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Ethical issues in fisheries

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Foreword

Since ancient times, fisheries have been an important source of food, employment, and economic and social benefits, as well as a foundation for great cultures. That there are limits to the extraction of fishery resources has long been recognized by science, but policies and management have failed to consider them adequately, leading to regrettable environmental and socio-economic consequences. It is now globally clear that fisheries resources can no longer sustain the historical rapid – and often uncontrolled – exploitation and development rates, and that new management and conservation approaches are needed.

A number of FAO Conferences, the United Nations Conference on Environment and Development (1992), the Millennium Assembly of the United Nations (2000) and the World Summit on Sustainable Development (2002) have raised awareness of growing concerns. To date, the policy and management issues related to fisheries resources, such as overfishing, bycatch and discards, food quality, safety on board, illegal fishing, endangered species, resource allocations and fishing rights, have been explored largely from ecological, technological and socio-economic standpoints, while the ethical components of these issues have been addressed implicitly at best.

The most advanced and complete policy framework and reference for global fisheries is the Code of Conduct for Responsible Fisheries, adopted in 1995 by the FAO Conference. Although the Code has been elaborated mainly from technological, social, economic and political perspectives, it contains a number of less explicit, but nonetheless fundamental, ethical considerations and addresses both human and ecological concerns directly.

Today, ethical concerns related to the well-being of humans and the ecosystem are central to the debate about the future we want for fisheries and fishers. A global view of ethics is emerging. Human health and well-being and basic human rights, such as the right to food, are considered along with environmental stewardship and the intrinsic values and alternative uses of natural resources and the environment. Attention to these concerns has been increasing, and will continue to increase, in part as a response to trends in a number of spheres, among which are demographic change; the situation of the resources and their associated ecosystems, including increased fishing pressure and environmental degradation; progress in science and technology, encompassing aquaculture development, biotechnology and genetic engineering, and the so-called “information revolution”; and social

and economic evolution worldwide, exemplified by globalization, the increasing role of the market and the concentration of economic power.

The timely *Ethical issues in fisheries* is the fourth study in the FAO Ethics Series. In order to address the ethical issues broadly raised by FAO in food and agriculture, with a particular focus on fisheries, this document suggests and elaborates ways to implement the ethical principles drawn from agreed international instruments on fisheries and ecosystems. The discussion outlines the main ethical issues in fisheries and the moral imperatives to which they give rise, considers the role and scope of ethics in this context and recalls briefly the institutional foundations of fisheries policies as reflected in the Code of Conduct for Responsible Fisheries. It presents a holistic ethical approach to fisheries, paying special attention to the effects of fisheries management and social policy upon people's living conditions. Concrete examples and case studies are provided to support or illustrate the themes presented.

In the twenty-first century, fisheries will see a further increase in the impact of the ethical dimensions of fishing and natural resources management on fisheries development and environmental conservation. The objective of this document is to stimulate reflection on ethics in fisheries, with an eye to initiating and supporting a process leading to a better and more widely shared and accepted understanding about the role of ethics in the sector – and about possible ways forward to address the issue. FAO intends to continue advancing the ethical discourse pertaining to food and agriculture, including fisheries and aquaculture, as a component of its efforts to secure sustainable utilization of aquatic living resources and food security for all people in the world in the current and future generations. •



Jacques Diouf
FAO Director-General

Introduction

Fisheries and fishing policies deeply affect the living conditions of people in many parts of the world. Since ancient times, fishing has been a very important source of food, employment and economic and social benefits, as well as a foundation for great cultures. Despite centuries-old recognition

that natural common resources can be depleted, fishery resources were, until recently, treated de facto as if inexhaustible, with little regard for environmental consequences. In the face of growing international demand for fish and fish products, world fisheries became a “market-driven” and dynamically developing sector of the food industry. From the early 1970s, and with the adoption of the United Nations Convention on the Law of the Sea (UNCLOS) in 1982, coastal states endeavoured to take advantage of new opportunities to develop their newly acquired exclusive economic zone (EEZ), investing heavily in modern fishing fleets and processing factories.

However, during this period it became globally clear that fisheries resources could no longer sustain the rapid and often uncontrolled exploitation and development, and new approaches of conservation and environmental consideration would be needed (FAO, 1993). Awareness increased rapidly with the United Nations Conference on Environment and Development (UNCED) in 1992, the Millennium Assembly of the United Nations in 2000 and the World Summit on Sustainable Development (WSSD) in 2002.

The need to integrate bio-ecological, socio-cultural, legal, institutional and techno-economic considerations into discussion on fisheries resources has been widely accepted. An effort is now being made to articulate the ethical dimensions of the sustainable development of fisheries as an important part of this awareness.

The degree to which fisheries act responsibly should be judged against the principles and criteria of the sustainable use of natural renewable resources and, in particular, their contribution to human and ecosystem well-being. Evidence indicates that, in many areas, fishing management is failing on both counts (Cochrane, 2000). In some cases, fish stocks have collapsed, and the majority are at the limits of their biological productivity or are severely overutilized (Garcia and Newton, 1997; FAO, 2005a). Although aggressive exploitation has, in some areas, resulted in economic benefits, conservative estimates indicate that the global system has been operating at a total deficit of US\$14.5–20.0 billion per year (Milazzo, 1998). The system is, therefore, not operating in a sustainable and efficient manner. Furthermore, although largely geared towards full employment and social peace, the management of fisheries runs short of providing social benefits to the extent it could and should.

Fisheries policy and management have mainly been considered from ecological, technological and socio-economic standpoints. Some of the key issues related to human, scientific or environmental ethics have been addressed implicitly from these standpoints. In many cases, however, they have been largely ignored, e.g. in the slowly developing field of animal welfare. There is no explicit framework for dealing with ethical concerns, despite their potential significant contribution to solving the problems faced by fisheries and fishing communities.

To address the ethical issues broadly raised by FAO (2001a) in food and agriculture in the specific area of fisheries, this document will substantiate and suggest ways to implement ethical principles drawn from agreed international instruments in the management of fisheries. The document starts with a general introduction to the role and scope of ethics, exploring themes that pertain to *fisheries ethics*. It follows with an outline of the main ethical issues in fisheries and the moral imperatives to which they give rise. After recalling briefly the institutional foundations of fisheries policies, it presents a holistic ethical approach for addressing, in more detail, the numerous ethical issues associated with fisheries, paying special attention to the effects of fisheries management and development strategies and social policy upon people's living conditions. •

The role of ethics

This paper does not pretend to provide definitions for complex terms such as *morality* and *ethics*. The following is presented merely as a means to orient the reader and facilitate understanding of the remainder of the paper.

Morality and ethics

Morality refers to the social norms and values that guide both individuals and their interaction with their fellow human beings and communities, and with their environment. In all of these types of interaction there are important values at stake; rules and norms that are to protect these values; duties implied in social roles and positions that can foster these values and further these rules; and human virtues or capabilities that enable us to act accordingly. These moral factors are usually interwoven with religious practices and social power structures.

Ethics is a systematic and critical analysis of morality, of the moral factors that guide human conduct in a particular society or practice. As fisheries represent an interaction between humans and the aquatic ecosystem, fisheries ethics deals with the values, rules, duties and virtues of relevance to both human and ecosystem well-being, providing a critical normative analysis of the moral issues at stake in that sector of human activities.

When actual moral values, rules and duties are subjected to ethical analysis, their relation to basic human interests shared by people, regardless of their cultural setting, is particularly important. Moral values may change, and moral reasoning asks whether the practices that are traditionally and factually legitimated by religion, law or politics are indeed worthy of recognition. Indeed, the development of ethics in the past century has been characterized by a tendency to revalue and overthrow the moral conventions that have guided the interaction between the sexes, between human beings and animals and between human beings and their environment. A more recent task of ethics is to resist those tendencies of globalization, marketization and technologization that erode both biodiversity and valuable aspects of cultural identity – and may even have effects that threaten human rights. Although these tendencies are often presented as value-neutral, they carry with them hidden assumptions that are potential sources of inequity and abuse.

Basic human interests

- *Welfare* implies material well-being, as well as the conservation of a productive ecosystem, and relates to fisheries as a provision of food and livelihood.
- *Freedom*, or human self-determination, relates to access to fishing resources, fishers' self-control and other life options related to fisheries.
- *Justice* relates to the distribution of the benefits of fishing and to the ownership of scarce resources.

In attempting to identify which traditional and innovative practices are worthy of recognition, a moral argument asks whether – and how – actual moral factors further the well-being of human and non-human creatures. Moral reasoning always relates to the basic interests of humans and other sentient beings and to the value of the environment that sustains both human and non-human life.

An ethical analysis can play an important part in identifying human and non-human interests and the value of the ecosystem as a whole. It also asks how these values and interests may be threatened or undermined and how they may be furthered or protected. Ecosystem well-being is of crucial importance both in itself and for basic human interests and long-term social benefits. In this document, the main focus is on the way in which fishing policies and practices affect the living conditions, interests and well-being of fishers and fishing communities, as well as the well-being of the ecosystem. This is in keeping with *sustainable development*, the dominant concept of environmental ethics, enshrined in the FAO concept of *responsible fisheries*.

Basic human interests

A major aspect of an ethical analysis of fisheries must be to clarify the human interests and social benefits that can be considered necessary conditions for leading a decent human life. Basic human interests are related to the main tasks that humans need to undertake in life in order to satisfy their needs and lead their lives in coexistence with others. In line with classical ethical thought, these interests can be divided into three main categories: (i) *Welfare*: People need basic goods to survive and care for their offspring; (ii) *Freedom*: People seek to regulate their own affairs and realize their life plans in accordance with their own or culturally defined values; (iii) *Justice*: People need to find ways to share social benefits and burdens and facilitate peaceful coexistence.

In this context, moral analysis aims to show, for example, how the human interests in welfare, freedom and justice are relevant and how they relate to social benefits in the management of fisheries.

These basic interests are intricately connected to the capabilities necessary for leading a decent human life and, thus, to the vulnerabilities against which people must be protected. They constitute the moral values that moral reasoning aims to defend, e.g. by framing fundamental principles that serve to guide our moral interaction and to protect basic moral interests.

At the most general level, the related vulnerabilities against which people must be protected are: *poverty, domination and injustice*.

Fundamental principles of bioethics

Although different ethical theories may have different priority principles and reasoning behind them, a consensus has been forming about the main principles of bioethics:¹

- *Human dignity, human rights and justice*, which refers to the duty to promote universal respect for the human person. In the context of fisheries, this principle relates, for example, to fishers' self-determination, access to fishing resources and the right to food. It is best represented by a rights-based approach in ethics that emphasizes the protection of the personal domain of each individual. It may require, however, the establishment of individual or community rights, the exact nature of which will depend on local conditions.
- *Beneficence*, which concerns human welfare, reducing the harms and optimizing the benefits of social practices. In the context of fisheries, this principle needs to be observed when the effects of policies and practices upon the livelihoods of fishing communities are evaluated. The principle relates to working conditions (safety on board), as well as food quality and safety. The issue of genetically modified organisms should also be addressed in this context (FAO, 2001b). This principle invites an ethical approach to fisheries that puts consequences to general welfare in focus.
- *Cultural diversity, pluralism and tolerance*, which relates to the need to take different value systems into account within the limits of other moral principles. The pressing moral issues in fisheries take different shapes across different cultures, and it is an important moral demand that people themselves define how their interests are best served in a particular cultural setting. This principle squares well with dialogical ethics, which stresses the actual participation of those concerned.

¹ An outline of a Declaration on Universal Norms on Bioethics was presented by the United Nations Educational, Scientific and Cultural Organization International Bioethics Committee in Paris, France, 23–24 August 2004, and in Reykjavik, Iceland, 26 August 2004.



FAO/13507/L DE BORHEGYI

Solidarity, equity and cooperation are fundamental principles of bioethics

- *Solidarity, equity and cooperation*, which refers to the importance of collaborative action, sharing scientific and other forms of knowledge, and non-discrimination. In the context of fisheries, this principle underpins the moral imperative to eradicate poverty in developing countries and ensure equity within fisheries and between sectors. It also requires transparent policies and stresses the need to reduce the gap between producers and consumers. This principle is relevant at the level of policy as well as at the individual level of virtues and professional duties to further trust and tolerance among stakeholders.
- *Responsibility for the biosphere*, which concerns the interconnections of all life forms and the protection of biodiversity. This principle stresses that ecosystem well-being is a *sine qua non* condition of sustainable fisheries providing for the needs of future generations, as well as for the lives of those who currently rely on the natural environment and are responsible for its use. This principle combines ethical reasoning based on rights and on consequences for human welfare, as well as on individual virtues and duties to respect the environment. •

Main ethical issues in fisheries

The principal ethical issues in fisheries relate broadly to human and ecosystem well-being (see Box, below). This section provides a short overview of some of the most important ones: poverty; the right to food; and overfishing and ecosystem degradation. These sector-specific issues include a number of subsidiary ones, e.g. the equity of fish distribution; the real or perceived dangers of genetic modification

(FAO/WHO, 2003); and the catching and discarding of unwanted species, including emblematic species.

Problems are compounded by contextual changes related, for example, to climate change or globalization. The latter is a complex, multidimensional and pervasive process characterized, *inter alia*, by the increasing integration of economies around the world through trade and financial flows. It raises a number of ethical issues relating to, *inter alia*: (i) the risk of losing cultural identity and diversity in fishing communities; (ii) the risk of further degradation of biodiversity and fishery resources; (iii) the difficulty of trying to satisfy a broader range of stakeholders explicitly; and (iv) the negative consequences on efforts to reduce poverty, increase food security and guarantee justice and social peace from: the widening gap between most and least endowed; the concentration of economic power in large-scale fishing corporations; and the removal of trade barriers. These and other ethical issues of importance to fisheries will be addressed specifically in future FAO publications.

Dimensions of the ethics of fisheries

Subject	Objective
Ecosystem	Ecosystem well-being
Fish stocks	Conservation
Fisheries	Responsible fisheries, sustainable development
Fishers	Safety on board, freedom and well-being, just access
Fishing communities	Eradication of poverty, cultural diversity
Other stakeholders	Cross-sectoral equity, societal efficiency
Consumers	Right to food, food safety
Politicians	Transparent policies, public deliberation

Poverty

Fisheries constitute an important source of livelihood for millions of people. Nearly 35 million fishers are directly engaged in fishing and fish farming as a full-time (i.e. where fishers receive 90 percent or more of their livelihood from fishing) or part-time occupation (FAO, 2002). Fishers are particularly concentrated in developing countries, where about 95 percent of the world's fishers live, and in Asia as a whole, where approximately 85 percent reside. Fisheries policies that erode the economic foundations of fishers' communities will be more consequential in remote and rural areas of developing countries, where vastly more people rely on fisheries and where many fewer alternative sources of livelihood exist.

In many highly populated Asian countries, artisanal fishing families are among the most socially, economically and politically disadvantaged segments of the population and maintain a status comparable to that of landless labourers or marginal farmers. Deprivation is so severe that the basic needs of life are hardly met at the minimum level necessary for survival. Malnutrition is common, infant mortality is high, and chronic sickness and disease result in very low life expectancies. Conditions are similar in several areas of Africa and Latin America. However, small-scale fishing families are generally better off on these continents, even if the average income levels in small-scale fisheries are often below the official poverty lines.

According to FAO estimates, the number of poor small-scale fishers and related employees in marine and inland capture fisheries is 5.8 million, representing 20 percent of the world's 29 million fishers, and they earn less than US\$1 a day. There may be as many as 17.3 million income-poor people in related upstream and downstream activities, e.g. boat-building, marketing and processing. These figures suggest an overall estimate of 23 million income-poor people, plus their household dependents, who rely on small-scale fisheries for their livelihoods (FAO, 2002).

Small-scale fisheries often find themselves in growing competition with industrial fisheries for space, resources, inputs (labour and finances) and markets, with a strong impact on incomes distribution. The suppliers of fishing inputs may become better off, as may the consumers of fish. Small-scale fishers, on the other hand, may become increasingly uncompetitive and may eventually find their sources of livelihood severely compromised. In South and Southeast Asia, the fishing industry has been increasingly overtaken by large companies. As a result, fisheries employment opportunities have been shifted to urban areas, and opportunities in rural areas have declined, e.g. for the women who traditionally play important roles in processing, marketing and distributing the catch. This has resulted in a feeling of "hopelessness and despair or feelings of anger" among fishers, particularly small-scale fishers (Chong, 1994).

The right to food

A renewed focus on the right to food has been one of the constructive responses to the state of poverty in the world. As a response to persistent and widespread hunger, the 1996 Rome Declaration on World Food Security and the World Food Summit Plan of Action reaffirmed the right of everyone to adequate food and the fundamental right to be free from hunger, as stated in the Universal Declaration of Human Rights² and the International Covenant on Economic, Social and Cultural Rights³ of the United Nations General Assembly and in other relevant international and regional instruments. They urged that particular attention be paid to the implementation and full and progressive realization of these rights as a means of achieving food security for all. In 2002, FAO established an Intergovernmental Working Group for the elaboration of a set of guidelines on the right to food. In 2004, the FAO Council adopted the Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security.

Fish is a major source of both livelihood and nutrition for millions of the world's poorest people. In 2001, more than 48 percent of the world population (close to 3 billion people) obtained 15–25 percent of their proteins from fisheries, and more than 400 million people received more than 50 percent of their proteins from fisheries (FAO, 2004). The latter include the poorest people in coastal rural areas and small island developing states for whom a decrease in fish catch often means an immediate loss in sources of food and calorie intake.

In many parts of the world, traditional ways of ensuring the right to adequate food have been affected and often eroded, *inter alia*, by the weakening of social and cultural ties, caused by the break-up of traditional family units; accelerated urbanization; and the globalization of markets, information and culture. Technological developments, as well as changes in trade and markets, have radically altered, and internationalized, many aspects of local fisheries. These changes have certainly resulted in economic benefits for a large number of people and, in some instances, in a more efficient use of the resource. But they have also brought about a shift from highly dispersed, largely rural, labour-intensive small-scale fishing operations to



FAO/21700/K. PRATT

Fish is a major source of both livelihood and nutrition for millions of the world's poorest people

² Article 25(1)

³ Article 11

centralized, urban or peri-urban, capital-intensive industrial fisheries. This shift has also affected sectors such as fish processing, distribution and marketing and amplified negative consequences to employment, income and food security of the rural poor.

During the past two decades, technology and trade have not only changed many traditional forms of production, processing and distribution, but they have also created conflicts over resource access and use. The significant increase in the volume of international fish trade is raising concern for poor people and the aquatic environment. Gains in productivity and efficiency at local levels, alone, cannot solve the problem of the poor; significant improvements to governance, as well as trade and market policies, are also needed.

The changing state of fisheries resources, the economic climate and environmental conditions have resulted in fluctuations in fish supply and demand, but fisheries and aquaculture continue to be a significant source of food, employment and revenue for many countries and communities.⁴

Overfishing and ecosystem degradation



FAO/17361/K. DUNN

Sustainable fisheries must coexist with healthy ecosystems

The decline in fish stocks poses a disturbing, and potentially dangerous, threat to life in the ocean. Biodiversity is threatened by unsustainable fisheries and increasing pollution. Entire ecosystems may be degraded, and even destroyed, by human intervention. Depletion of fish stocks results in a decrease in food supply from the sea, economic loss, hardship to fishers and disruption of traditional ways of life. Overfishing thus threatens the ecosystem, the sustainable use of fishing grounds and the livelihood of fishing communities.

FAO indicates that about 50 percent of global marine fisheries resources are fully exploited, 25 percent are overexploited, and about 25 percent could, as it seems, support higher rates of exploitation (FAO, 2005a). According to the National Marine Fisheries Service, 76 stocks were determined to be overfished in waters of the United States of America (NMFS, 2004). On a global level, in addition to what is harvested, during the past decade, over 7 million tonnes of fish – about 8 percent of the global catch – have been killed and discarded yearly by fishers using insufficiently selective gear (FAO, 2005b).

⁴ This is illustrated by the fact that, since the mid-1990s, the reported capture fisheries production has remained relatively stable, at around 90–95 million tonnes per year. Most of the total production increase during this period has come from aquaculture (FAO, 2002).

It should be noted that ethical issues related to the ecosystem are considered here mainly in relation to its sustainable use by present and future generations and not in relation to any intrinsic value of the ecosystem. This study does not, for example, consider in any way issues that might arise from the ethics of animal welfare.⁵

Moral imperatives

The state of world fisheries presents us with pressing ecological, economic, social and political challenges with significant ethical implications. For example, the depletion of a nation's fishery resources represents a moral failure by society to maintain the natural environment and its productivity. It compromises food security, threatening vulnerable communities in particular, and reduces the livelihood opportunities of future generations. The contamination, by pollution, of an otherwise extremely healthy source of food, reducing food safety and threatening human health, is another indication of moral failure in relation to both present and future generations.

Re-establishing the sustainability of fisheries requires, *inter alia*, that the right of access to resources be limited. However, changes in ownership and access to fishing stocks take place in the context of dominant special interests. These interests may breed social injustice and compromise the livelihoods of traditional fishers and fishing communities, if not undermine the fundamental right to determine one's life.

A key theme of an ethical analysis of fisheries will concern the moral consequences of a system of restricted access for fishers and fishing communities. More generally, a systematic integration of the ethical dimension into the analysis of the fisheries situation will require a general understanding of ethics and a specific analysis of fisheries ethics, e.g. as reflected in the Code of Conduct for Responsible Fisheries.

It bears mention that the implementation of moral principles is culture-dependent. While many of the basic concepts are essentially axioms, global, generalized prescriptions can only be developed through intensive mechanisms of consultation aimed at identifying the widest common base possible. The Code of Conduct for Responsible Fisheries emerged from a large participatory international process and contains, *de facto*, a number of agreed global ethical principles for fisheries. •

⁵ Discussion on animal welfare is fairly developed with respect to domestic pet animals (e.g. dogs and cats) and is slowly emerging in relation to animal farming and slaughtering, as well as wild animal conservation (e.g. in reserves, parks, zoos). It is beginning to be considered in relation to farmed fish and experimental protocols (e.g. fish tagging), but relevant discussion is sparse for capture fisheries. Animal welfare, which will probably play a larger role in ethical discussion in the future, is not considered further in the study.

Institutional frameworks

The principles listed in the first section lend themselves to an ethical analysis of fisheries, looking at the various and complex dimensions of the sector that are briefly described in the second section. However, these principles are ineffective by themselves; they must be placed in the complex context of the economic and social reality of fisheries. An important

preliminary step is to reflect upon the key instruments of relevance to fisheries that have been formulated by the responsible international institutions.

The natural point of departure for an ethical engagement with development issues is the *Universal Declaration of Human Rights*. General provisions about civil, cultural, economic, political and social rights have motivated subsequent efforts to articulate and implement them. The general provisions of the Universal Declaration provide the motivation and the conceptual framework. The past two decades have seen continuing diplomatic and intellectual efforts in the context of fisheries.



FAO/12101/T/ENNES

Fishers can become partners in development, not just recipients of services

Among the various instruments and guidelines for a governance framework for fisheries are the *United Nations Convention on the Law of the Sea (UNCLOS)* of 1982, the *FAO Compliance Agreement*⁶ of 1993 and the *United Nations Fish Stocks Agreement*⁷ of 1995. Under the *United Nations Conference on Environment and Development (UNCED)*, the *Rio Declaration* and the *Convention on Biological Diversity (CBD)* of 1992, countries committed themselves to utilizing natural resources in a sustainable manner.

The *World Summit on Sustainable Development (WSSD)*, in 2002, articulated an agenda for fisheries, asking that fish stocks be restored “on an urgent basis and where possible no later than 2015”.⁸ At the Nineteenth Session of the *FAO Committee on Fisheries (COFI)*, in 1991, the need for more responsible fisheries was stressed. The *International Conference on Responsible Fishing*, held in 1992, elaborated on the initial concept of “responsibility”, which was further developed in the 1995 *FAO Code of Conduct for Responsible Fisheries*.

⁶ Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas

⁷ 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

⁸ Paragraph 30(a) of the Plan of Implementation of the World Summit on Sustainable Development

The 2001 *Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem* led to the adoption of the *ecosystem approach to fisheries* as part of the implementation of the Code.

The Code of Conduct for Responsible Fisheries

The Code of Conduct for Responsible Fisheries was adopted unanimously on 31 October 1995 by the FAO Conference. The Code is consistent with the other instruments listed above. It establishes, in a non-mandatory manner, principles and standards applicable to the conservation, management and development of all fisheries under all jurisdictions. It provides a necessary framework for national and international efforts to ensure sustainable exploitation of living aquatic resources in harmony with the environment. The Code lays out principles and international standards of behaviour for responsible practices that aim to ensure the effective conservation, management and development of living aquatic resources. The principles and standards take into account all relevant biological, technological, economic, social, environmental and commercial aspects and allow due respect for the ecosystem and for biodiversity.

Key articles from the Code of Conduct for Responsible Fisheries

- *Article 6.1.* States and users of living aquatic resources should conserve aquatic ecosystems. The right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources.
- *Article 6.2.* Fisheries management should promote the maintenance of the quality, diversity and availability of fishery resources in sufficient quantities for present and future generations in the context of food security, poverty alleviation and sustainable development ...
- *Article 6.13.* States should ... ensure that decision-making processes are transparent and achieve timely solutions to urgent matters. States, in accordance with appropriate procedures, should facilitate consultation and the effective participation of industry, fishworkers, environmental and other interested organizations in decision-making with respect to the development of laws and policies related to fisheries management, development, international lending and aid.
- *Article 6.18.* Recognizing the important contributions of artisanal and small-scale fisheries to employment, income and food security, States should appropriately protect the rights of fishers and fishworkers, particularly those engaged in subsistence, small-scale and artisanal fisheries, to a secure and just livelihood, as well as preferential access, where appropriate, to traditional fishing grounds and resources in the waters under their national jurisdiction.

By taking note of international agreements and technical advancements, the Code is meant to establish criteria for the implementation of national policies and effect improvements in the legal and institutional framework required for the exercise of responsible fisheries. The Code addresses the responsible use of resources (and the related environment), as well as the implications for human societies. It emphasizes economic, social, environmental, cultural and nutritional aspects, explicitly linking fisheries, food security and food quality. It also deals with the promotion of trade in accordance with international rules and the promotion of research and, in general, sets standards of conduct.

The Code also places a special emphasis on the nutritional needs of local communities and, by extension, on the relationships between fisheries and food security and food quality. Another important aspect of the Code is an emphasis on transparency in decision-making processes and timely solutions to urgent matters, facilitating effective participation of parties that either have direct interests or represent them.

For more information on the Code of Conduct for Responsible Fisheries, visit: <http://www.fao.org/fi/agreem/codecond/codecon.asp>

The ecosystem approach

Following the Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem in 2001, the concept of an *ecosystem approach to fisheries* (EAF) was adopted by FAO, and preliminary guidelines to further its implementation, within the implementation of the Code, were developed (FAO, 2003a). These guidelines pose the EAF as an extension of the conventional fisheries management paradigm and practices and are in line with the provision of the Code that addresses the consideration of ecosystems.

While the guidelines do not make any direct reference to environmental ethics, they respond to the demand of society for more responsible behaviour of fisheries (and interacting sectors) towards the marine ecosystem. As such they contain elements of environmental ethics of specific relevance to fisheries.

The sustainable livelihoods approach

FAO and related bodies have articulated, and aim to implement, a *sustainable livelihoods approach* to fisheries. The concept is applicable mainly to small-scale fisheries, but it also has relevance for many larger-scale fishing communities. The approach encourages communities to consider their assets, strengths and opportunities as a whole. Its purpose is to lay foundations for a community project

where fishers, in particular poor rural fishers, can become partners in development, not just recipients of services. The aim is to help these communities, marginalized by poverty, illiteracy and isolation, eventually become full partners in society.

The focus of the following discussion is on the way in which fisheries and their management affect the livelihoods of human societies, relating the moral dimension to socio-economic factors in general – and to poverty and social inequality in particular. The main emphasis will be on presenting *a mode of thinking* about ethical issues in fisheries that will have implications for how the principles of the Code may be further applied. •



An ethical analysis of fisheries

Ethical reasoning

The issues affecting fisheries briefly outlined in the second section show that the world is faced with a complex and urgent set of problems calling for options and decisions, the moral imperatives of which should be carefully considered in an ethical approach to fisheries. Although moral considerations are only one of the set of considerations leading to the selection of solutions, moral solutions are of a nature that sets them apart from those proposed from purely bio-ecological, economic and technological standpoints because:

- *They are holistic in scope.* Matters are approached and presented in their entirety and not in disconnected parts. This implies that ethical issues need to be seen in interconnection with economic factors, social policies and political decisions, as well as with the condition of relevant ecosystems.
- *They address interactions* between humans, as well as between humans and the environment where ethical interests are at stake. Choices have to be made and decisions taken that have ethical implications and may trigger positive or negative interactions. The *substantial* factors of moral analysis are the environmental values and basic human interests (welfare, freedom and justice) to be preserved; the moral rules that will protect them; and the virtues, rights and obligations that are necessary to implement the decisions.
- *They require dialogue.* From a *procedural* perspective, moral solutions are characterized by an informed, free and reasoned dialogue about the issues. In light of the substantial moral factors involved, ethical solutions cannot be presented from above, but need to be evaluated by those they affect, in an open and free discussion. Moral analysis needs to clarify the conditions of such discussion and to analyse factors that may stand in its way.

Ethically responsible decision-making requires the use of the best available knowledge and an awareness of relevant uncertainties and risk. Uncertainties and risk are cross-cutting issues that apply to both human and ecosystem welfare. They relate to uncertainties in our knowledge, requiring further study. They also relate to the inherent variability of the system under study, where there may be chaotic behaviour or multiple states of equilibrium – which may always remain difficult to predict. In both cases, an ethical scheme must be adopted to manage uncertainties and risk (FAO/WHO, 2003).

In an ethical approach to fisheries, a change in policy or the introduction of a technological innovation or new management strategy will not be evaluated only in terms of efficiency in reaching conventional objectives. It will: (i) be broader in scope; (ii) identify the substantial moral factors and values involved; and (iii) establish the procedure for moral dialogue, complementing conventional analysis with the explicit consideration of human *welfare, freedom and justice*.

Ethics and economics

Until recently, fisheries were, as are most other natural resources, analysed with the tools of ecology and economics. In such analysis, performance criteria are related to ecological conservation or preservation as well as the instrumental maximization of narrowly defined self-interests, efficiency and economic growth. With these analytical tools, many of the moral aspects of fisheries are difficult to analyse. Economic analysis, for example, does not emphasize the importance of the main ethical notions of welfare, freedom and justice. The same can be said about classical ecological analysis, though both assume that, in the long term, economic and ecological rationality join in providing optimal social welfare. Both tend to “miss” the *transitional problems* emerging from the implementation of change.

Conventional analyses would be usefully complemented by an ethical analysis of the implications of that change. Implications could be related, for instance, to the risks people face in terms of household sustainability, food security and alternative employment, as well as the provision of public goods (health care facilities, schools, etc.) and other needs critical to maintaining a decent quality of life. Such social issues and benefits can be appreciated better when related to the basic moral interests constituting human well-being.

There are at least two components to a holistic ethical analysis of fisheries: (i) to establish what aspects of well-being to focus on in a given institutional setting; and (ii) to examine what institutional factors may frustrate the achievement of basic well-being for the people and communities and environments concerned. An ethical analysis of fisheries must complement, feed into and serve as a corrective to the dominant economic analyses of fisheries and fishing policies. In this context, drawing upon the *capability approach* (Sen, 1985; Nussbaum and Sen, 1993), the following premises are most significant:

- *Broader objectives*: Economic growth and the maximization of income (associated with the neoclassical model) are not seen as sufficient objectives for development. Rather, development should be a means to improving human well-being and opportunities and ensuring human rights. Human beings form the *ends* of economic activity rather than the means;

- *Human values*: Participation, human well-being and freedom are seen as central features of economic development;
- *Ecosystem and human well-being*: Economic, political, legal and other social arrangements in fisheries should be evaluated according to how they further human *and* ecological well-being, expand people's capacities and strengthen the basis for human freedom;
- *Information*: Central to an ethical evaluation of fisheries is the recognition of the moral relevance and need of gathering and conveying information concerning the conditions of human and ecosystem well-being and their potential change.

Human versus ecosystem well-being: species introduction in Papua New Guinea

Papua New Guinea, a low-income, food-deficit country, is famous for its rain forests and aquatic resources. About 80 percent of its population depends on inland resources, including fishery resources. Its freshwater biodiversity is comparatively low, with many unfilled niches. In 1991, the government, the United Nations Development Programme and FAO sought to fill these niches to increase food production. They introduced eleven new species to the Sepik and Ramu river catchments. It was recognized from the onset that these introductions could adversely impact local aquatic biodiversity. Therefore, environmental impact assessments were made, and an international advisory body was established to oversee the implementation of the International Council for the Exploration of the Sea (ICES) codes of practice on species introductions.

The project was successful at establishing populations of most of the introduced fishes and at increasing fish production and availability in many areas within the catchments. Problems were encountered because of lack of local knowledge about processing some of the new species (with negative consequences to their trade). Communities felt that they had not been sufficiently consulted in the planning process, and inadequate attention had been given to technology transfer.

From an ethical standpoint, vulnerable people with limited resources and negligible political representation were provided with more food and economic opportunity – at the price, however, of changing the local biodiversity and ecosystem. Although environmental concerns were addressed by an international advisory committee and impact assessments, the project could have been improved from the procedural perspective by increasing the involvement of local communities in the early planning stages and by consulting with them on the social and cultural aspects of the fishery. The Government of Papua New Guinea and FAO are now planning follow-up activities that will incorporate these lessons learned.

Source: FAO, 1997; Kolkolo, 2003.

This implies a broadening of the informational base used in policy and decision-making in local and regional contexts to cover issues such as *social justice* and *biodiversity* and also data of *global* or *cross-cultural significance*. For example, fishers and vessel owners working with high-tech equipment in the Northern Hemisphere may have access to little information on how their gear affects the ecosystem, and even less information on how their operations (e.g. quota system, system of subsidies) may affect the livelihoods of African fishers with whom they may be unknowingly competing. Such information is crucial for achieving better justice at the regional or global level.

- *Empowerment*: A central question driving an ethical analysis is: What are individuals actually able to do or be? – recognizing that, in order to exercise formal rights, substantial resources are needed. Empowerment requires some degree of equity in the basic conditions governing the possibilities for individuals to make certain choices in their lives.

Ethics of restricted access

A major moral imperative in fisheries is to avoid overexploitation and ensure resource conservation in a just and sustainable manner, enhancing people's well-being. The first part of this principle is generally accepted. Controversies abound, however, about the most effective way of achieving a balance between the imperatives of *sustainability* and *justice (equity)* and the goal of *economic efficiency*. The discussion has largely involved how to restrict access (and allocate resources), focusing, *inter alia*, on the nature of entitlements, the criteria for allocation, the positive impact on fishing capacity reduction, rent creation and the improved economic situation (of the holders of access rights). Ethical issues such as *human welfare*, *social justice (exclusion)* and *freedom* are superficially addressed or completely missed. This section briefly addresses the ethical implications of restricted access (see Boxes, pp. 20, 22).

The theme of regulation of access to fishing resources straddles both ethics and economics and is well suited to illustrating that, as stated earlier, ethical reasoning is holistic in nature. The essence of this reasoning is to emphasize broader informational foundations against which alternative systems of regulation can be judged in terms of their effect on the ecosystem and human well-being.



FAO/D. BARTLEY

A major moral imperative in fisheries is to ensure resource conservation

The main moral justification of restricted access is that it secures conservation and economic rationality, improving overall benefits to the holder of the right and to society (through internalization of costs). It is widely agreed that the attribution of long-term entitlements through fishing rights increases incentives for responsibility and management performance in the short term and long term. The implication is that stewardship and ownership, rights and responsibilities, conservation and allocation go hand in hand in a successful allocation policy (Garcia and Boncoeur, 2004).

Efficiency versus social justice: the Icelandic experience

Until 1976, Icelandic fishery resources were exploited essentially through international and open-access fisheries. The extension of the jurisdiction of Iceland to 200 miles excluded foreign fleets from the exclusive economic zone (EEZ). There were signs of overexploitation, overcapitalization and excessive fishing, despite efforts to impose total allowable catches and quotas (on herring) in force since the late 1960s.

With few exceptions, individual transferable quotas (ITQs) were allocated on the basis of fishing history and catch during the three years preceding the introduction of the quotas (in 1984). Starting in 1990, a uniform system of ITQs in practically all fisheries was progressively superimposed on the earlier management system of protection of juveniles (through gear, area and fish-size restrictions) still largely in place.

The main rationale for ITQs, based on economic theory, is that the creation of private property through harvesting rights generates efficiency, even though that claim has been questioned on more general macroeconomic grounds. A number of issues have been raised, however, regarding wealth distribution and, in particular:

- fairness of the allocations decided in close cooperation between the government, vessel owners and fishers, but allegedly excluding other social groups with interests in the system, such as workers in the fishery industry and other people in the communities that rely on fisheries;
- desirability of the socio-economic consequences to the communities, as the transferability of quotas to those who can most afford them has upset fishing communities, eroding livelihoods and forcing people to leave;
- exclusion of social groups relying on fishing for their livelihoods, particularly small vessel owners who do not meet allocation criteria, as well as other community groups from outside the fishing industry who were not involved in the initial allocation;
- sharing of rent;
- impact on fishing labour, e.g. on vessels affected by quota reductions or for crews “forced” by vessel owners to share the cost of the quota.

Source: FAO, 2001c.

When establishing property ownership over a common resource, the main ethical issue relates both to the way of deciding who gets access and who does not and to how the interests of *freedom of access* can be balanced with *justice of restriction* through the *distribution of benefits*. Within the so-called “libertarian tradition” (Schmidtz, 1990), the justification for property and ownership is that when individuals own their powers (*self-ownership*), they can exchange them on the market, exercising such powers and owning whatever flows from this exercise. Accordingly, as stated in the so-called “Coase Theorem”, resources ownership, with an effective system of exchange and an affordable conflict resolution mechanism, should ensure an optimal economic outcome (Coase, 1960).

The libertarian position ignores, however, that a meaningful exercise of individual powers takes place in a social context, such as traditional fishing communities, with its complex web of manifold human efforts. An allocation policy that focuses on individual self-owned powers can result in injustice to fishing communities. Indeed, the Coase Theorem stresses that ownership does not guarantee equity, recognizing that it does not deal with the moral dimension of the distribution of social benefits and human well-being.

There are several distinct ways to limit access, running the gamut from individual transferable quotas to communal rights. Under certain conditions, some societal groups may benefit disproportionately while others are left out in a state of utmost scarcity (*exclusion*) and *destitution*. This disparity is not a result of overexploitation and lack of material resources, but because of a humanly designed institutional framework with inequitable outcomes. The issues at stake include: (i) the delegation of state entitlements (sovereign rights) in the EEZ; (ii) the possible existence of traditional (informal) rights established through years or decades of use (usufruct); (iii) the social structure and power system within which the traditional and new allocations take place; (iv) the existence, or lack, of consensus on these allocations.

One of the most widely discussed and analysed forms of individual property rights in fisheries is that of individual transferable quotas (ITQs). From an ethical point of view, it is possible to design and implement an ITQ system in a number of ways, and several choices allow for tailoring the system to the resources, conditions and socio-economic context. Theoretically, the strongest or most efficient property rights arrangements (leading to maximum long-term economic productivity) would be those with the fewest constraints on the operation of markets. But there may be an imperative to attend to the needs of specially disadvantaged or vulnerable groups or to achieve particular social or demographic objectives of a moral nature. For that purpose, less-than-“maximum” economic efficiency may be necessary. Examples include: (i) limitations on ownership transfers to regulate the concentration of quota ownership; (ii) authorization to lease (but not sell)

Efficiency versus social costs and equity: the Tasmanian experience

In the mid-1980s, Tasmania, Australia, was faced with the problem of overfishing. A new management regime was progressively established based on access rights and the allocation of shares of a total allowable catch (TAC). The regime was extended to cover, successively, the abalone, rock lobster, giant crab and jack mackerel fisheries. Individual allocations were granted to existing participants. The allocation criteria varied among different fisheries, but the policy goals were to limit catches, provide equitable access to existing fishers and improve the industry's capability to plan. Important benefits generated were: (i) improved control and flexibility of operations; (ii) higher catch rates for recreational fisheries; and (iii) improved conservation as compliance with TACs increased.

Local fishers' communities have had concerns that they have continued to express in the subsequent two decades, e.g. about the declines in local crew employment and the concentration of benefits from the fisheries. The latter concern has particularly been expressed by those supporting the principle of equal allocation. Others have argued that the size of initial allocations should recognize the past catch history of fishers.

The new regime created social costs in the immediate years following the changes. Some fishers left the industry. They claimed that they had been forced to do so when their entitlements became uneconomically small as their quotas were reduced to reflect the lower TACs needed for resource conservation. This trend generated divisions within the industry and associated communities.

Two decades later, the conspicuously large incomes of remaining quota holders (a result of the success of the new management regime) and the lack of a requirement for the industry to pay resource rents continue to be matters of argument.

Source: FAO, 2001d.

the user right to avoid displacement of disadvantaged groups; (iii) restriction of foreign ownership.

An ethical analysis must address the effects of access restriction not only on individuals but also on regional communities and on the whole society. The design of an institutional arrangement to restrict access in a sector must be sensitive to differences between fisheries and fishing communities, ensuring that the unavoidable competition is fair.

In relation to access to capital, for example, industrial fisheries have access to low-interest institutional credit and subsidized development loans, while small-scale fishers have access only to informal credit from intermediaries or family members – and that at much higher interest rates. Institutional support is therefore skewed towards large-scale fishers.

The justification given for such an arrangement is that large-scale fishers are more efficient and contribute more to economic growth, allowing for economies of scale in the provision of infrastructure. This narrowly defined view of *efficiency* is a necessary, but not sufficient, criterion for a policy. *Justice (equity)* is also a key consideration for sustainability, and *self-determination* is one of the means to ensure it. The Boxes accompanying this discussion provide examples of conflict between efficiency and social costs and justice.

Ethics, institutions and decisions

One of the most important challenges faced by the management of modern fisheries is to ensure that new institutional mechanisms introduced and decisions taken to implement the Code of Conduct for Responsible Fisheries do not increase the inequities and asymmetries that are already in place or create new ones that further compromise the livelihoods of vulnerable segments of the sector or of society. As the process of transition towards responsible fisheries develops, in a context of reduced alternative opportunities, concern is growing about potential socially unjust consequences. These may result from new institutions in an arena characterized by asymmetries (e.g. in access to markets and capital) and sharp differences (e.g. between types and scales of fishing and fishing communities). The outcome of the change process is conditioned by the institutional environment. People can find themselves in destitution as a result of new institutions (such as rights, processes or policies) designed by other people, rather than of any inherent limitations of nature, inadequate informal norms or entrenched social practices.

Therefore, it is an important part of an ethical analysis to evaluate the extent to which, in the process of elaboration and implementation of new instruments, organizations, systems of rights, etc., some people or social groups could find themselves victims of unjust domination or of undue discrimination. It is important to devise a reasonable decision procedure that is sufficiently strong to determine the manner in which competing interests should be considered (Rawls, 1951). Such an ethical analysis could be rationalized through the use of an *ethical matrix* (Mephram, 2000) (see Table, page 24).

Ethics and cross-connections

Transboundary impacts and other cross-connections, particularly when they are not immediately obvious, may raise ethical issues. For example, industrial vessels trying to cope with a shortage of resources may progressively encroach on inshore areas previously exploited by or reserved for traditional fishers. In

TABLE
Ethical matrix for the ethical analysis of fisheries⁹

Subject	Objectives related to:		
	Welfare (well-being)	Freedom (autonomy)	Justice
The ecosystem	Ecosystem integrity; habitat and biodiversity protection	Maintenance of capacity to change; resilience	Stewardship and interests represented by human institutions
Fish stocks	Stock and genetic conservation; animal welfare	No barriers to migration	Fair conditions for reproduction
Fisheries	Economic viability; sustainable development; safety on board	Conditional freedom to act	Cross-sectoral equity (in taxes and law); access to tribunals
Fishers and their communities	Adequate income and working conditions; poverty eradication; cultural diversity	Freedom to change or not; empowerment; cultural identity	Fair treatment in trade and law; equitable access to resources; compensation
Other stakeholders	No or reduced externalities from fishing	Freedom to compete	Equitable share of resources; dispute resolution
Consumers	Safe, nutritious, affordable food; societal efficiency	Availability of choice (e.g. labelling)	Equitable access to food; no barriers to trade; cross-sectoral equity
Politicians	Availability of alternative policy choices	Capacity to decide; free participation in public deliberation	Transparency; accountability; liability; public oversight

doing so, they take resources away, damaging productive habitats, destroying fishing gear and causing accidents. The result can be an added economic burden to poor communities (to replace the gear). Other consequences can be the loss of livelihood and the substantial increase of risk to human lives. Moreover, large-scale fishers might bid-up the prices of fishing inputs, and their massive landings might depress fish prices. This scenario could increase the profits of the providers of the inputs and reduce prices for the consumers of the fish. However, it could also increase the costs to, and decrease the revenues of, small-scale fishers, reducing their competitiveness and potentially marginalizing or displacing the least efficient of them.

There are great differences in the way in which economic, commercial, social and political factors interact across countries and regions and globally, and these interactions may have unfortunate consequences. For example, modern fishing technology, trade globalization, increasing urbanization and industrialization of

⁹ The matrix shows the components of the fishery sector (row headers) and the three basic principles of ethics (column headers). The content of the cells is only indicative and should be developed case by case.



FAO/21887/C. BIZZARRI

Industrialization and globalization may raise ethical issues in fisheries

fisheries have resulted in a shift of power and influence from small-scale to large-scale fishers – and from fishers to retailers (Friis, 1996). This power shift has been coupled with a widespread overutilization of resources and an extension of the overcapacity syndrome from the developed world to the developing world. There have certainly been positive impacts on both worlds, but for small-scale rural fishers in many regions, there have often been very adverse consequences. The causes of local overexploitation and economic and social hardship can, therefore, lie outside the fishing communities, in the domestic and international structure of power. This issue calls for a strengthening of mechanisms to balance interests and resolve conflicts at both the local and global levels.

An ethical analysis of fisheries must explicitly ask whether a process of marginalization is facilitated – or even driven – by the environment of the fisheries. Unfriendly environments might be characterized by an unfavourable national policy on coastal development, a distorted capital market, or unfair international trade regulations or practices. An analysis could ask whether the market is distorted – especially capital markets with uneven access to credit and subsidies. It should ask whether care has been taken to ensure alternative employment opportunities for displaced fishers.

Increased competition and marginalization may be the result of globalization and technological progress, as well as changes in: (i) trade patterns; (ii) institutions (e.g. fishing rights); (iii) conditions of access to financial resources; etc. Because they are often less organized, less politically influential, less visible, less economically resilient and more geographically dispersed or isolated, small-scale fisheries find it increasingly difficult to compete with large-scale ones. Hence, it has been a matter of priority for non-governmental organizations (NGOs) to strengthen the small-scale subsector's representation and to further its cohesion by promoting public deliberation and more-effective participation in decision-making.

Information, dialogue and ethical policy-making

It has been argued that, if there are differences in people's access to basic (public) goods and services as a result of systematic inequalities in the distribution of capital assets or the access to markets, there is a case for special attention to the claims of the poor (Dasgupta, 2001; Rawls, 1971). Ensuring the adequacy of a policy in that regard is a challenge. Public awareness, people's participation and negotiation are



FAO/15/110/L. CALLERHOLM

Quality information that is easily accessible and effective dialogue help ensure equity

central to the equity issue. The wide availability of *quality information* and *effective dialogue* are parts of the solution.

Free and high-quality information should be openly conveyed to stakeholders (including the public at large) to enhance their contribution and improve *accountability*. It should lead to more-comprehensive policies and more-reliable action by fishery management authorities. The importance of information-sharing and of a transparent policy-making mechanism, as well as free and independent media, cannot be overstressed. An ethical analysis of fisheries

requires a broader informational foundation than does traditional economic analysis, particularly in the social and ecological domains. The problems this raises in terms of information shortage and resulting uncertainty and risk are similar to those discussed in relation to the transition from a conventional to an ecosystem approach to fisheries (FAO, 2003a; FAO, 2003b). In both cases, depending on the level of risk, a precautionary approach should be adopted.

Open and free discussion is an essential component of a policy-development process for ensuring that policies and practices are acceptable to the people whom they will affect. A public discourse free from domination (Habermas, 1990) requires that, avoiding fraud and deception, the people concerned:

- have equal access to relevant information and to dialogue opportunities;
- can express themselves freely and truthfully, voicing their concerns and interests;
- observe basic rules of communication, aiming at mutual understanding rather than strategic domination or manipulation.

If these procedural conditions are met, participants can critically discuss existing policies and distinguish between those that serve narrow, selfish interests and those that serve general public interests. Public fora where people can voice their concerns directly or through NGOs or the media are important, as the outcome of the dialogues, being public, is more likely to be implemented. The implication is that existing policy set-ups should be critically analysed from a procedural perspective: Would they be accepted in a free discussion by the people concerned? •

Conclusion

The moral dimensions of fisheries are manifold, but the main ethical issues concern overfishing, interwoven with those of poverty, food security, food safety and ecosystem degradation. Each of these issues could be broken down into a number of related subissues, for instance: genetic modification

of living organisms, introduction of alien species, protection of endangered or emblematic species, discarding practices, cultural sustainability, knowledge-sharing, transboundary impacts, food contamination and safety.

This study has outlined some of the major ethical issues in fisheries and moral imperatives related to them. It has identified these issues in terms of basic human interests and fundamental principles of bioethics and argued for a holistic mode of ethical reasoning. Although the maintenance of the ecosystem is of crucial importance, the focus of this study has been on the ways in which fisheries operations and policy affect, sustain or collide with human interests and livelihoods. It calls for an integration of ethical reasoning into the general assessment of fishing policies. It is of central importance to realize what kind of morally relevant information should be brought into the analyses, policy development and decision-making, broadening the information base of economic analysis with a richer conception of human interests and social benefits.

The ethical approach encourages participation. It proposes that the ethical quality of a proposed measure be assessed through its standing in a free public discourse. It also stresses the need for the free flow of information, public awareness and expression, transparency and accountability. In order to progress further towards responsible fisheries, it is essential to focus on what people can do and achieve, going beyond considerations of mere material interests and stressing the moral interests of welfare, freedom and justice.

An ethical approach relates necessarily to a particular cultural context. A global view of ethics is only slowly emerging. Environmental ethics is being formed through the adoption and implementation of the CBD. In fisheries, the FAO Code of Conduct for Responsible Fisheries, elaborated mainly from technological, ecological, social, economic and political points of view, is probably the most advanced and complete framework and reference for global human and environmental ethics in fisheries. In this context, an ethical analysis of the implications of the Code implementation relates mainly to the important changes needed and happening throughout the world fishery sector in the process of evolution towards more responsible fisheries. Such analysis needs to pay particular attention to: (i) the patterns of distribution of stresses and benefits; (ii) the procedures for dialogue, participation and conflict resolution; and (iii) the existing social and political power structures. •

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In the twenty-first century, the ethical dimension will gain prominence and will need to be integrated with more conventional dimensions of FAO work in fisheries