), an approach that underlines the need for concerted action to combat IUU fishing, have been developed to date. The first one of these was developed in May 2004, under the auspices of the Lake Victoria Fisheries Organization (LVFO),¹⁰⁹ and targets the inland fisheries of countries bordering the lake.¹¹⁰ The other RPOA–IUU was developed in Southeast Asia in 2007. The *RPOA to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region* was signed onto by eleven countries.¹¹¹ Also see table 29.

Overall, the process of NPOA–IUU development in developing countries has been largely driven through donor-funded specialist assistance, as the necessary technical expertise to develop these complex plans often lays beyond the technical capacity of national fisheries administrations. This underlines one of the core weaknesses of many developing countries – which are fundamental shortcomings in human resources and related technical capacity to properly manage complex fisheries sectors.

IPOA–Seabirds

The IPOA–Seabirds seeks to reduce seabird mortality and bycatch in fisheries where these are most common and conspicuous. These are longline fisheries above all. In 2007, COFI proposed that the IPOA–Seabirds be extended to trawl fisheries as well, seabirds also getting killed by trawl cables extending from the stern of vessel down to the water surface. Impacts on seabird populations are important, and likely to result in major ecosystem disruptions and/or changes. It has been reported from New Zealand scientific observers that 31 different species of seabirds have been caught in longline fisheries between 1998 and 2004 – 18 of which are listed as threatened with extinction.¹¹²

Every year from Falkland Islands colonies an estimated 17 000 black-browed albatrosses die at sea, a large part of which while interacting with longline fisheries. Since the 1960s wandering albatrosses have decreased at about 1 percent each year. Since the 1970s grey-headed albatrosses have decreased at about 2 percent per year, and black-browed albatrosses at about 4 percent. In the last 15 years on South Georgia, black-browed and grey-headed albatross populations have decreased by about 30 percent. This is compounded by the fact that albatrosses mature late and breed slowly, making them extremely vulnerable to increased mortalities.¹¹³

In longline fisheries, bird mortalities are mostly related to seabirds accompanying vessels, diving for bait when longlines are being set, and getting hooked in the process. This kills birds through drowning, and reduces the efficiency of fishing operations by losing potential catch to hooked birds. The IPOA–Seabirds and its implementation hence represent an opportunity to bring about a win-win situation for both conservationists and industrial operators by reducing seabird mortality, and improving gear efficiency. In

¹⁰⁹ LVFO homepage: www.lvfo.org. The RPOA–IUU can be downloaded under “Documents and Publications”, and then “LVFO Documents”.

¹¹⁰ Parties to the LVFO and the RPOA–IUU are Kenya, Tanzania, and Uganda.

¹¹¹ Parties to the RPOA–IUU are Australia, Brunei Darussalam, Cambodia, Indonesia, Malaysia, Papua New Guinea, The Philippines, Singapore, Thailand, Timor-Leste and Viet Nam. The document can be accessed under: <http://prfp-conference.com/booklet.php>

¹¹² See: www.puregreen.com.au/NewsDetail.aspx?id=468

¹¹³ See: www.peregrineadventures.com/Antarctica/Albatross-Off-The-Hook/The-Plight-of-the-Albatross.html

trawl operations, however, there is no such immediate economic incentive for operators to reduce seabird mortalities.

Key mitigation measures to reduce seabird mortality are the putting in place of bird scaring devices (streamer and tori lines), dying bait in blue, setting longlines at night, accelerating sinking rates of lines, etc. A range of very good materials has been produced by various organizations,¹¹⁴ explaining how operators can put in place such devices, and review the organization of their operations. RFMOs having taken resolutions or conservation measures to mitigate seabird bycatch include CCAMLR¹¹⁵, the Indian Ocean Tuna Commission (IOTC), the Southeast Atlantic Fisheries Organisation (SEAFO) and the Western and Central Pacific Fisheries Commission (WCPFC).¹¹⁶ The solid results obtained by CCAMLR had been predicted by earlier independent research¹¹⁷, and represent a clear conservation victory by an RFMO which is generally recognized for a pro-active and effective stance on conservation issues. A range of other RFMOs are still struggling with putting in place and enforcing binding and effective measures in this domain.

Table 23 regroups country level IPOA–Seabirds implementation feedback. The BCIMQ has focused on reporting on countries conducting longline fisheries, and the assessments of bycatch problems, intentions and plans launched in those countries. Overall, some 80 percent of responding countries in 2004 and 2006 reported to conduct longline fisheries. What is apparent from the data presented in Table 23 is that by 2006, less than half of concerned countries conducting longline fisheries had conducted an assessment of the problem. Of those countries having conducted an assessment, half found that seabird bycatch was indeed a problem, and by 2006, just over half of those countries had reportedly developed a NPOA-seabirds. Also see Table 29.

Table 23: Status of NPOA–Seabirds development

	2000	2002	2004	2006
Longline fisheries countries having conducted an assessment	6.7%*	8.7%	45.5%	42.2%
Countries having conducted an assessment and concluded a problem exists	n.d.	4.3%	40%	52.6%
Countries with no plan intending to develop a plan	n.d.	4.3%	50%	64.9%
Countries having finished the development of the plan	n.d.	4.3%	33.3%	60%

Source: FAO BCIMQ

*out of all responding countries; i.e. substantially higher if only longline fisheries countries would have been considered

Overall, progress on this issue has been slow since the launching of the IPOA–Seabirds. A substantial number of countries has not moved on this issue though, and Africa as a continent ranks highest amongst these. In 2006, just under 20 percent of concerned African countries had conducted an assessment, and none had developed a plan. Of the 66 percent that had concluded that a plan was needed, only half those countries intended to develop a plan in the near future. This goes to underline once more the severe limitations many fisheries administrations in Africa face, and that conservation issues such as this one are rarely given priority treatment.

Other countries, such as New Zealand have moved ahead, and are currently addressing seabird mortality mitigation in trawl fisheries. On 21 March, 2008, a set of temporary measures have entered into force to

¹¹⁴ See for instance CCAMLR's publication "Fish the Sea, not the Skies" under: www.ccamlr.org/pu/e/e_pubs/ftsnts.pdf

¹¹⁵ The 2003 seabird bycatch levels in CCAMLR Member longline fisheries were reduced by 99 percent from 1997 levels (from 6 589 to 15 seabirds captured), following the implementation of the relevant conservation measures.

¹¹⁶ For a complete update on measures taken by IGO on mitigating seabird mortality, see: Gilman, E.; Moth-Poulsen, T.; Bianchi, G. (2007). Review of measures taken by intergovernmental organizations to address sea turtle and seabird interactions in marine capture fisheries. FAO Fisheries Circular. No. 1025. Rome, FAO. 2007. 42p.

¹¹⁷ Løkkeborg, S. & Robertson, G. (2002). Seabird and longline interactions: effects of a bird-scaring streamer line and line shooter on the incidental capture of northern fulmars *Fulmarus glacialis*. Biological Conservation. Volume 106, Issue 3, August 2002. pp. 359-364.

mitigate seabird mortality in trawl fisheries in New Zealand. CCAMLR put trawl-related seabird mortality reduction rules in place in 2003 already.¹¹⁸

IPOA–Sharks

Much as seabirds, sharks suffer from elevated bycatch rates in longline fisheries. Sharks tend to have similar reproduction strategies as large marine birds, reaching sexual maturity late, and giving rise to few offspring at any given time. In addition to this, there is a flourishing high value Asian market for dried shark fin products – turning sharks into a highly lucrative “bycatch” species.¹¹⁹ In addition to this, sharks are the target of intensive shark fisheries in several parts of the world (e.g. West Africa and Madagascar) where shark meat is traditionally valued and locally marketed – in addition to the overseas market avenues for dried shark fin products. Ecosystem and climate change are also thought to play an important part in shark population declines.

In seas like Baja California¹²⁰ and the Mediterranean¹²¹, almost all of the studied populations of large sharks have declined by over 95 percent of their original abundance estimates. Declines in abundance are attributed to multiple pressures, including unintended capture in open ocean fisheries, targeted shark fishing, and human population pressure in coastal areas. Ecosystem impacts of declining top predator populations are unpredictable – but certain. Mean sizes of sharks caught in the Mediterranean are now amongst the lowest in the world. In the southwest of Madagascar, diving with coastal sharks used to be a tourist attraction (and hence a source of revenue) until the mid-nineties. Today, it is very rare to find a single shark in the same locations.

Table 24 regroups information on IPOA–Sharks implementation. The IPOA–Sharks encourages countries to analyse their situation, and for those countries where sharks are caught, either incidentally, or in a targeted manner, to ensure these resources are exploited in a responsible and sustainable manner. In 2004 and 2006, some 66 percent of countries reported to be concerned by this issue. Percentage values in Table 24 take this ratio into account, and might therefore differ from those presented in the 2000 and 2002 COFI Code implementation monitoring reports.

Table 24: Status of NPOA-Sharks development

	2000	2002	2004	2006
Countries with shark fisheries having conducted an assessment	21.9%	24.5%	32.5%	60.4%
Countries with no plan intending to develop a plan	n.d.	n.d.	77.8%	44.4%
Countries having finished the development of the plan	none	8.7%	35.7%	34.5%

Source: FAO BCIMQ

The trends emerging from Table 24 are somewhat contradictory. It is clearly apparent that the assessment called for in the IPOA–Sharks has been implemented by a rising number of countries, rising to just over 60 percent of all concerned countries in 2006. However, the intention to develop a national plan of action has dropped sharply between 2004 and 2006, for those countries that have conducted the assessment, but have not yet developed a plan. The overall number of national plans of action increased steadily since the publication of the IPOA–Sharks, and would – according to Table 24 figures – have exceeded twenty national plans by 2006. This is not the case. According to the information available to FAO, only 10 out of the top 30 shark fishing nations have developed an NPOA–Sharks to date.

¹¹⁸ CCAMLR (2003). CCAMLR Conservation Measure 25-03. Minimization of the incidental mortality of seabirds and marine mammals in the course of trawl fishing in the Convention Area.

¹¹⁹ Once a bycatch species is utilized, it does not qualify as “bycatch” anymore. In many tuna longline fisheries, operators actually target sharks, rather than tuna, although operating on tuna licenses.

¹²⁰ Baum, J. K. & Myers, R. A. (2004). Shifting baselines and the decline of pelagic sharks in the Gulf of Mexico. *Ecology Letters* 7:135–145.

¹²¹ Ferretti, F. *et al.* (2008). Loss of Large Predatory Sharks from the Mediterranean Sea. *Conservation Biology*, Volume **, No. *, ***-*** (paper accepted November 15, 2007 - in press)

In the United States of America, shark finning¹²² was banned in the US Atlantic fisheries in 1993, pre-dating the IPOA–Sharks by six years. The US Shark Finning Prohibition Act of 2000 established a national prohibition on the practice. Loopholes in the law, however, hampered the enforcement of the legislation. Similar to US legislation on TEDs, which extends its reach beyond US waters, the “Shark Conservation Act of 2008”, put before the House of Representatives earlier this year, would strengthen the US finning ban by allowing for better enforcement, encouraging other countries to adopt shark conservation programmes that are comparable to the United States of America, and establishing a process that would ultimately allow for sanctions against countries that do not.¹²³ Seychelles has banned shark finning in 2006, and was in the process of finalizing its NPOA-sharks in 2008 – displaying definite commitment in the matter.

In 2006, CCAMLR took the decision to ban all shark fishing in its area of competence until shark populations would be properly studied, and sustainable harvest potentials would be established. This can readily be portrayed as a model precautionary measure fully in line with the spirit of the Code, and has been highlighted and commended as such by conservation groups world wide.¹²⁴ Other initiatives have produced regional action plans, but their endorsement, adoption and application remain weak.¹²⁵

FAO reports that shark statistics received since the publication of the IPOA–Sharks have improved substantially, indicating also that the most detailed and reliable shark catch statistics were provided by CCAMLR.¹²⁶ However, the ongoing deteriorating trends of world shark resources and the severely limited number of encouraging reports describing shark population recoveries underline the need for more effective measures, more effective implementation of such measures, stricter rules and law enforcement, and monitoring and evaluation of impacts – across the board.

Since the adoption of the IPOA–Sharks, several species of sharks have been proposed to be included in the Appendices of CITES.¹²⁷ In June 2008, six shark species were added to the Commission for the Protection of the Marine Environment of the Northeast Atlantic’s (OSPAR) list of Threatened and Declining Species and Habitats merely underlines this need.¹²⁸ These developments underline that current action is not enough.

Strategy–STF and Strategy–STA

The *Strategy for Improving Information on Status and Trends of Capture Fisheries* (Strategy–STF) is a recent instrument, which is to be understood as a Code implementation mechanism.¹²⁹ It has been adopted by COFI at its twenty-fifth Session in 2003. “*The Strategy–STF is a voluntary instrument that applies to all States and entities. Its overall objective is to provide a framework, strategy and plan for the improvement of knowledge and understanding of fishery status and trends as a basis for fisheries policy-making and management for the conservation and sustainable use of fishery resources within ecosystems.*”¹³⁰ The Strategy–STF was originally intended to be published as an IPOA, alongside the four IPOAs already in existence. It was eventually published as a strategy that countries were invited to follow – doing away with the need to develop country-specific national plans of action to implement the strategy. FAO retains an active role in strategy implementation as a central information pooling, management and dissemination hub. FAO’s Fisheries Global Information System (FIGIS), is a key tool of the strategy, one of its core objectives being to arrive at a global inventory of all fisheries and fish stocks. Currently, the status and trends of only about 50 percent of global fisheries and fish stocks are known, hampering efforts in evaluating the evolution of world fisheries trends in a holistic manner.

¹²² “Shark finning” is the practice of hauling a hooked or netted shark aboard a fishing vessel, cutting off its fins, and discarding the body – often still alive – back into the sea.

¹²³ See full text of H.R. 5741 under: www.govtrack.us/congress/billtext.xpd?bill=h110-5741

¹²⁴ See for instance: www.earthdive.com/site/news/newsdetail.asp?id=1895

¹²⁵ See: <http://www.rac-spa.org/dl/elasmo.pdf> : UNEP MAO RAC/SPA (2003). Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea. Ed. RAC/SPA, Tunis. 56p.

¹²⁶ Personal communication from the FAO statistics unit

¹²⁷ These are: Sawfishes, Pristidae (2007 - Appendix I); White shark, *Carcharodon carcharias* (2004 - Appendix II); Basking shark, *Cetorhinus maximus* (2002 - Appendix II), and Whale shark, *Rhincodon typus* (2002 - Appendix II).

¹²⁸ Read more under: www.fishupdate.com/news/fullstory.php/aid/11440

¹²⁹ With particular reference to article 7.4 of the Code “Data gathering and management advice”

¹³⁰ Excerpt of the Abstract. FAO (2003). Strategy for Improving Information on Status and Trends of Capture Fisheries. Rome, FAO. 34p.

The Strategy–STF has been endorsed by the United Nation’s General Assembly through resolution A/RES/58/14 of January 2004.¹³¹ The Strategy–STA, which strives to accomplish the same for aquaculture information, has only been published in 2007 as an annex to the COFI report, and has not been the object of implementation monitoring as yet.

Table 25 regroups information about the implementation of the Strategy–STF, which has been sampled through the biennial Code implementation monitoring surveys in 2004 and 2006. One of the main problems with these data pertains to the first indicator (*Countries aware of the Strategy–STF*), as many respondents would feel encouraged to reply “yes” to this question, even if it was factually incorrect. The second indicator though (*Countries having elaborated plans and programmes to implement the Strategy*), is much more reliable, not directly suggesting a “yes” or a “no” answer. Percentage values for this second indicator differ from 2004 and 2006 values presented in COFI Code implementation monitoring reports, as these values refer to all responding countries, and not only countries which are aware of the Strategy–STF.

Table 25: Global awareness and action to implement the Strategy–STF

	2004	2006
Countries aware of the Strategy–STF	75.6%	72.4%
Countries having elaborated plans and programmes to implement the Strategy	27.7%	29.3%

Source: FAO BCIMQ

It emerges that probably less than three in four countries are aware about the strategy, and less than a third have undertaken actions to improve data collection and reporting on fisheries status and trends. Little – if any – improvement in these ratios has taken place over the first three years of the Strategy–STF monitoring period, and it would seem that more efforts should be directed into advertising the Strategy–STF, and into encouraging States and other relevant entities in giving it due attention and contribute to its success.

3.3 Industry associations

Industry associations play a critical role in supporting the implementation of the Code – through the adoption of responsible and sustainable harvest, post-harvest, processing and marketing practices, and through the adoption of codes relevant to the activities of their sector – inspired by Code provisions and principles.

Many such industry organizations have indeed adopted Code provisions and principles, and translated them into industry standards of practice. This section of the report would not be able to cover all of these, but seeks to highlight relevant examples of how the Code has contributed to shape industry behaviour, and how practices have shifted towards more responsible (and possibly more transparent and accountable) modes of industry operations directly inspired by the Code.

Aquaculture

In aquaculture, inherently different from fisheries in the way the sector operates and evolves, one of the main thrusts of industry associations has been the development of codes of best practice for responsible aquaculture. The need for such codes is inspired in part by the fact that aquaculture was getting an important amount of bad press coverage in its early days of industrialization, for reasons related to poor environmental management and impact of aquaculture operations on coastal ecosystems. Second-rate feed and chemotherapeutant management practices put a question mark behind the health and safety standards of aquaculture products, dealing blows to the market value of certain aquaculture products.

In aquaculture, codes of best practice have been developed by industry associations and by other organizations, including IGOs. A good example of a code of conduct for aquaculture is one that has been developed by the Federation of European Aquaculture Producers (FEAP).¹³² It is an international

¹³¹ UNGA (2004). Resolution A/RES/58/14. Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments. New York. 21 January, 2004.

¹³² FEAP Web site: www.feap.info/feap/

organization that is composed of National Aquaculture Associations of European countries. It regroups 28 member organizations from 23 European countries. Its stated main aims are:

- *to develop and establish a common policy on questions relating to the production and the marketing of aquaculture species that are reared professionally;*
- *to make known to the appropriate authorities the common policies envisaged above.*

Although the development of codes of best practice for aquaculture is not explicitly suggested by the Code, the somewhat limited aquaculture provisions inherent to the Code suggest the development of more detailed codes of best practice to guide the development of the sector in given settings – or for given species. The Holmenkollen guidelines (also underpinning FEAP’s guidelines) developed through the Norwegian Academy of Technological Sciences point out that the development of its text prior to 1995 influenced the drafting of the Code’s article 9 on aquaculture, and that it endorses the Code’s final text.

FEAPs code of conduct responds directly to the identified, expanded need for industry standards.¹³³ On its web site, FEAP affirms that: *“The interests of the consumer are always foremost for aquaculture producers, be they small family farms or large companies. The ethos of the Federation of European Aquaculture (FEAP) is embodied in its Code of Conduct for European aquaculture. This Code was developed by experts and producers in consultation with a wide range of international bodies and was unanimously approved by the FEAP Assembly in 2000. Such conduct is to assure sustainable development of the sector and the improvement in aquaculture techniques in order to produce food that is desirable and acceptable for the consumer. This Code is currently being reviewed in consultation with experts in many different fields to be able to provide practical guidance on issues concerning sustainability and the environment.”*

The guiding principles of *sustainable development*, of *product quality and safety* and *environmental compatibility*, all fundamental principles inherent to the Code, are endorsed by, and structure FEAP’s code of conduct.¹³⁴

The number of industry associations which are members of FEAP – an umbrella-type organization – indicates how many of these exist world-wide. A listing of codes of best practice and guidelines developed by a range of such associations can be found in the 2006 World Bank Aquaculture report,¹³⁵ and are appended in annex IV. Some of these codes, such as the *Environmental Code of Practice for Australian Prawn Farmers, 2001*, or the *Judicious Antimicrobial Use in U.S. Aquaculture: Principles and Practices, 2003*, do not make reference to the Code, but are fully compatible with its spirit, and build upon it.

The development of industry-driven codes has contributed substantially to the greening of the industry, and has induced much wider acceptance of aquaculture and its perceived performance on quality, safety and environmental sustainability issues. This represents a definite net change from the early days of intensive aquaculture development, when the sector was mostly perceived as a gold rush industry with low environmental standards, and ripe with rape and run operations. Prices in high value commodities such as shrimp and salmon have dropped substantially, and standards have improved dramatically – owing in part to industry associations adopting voluntary standards of best practice. In many places, governments have been following industry’s lead and fast developing sectors, and in line with trends highlighted in section 3.2.4 and Table 20 in particular, governments would now seem to be taking on more and more affirmative stands on regulation, monitoring and enforcement of rules framing the sector.

¹³³ *“The FEAP has developed this Code of Conduct with specific reference to:*

- *The provisions for responsible aquaculture development contained in the FAO Code of Conduct for Responsible Fisheries, which was adopted by the 28th Session of the Conference of the Food and Agriculture Organization of the United Nations (1995).*
- *The FAO Technical Guidelines for Responsible Fisheries No. 5: Aquaculture Development (FAO Fisheries Department -1997).*
- *The Holmenkollen Guidelines for Sustainable Industrial Fish Farming (Oslo - 1994).*
- *The Holmenkollen Guidelines for Sustainable Aquaculture (Oslo - 1997). (...)”*

¹³⁴ FEAP’s code of conduct is available online under:

www.feap.info/FileLibrary%5C6%5CFEAP%20Code%20of%20Conduct.pdf

¹³⁵ See: Annex 2 in: The World Bank (2006). Aquaculture: Changing the Face of the Waters. Meeting the Promise and Challenge of Sustainable Aquaculture. Report No. 36622 – GLB. Washington DC. 138p.

Fisheries

Hundreds of industrial fisheries associations exist throughout the world. Their objectives are varied, but with few exceptions center around the promotion of interests shared by the fishing industries of a region or a country. Some of these national associations, such as the Japan Fisheries Organization,¹³⁶ have been in existence for a long time. The International Coalition of Fisheries Associations (ICFA) regroups national (e.g. New Zealand Seafood Industry Council), regional (e.g. ASEAN Fisheries Federation), and thematic (e.g. Organization for the Promotion of Responsible Tuna Fisheries (OPRT)) umbrella industry associations (16 in total) on a global scale.¹³⁷ ICFA, founded in 1988, liaises directly with international organizations, such as the UN specialized agencies based in Rome and New York, providing industry associations with a common voice, and representing common interests at the international level. It regroups some 85 percent of world wild capture fisheries producers.

ICFA states that its members: “(...) *advocate policies for the long-term sustainable use of living marine resources for the benefit of global food security and prosperity. ICFA members are deeply committed to science-based and fully participatory fishery conservation and management processes.*” This orientation is fully in line with the spirit of the Code. A range of so called ICFA “*policies*” have been elaborated by the international coalition over time.¹³⁸ Some of these come in the form of resolutions, and deal with issues such as the reduction of seabird bycatch in longlines, combating IUU fishing, eliminating FOC’s, supporting uniform and streamlined catch documentation schemes, traceability schemes or ecolabelling initiatives which do not penalize legal operators. In this sense, the ICFA can be regarded as the private-sector counterpart to an RFMO with global reach, making the all-important voice of industry heard. Most of the Code-related instruments and the Code are referred to in ICFA’s policies. While these are all explicitly or implicitly accepted, many ICFA policies point out challenges faced by legal operators, when certain schemes – such as catch documentation schemes – are implemented by individual countries or individual RFMOs in ways not directly compatible with other countries, RFMOs or entities, and how this can impact the overall efficiency of legal operations and trade in legal fisheries products. For responsible and sustainable fisheries management measures to become fully effective, be they national, regional or global, industry must be part of their development, and must back their implementation. This critical message is clearly conveyed by ICFA.

In the same way as for aquaculture, a number of industrial fishery associations have developed codes of best practice – some of which are fully in line with the Code and its related instruments. A good example is the Australian Seafood Industry Council’s *Code of Conduct for a Responsible Seafood Industry*.¹³⁹ This code has general application to the seafood industry, including aquaculture, processing and marketing segments. Its first two stated objectives are to:

- *promote the ecologically sustainable development of the seafood industry and the sustainable use of living aquatic resources and their environments;*
- *establish principles and practices, in accordance with the relevant regulations, for responsible fishing, aquaculture and seafood processing activities, taking into account their relevant biological, technological, social, environmental and commercial factors and customer requirements;*

These objectives are fully contiguous with the Code. On its opening page, the *Code of Conduct for a Responsible Seafood Industry* states that: “*The Code is based on the FAO Code of Conduct for Responsible Fisheries and tailored for conditions relevant to the Australian seafood industry.*” The Code does not request governments or industry associations to translate the Code into national codes of best practice, in the way it asks governments to develop their national plans of action, based on Code-related IPOAs. The development of such codes of best practice by industry associations – based on FAO’s Code – is a very clear and unambiguous signal of a national seafood industry that it is very serious about its stewardship of the resources, about safeguarding the environment, and conserving and managing the resources in a responsible

¹³⁶ The Japan Fisheries organization has been founded in 1882, is an umbrella-type association. Its website can be accessed under: www.suisankai.or.jp/index_e.html

¹³⁷ ICFA homepage: www.icfa.net/

¹³⁸ See: www.icfa.net/polices-index.cfm

¹³⁹ See full text under: www.pir.sa.gov.au/___data/assets/pdf_file/0013/12721/comm75.pdf

and sustainable manner. The Australian Seafood Industry Council's code covers a wide array of issues relative to fishing operations, aquaculture operations and seafood quality and safety.

Other national fishing industry associations having developed such codes of best practice include Canada and the United States of America. The Canadian Code of Conduct for Responsible Fishing Operations or "CONSENSUS CODE 1998" was developed by the fishing industry three years after the publication of the Code.¹⁴⁰ "*Achieving sustainable marine and freshwater fisheries*" lies at the heart of the Canadian code of conduct, and is directly linked to the Code in the third paragraph of its introduction: "*Bearing in mind that Canada played a leading role in the development of the U.N. Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries, this Canadian Code of Conduct is consistent with, and in no way diminishes, the FAO Code.*" The final paragraph of its introduction states, that: "*The Code of Conduct for Responsible Fishing Operations articulated by Canadian fish harvesters has at its core a philosophy of responsible fishing.*"

Interestingly, it also states in the introduction: "*It is also expected that Canadian fisheries regulatory agencies will take appropriate steps to bring their fisheries management policies and practices into line with this Code and will make themselves accountable to the resources users in this regard.*" – indicating that there is a will and a demand from the side of producers for industry and regulators to work together, to be accountable towards each other, and to base fisheries management policies and practices on the principles of responsibility and sustainability inherent to their code, and the FAO Code by extension.

Other associations, instead of developing codes of best practice, have taken a very proactive stand in the fight against IUU fishing. One of the most prominent of those groups is the southern Coalition of Legal Toothfish Operators (COLTO),¹⁴¹ whose stated objectives are "*to work with governments, other industries, conservation groups and the public to make sure legal operations are protected and illegal fishing is eliminated*". COLTO is actively involved in the Patagonian toothfish fisheries of the Southern Oceans. The coalition regroups twenty-two companies and associations from Argentina, Australia, Chile, France, Japan, New Zealand, South Africa and Spain – underlining that the fight against IUU fishing is global in nature, and requires wide-ranging collaborative arrangements to bear fruits. COLTO is also actively pursuing the protection of legitimate industry interests by getting "*illegal and unregulated toothfish poachers*" removed from the fishery. These objectives are entirely in line with the Code and the IPOA–IUU. On its website, COLTO provides direct links to the FAO website, the full text of the IPOA–IUU and the full text of an FAO extension manual on stopping IUU fishing.¹⁴² COLTO is a direct expression of the self-policing mechanism – one of the most cost-effective mechanisms to reigning in illegal operators in particular fishing zones. COLTO hosts and maintains a comprehensive IUU-vessel list on its website.¹⁴³

As key stakeholders, industry associations participate in debates on how to better manage industrial fisheries of immediate interest to them. Some of these associations are innovative, and act as reliable partners of fisheries administrations. A very good example of such an organization is the Malagasy Shrimp Aquaculturists and Fishers Association (Groupement des aquaculteurs et pêcheurs de crevettes de Madagascar – GAPCM).¹⁴⁴ The Malagasy Ministry of Agriculture and Fisheries is listed as their "*first and natural institutional partner*". The stated main objectives of the association are to contribute to the development of sound policies for responsible shrimp fisheries management at all levels, and to represent the industry and its interests with one single voice. All Malagasy industrial producers (seventeen in number) are members of the association. GAPCM is one of the few known industry associations which has managed to persuade its members to adjust fishing capacity (fleet size) on a voluntary (i.e. not imposed by government), year-to-year basis, in line with available shrimp resources, in order to keep CPUE rates as high as possible, and guarantee the economic efficiency and profitability of the sector.

These decisions are based on comprehensive and reliable biological and economic data sampled from the fishery through its operators on a permanent basis. Table 26 regroups corner figures of the evolution of the Malagasy shrimp fleet and catch per unit effort (CPUE). The actions related to capacity adjustment, effected

¹⁴⁰ For full text, see: www.dfo-mpo.gc.ca/communic/fish_man/code/cccrfo-cccpr_e.htm

¹⁴¹ COLTO homepage: www.colto.org/index.htm

¹⁴² FAO (2002). Stopping Illegal, Unreported and Unregulated (IUU) Fishing. Rome, FAO. 20p.

¹⁴³ See: www.colto.org/Toothfish_Vessels.htm

¹⁴⁴ GAPCM homepage: www.gapcm.org/

by the GAPCM, (amongst other approaches to achieving responsible and sustainable exploitation of shrimp resources) are quite unique in the developing world, and have earned Madagascar highest marks in various fora and publications focusing on fisheries management. It is a model case of a successful public-private partnership in fisheries management, it responds directly to Code and IPOA–Capacity provisions on collaborative fisheries management, and is driven by a private sector motivated to conserve the resource, exploit it sustainably, and keep earnings positive.

Table 26: Evolution of the Malagasy shrimp fleet, and contribution of the industrial sector to overall national production and exports (exports include aquaculture production)

Year	2002	2004	2005	2006	2007	2008
Licensed shrimpers	72	70	70	59	53	47
Annual catch (tonnes)	7 580	6 370	4 781	5 156	4 529	n.d.
CPUE (tonnes/vessel)	105.3	91	68.3	87.4	85.5	n.d.
Small-scale fisheries (in tonnes)	1 849	2 620	311	1 893	832	n.d.
Totale nat. export (tonnes)	16 057	15 233	11 321	12 949	11 861	n.d.
Industrial fisheries contribution	47.2%	41.8%	42.2%	39.8%	38.2%	n.d.

Source: OEFC

In the UK, there is the Sea Fish Industry Authority (Seafish),¹⁴⁵ which is a non-departmental public body, which functions as a cross-industry seafood body that works with fishermen, processors, wholesalers, seafood farmers, fish friers, caterers, retailers and the import/export trade. Although public in nature, it works for and with the industry. In 2006, Seafish launched the Responsible Fishing Scheme. The scheme was set up to promote good operational and environmental practices. Developed to raise standards and demonstrate the seafood supply chain’s commitment to responsible sourcing, the scheme had certified over 200 boats by mid-2008, and a further 300 were in the process of assessment. More than 41 percent of the UK fleet was involved in the initiative in 2008, and other fishing nations such as Holland were showing much interest in adopting the scheme for their own fleets. Tesco, a major UK seafood retailer, has vowed to back the scheme in order to source its seafood products from responsibly managed fisheries.¹⁴⁶

3.4 Regional fishery bodies and regional fisheries management organizations

Regional fishery bodies (RFBs) and regional fisheries management organizations (RFMOs), of which the former operate without delegated management mandates, play a crucial part in the application of Code provisions to the conservation and management regimes of mostly shared, transboundary, straddling and/or oceanic fish stocks. RFBs and RFMOs have also been the object of biennial Code implementation monitoring surveys, but little detailed, quantitative information about their involvement in furthering the implementation of the Code has been generated. Most information assembled to date is qualitative in nature, but clearly indicates that Code principles have been adopted and implemented in a broad and wide-ranging manner.

RFBs are more limited in their capacity to influence management decisions, given that they do not execute direct management mandates. RFBs largely act as facilitators, providing venues for stakeholders to meet, to exchange data and information, and exchange views on how to best manage fisheries and/or fish stocks which are of common interest. RFBs promote regional initiatives and activities in support of fisheries management. Their role as facilitator and promoter does provide major opportunities to promote Code principles and provisions, and ensure that these permeate into national and regional fisheries management frameworks. Many of these RFBs are subsidiary FAO bodies (e.g. the South West Indian Ocean Fisheries Commission (SWIOFC), the Regional Commission for Fisheries (RECOFI), etc.), and most of them suffer from lack of funds and dedicated staff – diminishing their effectiveness in many cases. The World Bank (2004)¹⁴⁷ states that: “The purely “consultative RFOs” rarely have the power or resources to implement plans and programmes.”

¹⁴⁵ Seafish homepage: www.seafish.org/indexns.asp

¹⁴⁶ News item: www.seafish.org/whatsnew/detail.asp?p=ca&id=1748

¹⁴⁷ The World Bank (2004). *Saving Fish and Fishers; Towards Sustainable and Equitable Governance of the Global Fishing Sector*. Report No. 29090-GLB. Washington DC. 93p.

In the case of the SWIOFC,¹⁴⁸ which was established quite recently,¹⁴⁹ its link to the Code has been held back in the Commission's statutes under the following terms: "5. *General Principles. The Commission has due regard for and promote the application of the provisions of the FAO Code of Conduct on Responsible Fisheries, including the precautionary approach and the ecosystem approach to fisheries management.*" In actual fact, RFBs are in a better position to promote the Code than RFMOs, as the latter can be much more constrained by current affairs and the decision making process they are leading. Most RFMOs do however apply the spirit and the guiding principles of the Code to their decisions, resolutions and measures.

RFMOs also make reference to the Code in their statutes and mandates. Examples include the International Council for the Exploration of the Sea (ICES)¹⁵⁰ and FFA, who refer to the Code in their strategic plans. SEAFO refers to the Code in its convention, while NAFO, in the 2007 amendment to its convention, also refers to the Code. This marks a broad international endorsement of the Code at RFB and RFMO level.

CCAMLR¹⁵¹ informs that: "*as an institution, CCAMLR does not formulate any of its policies in direct response to the Code and does not specifically refer to it in measures or decisions. Nonetheless, many of the Code's key principles (such as the precautionary approach and ecosystem management) are incorporated into the Article II of the CCAMLR Convention and have formed the basis of the organization's modus operandi since before the Code came into being.*"¹⁵² In addition to this, CCAMLR also informs that: "*All Code principles have been implemented in one form or another through conservation measures negotiated under article IX of the CCAMLR Convention.*"¹⁵³ This underlines the universal nature of the Code, and the applicability of its principles to the widest possible array of fisheries management situations.

The IOTC,¹⁵⁴ an RFMO with management mandate set up by FAO, on the other hand, regularly refers to the Code and its related instruments in resolutions and decisions it takes. IOTC resolution 99/01 on overcapacity, juvenile overfishing and FOC vessels¹⁵⁵ refers to the Code in its opening paragraph as a principal source which "*provides that States should take measures to prevent or eliminate excessive fishing capacity*". In its fifth paragraph, the IPOA–Capacity is cited as the source "*calling for immediate action to reduce fishing capacity in major international fisheries*". The Code is referred to as a higher-order source of justification for taking a given approach, or to act along a set of predetermined principles (inherent to the Code). This underlines the firm endorsement of the Code by the State parties members to the RFMO, and their acceptance of the Code as a standard to go by.

The International Commission for the Conservation of Atlantic Tunas (ICCAT),¹⁵⁶ also an RFMO, has adopted a similar approach, and references to the Code and its related instruments abound in resolutions taken since 1995.¹⁵⁷ Recommendation 04/10 on shark bycatch and finning,¹⁵⁸ for instance, refers to the IPOA–Sharks in the opening paragraph in the following terms: "*RECALLING that the United Nations Food and Agriculture Organization (FAO) International Plan of Action for Sharks calls on States, within the framework of their respective competencies and consistent with international law, to cooperate through regional fisheries organizations with a view to ensuring the sustainability of shark stocks as well as to adopt a National Plan of Action for the conservation and management of sharks;*". This clearly establishes the

¹⁴⁸ SWIOFC homepage: www.fao.org/fishery/rfb/SWIOFC

¹⁴⁹ SWIOFC was established in 2004 by Resolution 1/127 of the FAO Council under Article VI 1 of the FAO Constitution. Its Rules of Procedures were adopted by the Commission at its first session in 2005.

¹⁵⁰ ICES was founded in 1902 and is not an RFMO in its own right. It is a premier research institution providing research for RFMOs (e.g. NEAFC, OSPAR, HELCOM, NASCO)

¹⁵¹ CCAMLR homepage: www.ccamlr.org

¹⁵² Personal communication: Dr Denzil G.M. Miller, Executive Secretary of CCAMLR.

¹⁵³ A full listing of updated CCAMLR conservation measures can be found under: www.ccamlr.org/pu/e/e_pubs/cm/07-08/toc.htm

¹⁵⁴ IOTC homepage: www.iotc.org

¹⁵⁵ IOTC (1999). Resolution 99/01. On the management of fishing capacity and on the reduction of the catch of juvenile bigeye tuna by vessels, including flag of convenience vessels, fishing for tropical tunas in the IOTC area of competence.

¹⁵⁶ ICCAT homepage: www.iccat.int

¹⁵⁷ A full listing of updated ICCAT conservation measures can be reached through: www.iccat.int/RecsRegs.asp (click "Search")

¹⁵⁸ ICCAT (2004). Recommendation 04/10. Recommendation by ICCAT concerning the conservation of sharks caught in association with fisheries managed by ICCAT.

broad acceptance of the Code and its instruments as a set of management principles and standards applicable to fisheries management worldwide, including their use in RFBs and RFMOs to guide and structure management decisions.

ICES informs that: *“From the perspective of the ICES Secretariat, the FAO Code of Conduct for Responsible Fisheries has had a very positive influence on research, fisheries management, and the fishing industry. For example, ICES implemented protocols for giving scientific advice according to the precautionary approach in response to both the Code and the United Nations Fish Stocks Agreement. Fisheries managers are increasingly managing according to the precautionary approach, and the fishing industry has increasing understanding of the approach.*

The evolution of traditional fisheries management towards an ecosystem approach is also an example of the positive influence of the Code. ICES has a diverse portfolio of research aimed at supporting an ecosystem approach. It has recently reformed its Advisory Services to facilitate the delivery of integrated advice for an ecosystem approach. Fisheries management has adopted many elements of an ecosystem approach such as measures to reduce wasteful discards and protect biodiversity, and to reduce impacts on vulnerable habitat. There is another trend that in part reflects the Code. It is the trend toward greater transparency and stakeholder involvement in science, management and policy development. Placing a priority on objective peer review of science is an element of this trend.”¹⁵⁹

At RFB and RFMO level, generally speaking, the Code and its related instruments are firmly anchored and serve as guidelines for management decisions, be they in the form of recommendations, resolutions or measures. One of the most serious challenges facing RFMOs with few exceptions, is the way decisions are taken, their often non-binding nature, and the limited means (and mandates) of RFMOs to “enforce” such decisions. The implementation of many such decisions – if not most – is left entirely to the discretion of contracting State parties and is generally not monitored and evaluated by RFMOs. The flaws inherent to the consensus-based decision-making process of most RFMOs have recently been highlighted by industry leaders in the following terms: *“This has become problematic as some RFMO members are basing their policy on special interests within their respective countries, rather than science which should be the basis for all decision making. This is causing the RFMO’s to become increasingly dysfunctional and unable to reach consensus on even the most basic issues.”¹⁶⁰* Likewise, this impacts the quality of certain services provided by RFMOs – such as the running of IUU fishing vessel black lists, and ensuring members comply with adopted decisions. With respect to this, Hosch (2007) notes that: *“Black-listing of IUU vessels, (...) generally seen as one of the core elements to solve IUU problems, is not enough. Flag, port, coastal and market States need to be made accountable for their contribution (or failures to contribute) to the eradication of IUU fishing. This entails that most RFMOs need to develop a stronger auditing and enforcement position vis-à-vis its sovereign state members, and their still very palpable liberties to opt in and out of implementing binding recommendations and resolutions passed by these organizations. (...) Flag States, in general terms, are still not being made accountable for failing to control their fleets – and this is especially true for first world States who have all the technological solutions implemented and operational, allowing them to monitor and query their fleets in real time – but fail to do so most of the time.”*

Weaknesses affecting RFMOs largely pertain to governance issues, and the lack of implementation by members of measures adopted by RFMOs. The Code and its instruments have gained broad acceptance, and their provisions are being widely implemented at RFMO level – at least in theory.

3.5 FAO and its Programme of Work and Budget

The main task assigned to FAO is monitoring progress in Code implementation (Code article 4.2), and reporting back to COFI. The present report is a direct contribution to this role.

FAO delivers its programme centrally (through headquarters), in decentralized fashion (through its regional, subregional and country offices), and through projects (e.g. Sustainable Fisheries Livelihoods project). It is

¹⁵⁹ Personal communication: Dr. Gerd Hubold. General Secretary. ICES.

¹⁶⁰ The World Tuna Conference. Bangkok, 2008. Excerpt from the Opening Speech by Mr. Chris Lischewski, CEO of Bumble Bee Foods and Connors Brothers. The conference, convened by InfoFish, was attended by close to 700 tuna professionals from 47 countries.

generally correct to state that virtually all of FAO's technical assistance delivered since 1995 in fisheries and aquaculture pursues the implicit and/or explicit aim to further the implementation of the Code.

FAO's Fisheries and aquaculture work programme is segmented into three distinct programmes, which are the following:

- 2H: Fisheries and aquaculture information, statistics, economics, and policy;
- 2I: Fisheries and aquaculture management and conservation;
- 2J: Fisheries and aquaculture products and industry.

These three programmes fall under FAO's Programme of Work and Budget (PWB). Although all three programmes present highly relevant links to the Code, one particular programme entity (PE) (i.e. a programme component) is specifically tasked with promoting the implementation of the Code.

FAO's performance in promoting the implementation of the Code has been assessed through an auto-evaluation exercise in early 2008, a few months prior to the production of this report. This evaluation covers the period 2002-2008, and much of the material presented in this section draws directly from the analysis and the conclusions presented in that final report.

Three specific issues relating to Code development, promotion, and monitoring have been analyzed in the evaluation report. These are the following:

1. Development of the Code, Code-related instruments and Technical Guidelines;
2. Dissemination and promotion of the Code package;
3. Monitoring of the implementation of the Code and its related instruments.

3.5.1 Development of the Code, Code-related instruments and Technical Guidelines

The Code of Conduct has been conceived as a “*framework for national and international efforts to ensure sustainable exploitation of aquatic living resources in harmony with the environment*”.¹⁶¹ This overarching objective requires the Code to be widely accessible to audiences worldwide. The Code has been translated into over 80 languages. Twenty seven of these translations have been commissioned by FAO,¹⁶² and more have been commissioned by other organizations, or FAO Members. A number of simple language versions have been developed in order to further enhance accessibility by as many fisheries professionals as possible.

Code-related materials can be sub-divided into three broad categories. These are: a) the Code-related instruments (IPOAs and Strategies STF and STA); b) Code-related documents aiming to facilitate the implementation of the Code, including the Technical Guidelines which aim to help entities to implement specific provisions of the Code.

Code related instruments

Based on the general principles of the Code, and pursuing the same objectives in specific domains, FAO has been mandated by COFI to develop a host of specific instruments, addressing special fields of concern. The first three of these non-binding (or voluntary) instruments were developed and published in 1999. These are the:

- IPOA–Seabirds (1999)
- IPOA–Sharks (1999)
- IPOA–Capacity (1999)

In 2001, the fourth, and currently last in line IPOA followed:

- IPOA–IUU (2001)

¹⁶¹ See: Preface page vi. In FAO (1995). Code of Conduct for Responsible Fisheries. Rome, FAO. 41p.

¹⁶² Foreign language versions of the Code provided by FAO include: Albanian, Arabic, Bahasa, Catalan, Chinese, Croatian, English, German, Estonian, French, Georgian, Icelandic, Italian, Japanese, Korean, Latvian, Malay, Maltese, Polish, Romanian, Russian, Sinhalese, Slovenian, Spanish, Thai, Tamil and Vietnamese. All of these can be accessed under: www.fao.org/docrep/005/v9878e/v9878e00.HTM

In 2003 and 2007, FAO also developed a strategy to improve the international situation on fisheries and aquaculture statistics, responding to a felt need to produce more accurate and more complete data to back responsible fisheries and aquaculture management. These are:

- Strategy–STF (2003)
- Strategy–STA (2007)

Progress in the implementation of these instruments has been discussed in section 3.2.5. Finally, the Compliance Agreement of 1993 – a binding international instrument which is in force today – has been designed as an instrument which forms part of the Code – prior to the Code’s publication. Overall, it arises that currently seven Code-related instruments have been developed by FAO. Only one of them is binding, and addresses high seas fisheries regimes. The other six address a variety of domains of fisheries conservation and management.

In addition to these instruments, it is of use to highlight the fact that FAO has also developed a model scheme on port State measures (PSM) to combat IUU fishing, which has been widely referred to in recent years in the IUU fishing circuit. The PSM model scheme basically details port State measures called for in the IPOA–IUU, indicating how port States could or should get organized in order to minimize avenues for IUU fishing operations in and around port facilities. The much referred to PSM model scheme has given rise to a string of expert consultations and is expected to result in a binding international instrument on Port State Measures in 2009 – which would then be up for endorsement by COFI in 2011.

Two other Code related instruments are under development. The first one is an IPOA–safety-at-sea, and the second one is the International Guidelines for the Management of Deep-Sea Fisheries on the High Seas (Deep-Sea Guidelines). Both were in fairly advanced stages in the second half of 2008. It is expected that the Deep-Sea Guidelines could be adopted by COFI in 2009. The relationship between the Code and other highly relevant international instruments is outlined in Box 5.

All instruments have been developed on the basis of a request from COFI. Although the development process for Code related instruments varies occasionally, it commonly includes the preparation of a background paper by experts and/or FAO, which is then presented and discussed at an Expert Consultation. Following this, the first full draft is prepared. Workshops and other meetings are also used as required for binding and voluntary instruments that demand political negotiations. Draft texts are discussed and finalized in Technical

Consultations which regroup member State representatives. On some topics, close cooperation takes place with external organizations (e.g. FAO worked in close association to Birdlife International for the development of the IPOA–Seabirds). All instruments are endorsed and adopted by COFI. The whole process typically takes between one and half to three years to produce a final and adopted instrument.

Code related publications

Since the publication of the Code, FAO has launched a number of initiatives in order to facilitate the interpretation and the application of the Code by stakeholders. These publications regroup simple language versions of the Code and its instruments, translations of the Code, publications related to particular aspects of the Code or its related instruments (e.g. publications on Port State Control measures), as well as the

Box 5: International instruments and initiatives related to the Code

The Code is closely related to several other international arrangements and initiatives. Article 3 of the Code explicitly points out that the Code should be interpreted and applied in conformity with the 1982 UN Convention and the UN Fish Stock Agreement as well as with the 1992 Declaration of Cancun, the 1992 Rio Declaration on Environment and Development, Agenda 21 (UN Conference on Environment and Development – UNCED) as well as with other declarations and international instruments. There are, for example, the 1992 UN Convention on Biological Diversity (CBD) and the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS), focusing strongly on ecosystem approaches to natural resource and ocean management. The Code is linked to the Millennium Development Goals (MDGs), in particular MDG 7 on environmental sustainability, and referred to in the Plan of Implementation of the World Summit on Sustainable Development (WSSD-POI).

Source: Textbox 1. Westlund, L. (2008).

Technical Guidelines accompanying the Code, providing detailed guidance for the implementation of specific principles and articles inherent to the Code.

The suit of Technical Guidelines (TGs) has continuously expanded over the years. The first one to be published, TG1 on *Fishing Operations* states that “*the immediate objective of the Technical Guidelines is to provide practical advice to implement provisions of Article 8 [of the Code] to ensure all fishing operations are conducted responsibly.*”¹⁶³ This objective is valid for all TGs, with the difference that they all target different articles, or particular technical sub-sections thereof.

Table 27 lists all TGs produced by FAO to date, with their year of publication. Fifteen TGs have been produced between 1996 and 2007, indicating that a substantial amount of energy and effort has been spent to facilitate Code implementation through the provision of technical guidelines.

Table 27: Listing of all Technical Guidelines produced by FAO to date

TG number	Year	Title
No. 1	1996	Fishing operations
No. 1 suppl. 1	1998	Vessel Monitoring Systems
No. 2	1996	Precautionary approach to capture fisheries and species introduction
No. 3	1996	Integration of fisheries into coastal area management
No. 4	1997	Fisheries management
No. 4 suppl. 1	2000	Conservation and management of sharks
No. 4 suppl. 2	2003	The Ecosystem Approach to Fisheries
No. 4 suppl. 2 Add. 1	2008	Best practices in the ecosystem modelling for informing an ecosystem approach to fisheries
No. 4 suppl.3	2008	Managing fishing capacity
No. 5	1997	Aquaculture development
No. 5 suppl. 1	2001	Good aquaculture feed manufacturing practice
No. 5 suppl. 2	2007	Health management for responsible movement of live aquatic animals
No. 5 suppl. 3	2008	Genetic resource management in aquaculture
No. 6	1997	Inland fisheries
No. 6 suppl. 1	2008	Rehabilitation of inland waters for fisheries
No. 7	1998	Responsible fish utilization
No. 8	1999	Indicators for sustainable development of marine capture fisheries
No. 9	2002	Implementation of the IPOA to prevent, deter and eliminate IUU fishing
No. 10	2005	Increasing the contribution of small-scale fisheries to poverty alleviation and food security

Table 28 lists all TGs currently under development. Dates of publication are not set for all of them, and are hence omitted from the table. It arises from this list that FAO firmly intends to pursue the production of technical guidelines, a host of which are relevant to aquaculture and inland fisheries. Overall, it is to be noted that out of four IPOAs in existence, the IPOA–IUU has been given most attention at TG level. This should be understood as a direct response to the high amount of interest generated by the IPOA–IUU within the international community.

Table 28: Listing of all planned Technical Guidelines to be produced by FAO in the near future

TG number (where assigned already)	Title
No. 1 suppl. 1	Vessel Monitoring Systems – <i>revision</i>
No. 4 suppl. 4	The human dimension of the Ecosystem Approach to Fisheries
No. 7	Responsible fish utilization – <i>revision</i>
No. -	Responsible use and control of alien species in fisheries and aquaculture

¹⁶³ See: page 3. 1.1 Objectives. In FAO (1996). *Fishing operations*. FAO Fisheries Technical Guidelines. No. 1. Rome, FAO. 26p. + Annexes.

TG number (where assigned already)	Title
No. -	Wild fish use in capture-based aquaculture
No. -	Use of wild fish to feed cultured fish and its implications on poverty alleviation and food security
No. -	Information needs
No. -	Implementation of IPOA–IUU in inland fisheries
No. -	Implementation of IPOA–Seabirds
No. -	MPAs for fisheries management
No. -	Responsible fish trade
No. -	Fishing vessel registration
No. -	EAF in aquaculture
No. -	Reducing sea turtle interactions & mortality in marine capture fisheries

The process for developing Technical Guidelines is similar to the one for Code related instruments described further up. However, TGs are not negotiated documents and do not need to be approved by COFI.¹⁶⁴ TGs are dynamic documents, which are either reviewed or complemented by supplements as new needs arise, and the sector changes.

The simple language versions of the Code, its instruments and TGs seek to render the Code and its instruments as accessible as possible to the widest possible audience of fisheries professionals worldwide. These publications include the following:

- “What is the Code of Conduct for Responsible Fisheries” – simple text version of the Code. (2001);¹⁶⁵
- “Stopping IUU fishing“ – IPOA–IUU simple text version (2002);
- “Putting into practice the ecosystem approach to fisheries” – simple text version of TG No. 4/2. (2005);
- “Inland fisheries” – simple text version of TG No. 6. (2006);
- “Understanding aquaculture” – simple text version of TG No. 5 (2005);
- “Integrating fisheries into coastal area management” – simple text version of TG No. 3 (2008).

Simple language versions have also been translated into a host of different languages. All of these publications are part of what is generally referred to as the “Code package” (i.e. The Code, the Code related Instruments, the Technical Guidelines and the simple language versions).

Publications related to particular aspects of the Code or its related instruments, other than the TGs and Code related instruments are many, and the raising of a comprehensive list is difficult, as these publications are not necessarily classified as Code-related documentation in the FAO document repository system. These documents or publications are not part of the “Code package”, but are intimately associated to it.

A host of highly relevant documents that have been produced, and which are directly serving a purpose similar to the Technical Guidelines, include those provided in the list below;

- National Plans of Action to combat illegal, unreported and unregulated fishing: Models for coastal and small island developing States (2004)
- NPOA–IUU: Model Plan for a Pacific Island Country (2005);
- Fisheries information in developing countries: Support to the implementation of the Code of Conduct for Responsible Fisheries (2005);
- Using questionnaires based on the Code of Conduct for Responsible Fisheries as diagnostic tools in support of fisheries management (2007);

¹⁶⁴ For an example on COFI sub-committee on trade 2006 deliberations for the development of technical guidelines for trade, visit: <ftp://ftp.fao.org/docrep/fao/meeting/013/j7200e.pdf>

¹⁶⁵ Translated into 80 languages.

- The Model Scheme on Port State Measures to Combat Illegal, Unreported and Unregulated Fishing (2007).¹⁶⁶

3.5.2 Dissemination and promotion of the Code package

The FAO's strategy on information generation and sharing is laid down in its 2000 Information Strategy.¹⁶⁷ All of the documents and publications referred to in the previous section are available for free download on FAO's Web pages.¹⁶⁸ With the continuing rise in worldwide internet accessibility, FAO is banking heavily on hosting all of its publications online. The search routines are powerful and most, if not all Code related documents (reports, serial and non-serial publications, etc.) are searchable, freely accessible in HTML and PDF versions, and downloadable.¹⁶⁹

Hard copy documents are distributed to member nations and other relevant organizations on the basis of a distribution list. If a particular instrument or document is considered to have news value, press releases are issued by FAO. FAO works out an annual departmental communication plan, and potential outreach opportunities are identified in advance. Individual staff members also distribute and promote certain Code related documents in meetings or other venues. However, there is no specific FAO communication strategy on how to advertise the Code and its products.

Box 6: FishCode involvement in Code promotion and dissemination

The main vehicle for FAO's support to implementing the Code is the Global Partnerships for Responsible Fisheries (FishCode) programme. FishCode was set up following a request to FAO by member countries to support the implementation of the Code in developing countries. FishCode is funded by a consortium of donors and "finances activities to promote improved understanding and application of any and all aspects" of the Code (www.fao.org/fishery/fishcode/en). In addition to supporting the implementation of the Code, FishCode plays an important role in promoting the Code through activities and publications. The extensive support to regional workshops and other capacity building exercises – more recently focusing particularly on the implementation of the IPOA-IUU, IPOA-Capacity and Strategy-STF – have also been instrumental in raising awareness and knowledge of Code products.

Source: adapted from Textbox 3. "FishCode". Westlund, L. (2008)

3.5.3 Monitoring of the implementation of the Code and its related instruments

Monitoring of Code implementation is a function assigned to FAO through article 4.2 of the Code. A substantial amount of background information on FAO's efforts to monitor the implementation of the Code to date has been presented in section 3.2.1 of the present report. The reader is redirected to that section for a general overview.

The Code implementation monitoring reports to COFI in 2004 and 2006 made a number of comments on changing and/or improving reporting and making full use of generated data. The trend analysis part of section 3.2. of this report should be understood as a direct response to these recommendations.¹⁷⁰

The frequency of the questionnaire surveys was discussed in the last two COFI sessions (2005 and 2007). FAO had proposed that the full survey could be carried out every four years only, supplemented by a more general and lighter survey on a biennial basis. This proposal came in response to countries indicating that

¹⁶⁶ The PSM model scheme is actually linked to the IPOA-IUU, a Code instrument, and is hence linked to the Code by second order. The model scheme on PSM has been viewed by some as a hybrid between a voluntary instrument and a Code related guideline.

¹⁶⁷ See: FAO (2000). FAO Fisheries Department Information Strategy: Supporting Informed Decisions and Actions. Rome, FAO.

Link: www.fao.org/DOCREP/003/X6093E/X6093E00.HTM

¹⁶⁸ Portal to the FAO document repository: www.fao.org/documents/

¹⁶⁹ A search for "Code of conduct for responsible fisheries" [English] using the FAO document repository's search engine provides 141 direct document hits.

¹⁷⁰ FAO (2006). Progress in the implementation of the 1995 Code of Conduct for Responsible Fisheries, related international plans of action and strategy. Rome, FAO. Paragraph 65. "The Committee is invited to: • review the progress achieved in implementing the Code of Conduct, the four IPOAs, the Strategy and the FishCode Programme and to provide comments and guidance to enhance the implementation of these instruments;"

they faced difficulties in keeping up with current biennial Code implementation reporting requirements. COFI however decided not to modify the biennial exercise, and not to modify the questionnaire. However, it was agreed that the Sub-Committees on Aquaculture and Fish Trade should take responsibility for the monitoring of Article 9 (Aquaculture development) and Article 11 (Post-harvest practices and trade), respectively. The future format of these revised monitoring processes has been discussed by the respective Trade and Aquaculture Sub-Committees in their 2008 sessions, and shall be presented to the twenty-eighth session of COFI in 2009.

A separate initiative has also been launched in 2008 to evaluate the feasibility and benefits of complementing paper reporting on Code implementation with an electronic option. Such an approach is expected to substantially cut costs through the putting in place of automated data handling and number crunching routines.¹⁷¹ Owing to COFI's 2007 decisions, it is currently not envisaged to change the content of the survey (BCIMQ).

3.5.4 Other FAO initiatives

FAO has directed considerable effort into capacity building in developing countries for Code implementation, and supports the development of NPOAs. Some of the large projects FAO has implemented, and continues to implement, also list the implementation of the Code as one of their core objectives.

In recent years, much work has focused on translating IPOAs into NPOAs. FAO has been a key partner to countries on this, and NPOAs have been developed with FAO assistance in the four domains covered by the IPOAs.

An important part of this support has been accomplished through FishCode funding – which is discussed in the following section.

NPOA and PSM development – Technical assistance and meetings

Assistance in translating the IPOA–IUU into NPOAs is one of the areas where FAO has been especially active in recent years. This is partly due to the high demand from FAO Members to develop these plans. Agencies other than FAO have also invested in this line of work (e.g. NORAD).

Assistance for NPOA-capacity development has been less solicited than for NPOA–IUUs, owing mostly to the fact that fewer countries have displayed readiness to address the capacity issue in proactive terms, and with a view to solving it.

NPOA-sharks and NPOA-seabirds have been developed by mostly developed countries. As earlier shown, some of these initiatives pre-date, or go further than these IPOAs. A series of NPOAs addressing these two issues have also been drafted by developing countries under FAO assistance.

Table 29 regroups information on numbers of NPOAs that were drafted under FAO assistance in the various FAO regions. Following the drafting of plans, especially in the IUU fishing and capacity domains, the finalization and adoption processes of these plans by government can be long – and have failed in some cases. In the latter case, drafted plans have not been implemented, and consequently not contributed to solving the problems addressed. This however, is not always known to FAO. For this reason, drafted NPOAs are given in mere numbers per region.

Table 29: Number of NPOAs drafted in the seven FAO regions, to the knowledge of FAO

Region	NPOA–Capacity	NPOA–Seabirds	NPOA–Sharks	NPOA–IUU
Africa	3 [†]	1	2 ⁺	12 [†]
Asia	1	3	5	4 [†]
Europe			1	2
Latin America and Caribbean	1*	3		3
Near East				2
North America	1	2	2	2

¹⁷¹ Macgillivray, P., Bueno, P. and Hosch, G. (2008) Potential to enhance biennial reporting on the 1995 FAO Code of Conduct for Responsible Fisheries: assessment of options. FAO Fisheries and Aquaculture Circular No. 1039. Rome, FAO.

Region	NPOA–Capacity	NPOA–Seabirds	NPOA–Sharks	NPOA–IUU
Southwest Pacific			2	10
<i>Total (62)</i>	6	9	12	35

† one of the two refers to the LVFO RPOA-capacity.

* refers to the IATTC regional capacity plan for tuna fisheries, encompassing mostly Latin American nations.

† one of the two refers to the regional RPOA-sharks of the SRFC region.

† one (each) refers to a regional RPOA–IUU.

It emerges from Table 29, that over 60 NPOAs and RPOAs have been developed to date. The IPOA–IUU has been the most widely endorsed and translated instrument within the suite of Code related instruments, representing over 50 percent of developed national or regional adaptations. In the case of NPOA–IUU development, FAO assisted 15 Members in developing these, while little direct assistance was provided by FAO in developing NPOAs in the other three domains. The figures in this table represent an attempt at reconstructing how many NPOAs exist worldwide in the four domains. There is currently no single repository for pooling and recording this information. Figures are hence indicative only, and represent minima.

FAO has also convened national and regional meetings and workshops on IPOA, PSM Model Scheme, and Strategy-STF implementation. The prime objective of these meetings was capacity building of national and regional practitioners in understanding the technical content of these instruments, and in empowering national administrations in developing their approaches with minimum outside assistance. A non-exhaustive list of such workshops and meetings is appended in annexes VI, VII and VIII. No FAO technical assistance has been provided to date to develop a PSM scheme in a member State, but port control measures have generally been addressed in NPOA–IUUs developed under FAO (and other) assistance.

FAO projects

FAO fisheries projects are aimed at providing technical assistance at global, regional, subregional and country level. Funding for projects is sourced from FAO’s Regular Programme (TCP and SPFS projects), and extra-budgetary resources provided by donors (various trust fund modalities). By the end of 2006, more than 160 ongoing projects were receiving technical inputs from FAO’s Fisheries and Aquaculture Department staff. This staff includes officers from regional and subregional offices.

Since 1995, FAO has been involved in a large number of projects which pursue the implementation of Code principles and provisions as core objectives. These projects continue to contribute, in their respective countries or regions of operation, to further the adoption and implementation of Code principles by stakeholders linked to the fisheries sector. Projects range from smaller projects with modest funding, to large extrabudgetary-funded projects executed by FAO.

This section does not seek to provide a full analysis of FAO’s past and present project portfolio, but merely aims at highlighting a range of relevant projects that help to underscore FAO’s involvement in promoting Code implementation directly at the field level.

One of the largest project’s FAO has been managing in recent years has been the Sustainable Fisheries Livelihoods Project (SFLP)¹⁷², a USD36 million project funded by the UK Government, and active along the entire West African seaboard. It implemented the sustainable livelihoods approach (SLA), applying it to small scale fisheries. The projects main aim was to secure improved livelihoods for small-scale fisher communities in a host of West African countries, stretching from Angola to Mauritania and Cape Verde. This objective can be directly linked to a host of Code principles and articles, notably articles 7.1.2 (consulting domestic parties), and 7.6.6 (recognition of traditional practices, needs and interests of indigenous people and local fishing communities). This project was operating between 1999 and 2007. This project is now closed.

A project aiming at enhancing MCS in West Africa ran from 1999 to 2003 under funding from the Government of Luxembourg, for a total of USD1.5 million. The objective of the project was to foster sustainable inter-country cooperative actions within the Subregional Fisheries Commission (SRFC), with the

¹⁷² Homepage: www.sflp.org

view to reducing the incidence of IUU fishing in the EEZs of SRFC Members.¹⁷³ These actions were directly contributing to implementing Code provisions on strengthening MCS (article 7.1.7. and most of article 8.2.), and are fully contiguous with the spirit and principles of the IPOA–IUU. The work of the Sub-Regional Operations Coordinating Unit (SOCU) in Banjul was the main object of project efforts. SOCU continues to embody the regional integration and collaboration drives to combat and eliminate IUU fishing. After withdrawal of funding from the European donor, the EU vowed to continue technical assistance under central EU funding – underlining the value of the work achieved by FAO (amongst other project implementation partners).

The Fisheries Global Information System (FIGIS)¹⁷⁴ project is another FAO initiative that is worth to highlight, as it represents an effort to provide a single access point to global fisheries information. The Code identified the need for reliable, high-quality and relevant information on the state of world fisheries. FIGIS was established to address this need. With the adoption of the Strategy-STF in 2003, FIGIS has become one of the privileged tools for its implementation.

The list of principal longer-term global and interregional projects based at FAO Headquarters in Rome, and for which the Fisheries Department holds major responsibility, changes continuously as new projects begin and others finish. Some of the other, current projects with high relevance to the Code include the following:

- “Reduction of Environmental Impact from Tropical Shrimp Trawling”¹⁷⁵ is a global project with 12 participating countries and 1 intergovernmental fisheries body. The Project is funded by the Global Environmental Facility (GEF), implemented by the United Nations Environmental Programme (UNEP) and executed by the Food and Agriculture Organization of the United Nations (FAO) and the governments and private sector of the twelve participating countries and SEAFDEC.
- The Cooperative Programme financed by Japan contains thirteen projects covering issues such as capacity building for an ecosystem approach to fisheries; ecosystem-based management; management of tuna capacity of small island developing States; promotion of sustainable fisheries; CITES and commercially exploited species, and the review of factors contributing to overexploitation and un-sustainability.
- The Cooperative Programme financed by Norway contains a project for strengthening the knowledge base for implementing the ecosystem approach to marine fisheries in developing countries – mostly in Africa – and the international cooperation with the Nansen Programme¹⁷⁶ pursuing sustainable and science-based management of fisheries and the marine environment (ecosystem approach).
- Advice, technical support and establishment of cooperation networks to facilitate coordination to support fisheries management in the Mediterranean (COPEMED).
- Technical Consultation on the Application of Article 9 of the Code in the Mediterranean.

FAO Code-related fisheries and aquaculture publications

FAO’s flagship publication series is the *FAO Technical Paper* series. The Technical Papers represent state of the art analysis and knowledge in the technical domains covered by FAO. Over 500 Technical Papers have been published by FAO’s Fisheries and Aquaculture Department since its inception in 1948. Since 1995, a long list of Technical Papers has been published in direct support to Code implementation. The list provided below merely serves to underscore FAO’s efforts in furthering information and knowledge in domains important to Code implementation. These add to the TG series immediately attached to specific articles of the Code.

A short list of recent and relevant titles is appended in annex III.

3.5.5 The FishCode Programme

Through the Resolution adopting the Code in 1995, FAO Members requested the FAO to respond to the special requirements of developing countries through an Interregional Assistance Programme for the

¹⁷³ Cape-Verde, Mauritania, Senegal, Gambia, Guinea-Bissau. Guinea, Sierra Leone.

¹⁷⁴ Homepage: www.fao.org/fishery/figis/en

¹⁷⁵ Homepage: www.fao.org/fishery/gefshrimp

¹⁷⁶ Nansen programme budget (2006-2010): USD 44 million

implementation of the Code. In response to this request, FAO established the FishCode Programme in 1996 as a special programme of global partnerships to promote responsible fisheries, and implement the Code.¹⁷⁷ It now serves as the principal channel through which the Fisheries and Aquaculture Department seeks to combine its regular budget with Trust Fund resources in support of activities to facilitate Code implementation. Donor contributions to the multilateral FishCode Trust, and to individual project trust funds under the FishCode umbrella, support an array of component activities, all of which address issues and problem areas related to the transition to responsible fisheries and aquaculture – at all levels. FishCode projects are currently being carried out in a wide range of activity areas, which include the following:

- training and awareness for responsible fisheries and aquaculture;
- implementation of the international plans of action;
- advisory assistance on fisheries policy, planning and management, and improved legal and institutional arrangements;
- upgrading of capabilities in fisheries monitoring, control and surveillance;
- implementation of the FAO Strategy–STF;
- initiatives in the ecosystem approach to fisheries and integrated coastal zone management;
- promotion of responsible fishing operations and safety-at-sea;
- implementation of responsible post-harvest practices and trade;
- responsible management of aquaculture and inland fisheries;
- umbrella support to non-governmental organizations.

Interested donors are invited to become FishCode Programme partners through general contributions to the FishCode Trust or through support to specific projects operating under the Programme umbrella. Partnerships are encouraged with both public- and private-sector donors and entities.

It is of use to highlight that from a purely operational and external point of view, FAO regular programme and FishCode activities do blend and are executed through the same channels. FAO may for instance fund technical assistance for the development of an NPOA–IUU through regular funds, or through FishCode funds. The funding source does not make any difference to the assistance provided to a member State.

The FishCode Programme was initially set up as a trust fund, and was funded by Norway alone when it started up in 1997. It then grew to become a much larger multi-lateral fund, of which the biggest donors currently are Sweden, Iceland, the United States of America, Japan and the Netherlands.

FishCode has implemented a host of different projects over the years. One of the first projects was the Management for Responsible Fisheries (MFR) Project, which became operational as of 1998. Building on experiences gained and lessons learned from FishCode project activities, MRF aims to facilitate improved capabilities and capacities within selected reference fisheries in order to give effect to Code principles. Activities include advisory assistance on fisheries policy, planning and management, legal and institutional arrangements, and the use of scientific advice and monitoring, control and surveillance systems.

Another major FishCode project is the Trainfish initiative, which has been operational since 2004, and which places much emphasis on awareness raising and capacity building. It is based on the premise that progress towards improved fisheries governance requires strong political will, clear and effective policies, a strong legislative framework, improved MCS systems, and regional and international cooperation. However, to achieve these, strong public awareness and political support for responsible fisheries approaches is needed. Weak institutional structures and human resource development contribute to fisheries management deficiencies, and staff frequently remains inadequately trained. The aim is to foster appreciation and promotion of the Code and its associated instruments, as they apply to current and future circumstances, by working with, and training fisheries managers and other stakeholders.

A current major FishCode project, focusing on the Strategy-STF, is funded through a global trust fund,¹⁷⁸ and has set up activities in a wide range of countries covering Latin America, Africa, South-East Asia and the Southwest Pacific. All Strategy-STF activities are implemented through RFBs established in the regions where the project is operating. The main objective of the FishCode-STF project is to support developing

¹⁷⁷ FishCode homepage: www.fao.org/fishery/fishcode

¹⁷⁸ Major contributors are Japan, Norway and Sweden.

countries in the implementation of the FAO strategy for improving information on status and trends in capture fisheries. The project became operational in November 2004. The project pays special attention to small-scale fisheries, and assists countries and administrations to identify field activities and training needs through a structured assessment process. The project assists participating countries to improve data collection at field level, and generate better and more complete statistics.

To date, some USD19 million have been channelled through FishCode Fund, and have been mobilized on these and other initiatives relevant to promoting the implementation of the Code. This is supplementing FAO's regular programme budget with an average of USD1.7 million a year, and is hence to be seen as a programme of fundamental importance to FAO's position in promoting Code implementation. Full information on FishCode activities can be obtained by accessing its website, as earlier indicated.

FishCode publications

An important aspect of FishCode's activities is the funding for the drafting and publication of mainstream Code related publications, such as the Technical Guidelines, and the production of Code related publications, such as those listed in section 3.5.1. – of which the largest share have been funded by FishCode.

A publication series particular to the FishCode Programme are the *FishCode Reviews*. Most of these titles seek to further awareness, understanding and/or implementation of the Code, but also contain meeting and workshop reports. To date, just over 20 titles have appeared in this series. Some of the titles that have appeared in the *FishCode Review* series are listed below:

- Caddy, J.F. (2007). Using questionnaires based on the Code of Conduct for Responsible Fisheries as diagnostic tools in support of fisheries management. FAO/FishCode Review No. 21. Rome, FAO.
- Wilkinson, S., Collins, J. (2007). Information in support of responsible fisheries and aquaculture. Guidelines on digital publishing: a practical approach for small organizations with limited resources. FAO/FishCode Review No. 20. Rome, FAO.
- Macfadyen, G. *et al.* (2005). Policy and legislative frameworks for co-management. FAO/FishCode Review No. 17. Rome, FAO.
- Kuemlanguan, B. (2004). Creating legal space for community-based fisheries and customary marine tenure in the Pacific: issues and opportunities. FAO/FishCode Review No. 7. Rome, FAO.

FishCode has also funded the publication of mainstream FAO publications, including FAO Fisheries Technical Papers and FAO Legislative Studies.

3.6 Civil Society in action

Civil society, whose voice is mostly (but not exclusively) heard through Non Governmental Organizations (NGOs), plays an extremely important role in improving the governance and management of fisheries and aquaculture sectors. NGOs have been the object of the biennial surveys, in order to evaluate in how far they were carrying out work that was either directly, or indirectly contributing to the implementation of the Code and its related instruments.

Most conservation oriented NGOs with a marine environmental portfolio of activities have reported to be highly aware and supportive of the Code, and that their activities are generally fully compatible with the spirit and the provisions of the Code. In certain areas of work, direct reference is made to the Code to motivate and justify given approaches. In other work, NGOs with specific and internationally recognized technical expertise have teamed up with FAO to develop certain of the Code related instruments, materials or activities.

NGOs play leading roles in domains such as awareness raising, lobbying, capacity building (training, etc.), research and project work. The remainder of this section highlights some of the ways in which major NGOs have been involved in developing, promoting and implementing the Code. Here also, it will not be possible to highlight all relevant examples, but only a representative sample thereof. This should in no way be understood to diminish all the valuable and important efforts, which are not mentioned here.

3.6.1 WWF and TRAFFIC

The Worldwide Fund for Nature (WWF) is one of the most powerful voices amongst environmental advocacy groups, owing to its very effective management of corporate communications. WWF has been, and continues to be involved in a very broad range of fisheries work on a worldwide basis. WWF's approaches in fisheries are generally compatible with the Code. However, WWF has also sometimes been criticized for pushing the identification and designation of protected areas much more, than ensuring proper and full consultation of legitimate stakeholders and resource users in such processes (traditional fishing communities, etc.).

In 2007, WWF has awarded the Duke of Edinburgh Conservation Medal – its most prestigious accolade – to Dr Denzil Miller, the Executive Secretary of CCAMLR. The medal was awarded to Dr Miller for implementing significant innovations that have directly enhanced the preservation of the Southern Ocean.¹⁷⁹ It is a telling sign, when an environmental NGO awards a medal of high prestige to the Executive Secretary of an RFMO which has carried out outstanding work in bringing about more sustainable and responsible fisheries conservation and management outcomes in the Southern Oceans – all of which are fully in line with the spirit and the provisions of the Code.

WWF has been extremely critical of ICCAT's failings in bringing about responsible and sustainable management of the tuna and other highly migratory species in the Atlantic Ocean and the Mediterranean. In combination with the previous paragraph, WWF is currently taking on a self-proclaimed role as a watchdog organization for RFMO performance – not necessarily at odds with Code. The inherent lack of accountability and auditing of RFMO and RFMO member performance has been criticized by many fisheries sector analysts over the years as one of the stumbling blocks to improving high seas governance and in achieving improved fisheries management outcomes.

WWF's marine programme in South Africa has a "*Responsible Fisheries Programme*" component, directly reflecting the spirit and wording of the Code. More WWF initiatives are highlighted in section 3.7.8.

The Wildlife Trade Monitoring Network (TRAFFIC), a WWF associated NGO active in the domain of trade in wildlife products, published a report on global shark conservation needs in 2006.¹⁸⁰ In its report, which highlights the lack of effective shark conservation and management measures enacted by top shark fishing nations, the Code and the IPOA-Sharks are repeatedly put forth as the voluntary international framework within which such efforts should be undertaken. The report also underlines that this voluntary framework is firmly linked and consistent with binding instruments – and binding clauses applicable to the conservation and management of sharks – inherent to UNCLOS and the UN Fish Stocks Agreement.

3.6.2 CFFA

The Brussels-based Coalition for Fair Fisheries Agreements (CFFA) is an advocacy group which defines itself as a loose network of European NGO and ACP small scale fisheries organizations and NGOs. It documents and discusses ACP-EU fisheries relations, highlighting "sustainable development issues", and therefore increasingly makes reference to the Code as a "model".

CFFA indicates that in the case of EU-ACP FPA negotiations, the Code provides a neutral reference accepted by all parties. In the latest FPAs, a series of performance indicators have been proposed by the EU, and accepted by ACP, to assess whether monies from the EU financial contributions are well used. These indicators take their inspiration from the Code's principles (good MCS, research, etc). Without the Code, finding agreement on those indicators would have been a lot more difficult. However, other basic Code principles, such as the precautionary approach to fisheries management, selectivity of gear technology, respecting priority access needs of the local artisanal sector) have never been implemented through FAs or FPAs.

CFFA believes that there is a lack in dissemination and awareness-raising of the Code, particularly within the fisheries sector and the wider public (consumers). The consequence of this is that not enough stakeholders understand how relevant the Code is to their situation and how they can make use of it in campaigning, lobbying, and fighting for their rights.

¹⁷⁹ Visit http://www.panda.org/news_facts/newsroom/index.cfm?uNewsID=115200 for the full news item.

¹⁸⁰ Lack, M. and Sant, G. (2006). *Confronting Shark Conservation Head On!* TRAFFIC International. 29p.

CFFA has been facilitating meetings with the local artisanal fishing sector in ACP countries since 1998. The objective of these meetings was generally to assess local situations and the impacts of EU interventions against sustainable development principles enshrined in the Code. On the basis of these assessments, demands were made. In all cases, demands were based on Code principles. This proved both useful and powerful for “selling arguments”.

Since 2006, CFFA has also facilitated a dialogue between artisanal fishing organizations and the media in West Africa. This provided media with a first training on sustainable fisheries issues. The Code was used as a basis for this training.

3.6.3 IUCN

The World Conservation Union (IUCN), an international environmental NGO with headquarters in Gland, Switzerland, has been a front runner in advocating equitable environmental solutions, mindful of the rights and entitlements of indigenous, traditional, and/or local resource users. Its vision “*A just world that values and conserves nature*” embodies this approach. This vision is directly reflecting the Code’s principle stated in article 6.18, which requests approaches to fisheries management which are mindful of the “*rights of fishers and fishworkers, particularly those engaged in subsistence, small-scale and artisanal fisheries*”.

IUCN has been involved in a number of activities with direct or indirect links to the Code, its instruments, and initiatives to promote its implementation. IUCN is one of the designated implementation agencies under World Bank’s PROFISH programme (see section 3.7.1.). In 2005, and under this particular programme, IUCN vowed to raise a global list of IUU fishing vessels. This very complex undertaking, which has not produced immediate results as yet, is to be seen as directly feeding into the implementation of the IPOA–IUU. IUCN was also directly involved in a 2006 expert workshop¹⁸¹ aiming to develop Technical Guidelines on the use of MPAs in fisheries management.¹⁸²

IUCN has also been involved in responsible and sustainable tuna fisheries work more recently. To that effect, IUCN co-hosted the *Sustainable Tuna Roundtable*, which was organized in Brussels in April 2008.¹⁸³ The aim of the initiative was to evaluate how market-driven incentives could be used to contribute to producing sustainable tuna fisheries. During this meeting, it was agreed that the Code was an appropriate starting point as a global, single set of standards against which to assess the sustainability of individual marine capture fisheries – underlining the global applicability of the Code as a source for relevant standards.

IUCN has also assisted the FAO in preparing Technical Guidelines on reducing sea turtle interactions and mortality in marine capture fisheries, and participated in the FAO Technical Consultation on the Management of Deep Sea Fisheries on the High Seas, Rome, Italy (4–8 February, 2008).

3.6.4 RSPB and BirdLife International

The Royal Society for the Protection of Birds (RSPB) is one of Britain’s most respected environmental protection groups, and counts over a million members. BirdLife International is an international NGO which also has the protection of birds as its core objective. The RSPB is BirdLife International’s UK partner, and carries out a lot of its policy work.

BirdLife International has been very active in promoting the IPOA–Seabirds, and its adoption or translation into NPOA–seabirds by relevant parties. A report published in 2007 analyses the case for developing a plan of action to reduce the incidental catch of seabirds in EC longline fisheries.¹⁸⁴ In paragraph one of the executive summary, BirdLife International points out that the report falls under the framework of FAO’s IPOA–Seabirds. It then uses its position as an independent organization to point out the failings of the European Commission to take to completion the development of an announced *Community Plan of Action*–

¹⁸¹ The Expert Workshop on Marine Protected Areas and Fisheries Management: Review of Issues and Considerations was held in Rome from 12 to 14 June 2006.

¹⁸² FAO (2006). Report and documentation of the Expert Workshop on Marine Protected Areas and Fisheries Management: Review of Issues and Considerations. Rome, 12–14 June 2006. FAO Fisheries Report. No. 825. Rome, FAO. 2007. 332 pp.

¹⁸³ Visit <http://cms.iucn.org/search.cfm?uNewsID=954> for the full news item.

¹⁸⁴ Dunn, E (2007). The case for a Community Plan of Action for reducing incidental catch of seabirds in longline fisheries. BirdLife International; Global Seabird Programme. BirdLife International, Cambridge, UK. 19p.

Seabirds which it embarked on in 2000.¹⁸⁵ This work has contributed to the European Commission committing to a 2009 deadline for the finalization of the plan of action.

In 2006, a team from BirdLife's Global Seabird Programme discussed potential options for strengthening the implementation of the IPOA–Seabirds, specifically in terms of addressing incidental catch of seabirds in non-longline fisheries. This resulted in BirdLife International working with several FAO Member States to gain support at COFI 2007 for the development of Technical Guidelines for the IPOA–Seabirds. COFI adopted this recommendation and BirdLife International has worked closely with FAO and a small group of world experts since, to plan an Expert Consultation. This Consultation was planned to be held in Bergen, Norway, in September 2008.

In an earlier report, published in 2005, BirdLife international assessed the performance of RFMOs in reducing the incidence of seabird bycatch in their areas of competence.¹⁸⁶ To carry out this work, “*the evaluation used criteria based on the principles established by the Code of Conduct and UN Fish Stocks Agreement, and included assessment of participation and transparency, data collection, measures to manage target fish stocks and measures to combat illegal, unreported or unregulated (IUU) fishing as well as measures to collect data on, and reduce bycatch of, a wide range of species, including seabirds.*”

These examples highlight the critical importance attached by conservation organizations to the Code and its instruments to conserve and manage important marine life in responsible and sustainable ways. It also underscores that these instruments are recognized and applied by the same organizations as global standards against which the performance of RFMOs, States and organizations can be assessed. Finally, the example of BirdLife's advocacy work underscores the importance and impact of the advocacy work these groups carry out, both to get the Code more widely disseminated, and in contributing substantially in achieving its objectives.

3.6.5 The Earth Justice Foundation and Greenpeace

It would be fair to describe The Earth Justice Foundation (EJF) and Greenpeace as the more militant and hands-on wings of the spectrum of NGOs involved in fisheries work. In recent years, and in addition to a host of other highly relevant work, the EJF and Greenpeace have been very active in exposing IUU fishing around the world. Their campaigns have resulted in a dramatic rise of public awareness on this critical issue. Educating the public, and more specifically the consumer, is seen as one of the avenues for twisting the hand of governments and industry in applying more stringent standards to the management of their operations and fisheries.

Greenpeace has been active in both fisheries and aquaculture domains, and it would be difficult to cover all of its work related to furthering the implementation of the Code. Only one particular piece of work will be analysed to highlight the relationship between their work and the Code.

In 2006, Greenpeace and EJF ran a highly successful and mediatised campaign against IUU fishing off West Africa's coast, and exposed the entire chain of IUU fishing, from harvesting fish illegally, to transshipping it illegally, all the way to landing it without major hindrance in a port in the Canary Islands.¹⁸⁷ The EJF produced a major film on this campaign, entitled “*Stolen Fish*”.¹⁸⁸ The campaign and the film trace fish, harvested by unlicensed Asian trawlers off the coast of Guinea, as it gets transshipped onto the Panama-flagged Reefer “*Binar 4*”, and then landed in the fishing port of Las Palmas. In order to underscore the relevance and impact of activist work of this sort, and the audiences it manages to reach, it is worth noting

¹⁸⁵ Paragraph 5 of the Executive Summary reads: “*The Commission was initially positive to responding to the IPOA–Seabirds (1999) and put a “preliminary draft” proposal for a Community Plan of Action for reducing seabird bycatch to the 24th session of the FAO Committee on Fisheries (COFI) in February 2001. However, there has been no elaboration of this draft, despite (a) the ‘high priority’ attached in COM(2002)186 final to ‘propose legislation [on a Community Plan of Action-Seabirds] before end of 2003’; (b) the objective to develop such a Plan in SEC(2006)621final, endorsed by the Environment Council in December 2006. (...)*”

¹⁸⁶ Small, C.J. (2005). *Regional Fisheries Management Organizations: their duties and performance in reducing bycatch of albatrosses and other species*. Cambridge, UK: BirdLife International. 103 p.

¹⁸⁷ Greenpeace (2006). *Witnessing the plunder 2006: How Illegal Fish from West African Waters Finds its Way to the EU Ports and Markets*. 39p.

¹⁸⁸ EJF movies on fisheries, including “*Stolen Fish*” can be accessed under: www.ejfoundation.org/page86.html

that this film was presented in plenary to the gathered SADC Fisheries Ministers on 4 July 2008, in Windhoek, Namibia, who had met there to sign the afore-mentioned Statement of Commitment to eradicate IUU fishing in the SADC region.

In the recommendations part of its above-cited report, in terms of recommended international level action, Greenpeace writes:

“ *All States should:*

- *Develop and implement national plans of action as required by the FAO IPOA to Prevent, Deter and Eliminate IUU Fishing;*
- *implement the provisions of the FAO Compliance Agreement, the UN Fish Stocks Agreement and the FAO Model Scheme for Port Control;*”

This recommendation underlines once more the central role afforded to the Code and its instruments.

The EJF has also published a widely-circulated “*Pirate Fishing*” series of well-researched publications that expose current problems with unsustainable and illegal fishing worldwide. These reports include “*Pirate Fish on your Plate*”¹⁸⁹, “*Party to the Plunder*”¹⁹⁰ and “*Pirates and Profiteers*”.^{191,192} In every single one of these reports, reference is being made to the Code and its relevant instruments, anchoring their implicit and explicit position as international standards in the fight against IUU fishing.

3.7 Other international efforts in awareness raising and capacity building

This section will highlight a range of fisheries and aquaculture initiatives launched by a very diverse range of regional and international organizations which are relevant to Code implementation, and the promotion of its principles and provisions. These initiatives underline how deeply the spirit and provisions of the Code have become anchored in the work of such organizations, and how it has come to embody widely accepted international standards for fisheries and aquaculture conservation and management.

A small selection of international initiatives and their relationship with the Code are highlighted, and here also, it is not possible to pay credit to all relevant initiatives currently in existence. This should however not be interpreted as a judgment of their pertinence and importance. There is also no intended order of priority in the initiatives described in this section.

3.7.1 The World Bank

The overall objective of the World Bank’s Global Programme on Fisheries, PROFISH, is to assist developing countries and regions to reverse the poverty spiral and make concrete progress towards meeting the WSSD’s objectives and targets. PROFISH was launched in August 2005, through its inaugural Steering Committee meeting, which was held at the NEPAD Fish for All Summit in Abuja, Nigeria. Its strategic objectives include building national and regional consensus on pro-poor sustainable fisheries initiatives and priority activities to implement the Code.

The PROFISH concept arose from the broad recognition that partnerships between donors, developing country governments and the private sector are needed to develop practical action plans, notably at the early stages of moving from sector investment to sector management. The World Bank recognized that, while the Code provided the global vision and direction for sector management, the implementation of the Code at national and regional level required strong political will, stakeholder negotiations, increased financial resources, improved human and institutional capacity, and an effective governance regime. PROFISH was called into life to collaborate with developing countries to address these.

¹⁸⁹ EJF (2007). *Pirate Fish on Your Plate – Tracking illegally-caught fish from West Africa into the European market*. Environmental Justice Foundation, London, UK. 27p.

¹⁹⁰ EJF (2005). *Party to the Plunder – Illegal Fishing in Guinea and its links to the EU*. Environmental Justice Foundation, London, UK. 25p.

¹⁹¹ EJF (2005). *Pirates and Profiteers: How Pirate Fishing Fleets are Robbing People and Oceans*. Environmental Justice Foundation, London, UK. 21p.

¹⁹² These reports can be downloaded under: www.ejfoundation.org/page95.html

In the year leading up to the launching of PROFISH, the World Bank had prepared and formally approved a Sector Approach Paper.¹⁹³ The Paper reflected a broad international consensus on the means to address the global fisheries crisis, and focused on how to implement the Code.

During the first three years of the programme, PROFISH endeavoured to deliver inter-related outcomes, one of which was national and regional consensus promoted on pro-poor sustainable fisheries initiatives and priority activities to implement the Code. A significant PROFISH initiative launched in 2005 was the Strategic Partnership for a Sustainable Fisheries Investment Fund in sub-Saharan Africa, in collaboration with FAO and the World Wildlife Fund (WWF).

3.7.2 WSSD-JPOI

The Johannesburg Plan of Action (WSSD-JPOI) which was developed as an implementation mechanism of the 2002 World Summit on Sustainable Development (WSSD) resolutions and declarations contains a range of recommendations making direct reference to the Code and its instruments. Through this mechanism, which reiterates and expands on the commitments taken at the 1992 Rio Conference (UNCED), the Code and its instruments have been confirmed and reconfirmed as instruments with global validity and applicability in the pursuit of the goals identified by the WSSD.

The first reference to the Code is made in paragraph 30(d).¹⁹⁴ The 2001 Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem, which is referred to in this article, further details the ecosystem approach professed in the Code, and strongly encourages the continued implementation of the Code and its instruments in its paragraph 1 in the following terms: “*Our determination to continue effective implementation of the FAO Code of Conduct, which is our common and agreed guide in strengthening and building fisheries management systems, as well as the International Plans of Action as formulated in accordance with the Code, and the Kyoto Declaration and Plan of Action on the Contribution of Fisheries to Food Security.*”

The WSSD-JPOI paragraph most relevant to the Code and its related instruments is paragraph 31, of which the most relevant parts are reproduced here below:

“ 31. *To achieve sustainable fisheries, the following actions are required at all levels:*

- (a) Maintain or restore stocks to levels that can produce the maximum sustainable yield with the aim of achieving these goals for depleted stocks on an urgent basis and where possible not later than 2015;*
- (b) Ratify or accede to and effectively implement the relevant United Nations and, where appropriate, associated regional fisheries agreements or arrangements, noting in particular the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks and the 1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas;*
- (c) Implement the 1995 Code of Conduct for Responsible Fisheries, taking note of the special requirements of developing countries as noted in its article 5, and the relevant international plans of action and technical guidelines of the Food and Agriculture Organization of the United Nations;*
- (d) Urgently develop and implement national and, where appropriate, regional plans of action, to put into effect the international plans of action of the Food and Agriculture Organization of the United Nations, in particular the International Plan of Action for the Management of Fishing Capacity by 2005 and the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing by 2004. Establish effective monitoring, reporting and enforcement, and control of fishing vessels, including by flag States, to further the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing; (...)*”

¹⁹³ The World Bank (2004). Saving Fish and Fishers; Towards Sustainable and Equitable Governance of the Global Fishing Sector. Report No. 29090-GLB. Washington DC. 93p.

¹⁹⁴ WSSD-JPOI. Paragraph 30(d). “*Encourage the application by 2010 of the ecosystem approach, noting the Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem and decision V/6 of the Conference of Parties to the Convention on Biological Diversity;*”

In the WSSD-JPOI, the implementation of all of the Code and its related instruments come forth as the recommended course of action to achieving sustainable world fisheries. Other paragraphs of the WSSD-JPOI re-iterate key principles of the Code, which apply to fisheries management also, e.g. the ecosystem approach¹⁹⁵ or the contribution of fisheries to poverty reduction¹⁹⁶. The WSSD-JPOI is the foremost comprehensive, authoritative and relevant international framework for planning and achieving sustainable development outcomes.

3.7.3 OECD and the HSTF

The main activities of the Organization for Economic Cooperation and Development (OECD)¹⁹⁷ in the field of fisheries are to provide a forum among OECD Member countries to deal with the challenges that policy makers and the fishing industry face. The Council of the OECD created the Committee for Fisheries in 1961. The Committee provides a forum for discussion of social, policy and economic dimensions affecting fisheries. In its “*Review of Fisheries*” report series, the Committee surveys policy developments in the fisheries sectors of Member countries. Otherwise, it carries out specific studies as part of its Programme of Work.¹⁹⁸

The OECD has played a prominent role in debates on fisheries governance, especially in the domain of IUU fishing. In 2003, the OECD convened a Round Table on Sustainable Development. A Ministerial-led High Seas Task Force (HSTF) was established as a result of this meeting.¹⁹⁹ The HSTF was formally launched on 1 December 2003.²⁰⁰ The intent was to use a series of expert panels to identify legal, economic, scientific and law enforcement factors which favour IUU fishing interests, and to then determine key leverage points that can be brought to bear at national, regional and global levels to minimize incentives to carry out IUU fishing on the high seas. This work was undertaken by carefully selected specialists. The Task Force identified priorities among a series of authoritative proposals for confronting the challenges of IUU fishing on the high seas. The end result was a pragmatic and prioritized action plan, entitled “*Closing the Net*”, which endeavoured to be both analytically sound and politically feasible, and was to be used as a tool for improved decision-making.²⁰¹ The HSTF completed its work in March 2006.

In Chapter 1 of the *Closing the Net* report, laying out the factors that have led to the establishment of the Task Force, the text reads as follows: “*A complex and evolving web of binding and non-binding international instruments aimed at IUU fishing has been constructed. This body of hard and soft law is largely built on the foundations established by the 1982 United Nations Convention on the Law of the Sea. Chief amongst these instruments (...) are the 1995 UN Fish Stocks Agreement (UNFSA), the FAO Code of Conduct for Responsible Fisheries (including the FAO Compliance Agreement) and the FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing (IPOA–IUU).*”²⁰² This underlines that the Task Force placed its activity within the framework of the Code, and its instruments. Although voluntary in nature, the Code and the IPOA–IUU have become cornerstone references and principal guiding texts guiding the international response against IUU fishing.

3.7.4 MSC

The Marine Stewardship Council (MSC)²⁰³ is a private sector organization which embarked on an eco-certification programme for sustainable fisheries in the early 2000’s. MSC provides an eco-label to seafood

¹⁹⁵ See: WSSD-JPOI paragraph 30(d)

¹⁹⁶ See: WSSD-JPOI paragraph 38(a)

¹⁹⁷ Homepage: www.oecd.org

¹⁹⁸ See for instance: OECD (2005). *Why Fish Piracy Persists: The Economics Of Illegal, Unreported And Unregulated Fishing*. ISBN-9264010874

¹⁹⁹ Homepage: www.high-seas.org

²⁰⁰ The HSTF was officially launched by Elliot Morley, M.P., Minister for Environment of the United Kingdom, in New Zealand.

²⁰¹ High Seas Task Force (2006). *Closing the net: Stopping illegal fishing on the high seas*. Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University.

²⁰² See cited report, page 17, 1st paragraph.

²⁰³ Homepage: www.msc.org

products originating from fisheries that have been certified as sustainable by its own programme. Over the last two years, the MCS has become the world's leading certification and eco-labelling programme for sustainable seafood. In 2008, over 200 million MCS-labelled seafood items were marketed in retail outlets world-wide. Germany and the UK have become the world's top consumers of MSC-labelled seafood, and several international retail stores, such as the global retail giant Wal-Mart, have made vows to move to retailing MSC-certified seafood only.²⁰⁴

To date, 22 fisheries are certified by the MSC and more than 50 fisheries are engaged in MSC's programme. Together, these fisheries record annual catches of more than 3.5 million tonnes of seafood. They account for 42 percent of the world's wild salmon catch, 32 percent of the prime whitefish catch, and 18 percent of the lobster catches for human consumption. It is expected that over time, the MSC label will contribute to change by making world fisheries management more responsible and sustainable through educating the consumers and making them buy sustainably fished seafood.

The MSC meets best practice guidelines for ecolabelling and certification to ensure it offers the world's leading certification programme for sustainable wild-capture seafood. MSC follows international, professional benchmarks to promote robust processes and uphold its values of independence, transparency, impartiality and stakeholder consultation.

MSC currently also offers the only seafood certification and ecolabelling programme that is consistent with all of the following international texts and norms:

- The FAO Code of Conduct for Responsible Fisheries;
- The Code of Good Practice for Setting Social and Environmental Standards (ISEAL);
- The FAO Guidelines for the ecolabelling of fish and fishery products from marine capture fisheries;
- World Trade Organization Technical Barriers to Trade Agreement.

MSC informs that: *“The MSC environmental standard for sustainable fishing is based in part on the United Nations Food and Agriculture Organizations’ Code of Conduct for Responsible Fisheries“*, and that *“The MSC programme is fully consistent with the internationally-agreed set of principles for a credible fishery certification and ecolabelling scheme”* laid down in FAO's Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries.²⁰⁵ These guidelines, published by FAO in 2005, are fully consistent with the Code.²⁰⁶

Key points of these guidelines are that ecolabelling programmes should be based upon:

- objective, third-party fishery assessments using scientific evidence;
- transparent processes with built-in stakeholder consultation and objection procedures;
- standards based on the three factors – sustainability of target species, ecosystems and management practices.

MSC claims that its certification programme has achieved full consistency with these guidelines in September 2006.

The scope of MSC's core business is to contribute in substance to achieve sustainable and responsible fisheries on a global scale. This is contiguous with the core objective of the Code, and MSC's business plan is hence fully in line with the spirit of the Code. The recent endorsements of MSC labeled seafood by Wal-Mart, or the German discount retailer Lidl²⁰⁷ indicates that the MSC scheme is starting to gain critical mass, and is going to create a lot of pressure and incentives for unsustainable fisheries to “come clean”. In ever more environmentally conscious Europe, the world's biggest seafood market, the label is set to create major distortions²⁰⁸ in consumer preference in the future. German consumers have recently (2008) been reported in the press to react in highly positive terms to the label, one of the reasons why the retailer Lidl is moving in the direction of adopting such labelled products. Ecolabels harbour the potential to create win-win-win

²⁰⁴ See news item under: http://money.cnn.com/2006/07/25/news/companies/pluggedin_gunther_fish.fortune/index.htm

²⁰⁵ FAO (2005). Guidelines for the ecolabelling of fish and fishery products from marine capture fisheries. Rome, FAO. 90p.

²⁰⁶ See paragraph 2.1 (under “Principles”, page 1) in the above cited guidelines.

²⁰⁷ View news item under: www.allbusiness.com/wholesale-trade/merchant-wholesalers-nondurable/4053993-1.html

²⁰⁸ Distortions of the positive kind.

situations for responsible fishing enterprises, retailers and consumers, all benefiting from the scheme. The fact that markets have been found to be one of the factors most susceptible to induce changes in behaviour, and induce change – positive or negative – and the MSC scheme influencing the market for the better, positive outcomes on the larger scale are to be hoped for.

3.7.5 SADC

The Southern African Development Community (SADC),²⁰⁹ formed in 1980, is a regional economic integration organization federating the countries of the southern cone of Africa.²¹⁰ SADC operates a secretariat, which works in different domains of social and economic importance. The Directorate for Forestry and Natural Resources is responsible for SADC's fisheries portfolio.

In 2001, SADC has ratified its Protocol on Fisheries.²¹¹ The Protocol is the framework that guides SADC's activities in the domain of fisheries. The SADC Protocol of Fisheries has been described by SADC as a “*legally binding regional integration of the Code of Conduct for Responsible Fisheries and framework for fisheries development in the SADC region.*”²¹² This is one of the few examples of an early binding instrument, which cites the Code as one of its principal sources. It implies that the substance of the Code, which are of non-binding nature in their original form, have been translated by SADC into regional, legally binding substance.

In the Preamble of the Protocol, the 1982 Law of the Sea Convention is “*acknowledged*”, and “*the provisions of the FAO Code of Conduct for Responsible Fisheries and other relevant agreements on fisheries*” are “*taken into account*”. These are the only texts that are directly referred to. This emphasizes the central place that the Code has rapidly gained, following its publication in 1995.

The recent Statement of Commitment (SoC), signed in Windhoek, Namibia, in July 2008, by the SADC Ministers responsible for Marine Fisheries, makes reference to the IPOA–IUU in the Preamble in the following terms: “*Recognizing the urgent need for implementation of measures to prevent, deter and eliminate IUU fishing as set out in the IPOA–IUU;*”²¹³ This also represents a blanket endorsement at the highest administrative level of the Code and its IUU-related instrument for the tackling of the IUU fishing issue.

3.7.6 BOBP-IGO

The Bay of Bengal Programme (BOBP-IGO) has evolved from a long-term regional FAO project that has been institutionalized, and now functions as an Inter-governmental body.²¹⁴ The establishment of the BOBP-IGO was conceived during the early stages of the final phase of the FAO Bay of Bengal Project, and was endorsed through a resolution passed at the 24th Meeting of the Advisory Committee of the project in 1999. The BOBP-IGO Agreement was formally signed by the Governments of Bangladesh, India, Sri Lanka and the Government of Maldives in 2003.

The work programme of the BOBP-IGO comprises of five components, which are the following:

1. Regional Programme on Safety at Sea for Artisanal and Small-Scale Fishermen;
2. Regional Programme for Fish Stocks Assessment in the Bay of Bengal;
3. Capacity building and information services for fisheries development and management in the Bay of Bengal region;
4. Taking the Code of Conduct for Responsible Fisheries to the grassroots level;
5. Setting up of Regional Information Network.

²⁰⁹ Homepage: www.sadc.int

²¹⁰ The Member States are Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, the United Republic of Tanzania, Zambia and Zimbabwe.

²¹¹ View full text under: www.sadc.int/english/documents/legal/protocols/fisheries.php

²¹² See: paragraph 44 in FAO (2006). Report of the first session of the South West Indian Ocean Fisheries Commission. Mombasa, Kenya, 18–20 April 2005. FAO Fisheries Report Rapport No. 805. Rome, FAO. 68p.

²¹³ Full text of the SoC under: www.stopillegalifishing.com/statement_of_commitment.html

²¹⁴ Homepage: www.bobpigo.org/index1.htm

The whole work programme mirrors principles and provisions of the Code, including provisions on minding the interests of small scale fishers, safety at sea, research and the use of best scientific information in fisheries management, capacity building, Code dissemination and awareness raising, and the distribution of information and collaboration between countries.

The programme of most interest in the context of this report is work programme item number four, *“Taking the Code of Conduct for Responsible Fisheries to the Grassroots Level”*. This programme component can be likened to the SEAFDEC work on regionalizing the Code, but targets basic fishers and their communities, and is essentially an awareness raising activity. The third phase of the former Bay of Bengal Project implemented many activities, which aimed at popularizing the Code amongst government staff and other stakeholders, including fisher communities. The activities included translation of the Code and its simple language version *“What is the Code of Conduct for Responsible Fisheries?”* into national languages of the member countries (Bengali, Dhivehi, Sinhalese, Thai, Oriya, Tamil, Telugu, Gujarati, Hindi and Marathi).

The BOBP-IGO continues these activities and the translation of the Code and its Technical Guidelines into the remaining national languages, so that they can be read and understood by grassroots fisherfolk throughout the region. The organization has also produced a series of posters depicting key Code principles.²¹⁵ Popularization and adaptation of the Code is also carried out through the conduct of national workshops and seminars,²¹⁶ and the organization of *“Fisherfolk Weeks”* in the member countries.

3.7.7 SEAFDEC

The Bangkok-based Southeast Asian Fisheries Development Center (SEAFDEC)²¹⁷ is an autonomous intergovernmental body established as a regional treaty organization in 1967.²¹⁸ SEAFDEC promotes fisheries development in Southeast Asia. The organization aims specifically to develop the fishery potential in the region through the provision of training, research and information services, with the overall goal to improve the food supply by rational utilization and development of the region’s fisheries resources.

On its homepage, SEAFDEC States the following under the title *“Responsible Fisheries: “Over the past four decades, SEAFDEC has been assisting Member Countries in developing their fisheries potentials towards sustainable directions, taking into consideration relevant global concerns and initiatives. With the adoption on the Code of Conduct for Responsible Fisheries by the FAO members in 1995, the responsible approach has been immensely taken up by SEAFDEC, with the essence of the CCRF being embedded in planning and implementation of activities.”* Again, this marks a blanket endorsement of the Code and its principles, and their integration into work plans. Since its adoption and publication, the Code structures and feeds the work programme of the organization.

SEAFDEC has initiated a comprehensive project on the *Regionalization of the Code of Conduct for Responsible Fisheries* (RCCRF). The aim is to render the Code operational in Southeast Asia. It aims to translate the Code into practical applications critical to fisheries development in Southeast Asia.

The RCCRF programme has established four phases of regionalization exercises, namely Responsible Fishing Operations (Phase I), Responsible Aquaculture (Phase II), Responsible Fisheries Management (Phase III), and Responsible Post-Harvest Practices and Trade (Phase IV). All of these have led to the publication of guidelines, which can be downloaded from the organization’s Web site. An additional set of guidelines has been elaborated in support to the guidelines on responsible fisheries management, looking more particularly into issues related to co-management, fishery statistics, indicators and fisheries refugia. This work is unique in its approach, and emphasizes the importance attached to the Code in Southeast Asia.

²¹⁵ See posters under: <http://www.bobpigo.org/bobp-ccrf-posters.htm>

²¹⁶ Consult the 2007 “Report of a one-day consultation with stakeholders, including fisher communities of Tamil Nadu, on the Code of Conduct for Responsible Fisheries” under: http://www.bobpigo.org/pdf/ccrf_consultation_report.pdf

²¹⁷ Homepage: www.seafdec.net

²¹⁸ The Member countries are Brunei Darussalam, Cambodia, Indonesia, Japan, Lao People’s Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam. Its services cover the broad areas of fishing gear technology, marine engineering, fishing ground surveys and stock assessment, post-harvest technology as well as development and improvement of aquaculture techniques.

3.7.8 NACA

The Network of Aquaculture Centers in Asia-Pacific (NACA)²¹⁹ is an intergovernmental organization²²⁰ that promotes rural development through sustainable aquaculture. NACA seeks to improve rural income, increase food production and foreign exchange earnings, and to diversify farm production. Targeted beneficiaries of NACA's activities are farmers and rural communities. The core activities of NACA are:

- Capacity building through education and training;
- Collaborative research and development through networking among centers and people;
- Development of information and communication networks;
- Policy guidelines and support to policies and institutional capacities;
- Aquatic animal health and disease management; and,
- Genetics and biodiversity.

Most of these core activities are operating toward the achievement of the key provisions laid down in the Code's article 9 on aquaculture development. FAO is a non-voting member of NACA's Governing Council. NACA conducts development assistance projects throughout the region in partnership with governments, donor foundations, development agencies, universities and a range of non-government organizations and farmers. NACA supports institutional strengthening, technical exchange and the development of policies for sustainable aquaculture and aquatic resource management.

Since the publication of the Code, NACA has been heavily engaged with a range of highly diverse partners, such as the FAO, UNEP, the WWF, the World Bank or the ADB, in the development of regional solutions for the attainment of sustainable and responsible aquaculture sectors throughout the region. Some of these activities, which bear close and direct relationships with the Code, are highlighted below:

Aquaculture Sustainability Action Plan (1996): In 1996, NACA developed a regional aquaculture sustainability action plan. This was done with ADB funding support. The plan was developed the same year the Code was published, and does hence not make reference to the Code. The plan is an early expression of the *Zeitgeist*, indicating that regional action plans could be a way forward in addressing issues of common interest. The first regional action plans which have been formulated in the wake of IPOAs have been formulated over half a decade later, and remain few to date. In this sense, NACA's approach was highly innovative, and underscores that the Code is also but an expression of ideas and approaches that existed and were already being applied well before its publication.

The plan,²²¹ which is short and concise, covered regulatory issues, aid regimes, zoning and multiple uses of the coastal zones, as well as promotion efforts of the sector. This plan, can be considered as one of the very early regional efforts suggesting a wide array of approaches and solutions consistent with the Code, as applicable to the development of aquaculture in one of the most prominent aquaculture regions worldwide.

The Bangkok Declaration and Strategy (2000): In early 2000, the government of Thailand co-hosted the *Conference on Aquaculture Development in the Third Millennium*, which was co-organized by NACA and FAO. The participants discussed priorities and strategies for the development of aquaculture for the next two decades, in the light of the future economic, social and environmental issues and advances in aquaculture technologies.

The result of this conference was the *Bangkok Declaration and Strategy for Aquaculture Development Beyond 2000*.²²² States, the private sector and other stakeholders were encouraged to incorporate the key strategy elements in their plans for aquaculture development. Although the Declaration and Strategy are not

²¹⁹ Homepage: www.enaca.org

²²⁰ Members are the governments of Australia, Bangladesh, Cambodia, China, Hong Kong SAR, India, Indonesia, Iran, Korea (DPR), Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Viet Nam.

²²¹ ADB/NACA (Editors) (1996). *Aquaculture Sustainability Action Plan (ASAP)*. Regional study and workshop on aquaculture sustainability and the environment (RETA 5534). Manila, Asian Development Bank and Network of Aquaculture Centres in Asia-Pacific. Bangkok, 21p.

²²² NACA/FAO (2000). *Aquaculture Development Beyond 2000: the Bangkok Declaration and Strategy*. Conference on Aquaculture in the Third Millennium, 20-25 February 2000, Bangkok, Thailand. NACA, Bangkok and FAO, Rome. 27p.

explicitly based upon the Code, the seven points of the declaration (2.18 to 2.24) are fully compatible with the principles of the Code, and its provisions on aquaculture development. In addition to this, paragraph 2.24 reads as follows: “*all parties formulating improved policies and implementing practices for aquaculture development should consider and where appropriate, build on the FAO Code of Conduct for Responsible Fisheries.*” Although a somewhat weaker formulation as the one found in other texts of this importance, the Code and its position are clearly referred to, and its implementation is encouraged.

The 17 key strategies presented in Chapter 3 are all in line with article 9 provisions of the Code, and some go beyond.

International Principles for Responsible Shrimp Farming (2006): More recently, NACA teamed up with FAO, UNEP, the WWF and the World Bank to develop international principles for responsible shrimp farming.²²³ Rapid expansion of shrimp farming in many countries generated income, but was also accompanied by rising concerns over environmental and social impacts. The *International Principles for Responsible Shrimp Farming* was developed with the view to providing a basis upon which stakeholders could collaborate for more sustainable development of shrimp farming.

In chapter 1, the purpose of the document is defined in the following terms: “*The purpose of the International Principles as mandated by the members of FAO and NACA, is to provide principles for management of shrimp farming that provide guidance in implementation of the FAO Code of Conduct for Responsible Fisheries in the shrimp aquaculture sector.*” This definition signifies a much firmer acceptance of the Code as a foundation to work from (when compared to the *2000 Bangkok Declaration and Strategy*), and explicitly defines the undertaking as an effort in furthering the implementation of the Code.

Of interest is also the repeated approach to provide regions or specific sectors with principles, guidelines and/or action plans, all of which are linked to the Code through the pursuit of same or similar basic principles of responsibility and sustainability. Some of these instruments are directly linked to the Code, by stating that their intent is to implement some of its substance by translating it into more practical and more explicit regional or sectoral solutions. *Codes of Practice* or *Best Management Practice* developed by industry and other stakeholders are generally invoked as the kind of documents which should source their substance and ingredients from such Action Plans, Principles and Guidelines. With respect to this, the *International Principles for Responsible Shrimp Farming*, in its introduction, states that: “*The principles and associated guidance on implementation may be used by public and private sectors for development of locally specific Codes of Practice (COP), better management practices (BMPs) or other management approaches for shrimp farming, suitable for adoption by farmers in particular social, economic and environmental contexts.*” This emphasizes the idea that all of these efforts in regionalizing or “*sectoralizing*” the Code are in support of implementing its principles and provisions, but that the onus for implementing them rests with regulators and private sector operators which have to embrace such principles and provisions, and collaborate to achieve them.

3.8 The Margarita Lizárraga prize

At its twenty-ninth session in November 1997, the FAO Conference, by Resolution 18/97, instituted the Margarita Lizárraga Medal to be awarded biennially by the Conference upon the proposal of the Council to a person or organization that has served with distinction in the application of the Code of Conduct for Responsible Fisheries. The Medal pays tribute to the late Dr. Margarita Saucedo Lizárraga, Senior Fishery Liaison Officer, for her decisive role in promoting the Code of Conduct for Responsible Fisheries, for her productive work in the field of fisheries for almost forty years, for her great dedication to FAO and for her strong commitment towards fostering the promotion of the fisheries sector, especially in developing countries.

The Selection Committee for the award, composed of the Assistant Director-General, Fisheries Department, and the Bureau of the Committee on Fisheries (COFI), reviews nominations for each biennium based on the agreed criteria. It goes to persons or organizations that have “*served with distinction in the application of the Code of Conduct for Responsible Fisheries*”.

²²³ FAO/NACA/UNEP/WB/WWF (2006). *International Principles for Responsible Shrimp Farming*. Network of Aquaculture Centers in Asia-Pacific (NACA). Bangkok, Thailand. 20 p.

The winners of the award to date are:

- 1999: National Fisheries Solidarity (NAFSO) of Sri Lanka
- 2001: The Canadian Responsible Fisheries Board and its Secretariat
- 2003: The International Collective in Support of Fishworkers (ICSF)
- 2005: The Agreement on the International Dolphin Conservation Programme (AIDCP)
- 2007: Southeast Asian Fisheries Development Center (SEAFDEC)

Information on motives having led to the nominations and awards can be found online.²²⁴

4. IMPACT OF THE CODE

In order to properly evaluate the impact of the Code, it would be necessary to run a parallel experiment in time, covering 13 years without the Code, and 13 years with the Code. The impact would reveal itself by comparison. Unfortunately, this is not an option. Throughout this report, and its sections, it has been attempted to demonstrate, in which ways and in which domains the Code has been read, implemented, and employed to improve aquaculture and fisheries management. Scientific rigour would have demanded the opposite, i.e.: attempt to prove that the Code has had no impact (a point held by some). Where these attempts would have failed, it could have been safely stated that impacts had been achieved indeed.

Yet, a hardnosed scientific approach in this undertaking, which spans continents, cultures, natural resource governance in its many forms, hard and soft science, hard and soft laws, national, international and civil society organizations, natural resources sensitive to pressures other than fishing (e.g. climate change), a period spanning well over a decade of change, and global trade in natural resources, would be impracticable. There are too many variables influencing an analysis of such width and depth. Hence, the approach which was opted for was a lot more empirical and down-to-earth. The report tried to gather a sense of whether things have started to change along the lines suggested by the Code (Section 3.2. Country-level implementation), and who was been doing what to promote the implementation of the Code (Sections 3.3. to 3.8.). This two-pronged approach was expected to provide an overall insight into how far the Code had come in influencing national, regional and international fisheries governance, in order for it to become more responsible and more sustainable, and how much support and buy-in it had managed to shore up this far.

The Code of Conduct for Responsible Fisheries has not been compared to other international codes of practice in natural resource management – another approach which might have yielded a few insights into how successful an international soft law instrument for fisheries could be, when compared to a similar type of instrument addressing the forestry or the oil sector, for example. The assessment presented in this report is hence largely qualitative, and much less quantitative and comparative in nature.

4.1 Overall impact

With the state of world fisheries resources continuously deteriorating over the last half century or so, the time had come for a paradigm shift in how sovereign States and RFMOs handle the conservation and the management of fisheries resources under their mandates. In plain terms, it can be said that the Code of Conduct for Responsible Fisheries embodies both the wake up call, and the manual to achieve this. The Code is the one, very broad international fisheries instrument which signalled, in the mid-nineties, that time for fundamental changes in the way fisheries are conserved and managed had come. It had become clear that if fisheries were to continue providing mankind with protein and other services into future generations, important choices had to be made. The recipes for these choices have been laid down in the Code.

In doing so, the Code has become a broadly accepted “one-stop-shop” international reference for principles of best management practice in fisheries and in aquaculture. The principles of “*responsible*”, “*sustainable*”, “*precautionary*” and “*ecosystem-based*” management of renewable resources have not necessarily been “born” within fisheries, but were brought across into the domain of fisheries and aquaculture, and bundled up

²²⁴ See: <ftp://ftp.fao.org/fi/document/Code/lizarraga/Winners.pdf>

as a package by and through the Code.²²⁵ The fact that they are widely accepted as management standards in fisheries and aquaculture today is owed to the existence of the Code.

Endorsement of the Code today is a ubiquitous feature throughout the fisheries and aquaculture sectors. Many RFMOs refer to the Code in their statutes or mandates, underlining that its principles and provisions form the basis of their actions. An increasing number of national fisheries acts and regulations refer to the Code in their preambles, highlighting it as a set of guiding principles that the national legal substance seeks to follow and to enact. Many international organizations, be they non-governmental or inter-governmental, regional or UN, have endorsed the Code and apply its principles to the domains of fisheries and aquaculture. Many of them, as indicated in this report, actively contribute to its implementation, in direct or indirect ways. The Code has also been widely endorsed through the UN general Assembly, which has issued numerous statements encouraging sovereign nation States to implement its principles and provisions – those of the Code and of its related instruments. At the overarching, political level, and for an instrument voluntary in nature, the Code has enjoyed an unprecedented level of endorsement. To such a degree, that any national or regional fisheries policy today not basing its strategies on key principles inherent to the Code, would likely be deemed to be incomplete, dated and ill-footed. The broad endorsement of this non-binding instrument forces planners at all levels to pay due attention to the standards of fisheries and aquaculture management, introduced by the Code. Today, this endorsement is also provided by large-scale fisheries industry representatives, being the first interested in the sustainability of the resource base and their businesses.²²⁶ Large segments of the industry today acknowledge the dire need for progress in better managing capture fisheries resources, and endorse the solidity that the Code and its related instruments (amongst others) provide as frameworks to bring about the needed changes. Sections 3.3 to 3.7. of this report provide a selection of relevant players embodying this very broad endorsement.

The Code is a soft law instrument, and its implementation by targeted entities is hence non-binding and voluntary. Its broad-based endorsement has conferred it a highly privileged status in the domain of international texts governing fisheries and aquaculture. The fact that the Code has been endorsed, and is being referred to by a very wide array of fisheries and aquaculture sector players, from legislators to grassroots activists, underlines the strong moral footing of the Code, and its global applicability. This is true to such a degree, that professionals have started to suggest that the Code is already attaining customary law status as a source of public international law. Lutgen (2006)²²⁷ writes: “*State conduct to adhere with the sustainability provisions of both the Code of Conduct and the existing IPOAs occurs with varying degrees of commitment, but in a majority of coastal States. That is, most States in the world are taking steps (at least within their domestic legislation and often through regional agreements) to address the FAO principles relating to, inter alia, coastal zone management, overfishing, IUU fishing, bycatch, fishing gear, processing and trade in fish and fishery products. The extent of action to be taken is dependent upon the impact on States. Thus, while few States appear to be actively implementing the entire Code of Conduct and the four IPOAs, a majority of States are actively addressing elements of the Code and the IPOAs in their domestic legislation, and/or by their participation in regional agreements, and/or by adherence to hard law treaties. Thus, the marine life sustainability measures taken by the community of States are evidence of customary law conduct.*”

²²⁵ As mentioned in several places within this report, several, if not all of these concepts had already penetrated other international instruments, dealing with the environment, before 1995.

²²⁶ Excerpt from opening speech at the World Tuna Bangkok 2008 Show, by the CEO of Bumble Bee Foods: “*The FAO believes that under current fishing regimes the potential worldwide harvest from marine capture fisheries is no more than the current level of 90 million tons. It is difficult to estimate the potential increases that could be achieved through a combination of improved management, reduced wastage from discards and post-harvest losses and recovery of depleted stocks. An optimistic estimate is that, under much improved management conditions, capture fisheries might yield an additional 15 million tons on a sustainable basis. (...) Of concern is that the optimistic scenario outlined by the FAO is unrealistic based on the lack of progress in global fisheries management to date. The past few years have seen a flurry of activity, at international and national levels, aimed at shifting fisheries management onto a less self-destructive course. The United Nations Convention on the Law of the Sea (UNCLOS), the FAO Code of Conduct and the U.N Fish Stocks Agreement provide a solid framework upon which to build effective fisheries management regimes.*”

²²⁷ Lutgen, G. (2006). Soft Law with Hidden Teeth: The Case for a FAO International Plan of Action on Sea Turtles. *Journal of International Wildlife Law and Policy* 9(2). pp. 155-173.

It is hence perfectly reasonable and well founded to assert that the overall impact of the Code has been both broad and deep. Broad in the sense that it has touched, and been endorsed by a very broad and diverse set of organization and stakeholders, spanning the entire spectrum of stakeholders involved in fisheries and aquaculture; and deep in the sense that the principles and provisions the Code proposes have started to penetrate the substance of national, regional and international legal frameworks governing fisheries and aquaculture, as well as policies, programmes and work plans of an extremely diverse range of relevant organizations.

4.2 Direct impacts attributable to the Code

It is extremely difficult to attribute direct impacts to the Code. Examples where a certain measure could be applied to *more responsible* and *more sustainable* fisheries are rare, and it would be artificial to try to do so in many occasions; not least because of the multitude of contributing factors that have, and continue to influence the greening of fisheries and aquaculture conservation and management. Rarely can positive (or negative) changes in domains as complex and wide as these be limited and attributed to a single factor – such as the Code.

However, there are a few points for which a strong case can be made, and where the Code can be readily portrayed as having made important and direct contributions to the improvement of fisheries and aquaculture conservation and management on a global scale. The first such point is related to the terms in which fisheries and aquaculture management are seen, understood, referred to and practiced (to a limited, but growing extent) today.

The Code is the first international instrument that took across into the domain of fisheries and aquaculture management the principles of *responsible* and *sustainable* use of renewable aquatic resources. While the performance of these sectors used to be measured in terms of “growth”, “development” and “production” from the early days of industrialization onwards, the nineties, UNCED and then the Code have brought about a profound change in this view of things. The perspective has changed. Someone who used to talk about “fisheries development” in the early nineties is now more likely to refer to “fisheries management” – “development” having been scaled back to a possible component of the “management” dimension.

The standards applicable to the “management” dimension today are “responsibility” and “sustainability”. These are both moral and limiting in nature. Resources should be managed in a way which does not harm the environment, and in such a way which guarantees their continued existence for future generations. These principles are enshrined in the UNCED’s Agenda 21, and the Code has translated them across into the domains of fisheries and aquaculture.

The Code embodies these principles, and encourages all stakeholders in fisheries and aquaculture to embrace and to apply them to their respective situations, whether fishers, aquaculturists, company managers, government administrators, or staff of international organizations active in these fields. It is the first major fisheries text to do so, and it added the dimensions of “precautionary” and “ecosystem-based” approaches, which resonate with, and complement the principles of responsible and sustainable management.

Although positive change has been slow in coming to the taste of many, few can deny that concern for the state of world fisheries resources – as for the environment in general – has ever been higher than today, and that more and more high profile actions putting pressure on unsustainable and irresponsible operators and administrators are proliferating and are starting to produce results. Governments are sensitive to this, and management practices are starting to change. In the domains of aquaculture and fisheries, the Code is invariably being invoked as the standard reference to motivate and justify these new approaches. Without the Code, and its related instruments, the measured greening of the industry would likely have been a lot slower yet.

A second set of immediate impacts can be claimed on the basis of direct, country-level implementation of Code provisions, or the formulation and implementation of NPOAs, on the basis of Code-related instruments.

By way of an example, it would seem obvious that countries who have developed and implemented NPOA–IUUs over the last seven years have done so in direct response to a pressing need on one hand (i.e. the one of eliminating IUU fishing), and along the lines of a model provided by one of the key Code-related

instruments (the IPOA–IUU), on the other. The mounting pressure on IUU fishing today has been largely facilitated by the introduction of the IPOA–IUU, and it would seem reasonable to argue that in its absence, and on the basis of existing MCS-type clauses inherent to UNCLOS, the Fish Stocks Agreement and the Compliance Agreement, a similar, international, high-profile and structured response against IUU fishing would not have been conceivable. The will of States, especially developing States, to counter IUU fishing and strongly affirm sovereign claims over national fisheries resources, has been galvanized by the coming into life of the IPOA–IUU. Of the four IPOAs currently in existence, the IPOA–IUU is the one that most directly addresses developing country concerns, and this can readily be seen as one of the reasons why it has found such a resonating response. Numbers of high profile IUU fishing cases, arrests and convictions have been rising dramatically in recent years, and more and more of these news stem from developing countries. On the other hand, combating fishing piracy is politically easier, than addressing internal management issues, such as fleet capacity adjustments and the development of environmentally appropriate fishing gear, which does also partly explain why the IPOA–IUU has been more attractive, easier and faster to adopt, than other IPOAs. It is generally safe to state that in domains which are either politically sensitive (e.g. conflict resolution between fisheries and offshore oil sectors – the ICZM domain; scaling back fleets – the capacity domain; etc.), technically complex (e.g. ecosystem approach to fisheries management), or having important potential trade implications (e.g. port and flag State controls), impact has been diffuse, and progress has been slow.

However, this does not run contrary to expectations, and all efforts should be made to foster positive change. The current efforts made by FAO to getting a binding Agreement for Port State Measures signed should also be seen as a direct response to the need to further promote change. It has been shown in several sections of this report, that trade and market forces are generally the most important motivators of positive and negative developments. Good ideas must be framed up in ways that make economic sense. By deterring bad practice, and attaching incentives to good practice. This particular point will be further addressed in Chapter 5.

A third direct impact of the Code is linked to the way in which countries have been making use of the Code and its instruments to assess their policy, legal and management frameworks for fisheries and aquaculture. Although this is not well documented, it has been reported from countries, such as New Zealand, that the IPOA–IUU has been used as a template to assess the completeness of its set of IUU combat measures against. Other countries, such as Thailand and Viet Nam have done the same with FAO assistance, using the Code as a tool to guide strategic planning for the sector. Both the Code and its IPOAs, due to their universal applicability, form ideal tools to analyse the completeness of management frameworks, identify gaps, and address them in ways suggested by these same instruments. Fisheries and aquaculture professionals around the globe report to using the Code in exactly the same way.

4.3 Impact of the Code too slow?

Critics of the Code often point out that no or too little progress has been achieved in the most crucial domains which affect fisheries and aquaculture today. Such domains include an over-capacitary world fleet, world fisheries running at huge deficits, the continuing deterioration of world fish stocks, continuously weak baseline data, etc.

While it is true that more results could have been expected to be achieved over the 13 years of the Codes' existence, it is also true that the Code was launched into an ever more highly interconnected world, where fundamental decisions create more and more ripple effects and unexpected impacts. While the Code proposes fundamental changes to the way that fisheries and aquaculture are managed, it remains for countries to pick up these proposals, and to apply the principles and provisions to their sectors. This does take time, resources, sound analysis and a lot of political stamina (or good governance). Half the world's fisheries resources today stem from developing countries, countries which are endowed with only weak capacities in the domains afore mentioned, or lack them altogether. In addition to this, amongst developed nations, only a handful have been coming forth as strong leaders and innovators in national, regional and international fisheries governance. This does not provide a solid foundation for quick change.

This phenomenon of “slowness” is not limited to the Code of Conduct. In other domains of human activity and related international policy, such as the energy sector, greenhouse gas emissions and related climate change, arguably a conundrum of yet more pressing urgency for mankind than fisheries, binding instruments (i.e. the Kyoto Protocol) have been designed, and have been ratified by the willing. However, implementing

the provisions of the protocol, taking tough decisions, scaling back and changing approaches to the way energy is produced and consumed, and reaching stated emission targets, has been painstakingly slow, and has remained elusive in many cases. Market-driven forces and the fear of stifling “economic growth” also represent a large part of the factors that underpin this slowness. This applies to fisheries in equal terms.

5. CHALLENGES TO THE CODE AND RECOMMENDED ACTION TO FURTHER THE IMPLEMENTATION OF THE CODE

Responsible and sustainable aquaculture and fisheries did not start with the Code. It was pointed out in several parts of this report that in several domains, responsible and sustainable approaches in State and RFMO practice have preceded what was later bundled up into the Code, and into its instruments. The Code and its instruments, however, are the first consistent attempt to bring together all of the principles for responsible and sustainable exploitation of renewable aquatic resources, and to produce one universally applicable and coherent framework for guiding the development of fisheries and aquaculture sectors. Its continuous broad and deepening adoption across all layers of both aquaculture and fisheries fields, from governing bodies to grassroots operators, establishes a clear and firm lead role for the Code and its instruments for the future.

In order to continue doing so, the Code, and FAO as its promoter and progress evaluator, need to face up to particular challenges confronting the Code since its inception.

One of the most significant challenges is the continuing need for the dissemination of, and awareness raising about the Code, its instruments, and their actual content. It is continuously being pointed out by professionals in the sector that the Code is widely referred to, but that few people have actually read it.²²⁸ Many more people, especially at the grassroots level, have never heard about it. The immediate question surfacing is: *“How can the Code be applied, when it is not being read, and when its principles and provisions have not been assimilated and understood by key stakeholders?”* Currently, the Code is shaping the policy dimension of fisheries more and more, and its impact on wording and direction that fisheries and aquaculture policies and legal frameworks are taking worldwide is unquestionable. For the Code to find deepening and more immediate, field-level application, it must be read and assimilated by much broader masses of technicians and operators within administrations, organizations and the industry itself. This can only be achieved through the putting in place of a coherent communication strategy and branding of Code products. More distribution channels need to be opened up (modern media, radio, TV, posters, the Web, newspapers and magazines, etc.), and no efforts be spared to get the Code and its instruments disseminated, read and used.

The FAO has got a fundamental role to play in this domain. There is a very clear need for a consistent communication strategy within FAO to promote the Code and its instruments at all levels. These levels are not limited to the way Code materials are designed and through which channels they are disseminated, but include the ways in which FAO promotes the implementation of Code principles and provisions throughout all of its fisheries and aquaculture related work. In this line of work, the regular evaluations FAO produces on Code implementation could also benefit from improvements, producing more direct value for individual FAO Member countries.

A second significant challenge to implementing the Code is related to the immediate country-level costs induced by the putting in place of more responsible and more sustainable fisheries. It is clear that in the long term, net positive change is expected from managing fisheries in responsible and sustainable ways. Expected results are a better protected and productive environment, stocks recovering to full productive capacity, more efficient fleets and better economic returns, a sustainable and predictable supply of protein, etc. However, these long term benefits are generally tied to immediate, short term costs (financial and political) – also called “sacrifices”. Investments need to be made to modify gear and to reduce fleets, jobs are likely to be laid off, and traditional practices might in some cases be up for an overhaul – requiring flexibility in mentalities, and the will to consider new solutions. More importantly though, fish have turned into a commodity traded in world markets, and are today the most valuable natural commodity traded, beating coffee, cotton, cocoa or

²²⁸ This is supported by the personal experience of the author. It is uncommon in stakeholder meetings in throughout Africa, bringing together Ministry of Fisheries technical staff, industry representatives, law enforcement officers and NGO representatives, to find more than 15 percent of the people present that have read the Code, either in part, or completely. Even fewer people report to apply its principles and provisions to their line of work.

corn by hefty margins. This element complicates things in a major way, through the inter-connections between fleets, fishing practice and performance which the world market for these commodities creates. For instance, a decision to improve the environmental performance of a particular fleet in the United States of America might eventually engender a large impact on the performance of a particular fleet in Thailand.

The United States of America's introduction of TEDs in its southern shrimp fisheries is one of the best examples to highlight the challenge. When the United States of America introduced TEDs, American shrimp fishermen protested, not so much against the idea of reducing bycatch and wastage, but against the fact that the efficiency loss in catching shrimp (some target catch invariably gets lost through bycatch reduction devices) induced higher production costs, and that US-caught shrimp lost its competitive edge in their own domestic market against imported shrimp from Asia. In Asia, TEDs were not mandatory. This example shows that unilateral adoption of well-intentioned, environmentally-sound and responsible fishing practices can create important market distortions, and has the potential to drive a domestic fishery into ruin. The United States of America reacted by applying its environmental standard to all wild captured shrimp imports. Upon this, the World Trade Organization (WTO) ruled that the United States of America had put up an unacceptable technical barrier to trade, and that it could not apply its own environmental standards to third countries. It was ruled that the barrier should be removed. The US then launched a series of bi-lateral agreements under which US officials certified TED-compliant wild capture shrimp fisheries of would-be importer nations into the US-market. This has been deemed acceptable and seems to work. However, the cost grew larger than initially estimated. Madagascar, for instance, has had its shrimp fisheries certified under this scheme, and the US environmental standard has factually been exported to Madagascar, and adopted there.²²⁹ This example underscores the force of the market, and the implications – political, social and economic – that seemingly benign and straightforward adoptions of responsible and sustainable conservation and management practices can induce. The US model, which is now being considered by the same United States of America to be applied to shark fisheries and the detrimental practice of finning, is one of the highly innovative approaches that will help move forward the adoption of responsible and sustainable practices without penalizing the domestic sector too much.

FAO will have a great opportunity in leading the work on this extremely important front, and to develop models on how to reduce domestic impacts – social, economic and political – linked to the introduction of more responsible and sustainable conservation and management practices, where world trade and global commodity markets play an overbearing role, and where change can adversely impact domestic operators and the economy. Today, this is likely to represent the principal stumbling block to the more rapid adoption of responsible and sustainable practices worldwide. No efforts should be spared in addressing the analysis in very proactive ways, aiming at developing practicable solutions that politicians and other leaders can sign up to, and implement.

In the biennial Code implementation monitoring surveys, countries regularly report on the challenges they face to implement the Code. Many of these reported constraints lie in the domain of governance. The four key factors reported in the 2006 survey expressed weaknesses in the following domains: *financial*, *institutional*, *human resources*, and *awareness and information*. All of these were reported by more than one in four countries, and the *financial* weakness by over 40 percent of all responding nations. Weak governance, and the lack of political will are the most important domestic stumbling blocks to change, and hence the most important stumbling blocks to getting the Code and its instruments adopted and enacted to a much higher degree, and at a much faster pace. In its 2004 report, looking at the “Causes” of what it calls “*The Crisis in Fisheries*”, the World Bank²³⁰ stated that: “*Weak governance is the main underlying cause of overfishing.*” And it goes on to add, that: “*The introduction of improved fisheries governance is often marred by conflict of interest.*” And that: “*Fishery authorities are administrators, rather than managers, and management decisions are frequently more political or administrative than technical.*”

All of this underlines the fact that fisheries administrations are often understaffed and under funded, and that the decision-making process is often driven by political and administrative concerns, rather than technical

²²⁹ This does, however, not imply that Madagascar would not have introduced TEDs under national policies, if the United States of America had not intervened.

²³⁰ The World Bank (2004). *Saving Fish and Fishers; Towards Sustainable and Equitable Governance of the Global Fishing Sector*. Report No. 29090-GLB. Washington DC. 93p.

ones. To this is added a layer of conflict of interest, and last but not least a layer of corruption (an element of the governance dimension), which is often preventing positive change in developing and developed countries alike. Figure 4 has been adopted from a 2005 MRAG report, and shows the relationships between good MCS and compliance, and between IUU fishing incidence and country governance index (both on arbitrary scales).

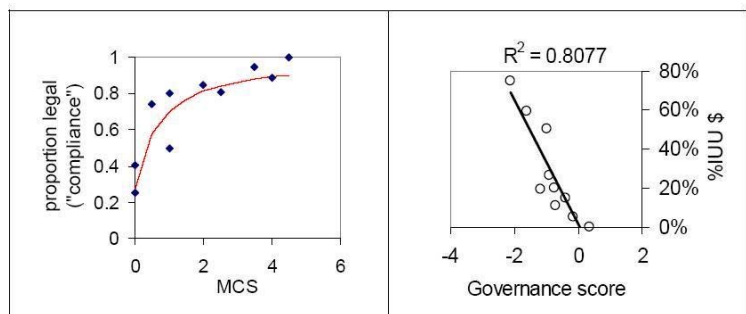
The point which is derived from these two graphs is simple. Good management practice, such as effective MCS, does pay off and produces results (in this case a compliant sector), and the lower the governance score of an administration (and a country) the higher the incidence of IUU fishing. Implicit to this is also, that impacts are not limited to IUU fishing – but IUU fishing is a dimension which includes many of the ills that stand in the way of achieving the sustainability goals pursued by the Code and its instruments.

Nation States and their governments are the entities responsible for the adoption and implementation of principles and provisions aiming to achieve responsible and sustainable fisheries. In those cases where governance is weak, political will is lacking, and corruption runs deep, it will not happen, or it will happen at a rate which is largely unsatisfactory. FAO and other donors have limited avenues to address this conundrum, since the governance issue is nested within the sovereign shell of nation States, and remains largely untouchable. Attempts by donors and aid agencies to attach conditions to assistance packages have been made in the past, but they have not always worked. Countries may switch donors, donors may compete against each other and drop conditions, or conditions themselves may have been inappropriate and filed away on sovereignty domains where they should not have done so.

Overall, FAO should promote good governance through all possible means, including the way in which FAO programmes (national, regional and international) are built and proposed to FAO Members for buy-in and endorsement. Progress in domains where country assistance was provided in the past should generally be reviewed and assessed, and play a part in what new assistance could and should be provided. A certain degree of accountability by governments is necessary, also vis-à-vis the technical agencies and organizations (UN, bilateral, NGOs, etc.) that assist them in fostering positive change. Within FAO, as well as in most other organizations and agencies, this is not done in a coherent and responsible manner today. FAO should consider changing this, in order to ensure that the assistance it delivers becomes more responsible and more sustainable too.

FAO can improve the ways in which it advertises and disseminates Code products, raising more awareness about the Code, and reaching out to more stakeholders. FAO (teaming up with relevant partners) can and should analyse how the dimensions of international trade render the implementation of unilateral decisions to implement the Code difficult, and develop practical models for overcoming these. FAO should promote more transparent and more accountable ways to work with, and assist its Members. And in doing so in an effective and efficient way, FAO's role to promote the implementation of the Code, as laid down in article 4 of the Code,²³¹ shall be further improved.

Figure 4: Relationships between good MCS and compliance, and between IUU fishing incidence and country governance index. Scales are arbitrary



Source: MRAG (2005). Review of impacts of IUU fishing on Developing Countries: Synthesis Report

²³¹ FAO, being an international organization, also falls within the scope of paragraph 4.4 “States and international organizations, whether governmental or non-governmental, should promote the understanding of the Code among those involved in fisheries, including, where practicable, by the introduction of schemes which would promote voluntary acceptance of the Code and its effective application.”

This report has shown to a very large extent that the Code²³², over its first 13 years in existence, has retained its full relevance, and that it continues to embody the most important international instrument guiding stakeholders at all levels in the pursuit of achieving sustainable fisheries and aquaculture. Sovereign nation States and their governments remain the most critical implementers of the Code and its instruments; at the national level, and regionally through the RFMOs to which they are members and whose work they steer.

²³² Including its instruments.

Annex I – Terms of reference

IN-DEPTH TIME-SERIES ANALYSIS OF THE IMPLEMENTATION OF THE 1995 FAO CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

Terms of reference

Generally, the subscriber shall, as a desk study under the supervision of the Chief, International Institutions and Liaison Service and in consultation, as appropriate with staff of the FAO Legal Office:

- (i) review and analyse information available to ascertain the extent to which the 1995 FAO Code of Conduct for Responsible Fisheries and the related instruments concluded within its framework (1993 Compliance Agreement, IPOA–Capacity, IPOA–Seabirds, IPOA–Sharks, IPOA–IUU and the Strategy–STF) has been implemented at the national, subregional and regional levels to enhance more responsible fisheries and aquaculture and long-term sustainable outcomes, and
- (ii) to the extent possible, evaluate the changes in the fisheries and aquaculture sector that have occurred over the last decade to indicate that there has been a broadening and deepening of Code’s implementation and as a result, the movement towards enhanced responsibility and long-term sustainability in the sector.

The report will be prepared and structured in three parts. Specifically, the subscriber shall:

Part 1: Review and analyse information available concerning the implementation of the Code of Conduct

Using information from all public domain sources and FAO:

- focusing on action taken by national fisheries and related administrations to implement the Code of Conduct and examine measures adopted by them to promote its implementation. To the extent possible, assess whether States have taken up provisions of the Code of Conduct and incorporated them into national fisheries policy and/or legislation.
- recognizing that industry associations have taken steps independently of government to promote the implementation of the Code of Conduct, identify those associations that have taken such initiatives and assess their effectiveness in intensifying implementation of the Code of Conduct among their constituents.
- noting the important role to be played by regional fisheries bodies in promoting the implementation of the Code of Conduct, review and assess actions and measures that they have taken. The analysis should embrace, *inter alia*, the extent to which regional fisheries bodies have promoted and supported the Code’s implementation among members, incorporated parts of it into their activities and work plans and facilitated the adoption of the Code to development regional Codes of Conduct for fisheries and aquaculture.
- acknowledging that the Code of Conduct provides the overall umbrella or framework for FAO’s programme of work in fisheries and aquaculture and recognizing that most FAO activities in fisheries and aquaculture are geared towards promoting its implementation, review major FAO activities that support directly the implementation of the Code and, to the extent possible, assess their outcomes and impacts to determine if they have intensified its implementation.
- noting that civil society plays an important role at the national and international levels to promote the implementation of the Code of Conduct, review the range of activities undertaken by civil society to promote the implementation of the Code and assess their success and impacts. Nationally, civil society is especially effective in promoting public awareness about the scope, rationale and means of implementation, especially in small-scale fishing communities, while internationally, civil society undertakes analysis of key fisheries and aquaculture issues and seeks to influence national administrations and international organizations to implement certain programmes and policies.
- recognizing the fundamental role of human capacity development, review and analyse national and international efforts to enhance capacity to support the more effective implementation of the Code of

Conduct. This should focus on both national and regional initiatives. To the extent possible and using indicators, an attempt should be made to correlate capacity development with improvements in the management and development of the fisheries sector.

- focussing on the FishCode Programme and taking into account reports and information about its performance, comment on and assess its effectiveness in supporting and promoting more responsible fisheries and aquaculture.
- taking into account the achievements of the recipients of the Margarita Lizárraga award on the Code of Conduct, analyse how their respective work has contributed to the implementation of the Code.

Part 2: Evaluate the extent to which progress has been made through time to implement the Code of Conduct

Using the analysis contained in Part 1 of the report, evaluate the extent to which the implementation of the Code of Conduct has been broadened and deepened over the last decade. Using the subscriber's good judgement, establish markers or indicators against which progress can be measured and assessed against these markers on a time-series basis.

Part 3: Make recommendations and follow-up by national fisheries and related administrations, industry associations, regional fishery bodies, FAO and civil society to further implement and accelerate the implementation of the Code of Conduct

On the basis of the analysis and evaluation undertaken in Parts 1 and 2 of the report:

- (i) identify constraints, weaknesses and gaps that impede the implementation of the Code of Conduct at the national, subregional and regional levels, and
- (ii) propose means and solutions to address constraints, weaknesses and gaps, including those that have been suggested by countries, regional fishery bodies and civil society in their biennial reporting to FAO.

Breadth and approach of the research

To ensure a complete coverage and analysis of action taken to implement the Code of Conduct, the subscriber shall review initiatives by national fisheries and related administrations, industry associations, regional fishery bodies, FAO and civil society. Extensive literature and internet searches will be required to collect information. The biennial reports and associated statistical analysis of responses on the Code of Conduct prepared for COFI sessions will form an integral part of the review and analysis for the report.

Methodology and sources of information

In carrying out the consultancy the subscriber shall research widely and use relevant information in the public domain to prepare the report. This will include using information provided to FAO by Members in their responses to the biennial questionnaire, FAO reports and papers, information from academic sources and the internet.

Prior to commencing the write up of the report the subscriber shall visit FAO Headquarters to collect information and to consult with FAO staff to clarify issues arising from the initial research undertaken for the report.

Output

The output of the consultancy shall consist of:

- (i) an in-depth report is intended to be finalized and distributed as an FAO Fisheries Circular (the subscriber shall finalize the report in the Circular format), and
- (ii) a 2 to 3 page executive summary of the report to be translated into FAO's official languages.

Annex II – Bibliography

- ADB/NACA** (Editors). 1996. Aquaculture Sustainability Action Plan (ASAP). Regional study and workshop on aquaculture sustainability and the environment (RETA 5534). Manila, Asian Development Bank and Network of Aquaculture Centres in Asia-Pacific. Bangkok, 21p.
- Barg, U. and Philips, M.J.** 1997. 2.4 Environment and Sustainability in Review of the state of world aquaculture. FAO Fisheries Circular. No. 886, Rev.1. Rome, FAO. 1997. 163p.
- Baum, J.K. and Myers, R.A.** 2004. Shifting baselines and the decline of pelagic sharks in the Gulf of Mexico. *Ecology Letters* 7:135–145.
- Blaaha, F.** 2008. Exporting Seafood to the EU. International Trade Center - UNCTAD/WTO. Export Quality Bulletin No. 84. April 2008. 29p.
- CCAMLR.** 2003. CCAMLR conservation measure 25-03. Minimization of the incidental mortality of seabirds and marine mammals in the course of trawl fishing in the Convention Area.
- Doulman, D.J.** 2007. Coping with the extended vulnerability of marine ecosystems: implementing the 1995 FAO Code of Conduct for Responsible Fisheries. *Social Science Information*. Vol. 46(1). pp. 189-237
- Dunn, E.** 2007. The case for a Community Plan of Action for reducing incidental catch of seabirds in longline fisheries. BirdLife International; Global Seabird Programme. BirdLife International, Cambridge, UK. 19p.
- Edeson, W., Freestone, D. and Gudmundsdottir, E.** 2001. Legislating for Sustainable Fisheries. Washington D.C., World Bank. 151p.
- EJF.** 2005. Party to the Plunder – Illegal Fishing in Guinea and its links to the EU. Environmental Justice Foundation, London, UK. 25p.
- EJF.** 2005. Pirates and Profiteers: How Pirate Fishing Fleets are Robbing People and Oceans. Environmental Justice Foundation, London, UK. 21p.
- EJF.** 2007. Pirate Fish on Your Plate – Tracking illegally-caught fish from West Africa into the European market. Environmental Justice Foundation, London, UK. 27p.
- European Parliament.** 2001. REVISED WORKING DOCUMENT 3; On the role of flags of convenience in the fisheries sector. Committee on Fisheries. DT\452747EN.doc; PE 309.162/REV. 5p.
- FAO.** 1993. Agreement to promote compliance with international conservation and management measures by fishing vessels on the high seas. Rome, FAO. 11p.
- FAO.** 1993. Marine Fisheries and the Law of the Sea: A Decade of Change. FAO Fisheries Circular. No. 853. Rome, FAO. 66p.
- FAO.** 1995. Code of Conduct for Responsible Fisheries. Rome, FAO. 41p.
- FAO.** 1995. The State of World Fisheries and Aquaculture. Rome, FAO. 55p.
- FAO.** 1996. Fishing operations. FAO Technical Guidelines for Responsible Fisheries. No. 1. 26p. + Annexes. Rome, FAO.
- FAO.** 1997. Review of the state of world aquaculture. FAO Fisheries Circular. No. 886, Rev.1. Rome, FAO. 163p.
- FAO.** 1997. Inland Fisheries. FAO Technical Guidelines for Responsible Fisheries. No. 6. Rome, FAO. 36p.
- FAO.** 1999. Progress Report on the Implementation of the Code of Conduct for Responsible Fisheries. Meeting document. FAO, Rome.
- FAO.** 1999. International Plan of Action for the Management of Fishing Capacity. Rome, FAO. 24p.
- FAO.** 2000. The State of World Fisheries and Aquaculture. Rome, FAO. 142p.

- FAO.** 2000. Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action. Meeting document COFI/2001/3. Rome, FAO.
- FAO.** 2000. FAO Fisheries Department Information Strategy: Supporting Informed Decisions and Actions. Rome, FAO. 18p.
- FAO.** 2001. International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA–IUU). Rome, FAO. 22p.
- FAO.** 2001. Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem. C200/INF/25, appendix I. FAO, Rome.
- FAO.** 2002. Use of fishmeal and fish oil in aquafeeds: further thoughts on the fishmeal trap, by New, M.B. and Wijkstrom, U.N. FAO Fisheries Circular. No. 975. Rome, FAO. 61p.
- FAO.** 2002. Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action. Meeting document COFI/2003/3. Rome, FAO.
- FAO.** 2002. Stopping illegal, unreported and unregulated (IUU) fishing. Rome, FAO. 20p.
- FAO.** 2003. Strategy for Improving Information on Status and Trends of Capture Fisheries. Rome, FAO. 34p.
- FAO.** 2004. Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action. Meeting document COFI/2005/2. Rome, FAO.
- FAO.** 2004. Implementation of the International Plan of Action for the Management of Fishing Capacity (IPOA–Capacity): Review and Main Issues. Meeting document TC IUU-CAP/2004/4. Rome, FAO.
- FAO.** 2004. Measuring and appraising capacity in fisheries: framework, analytical tools and data aggregation. FAO Fisheries Circular. No. 994. Rome, FAO. 39p.
- FAO.** 2005. Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries. Rome, FAO. 90p.
- FAO.** 2006. The state of world fisheries and aquaculture. Rome, FAO. 162p.
- FAO.** 2006. State of world aquaculture 2006. FAO Fisheries Technical Paper. No. 500. Rome, FAO. 134p.
- FAO/NACA/UNEP/WB/WWF.** 2006. International Principles for Responsible Shrimp Farming. Network of Aquaculture Centers in Asia-Pacific (NACA). Bangkok, Thailand. 20p.
- FAO.** 2006. Review of the state of world marine capture fisheries management: Indian Ocean. De Young, C. (ed.). FAO Fisheries Technical Paper. No. 488. Rome, FAO. 458p.
- FAO.** 2006. Progress in the implementation of the 1995 Code of Conduct for Responsible Fisheries, related international plans of action and strategy. Meeting document COFI/2007/2. Rome, FAO.
- FAO.** 2006. Progress made on the implementation of the aquaculture related provisions of the Code of Conduct for Responsible Fisheries. FAO Fisheries Sub-Committee on Aquaculture. New Delhi, India, 4–8 September 2006. Meeting document COFI:AQ/III/2006/3. Rome, FAO.
- FAO.** 2006. Committee on Fisheries. Report of the third session of the Sub-Committee on Aquaculture. New Delhi, India, 4–8 September 2006. FAO Fisheries Report. No. 816. Rome, FAO. 85p.
- FAO.** 2007. Report and documentation of the Expert Workshop on Marine Protected Areas and Fisheries Management: Review of Issues and Considerations. Rome, 12–14 June 2006. FAO Fisheries Report. No. 825. Rome, FAO. 332p.
- FAO.** 2007. Report of the twenty-seventh session of the Committee on Fisheries. Rome, 5–9 March 2007. FAO Fisheries Report. No. 830. Rome, FAO. 74p.
- FAO.** 2007. Review of the state of world marine capture fisheries management: Pacific Ocean. De Young, C. (ed.). FAO Fisheries Technical Paper. No. 488/1. Rome, FAO. 170p.

- FAO.** 2008. Monitoring implementation of article 11 of the Code of Conduct for Responsible Fisheries. FAO Fisheries Sub-Committee on Trade. Bremen, Germany, 2–6 June 2008. Meeting document COFI:FT/XI/2008/9. Rome, FAO.
- Greenpeace.** 2006. Witnessing the plunder 2006: How Illegal Fish from West African Waters Finds its Way to the EU Ports and Markets. 39p.
- Ferretti, F., Myers, R.A., Serena, F. and Lotze H.K.** 2008. Loss of Large Predatory Sharks from the Mediterranean Sea. *Conservation Biology*, Volume **, No. *, ***-*** (paper accepted November 15, 2007 – in press)
- Flewelling, P. and Hosch, G.** 2003. Subregional review: Eastern Indian Ocean. *in*: FAO (2006). Review of the state of world marine capture fisheries management: Indian Ocean. De Young, C. (ed.). FAO Fisheries Technical Paper. No. 488. Rome, FAO. 458p.
- Gilman, E., Moth-Poulsen, T. and Bianchi, G.** 2007. Review of measures taken by intergovernmental organizations to address sea turtle and seabird interactions in marine capture fisheries. FAO Fisheries Circular. No. 1025. Rome, FAO. 42p.
- High Seas Task Force.** 2006. Closing the net: Stopping illegal fishing on the high seas. Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University.
- Hindson, J., Hoggarth, D.D., Krishna, M., Mees, C.C. and O'Neill, C.** 2005. How to manage a fishery. A simple guide to writing a Fishery Management Plan. Marine Resources Assessment Group (MRAG), London; Centre for Environment Education, Ahmedabad; Scales Consulting Ltd. London. 81p.
- Hosch, G.** 2007. IPOA–IUU Implementation Status Report for the SADC Region - Members and RFMOs. Stop Illegal Fishing Programme. DfID/ColdStream, Gaborone, Botswana. 300p.
- ICCAT.** 2004. Recommendation 04/10. Recommendation by ICCAT concerning the conservation of sharks caught in association with fisheries managed by ICCAT.
- Karakassis, I., Pitta, P. and Krom, M.D.** 2005. Contribution of fish farming to the nutrient loading of the Mediterranean. *Scientia Marina*, 69: 313–321.
- Kasprzyk, Z.** 2008. Shrimp fishing in Madagascar. In R. Gillett. Global study of shrimp fisheries. FAO Fisheries Technical Paper. No. 475. Rome, FAO. 331p.
- Lack, M. and Sant, G.** 2006. Confronting Shark Conservation Head On! TRAFFIC International. 29p.
- Lutgen, G.** 2006. Soft Law with Hidden Teeth: The Case for a FAO International Plan of Action on Sea Turtles. *Journal of International Wildlife Law and Policy* 9(2). pp. 155-173.
- Macgillivray, P., Bueno, P. and Hosch, G.** 2008. Potential to Enhance Biennial Reporting on the 1995 FAO Code of Conduct for Responsible Fisheries: Assessment of Options. FAO Fisheries Circular. No. 1039. In press. Rome, FAO.
- Maguire, J.J., Sissenwine, M., Csirke, J., Grainger, R., Garcia, S.** 2006. The state of the world highly migratory, straddling and other high seas fish stocks, and associated species. FAO Fisheries Technical Paper. No. 495. Rome, FAO. 84p.
- MRAG.** 2005. Review of Impacts of Illegal, Unreported and Unregulated Fishing on Developing Countries. Final Report. July 2005. 176p.
- NACA/FAO.** 2000. Aquaculture Development Beyond 2000: the Bangkok Declaration and Strategy. Conference on Aquaculture in the Third Millennium, 20–25 February 2000, Bangkok, Thailand. NACA, Bangkok and Rome, FAO. 27p.
- Neori, A., Chopin, T., Troell, M., Buschmann, A.H., Kraemer, G.P., Halling, C., Shpigel, M. & Yarish, C.** 2004. Integrated aquaculture: rationale, evolution and state of the art emphasizing sea-weed biofiltration in modern mariculture. *Aquaculture*, 231: 361-391.
- OECD.** 2005. Why Fish Piracy Persists: The Economics Of Illegal, Unreported And Unregulated Fishing.

- Small, C.J.** 2005. Regional Fisheries Management Organizations: their duties and performance in reducing bycatch of albatrosses and other species. Cambridge, UK: BirdLife International. 103p.
- Subasinghe, R.P. and Arthur, J.R. (eds.)**. 2005. Regional Workshop on Preparedness and Response to Aquatic Animal Emergencies in Asia. Jakarta, Indonesia, 21–23 September, 2004. FAO Fisheries Proceedings. No. 4. Rome, FAO. 178p.
- UBC**. 2006. Evaluations of Compliance with the FAO (UN) Code of Conduct for Responsible Fisheries. Pitcher *et al.* (eds). Fisheries Centre Research Reports 14(2). 1191p.
- UN**. 1995. Agreement for the implementation of the provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the conservation and management of straddling fish stocks and highly migratory fish stocks. UN, New York. 42p.
- UNEP MAO RAC/SPA**. 2003. Action Plan for the conservation of cartilaginous fishes (*Condriichthyans*) in the Mediterranean Sea. Ed. RAC/SPA, Tunis. 56p.
- UNGA**. 1982. World Charter for Nature. Annex to the Resolution A/RES/37/7. 28, October 1982.
- UNGA**. 1992. Report of the United Nations Conference on Environment and Development. Annex I. Rio Declaration on Environment and Development. A/CONF.151/26 (Vol. I).
- UNGA**. 2004. General Assembly Resolution A/RES/58/14. Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments. New York. 21 January, 2004. UN, New York.
- UNGA**. 2006. UN General Assembly Resolution A/RES/61/105. Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments. New York. UN, New York.
- UNGA**. 2008. UN General Assembly Resolution A/RES/62/177. Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments. UN, New York.
- Upadhyay, V.P., Ranjan, R. and Singh, J.S.** 2002. Human–mangrove conflicts: The way out. Current Science, Vol. 83, No. 11, 10 December 2002.
- Webster, J. and Collins, J.** 2005. Fisheries information in developing countries. Support to the implementation of the 1995 FAO Code of Conduct for Responsible Fisheries. FAO Fisheries Circular. No. 1006. Rome, FAO. 127p.
- Westlund, L.** 2008 Auto-evaluation of Programme Entity 2HA02 (former 234A1) “Implementation of the Code of Conduct for Responsible Fisheries (including inland fisheries and aquaculture) and related instruments”. internal FAO evaluation report. In press. Rome, FAO.
- World Food Summit**. 1996. World Food Summit Plan of Action in Rome Declaration on World Food Security and World Food Summit Plan of Action; World Food Summit, 13–17 November 1996, Rome, Italy. Rome, FAO. 43p.
- The World Bank**. 2004. Saving Fish and Fishers; Towards Sustainable and Equitable Governance of the Global Fishing Sector. Report No. 29090-GLB. Washington DC. 93p.
- The World Bank**. 2006. Aquaculture: Changing the Face of the Waters. Meeting the Promise and Challenge of Sustainable Aquaculture. Report No. 36622 – GLB. Washington DC. 138p.
- Worm, B., Barbier, E.B., Beaumont, N., Duffy, J.E., Folke, C., Halpern, B.S., Jackson, J.B.C., Lotze, H.K., Micheli, F., Palumbi, S.R., Sala, E., Selkoe, K.A., Stachowicz, J.J. and Watson, R.** 2006. Impacts of Biodiversity Loss on Ocean Ecosystem Services. Science. Vol. 314. pp. 787–790.

Worm, B., Barbier, E.B., Beaumont, N., Duffy, J.E., Folke, C., Halpern, B.S., Jackson, J.B.C., Lotze, H.K., Micheli, F., Palumbi, S.R., Sala, E., Selkoe, K.A., Stachowicz, J.J. and Watson, R. 2007. Response to Comments on “Impacts of Biodiversity Loss on Ocean Ecosystem Services”. Technical Comment. *Science*. Vol. 316. 2p.

WSSD. 2002. Plan of Implementation of the World Summit on Sustainable Development. 62p.

Annex III – FAO Technical papers directly relevant to the Code

(thematic links to Code articles are indicated in square brackets)

- **Valdemarsen, J.W., Jørgensen, T. and Engås, A.** 2007. Options to mitigate bottom habitat impact of dragged gears. FAO Fisheries Technical Paper. No. 506. Rome, FAO. 29p. [Code articles 6.6, 8.5 and 12.10]
- **Bondad-Reantaso, M.G., McGladdery, S.E. and Berthe, E.C.J.** 2007. Pearl oyster health management: a manual. FAO Fisheries Technical Paper. No. 503. Rome, FAO. 120p. [Code article 9.4.4]
- **Hasan, M.R., Hecht, T., De Silva, S.S. and Tacon, A.G.J. (eds).** 2007. Study and analysis of feeds and fertilizers for sustainable aquaculture development. FAO Fisheries Technical Paper. No. 497. Rome, FAO. 510p. [Code article 9.4.3]
- **Béné, C., Macfadyen, G. and Allison, E.H.** 2007. Increasing the contribution of small-scale fisheries to poverty alleviation and food security. FAO Fisheries Technical Paper. No. 481. Rome, FAO. 125p. [Code articles 6.2 and 6.18]
- **Plagányi, É.P.** 2007. Models for an ecosystem approach to fisheries. FAO Fisheries Technical Paper. No. 477. Rome, FAO. 108p. [Code articles 6.2 and 7.2.3]
- **Marmulla, G. (ed.).** 2007. Dams, fish and fisheries. Opportunities, challenges and conflict resolution. FAO Fisheries Technical Paper. No. 419. (Chinese version). Rome, FAO. 172p. [Code articles 6.15 and 6.18]
- **Salagrama, V.** 2006. Trends in poverty and livelihoods in coastal fishing communities of Orissa state, India. FAO Fisheries Technical Paper. No. 490. Rome, FAO. 111p. [Code articles 6.2 and 6.18]
- **Hoggarth, D.D., Abeyasekera, S., Arthur, R.I., Beddington, J.R., Burn, R.W., Halls, A.S., Kirkwood, G.P., McAllister, M., Medley, P., Mees, C.C., Parkes, G.B., Pilling, G.M., Wakeford, R.C. and Welcomme, R.L.** 2006. Stock assessment for fishery management. A framework guide to the stock assessment tools of the Fisheries Management Science Programme (FMSP). FAO Fisheries Technical Paper. No. 487. Rome, FAO. 261p. [Code articles 12.1, 12.5 and 12.18]
- **Roni, P., Hanson, K., Beechie, T., Pess, G., Pollock, M. and Bartley, D.M.** 2005. Habitat rehabilitation for inland fisheries. Global review of effectiveness and guidance for rehabilitation of freshwater ecosystems. FAO Fisheries Technical Paper. No. 484. Rome, FAO. 126p. [Code articles 6.1 and 6.8]
- **Hernandez-Serrano, P.** 2005. Responsible use of antibiotics in aquaculture. FAO Fisheries Technical Paper. No. 469. Rome, FAO. 97p. [Code article 9.4.4]

Annex IV – Selected Industry Association Codes for Aquaculture

(adapted from World Bank report on Aquaculture, 2006 – Annex 2)

Australian Aquaculture Code of Conduct

www.pir.sa.gov.au/__data/assets/pdf_file/0007/42955/code_of_conduct.pdf

British Columbia Salmon Farmers Association (BCSFA) Code of Practice, 2005

<http://www.salmonfarmers.org/attachments/codeofpractice1.pdf>

A Code of Conduct for European Aquaculture

<http://www.feap.info/FileLibrary/6/CodeFinalD.PDF>

Holmenkollen Guidelines for Sustainable Aquaculture, 1998

<http://www.ntva.no/rapport/aqua.htm>

Environmental Code of Practice for Australian Prawn Farmers, 2001

<http://www.apfa.com.au/prawnfarmers.cfm?inc=environment>

Judicious Antimicrobial Use in U.S. Aquaculture: Principles and Practices, 2003

<http://www.nationalaquaculture.org/pdf/Judicious%20Antimicrobial%20Use.pdf>

New Zealand Mussel Industry Environmental Codes of Practice, 2002

Mussel Industry Council Ltd., Blenheim.

www.nzmic.co.nz/Index.aspx

Annex V – Selected Industry Association Codes for Fisheries

Canadian Code of Conduct for Responsible Fishing Operations - CONSENSUS CODE 1998
http://www.dfo-mpo.gc.ca/communic/fish_man/code/cccrfo-cccpr_e.htm

Australian Seafood Industry Council Code of conduct
http://www.pir.sa.gov.au/__data/assets/pdf_file/0013/12721/comm75.pdf

Annex VI – IPOA–IUU related meetings and workshops

REGION	REPORT REFERENCE	DATES AND LOCATION	NUMBER OF PARTICIPANTS/OBSERVERS				COUNTRIES REPRESENTED	FUNDING SOURCE
			M	F	O	T		
Eastern and southern Africa subregion	FAO. 2004. <u>FAO Fisheries Report No.730</u> . “Report of the FAO Regional Workshop on the Elaboration of National Plans of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing”. Rome, FAO. 42p.	Kariba, Zimbabwe, 24–28 November 2003	31	2	1 ²³³	34	Botswana, Burundi, Comores, Ethiopia, Eritrea, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe	FAO Regular Programme and FISHCODE
Southeast Asia subregion	FAO. 2004. <u>FAO Fisheries Report No.757</u> . “Report of the FAO Regional Workshop on the Elaboration of National Plans of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing”. Rome, FAO. 88p.	Penang, Malaysia, 10–14 October 2004	21	10	3 ²³⁴	34	Cambodia, China, Indonesia, Democratic People's Republic of Korea, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Thailand, Viet Nam	FAO Regular Programme
Caribbean subregion	FAO. 2005. <u>FAO Fisheries Report No.764</u> . “Report of the FAO Regional Workshop on the Elaboration of National Plans of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing”. Rome, FAO. 93p.	Port of Spain, Trinidad and Tobago, 22–26 November 2004	24	4	2 ²³⁵	30	Antigua and Barbuda, Bahamas, Barbados, Belize, Cuba, Dominican Republic, Grenada, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago	FAO Regular Programme
Pacific Islands region	FAO. 2005. <u>FAO Fisheries Report No.786</u> . “Report of the FAO Regional Workshop on the Elaboration of National Plans of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing”. Rome, FAO. 74p.	Nadi, Fiji, 29 Aug.–02 Sept. 2005	12	3	4 ²³⁶	19	Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Niue, Palau, Papua New Guinea, Tonga, Tuvalu, Samoa, Vanuatu	FAO Regular Programme and FISHCODE
West Africa region	FAO. 2005. <u>FAO Fisheries Report No.792</u> . “Report of the FAO Regional Workshop on the Elaboration of National Plans of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing”. Rome, FAO. 90p. (English and French)	Accra, Ghana, 28 Nov.–2 December 2005	29	10	0	39	Benin, Cameroon, Cape Verde, Congo, Ivory Coast, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mauritania, Morocco, Nigeria, Sao Tomé and Príncipe, Senegal, Sierra Leone, Togo	FAO Regular Programme and FISHCODE

²³³ Consultant from Common Market for Eastern and Southern Africa

²³⁴ A Policy and Programme Coordinator from SEAFDEC Secretariat; a Senior Researcher from SEAFDEC; observer from the Centre for Maritime Policy, University of Wollongong, Australia

²³⁵ Consultant from Council of President of the Environment (COPE); a Programme Manager from CARICOM Regional Fisheries Mechanisms (CRFM)

REGION	REPORT REFERENCE	DATES AND LOCATION	NUMBER OF PARTICIPANTS/OBSERVERS				COUNTRIES REPRESENTED	FUNDING SOURCE
			M	F	O	T		
Near East region	FAO. 2005. <u>FAO Fisheries Report No.793</u> . "Report of the FAO Regional Workshop on the Elaboration of National Plans of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing". Rome, FAO. 66p. (English and Arabic)	Cairo, Egypt, 11–15 December 2005	10	1	0	11	Djibouti, Egypt, Oman, Saudi Arabia, Sudan, Yemen	FAO Regular Programme and FISHCODE
Countries members of the Permanent Commission of the South Pacific (CCPS)	Regional Workshop on the Elaboration of National Plans of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. Final report.	Guayaquil, Ecuador, 7–11 November 2005	8	2	1	18	Chile, Colombia, Ecuador, Peru	FAO Regular Programme
Countries of the central American Isthmus	Final Workshop on the Elaboration of National Plans of Action	San Salvador, El Salvador, 12–16 December 2005	5	2	1	7	Belize, Costa Rica, Guatemala, El Salvador, Honduras, Nicaragua, Panama	FAO Regular Programme
South Asia	FAO. 2006. <u>FAO Fisheries Report No.809</u> . "Report of the FAO Regional Workshop on the Elaboration of National Plans of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing". Rome, FAO. 68p.	Bangkok, Thailand, 19–23 June 2006	16	2	1	19	Bangladesh, Bhutan, India, Kazakhstan, Maldives, Myanmar, Nepal, Pakistan, Sri Lanka	Japanese Trust Fund
TOTAL			156	36	13	205		

Source: FAO

²³⁶ Communication Assistant and Oceans Campaigner from Greenpeace; a Support Officer from FFA; Assistant Lecturer at the University of South Pacific

Annex VII – PSM Model Scheme related meetings and workshops

Workshop, location and dates	Purpose	Technical cooperating partner organizations	Funding sources and partners	Countries/territories represented, statistics (excluding FAO staff)
FAO/FFA Regional Workshop to Promote the Full and Effective Implementation of Port State Measures to Combat Illegal, Unreported and Unregulated Fishing. Nadi, Fiji, 28 August–1 September 2006	To develop national capacity and promote regional coordination so that countries would be better placed to strengthen and harmonize port State measures and to meet the requirements of relevant RFMOs and to implement relevant IPOA–IUU tools and the 2005 FAO Model Scheme on Port State Measures	Pacific Islands Forum Fisheries Agency and Western Central Pacific Fisheries Commission	FAO Regular Programme, FishCode Programme (Governments of Sweden and Japan), Pacific Islands Forum Fisheries Agency, the Western and Central Pacific Fisheries Commission, the Western Pacific regional Fisheries Management Council and the Governments of the Federated States of Micronesia, New Zealand, Tokelau, Tonga, United States of America and Vanuatu	Cook Islands, Federated States of Micronesia, Fiji, Guam, Kiribati, New Zealand, Niue, Nauru, Marshall Islands, Palau, Papua New Guinea, Saipan, Samoa, Solomon Islands, Tokelau, Tonga and Vanuatu. Resource persons from Australia, New Zealand, Sweden and United States of America. Seventeen countries and territories participated; a total of 27 participants, 30 percent of whom were women
IOC/FAO/IOTC Symposium and Workshop to Strengthen Port State Measures in the Indian Ocean. Port Louis, Mauritius, 18–22 June 2007	To raise general awareness about the potential effectiveness of strengthened and coordinated port State measures and to develop national capacity and promote regional coordination so that countries will be better placed to improve management of offshore fisheries and combat IUU fishing in the Indian Ocean region and, as a result, meet the requirements of relevant RFMOs	Indian Ocean Commission, the Indian Ocean Tuna Commission, Pacific Islands Forum Fisheries Agency and Commission for the Conservation and Management of Marine Living Resources	FAO Regular Programme, FishCode Programme (Government of Sweden) and the FAO Trust Fund for Port State Measures (Government of Norway)	Comoros, India, Indonesia, Kenya, Madagascar, Maldives, Mauritius, Mozambique, Seychelles, Sri Lanka, Somalia and Tanzania. Resource persons from Australia, Mauritius, Norway and South Africa. Twelve countries participated; a total of 48 participants, 21 percent of whom were women

Workshop, location and dates	Purpose	Technical cooperating partner organizations	Funding sources and partners	Countries/territories represented, statistics (excluding FAO staff)
<p>FAO/GFCM Regional Workshop on Port State Measures to Combat Illegal, Unreported and Unregulated Fishing. Rome, 10–12 December 2007</p>	<p>To strengthen national capacity and to promote regional coordination with the view to facilitate the process toward consolidating and harmonizing port State measures by GFCM Members and the implementation of the relevant provisions of the 2005 “General guidelines for a GFCM Control and Enforcement Scheme”; the GFCM recommendations relating to vessel monitoring systems and transshipment and the FAO Model Scheme.</p> <p>To follow-up on the outcomes of the 2004 GFCM Workshop on Illegal, Unreported and Unregulated Fishing in the Mediterranean.</p>	<p>General Fisheries Commission for the Mediterranean</p>	<p>FAO Regular Programme, FishCode Programme (Government of Sweden), the FAO Trust Fund for Port State Measures (Government of Norway) and the General Fisheries Commission for the Mediterranean</p>	<p>Albania, Algeria, EC, Egypt, France, Italy, Malta, Montenegro, Morocco, Spain, Syria, Tunisia and Turkey. A resource person from Norway participated. Twelve countries and the EC participated; a total of 20 participants, 15 percent of whom were women</p>
<p>FAO Regional Workshop on Port State Measures to Combat IUU Fishing. Cape Town, South Africa, 28–31 January 2008</p>	<p>To develop national capacity and promote bilateral, subregional and/or regional coordination so that countries will be better placed to strengthen and harmonize port State measures and, as a result, implement the relevant IPOA–IUU tools and the 2005 FAO Model Scheme and contribute to the development of a legally-binding instrument on port State measures.</p>	<p>Southern African Development Community, Commission for the Conservation of Antarctic Marine Living Resources, International Commission for the Conservation of Atlantic Tunas, South East Atlantic Fisheries Organization.</p>	<p>FAO Regular Programme, FishCode Programme (Government of Sweden), FAO Trust Fund for Port State Measures (Government of Norway) and the UK Department for International Development</p>	<p>Angola, Madagascar, Mauritius, Mozambique, Namibia, South Africa and Tanzania. Resource persons from Australia, Botswana, Namibia, Norway, Mozambique, South Africa and United Kingdom. Seven countries participated; a total of 22 participants, 30 percent of whom were women</p>

Workshop, location and dates	Purpose	Technical cooperating partner organizations	Funding sources and partners	Countries/territories represented, statistics (excluding FAO staff)
FAO/APFIC/SEAFDEC Regional Workshop on Port State Measures to Combat IUU Fishing. Bangkok, Thailand, 31 March–4 April 2008	To develop national capacity and promote bilateral, subregional and/or regional coordination so that countries will be better placed to strengthen and harmonize port State measures and, as a result, implement the relevant IPOA–IUU tools and the FAO Model Scheme and contribute to the development of a legally-binding instrument on port State measures. In this way, the Workshop will contribute directly to the implementation of the call to develop port State measures contained in the 2007 RPOA adopted by certain Southeast Asian and other States to combat IUU fishing.	Asia Pacific Fisheries Commission, Southeast Asian Fisheries Development Center and Association of South East Asian Nations	FAO Regular Programme, FishCode Programme (Government of Sweden) and FAO Trust Fund for Port State Measures (Government of Norway but extended to a multi-donor fund)	Cambodia, China, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor Leste, Viet Nam. Resource persons from Thailand and Norway attended. Ten countries participated; a total of 30 participants, 4 were women
FAO National Workshops on Port State Measures to Combat IUU Fishing. Nouadhibou, Mauritania, 9–10 June 2008, 14–15 July 2008	To strengthen national capacity so the country can prepare to implement obligations upon the entry into force of relevant binding international instruments, identify existing constraints to implementation and measures to overcome them. A pilot project designed to contribute to a broader subregional initiative, pending identification of funds.	Subregional Commission on Fisheries (SRCF), Government of Mauritania	World Bank, FAO Regular Programme	Mauritania. Two resource persons from Mauritania and one resource person from Norway. A total of 33 participants, 2 were women.
FAO National Workshops on Port State Measures to Combat IUU Fishing. Dakar, Senegal, 12–13 June 2008, 17–18 July 2008	To strengthen national capacity so the country can prepare to implement obligations upon the entry into force of relevant binding international instruments, identify existing constraints to implementation and measures to overcome them. A pilot project designed to contribute to a broader subregional initiative, pending identification of funds.	Subregional Commission on Fisheries (SRCF), Government of Senegal	World Bank, FAO Regular Programme	Senegal. Two resource persons from Senegal. A total of 29 participants, 2 were women.

Source: FAO

Annex VIII – Strategy-STF related meetings and workshops held between 2005 and 2008

Year 2005

- FAO-SEAFDEC Regional Workshop on description of fishery data and information collection systems in Southeast Asia region. (Bali, Indonesia, February 2005).
- Joint FAO-WorldFish Center Workshop (Rome, September 2005); Workshop involved over 45 senior experts in small-scale fisheries assessment from biological and socio-economic perspectives.

Year 2006

- FAO-OSPESCA Regional Workshop on description of fishery data and information collection systems in Central America & Caribbean (El Salvador, February 2006).
- FAO-SPC Regional Workshop on description of fishery data and information collection systems in the South Pacific (May 2006, Apia, Samoa).
- Second FAO/CFS Workshop on Chinese Fisheries and Aquaculture Statistics (September 2006, Kunming, China)
- Second Regional Workshop and the Training Course on Information Requirements for TCP/RAS/3013 “Addressing the Quality of Information in Inland Fisheries” (AQUIIF)

Year 2007

- FishCode-STF CECAF FCWC Subregional Workshop on Improving information on Status and Trends of captured fisheries in the West Central Gulf of Guinea Region (Accra, Ghana from 26 to 28 June 2007)
- Improvement of fisheries data collection in China; Technical consultation (July 2007) was held for planning of activities in the Shandong province
- Small Scale Fisheries Assessment frame work; From 7–17 May 2007, an expert working group meeting was held in Rome on the development of a frame work for the comprehensive assessment of small scale fisheries.

FAO/OSPESCA

- Regional workshop on the “Improvement of information on status and trends of Queen Conch capture fishery in the Caribbean region” held in February 2007. Participants from Belize, Honduras, Dominican Republic, Panama, Nicaragua and Guatemala.

FAO/SEAFDEC

- Third Regional Workshop of the regional project “Addressing the Quality of Information on Inland Fisheries (AQUIIF)”, organized by the FAO Regional Office for Asia and the Pacific from 20 to 23 March, 2007.

Year 2008 (January to May)

- Training course on catch assessment surveys, and workshop on the results of data collection on small scale fisheries in Nicaragua
- FishCode-STF CECAF COREP Subregional Workshop on improving information on Status and Trends of capture fisheries in the Gulf of Guinea Region (Douala, Cameroon, April 2008).
- FishCode-STF national workshop on improvement of marine capture fisheries information in Nigeria. Participants included representatives of all coastal States Fisheries Departments (SDF’s), the Federal Department of Fisheries (FDF), Nigerian Institute for Oceanography and Marine Research (NIOMR), artisanal fisherfolk organizations, and the Fisheries Society of Nigeria (FISON).
- Workshop on the Liberian Fisheries Sector, Monrovia, Liberia (February 2008) The overall objective of the meeting was to discuss the results of activities implemented by BNF, with the assistance of the FAO Regional Office for Africa, the FAO FishCode-STF Project, and the FAO

SFLP Project during 2007. The meeting was attended by 44 participants from the private and public fisheries sector, fisherfolk communities, national institutions, donor organizations and FAO.

- Second meeting of the Working Party on Fisheries Statistics of SWIOFC on April 2008 in Mombasa, Kenya. Project staff assisted the working group on regional harmonization of small-scale fisheries frame surveys.

Source: FishCode

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