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CONSERVATION OF THE COASTAL AND MARINE ENVIRONMENT THROUGH SUSTAINABLE RESOURCE MANAGEMENT IN FISHERIES

by

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Madam Chairperson, Excellencies, Ladies and Gentlemen,

The year 1998 has been declared the International Year of the Ocean and the oceans are also central to the theme of the 1998 World Environment Day, which we are celebrating today. The importance of protecting and managing marine and coastal areas is related particularly to four essential considerations:

- The first is the fact that marine and coastal environments represent a storehouse of biological and physical diversity that enriches the lives of the world's human population;
- The second consideration is the growing tendency of the human population to congregate for socio-economic reasons in the coastal zone, often within a narrow band of about 60 km, thus creating pressure on a potentially fragile environment and its ecosystems and resources, both coastal and marine;
- The third is the evident progressive degradation of the marine and coastal natural resources under the combined effect of excessive rates of use and pollution; and
- The fourth is an ever-increasing awareness that the ocean provides basic services necessary for life on this planet and that better understanding of its physical and biological mechanisms, including their interaction with atmospheric processes, is essential to wise decision-making aimed at sustainable development.

The mandate of FAO, to provide food security in the world, intimately links the Fisheries Department to oceans.

Recently, environmental issues of fisheries are attracting more and more attention, and "effects of fishing" has been singled out as one of the matters of particular concern regarding the degradation of the marine environment. Public concern is directed particularly toward sustainability of exploited resources, involuntary and incidental capture or entanglement in fishing gear of marine mammals, birds and turtles, and endangered species in general, as well as toward adverse impacts from coastal aquaculture or fish farming.

It would obviously make little sense to argue that the marine and coastal environment should be turned into an environmental sanctuary, while their renewable resources are badly needed to support and feed the ever-growing world population. It is our duty, however, to ensure that the resources of the seas are utilized and managed in a sustainable, environmentally acceptable, manner.

Toward this end, FAO is tackling some crucial issues relating to fisheries and fish farming, particularly in the following four areas:

1. The improvement of resource management through control of overfishing and the reduction of over-capacity of the world's fishing fleet;
2. The elimination of wasteful fishing by reduction of discards, better utilization of by-catch and development of more selective fishing gear;
3. The development of environmentally acceptable coastal aquaculture, and
4. The integration of fisheries into coastal area management schemes.

Madam Chairperson,

Let me focus first on the issues of **overfishing and over-capacity**. The issue of **overfishing** has been with us for a number of decades. It stems largely from excessive fishing effort being applied to specific stocks, with detrimental consequences on socio-economic performance and on the resource base itself. It generally leads to reduced catch of fish of lower quality and value, higher prices for consumers, resource instability, and possible stock collapse. Following two decades of rapid expansion, the global production of fish and shellfish peaked in 1989 against a background of well-spread overfishing. The analysis of the world marine fish catch and status of stocks made by the FAO Fisheries Department in 1992 presented a rather sobering diagnosis of the state of these resources. Subsequent assessments made by the Department show that over 35 percent of the world's major marine fisheries resources are now showing declining yields and 25 percent have reached a peak at high exploitation level, and that the potential for further increases in output is very modest at best.

The issue of **over-capacity** has been raised more recently, in reference to growing concern about the spreading phenomenon of over-capitalization in world fisheries. This concern was highlighted by the fact that the relative stagnation of world marine catches since 1989 has occurred against a background of intense and persistent fleet expansion aggravated by technological progress. Indeed, the situation of world fisheries is not only dramatic in terms of the state of the world fish stocks but also in terms of the size of the world's fishing fleet, its harvesting capacity, level of capitalization and estimated operating losses. While world fleet monitoring is still quite tentative, it has been estimated that over the period 1991-95, fleet size for vessels over 24 m or 100 GT continued to increase in number and may have increased by over 20 percent in actual fishing capacity if one accounts for improvement in efficiency and for refitting of older vessels. While fleet growth appears to have peaked in number over the last two or three years, one can only assume that the existing fleet is still growing in efficiency. Overall, there is therefore ample and growing evidence of significantly redundant world fleet expansion.

Clearly the two phenomena, over-fishing and over-capacity (over-capitalization), are the result of persistent tendencies prevailing under open-access conditions in the majority of world fisheries, and of the failure of fisheries management in most, if not all, of them, coupled with perverse subsidies of various kinds.

The need to prevent over-fishing and over-capacity has been stressed in the Code of Conduct for Responsible Fisheries, adopted by the FAO Conference in 1995. On the basis of the work of a Technical Working Group which met last April, FAO is now planning for a full discussion of the issue of fishing capacity in the context of an Intergovernmental Consultation on the Management of Fishing Capacity, Shark Fisheries, and the Bycatch of Seabirds in Longline Fisheries, to be held in October 1998, with a preparatory meeting being organized late next month. It is expected that this initiative will, in time, lead to the adoption of a specific plan of action for the management of fishing capacity.

Madam Chairperson,

Let me turn now to the questions of **by-catch and discards**. During fishing operations there are associated catches of species or sizes of fish that should not be taken either for environmental or management reasons or, alternatively, because they are of no economic value. Fishing methods are far from perfect and the Fisheries Department estimates that as much as 20 million tons of fish per year is caught and discarded.

There are three main approaches, which can be used either individually or in combination, to limit the problem of by-catch and discards.

First, selective fishing technologies can be used to avoid or reduce the capture of unwanted catch. Several selectivity procedures and devices have been developed and

are now applied and there are a growing number of other technologies being developed.

Secondly, various management measures can be employed. Such measures include policies on banning discards and measures to reduce the probability of catching undesired sizes and species such as: closed seasons, closed areas, legal minimum mesh size and fish size, etc.

Thirdly, by-catches can be better utilized for commercial purposes. While total elimination of unwanted by-catch and the subsequent discards is an unrealistic goal, the use of discards as a potential source of food will continue to have a role to play in elimination of wastage. Previous attempts at technology-led utilization programmes have generally not led to long-term solutions, particularly with regard to economic viability. Recent trends however seem to indicate that, driven by increased human population, shortage of fish supplies from conventional sources and, notably, the growth of aquaculture, more previously discarded bycatch is now being used either directly as human food or in aquaculture or animal feed industries.

Madam Chairperson,

The third area of issues I mentioned at the outset is **coastal aquaculture**.

Aquaculture is the world's fastest growing food production system. Aquaculture production almost tripled since 1986 to 34 million metric tonnes in 1996 valued at US \$ 47 billion. In 1996, over a quarter of the world's food fish supply was derived from aquaculture. The majority of farmed finfish is produced in freshwater culture systems. Coastal aquaculture is dominated by production of aquatic plants (seaweeds) and molluscs. The production share of crustaceans and finfish is rather low (i.e. less than 15 percent), but their relative contributions to the value of total coastal aquaculture production is significant (i.e. 50 percent).

Opportunities for expansion of coastal aquaculture practices exist in many locations. However, aquaculture in some coastal areas faces environmental challenges, which can be divided into three categories:

- First, there are environmental impacts on coastal aquaculture. Deteriorating water quality resulting from aquatic pollution by non-aquaculture activities has adverse effects on coastal aquaculture. Pollution is reducing the availability of sites for aquaculture developments in coastal areas.
- Secondly, certain coastal aquaculture practices have caused environmental impacts, primarily including: (i) physical degradation of coastal habitats, for example, through conversion of mangrove forests; (ii) nutrient and organic enrichment of the seabed due to waste discharges; (iii) alteration of seabed fauna and flora communities; (iv) by-catch of non-target species occurring in the collection of wild seed, and (v) reduction, in size or number, of wild

populations due to interaction with escaped farmed fish.

- Lastly, sustainability issues of coastal aquaculture, in particular of salmonids and shrimp, have attracted attention of some government authorities, the private sector, environmental NGOs, and others.

Article 9 of the Code of Conduct contains principles on aquaculture which recommend actions by States to promote responsible practices and sustainable development of aquaculture worldwide. FAO technical guidelines on aquaculture development were issued in 1997 to assist member countries in the implementation of the Code provisions on aquaculture.

Shrimp culture, a major source of foreign exchange for developing countries, has attracted attention in Western importing countries. This is mainly due to environmental perceptions and highly publicized concerns over the environmental compatibility of shrimp culture. In order to facilitate constructive discussions among major stakeholders to address major controversial issues, FAO organized a Technical Consultation on Policies for Sustainable Shrimp Culture in 1997. This important meeting produced a consensus "that sustainable shrimp culture is practised and is a desirable and achievable goal which should be pursued".

Increased production can also come from new biotechnologies and there is tremendous scope to use genetic improvement strategies in coastal aquaculture. FAO is supporting technical assistance projects on environmentally friendly application of genetic improvements of salmon and other species, and produced publications on selective breeding and opportunities for using genetics to increase aquaculture production in Mediterranean countries.

Another important area related to coastal aquaculture, but involving much wider issues, is the question of coastal biodiversity. FAO is an active partner in the Convention on Biological Diversity and other international efforts to conserve and use sustainably marine and coastal biodiversity. Marine and coastal environments were the first ecosystems selected for in-depth coverage by the Convention Parties and the FAO Fisheries Department contributed to the process that led to an international work plan to be implemented over the next three years.

Madam Chairperson,

Let me now turn briefly to the question of **integrating fisheries into coastal area management**. The World Resources Institute (WRI) estimates indicate that more than half of the world's coasts are at high or moderate potential risk of degradation. The relevance to fisheries is obvious, given that 90 percent of the world's fish production is dependent on coastal habitats. Fishing communities are often the most

seriously affected segment of the coastal population by detrimental environmental effects and intense competition with other economic sectors for scarce resources (e.g. fishing grounds, water or land), often associated with unregulated access to these resources.

Consequences from habitat damage on coastal fisheries include the loss or lowering of productivity, the associated threat to local food security, contaminated aquatic food products, reduced economic viability, increased levels of conflict involving fisherfolk, sometimes physical displacement of communities, increased unemployment, and the loss of trade opportunities. However, while fisheries is the sector most frequently disadvantaged, it can also itself be responsible for environmental damage, and the exacerbation of conflict.

It is therefore essential that fisheries be integrated in any coastal area management scheme. Such integration should occur through the formulation of management plans, the provision and enforcement of appropriate environmental legislation, a transparent consultative process, and through monitoring the post development impact.

As the Code of Conduct urges, States should ensure that representatives of the fisheries sector and fishing communities are consulted in the decision-making processes related to coastal area management and development. Fisheries agencies and sector representatives should be full partners in interagency and interdisciplinary fora.

Lastly, Madam Chairperson, by way of conclusion, I wish to say a few words about the **Code of Conduct for Responsible Fisheries**, to which I have made frequent references. The initiative to draft the Code was born out of serious concern about the generally poor state of many of the world's major fisheries and unsustainable aquaculture practices, ineffective conservation and management, and the need to ensure long-term sustainable development in the fisheries sector. In concept and approach the Code is broad and comprehensive, over-reaching most, if not all, of the activities of the FAO Fisheries Department as well as those activities that national administrations and regional management bodies must address in the course of their work to improve fisheries management and to promote the contribution made by fisheries to food security.

The purpose of the Code is to facilitate structural change within the fisheries sector so that stocks are exploited in a long-term, rational and sustainable manner. Although aimed particularly at Governments and their national fisheries administrations, it is also recognized that regional fishery bodies have a special role to play in implementing the Code where fish stocks are shared.

Although it is a voluntary instrument, the Code of Conduct provides a platform for launching and reinvigorating policy aimed at securing sustainable outcomes in the

fisheries sector. Targeting all fisheries and all those concerned with fisheries, the Code sets out principles and international standards of behaviour for responsible practice with the objective of ensuring that the effective conservation and management for living marine resources is facilitated, with due respect for the ecosystem and biodiversity. Furthermore, the Code is designed to take into consideration the nutritional, economic, social, environmental and cultural importance of fisheries for all stakeholders involved in the fisheries sector.

In short, the Code of Conduct covers practically all the major issues relating to fisheries and aquaculture. It lays down the basic framework and guiding principles for all the activities and measures I have discussed. This is why the implementation of the Code of Conduct is one of the top priorities of the FAO Fisheries Department.

Finally, Madam Chairperson, it would be particularly appropriate for me to stress, on this World Environment Day, that the Fisheries Department works in close cooperation with a number of other international bodies, both within and outside the United Nations system, which are involved in fisheries, aquaculture, and ocean affairs. I wish to renew our strong commitment to the cause of World Environment Day and our solidarity with these partner organizations.