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FAO'S CONTRIBUTION TO THE IMPLEMENTATION OF AGENDA 21 AND UNCED FOLLOW-UP

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I. Introduction

The ten years following the United Nations Conference on Environment and Development (UNCED) (commonly referred to as the Earth Summit or Rio Summit held in Rio de Janeiro in 1992) can be characterized as showing significant economic growth in both developed and a number of developing countries. This does not capture the 1.2 billion people who live on one dollar a day, 75 percent of whom live in rural areas, the majority being concentrated in South Asia and Sub-Saharan Africa. The poor are also the most food insecure - of the 815 million people who are undernourished over 95 percent live in developing countries. Many developing countries also face environmental and natural resource degradation; weak institutions, markets, and infrastructure; lack of appropriate research and technology; conflict and social inequity; and trade issues that continue to constrain progress in achieving the objectives envisioned at UNCED. Thus, trends and events in the rural sector are of central importance in any effort to promote sustainable development.

FAO's mandate in agriculture, food security, rural development, forestry, and fisheries occupies a central place in guiding and facilitating sustainable development at the national, regional and global levels. Through expert consultations, international conferences, and the involvement of its governing bodies, FAO made major contributions to the preparatory process of UNCED leading to the adoption by world leaders of Agenda 21, multi-lateral environmental agreements and the forest principle at the Earth Summit in Rio de Janeiro in 1992. Agenda 21 is a centre piece that integrates environment, economic and social concerns into a single development framework.

After Rio, FAO was also active in the establishment of the Commission on Sustainable Development (CSD), which was to ensure the effective follow-up of UNCED and the implementation of Agenda 21. It also chaired the Special Inter-Agency Task Force on Sustainable Development that led to the establishment by the Administrative Committee on Coordination (ACC) in 1993 of the Inter-Agency Committee on Sustainable Development (IACSD) consisting of the heads of the UN agencies.

With the establishment by the IACSD of the Task Manager functions for the implementation of Agenda 21 in the UN System, FAO was assigned task manager responsibility for chapters 10 (Integrated Planning and Management of Land Resources), 11 (Combating Deforestation), 13 (Sustainable Mountain Development) and 14 (Sustainable Agriculture and Rural Development: SARD). It was also recognized as a major partner in the implementation of several other chapters of Agenda 21, notably chapters 12 (Combating Desertification and Drought), 15 (Biological Diversity), 17 (Oceans and Seas), 18 (Freshwater), and 19 (Toxic Chemicals).

One of the UNCED recommendations for the implementation of Agenda 21 was the need for modification and strengthening of various institutional arrangements so as to integrate environment and development issues at national, regional, and international institutional levels. This concerns the UN agencies and their relationship with other intergovernmental and civil society organizations. With this in mind, and in an attempt to address sustainability issues in the

environmental and socio-economic activities of the Organization, the Sustainable Development Department was established in 1995. The Department's programme focuses on the promotion and integration of sustainability concepts, approaches, strategies and methods into the development policies of FAO member countries and the various FAO technical units. Highlights of such activities will be presented in the review of the key technical programmes in Section II.

The Department is also charged with responsibility for coordinating FAO's follow-up to UNCED, cooperation with the Commission on Sustainable Development (CSD), liaison with the post-UNCED environmental Conventions, the UN International Conference on Population and Development, the UN World Summit for Social Development and the 4th UN World Conference on Women. Furthermore, it is involved in the follow-up to the World Food Summit (WFS), in particular as regards the coordination of the ACC Network on Rural Development and Food Security.

The FAO Strategic Framework, 2000-2015, adopted by the FAO Conference in November 1999, gave broad directives (five Corporate Strategies) on how the Organization will serve its member countries. Interdisciplinarity is the cornerstone of FAO's approach to its strategic objectives. To enhance this, the Organization mobilized its resources and identified Priority Areas for Interdisciplinary Action (PAIAs) that serve as mechanisms to facilitate cooperation between the various technical divisions and departments in cross-sectoral planning and programming. As a result, most of FAO units now participate in cross-sectoral issues and policy development and are engaged in more integrated approaches in both their normative and operational programmes.

The PAIAs identified (Integrated Management of Biological Diversity for Food and Agriculture, the Interdepartmental Working Group on Desertification, and Climate Change Issues in Agriculture) are meant to provide advice and assistance to member countries in their efforts to implement the three environmental conventions emanating from UNCED. Through these PAIAs, FAO contributes actively to the implementation of the Convention on Biological Diversity (CBD), the Convention to Combat Desertification and Drought (CCD), and the United Nations Framework Convention on Climate Change (UNFCCC) and works closely with the Secretariats and the Scientific Bodies of these Conventions.

FAO is a major actor in the implementation of the CCD since this is closely linked to food security and has many activities aimed at controlling land degradation (discussed in Section II under "Land and Water Management"). FAO has a number of activities that have direct relevance to the issues of climate change and climate variability addressed by the UNFCCC and the Kyoto Protocol (KP). These include the assessment of agricultural sources of greenhouse gases, assistance to countries in complying with their commitments under the UNFCCC and the Kyoto Protocol, the collection and maintenance of relevant data sets, and the development of related guidelines and definitions. FAO also provides support and assistance to member countries and the CBD for joint activities on biological diversity relevant to food and agriculture.

FAO has assisted countries to implement projects that are supported by the Global Environment Facility (GEF), the main funding source for the implementation of environmental Conventions (particularly biological diversity and climate change). In addition to the development of project documents and providing technical assistance, the Organization has assisted various GEF bodies in developing conceptual approaches (in areas of biological diversity, climate change, and

desertification) that reflect the needs and priorities of the rural areas and communities that will be affected by GEF projects.

In an effort to integrate agriculture and environment at national level, FAO has worked with 149 member countries to provide overviews of the major strategic thrusts towards achieving food security through the sustainable use of natural resources in *Agriculture Sector Strategies: Horizon 2010*. More in-depth policy reviews and studies have been conducted in 49 countries with a view to proposing policy measures to improve the agriculture and natural resources sector for food security and rural poverty reduction.

UNCED emphasized that success in the implementation of Agenda 21 and the transition towards sustainable development will require the full participation of all relevant major groups of society, including women, youth, farmers, indigenous people, non-governmental organizations, the private sector, and the scientific community. In line with this recommendation and to strengthen rural women's contribution to rural development and food security, the FAO Conference approved the First (1989-95) and the Second Plan of Action (1995-2001) for Women and Development. In November 2001, the FAO Conference approved the Third Plan of Action on Gender and Development (2002-2007) to facilitate gender mainstreaming in both the Secretariat's and member countries' activities. In addition a separate unit for NGOs and the private sector was established in 1995 to strengthen the role of civil society organizations in FAO programmes and activities and, in 1999, a new FAO policy and strategy for cooperation with NGOs and civil society organizations was announced.

Rapid technological changes, changes in the resource base, and economic and market developments have brought to the fore a variety of ethical questions of relevance to food security and sustainable rural development. To address these issues, "Ethics in Food and Agriculture" has been established as a PAIA to guide the Organization's actions in this regard. A new publication series, *The FAO Ethics Series*, has been launched with the aims of making information widely available on major issues related to ethical questions of relevance to agriculture and food security issues, and of ensuring broad-based involvement in decisions concerning technology development. A key thematic focus of current importance centres on the ethical issues related to food safety, environmental impacts, perceived risks and benefits, transparency, accountability and equity in the use of agricultural biotechnology including Genetically Modified Organisms.

The agriculture, forestry and fisheries sectors, which come under FAO's mandate, constitute a large part of international common goods and are pertinent to the ongoing debate on International Environmental Governance. The FAO statement on IEG is presented separately. In this paper, however, the Organization's role as a neutral forum and a depository of international agreements, codes of conduct, and standards and instruments in key areas of its mandate is highlighted in Section III, Strengthening the Regulatory Framework for Sustainable Development.

II. Key Areas of FAO's Assistance to Member Countries in the Implementation of Agenda 21

A. Supporting Policies, Strategies, and Technologies and Building Capacity and Partnership for Action

1. Sustainable Agriculture and Rural Development (SARD)

Chapter 14 of Agenda 21, SARD, consists of twelve action programme areas and constitutes the very backbone of FAO's approach to working with partners to address the challenges of enhancing agricultural production, food security and rural development while preserving the natural resource base. Since UNCED, the concept of SARD has evolved in three major ways. First, the concept of SARD has broadened beyond environmental sustainability to include social, institutional, and economic sustainability. This more holistic focus reflects an understanding that people need access to different resources, be they natural, physical, financial, social or human, in order to alleviate poverty and achieve sustainable livelihoods. Second, there is a growing appreciation that good agricultural practices and rural development help significantly in reducing the negative impacts of human interaction with the environment. Third, the participation of all stakeholders is recognized as essential for SARD.

As outlined in the previous reports on SARD, notably the Secretary-General's Report on SARD produced for the Eighth Session of the Commission on Sustainable Development (CSD-8), there are both successes and shortcomings in the implementation of SARD. With regard to the economic and social dimensions of SARD, rural poverty and food insecurity remain the overwhelming concern, although more food is produced today than ever before. Globally, about 1.2 billion people today live in conditions of extreme poverty, with the majority of them in rural areas. The problems of poverty and hunger are inextricably linked. It is estimated that more than 815 million people in the world are afflicted by hunger, of whom 777 million live in developing countries. At the World Food Summit (WFS) in 1996, world leaders agreed to reduce the number of hungry people by half by the year 2015. The Millennium Summit reiterated this goal in September 2000. A follow-up meeting, *World Food Summit: five years later*, will be held at FAO headquarters in Rome from 10-13 June 2002, to review progress and raise the political will and financial resources to fight hunger.

To facilitate the WFS Plan of Action, the FAO-initiated Special Programme on Food Security (SPFS) was endorsed to assist low-income food deficit countries (LIFDCs) to improve their national food security and people's access to food. The SPFS places emphasis on integration of technologies such as small-scale water harvesting, intensification of sustainable plant production and diversification of the production system, grassroots participation, and South-South cooperation. The SPFS promises to be an instrument to attain the goals of SARD, given its emphasis on proven technologies to assist small farmers, national ownership and broad-based partnership. As of December 2001, the SPFS was operational in 66 countries, of which 38 in Africa.

Another initiative that has proved effective in mobilizing support for governments' efforts to implement the World Food Summit Plan of Action and SARD is the Administrative Committee on Coordination (ACC) Network on Rural Development and Food Security that was set up in

1997. The Network has also reinforced ties between United Nations system organizations and other stakeholders, and fostered exchange of experiences and best practices. As of November 2001, the Network at the international level consisted of 20 United Nations system organizations and associated international and regional non-governmental organizations. At the country level, 33 national thematic groups working on rural development and food security have been established within the United Nations Resident Coordinator system in Africa.

The Committee on Food Security (one of FAO's technical governing bodies) serves as the forum in the UN system for monitoring the implementation of the WFS Plan of Action (PoA). It is responsible for annual reporting on the development of food insecurity and vulnerability information and mapping systems (FIVIMS), an initiative launched at the request of the WFS to improve information, at the national and international levels, on who the food insecure and vulnerable people are, where they are located, and why they are food insecure and vulnerable, in order to enable better targeted, timely, effective action against hunger.

Over the past ten years, FAO has prepared articles that addressed many of the core issues of SARD (e.g. economic impact of plant and animal transboundary diseases, microcredit, water policies, urban agriculture) that were included in the State of Food and Agriculture report. It has also addressed some of the knowledge gaps in the interaction and trade-off between environmental and economic development through its wide-ranging publications including: the definition of sustainability in the context of agriculture and how it can be operationalized; land quality indicators; environmental externalities and market imperfections; impact of environmental regulations on trade competitiveness; linkage between trade and food security; implications of macro-policies, particularly structural adjustment policies; and the design and reform of institutions to promote greater cooperation in the management of common pool natural resources.

Agricultural trade liberalization has important implications for SARD although the positive and negative environmental effects are not yet well understood. International markets for agricultural products remain highly distorted by subsidies and barriers that limit benefits to developing countries and hinder progress on SARD. When effective environmental policies are in place, trade liberalization can promote more efficient use of agricultural resources and lead to more environmentally sustainable production and consumption patterns. FAO has been assisting developing countries in becoming informed and equal partners in the international trading system by carrying out analytical studies and training programmes that review current food and agricultural policies in relation to those agreed under the Uruguay Round and facilitate their participation in the new trade negotiations on agriculture. Over the past two years, FAO has trained more than 850 officials from 151 countries in Asia, Africa and Latin America on all aspects of the WTO Agreements and negotiations of relevance to our mandate. An inter-departmental group has been established on multilateral trade negotiations on Agriculture, Fisheries and Forestry which will guide and coordinate aspects of trade liberalization related to sustainable agriculture and rural development.

There has been some success in the social dimension of SARD, as its approach has become more people-focused. In the past few years, building human capacity - enabling people to understand and manage their environment - and creating and strengthening institutions that can guide, inform and empower them have emerged as the basis of a SARD-focused approach to

development. In line with the decision of CSD-8, which invited FAO to facilitate the involvement of major groups of civil society in reviewing the implementation of SARD, FAO has helped to enhance the synergies between different development actors and has also granted new opportunities for active participation of stakeholders from all major groups in the design, implementation, and evaluation of SARD-focused policies and programmes. Indeed, strategic alliances among stakeholders (government and relevant members of civil society) at both the community and national policy-making levels, appear to offer great promise for accomplishing tangible goals for SARD.

FAO has assisted member countries and civil society organizations (particularly farmers' and rural people's organizations) in capacity building at all levels of society in many of the programme areas of SARD. As a neutral forum for discussion and policy formulation on major food security and agricultural issues, FAO has established a participatory process within which civil society organizations can bring their concerns to member governments in multistakeholder dialogues. In recent years, major groups from civil society organizations set up in the context of CSD, have been increasingly engaged, with FAO, in reviewing progress in the implementation of the recommendations in Chapter 14 of Agenda 21. A joint stock-taking of existing success stories and case studies on sustainable agriculture and rural development through empirical reviews of national, regional and international experience has been initiated as input to the PrepComs and World Summit on Sustainable Development to highlight SARD success stories, constraints and ways forward.

The SARD people-focused approach has enhanced the integration of gender concerns in agricultural, natural resources, and rural development programmes. Socio-economic and Gender Analysis (SEAGA) Programme methods, tools and materials have been tested, adapted and used widely in training of trainers sessions in many regions. SEAGA assists development professionals by providing the necessary diagnostic and methodological tools to mainstream gender and other socio-economic concerns in development programmes. Gender technical training provided to agricultural extensionists in FAO-executed projects has also had a beneficial impact on the outcome of projects, in particular in irrigation, agricultural, and livestock production.

Efforts have also been made to increase the involvement of youth and create greater awareness of environmental and food security issues in many programme areas of SARD. For example, farmers trained through adult Farmer Field Schools (in Bangladesh, Cambodia, Philippines, Thailand) play a key role in providing education to help children understand the ecological system and Integrated Pest Management (IPM) methods. Similar efforts have also been made through Farmer Field Schools in Bolivia, Ecuador, and Peru to involve the participation of indigenous farmers, teach them local knowledge with broader ecological principles, and improve their environment through prevention of contamination.

As regards the socio-economic dimensions of SARD, the HIV/AIDS epidemic presents a major threat to food security and the well-being of rural society in many developing countries, particularly in sub-Saharan Africa. It is estimated that 40 million people are infected with HIV/AIDS worldwide, 28.1 million in sub-Saharan Africa and 7.1 million in Asia. HIV/AIDS severely affects the household's ability both to buy food, through its impoverishment, and to produce it. FAO estimates show that these countries could lose up to one quarter of their

agricultural labour force by the year 2020, thus adversely impacting on food security. FAO's focus is principally on incorporating an HIV/AIDS dimension, where appropriate, into its ongoing food security, nutrition and agricultural development initiatives, as well as in its emergency operations, in affected countries.

The environmental dimensions of SARD are related to the sustainable use and management of natural resources, agro-chemicals, rural energy, and plant and animal genetic resources for food and agriculture, which are essential to attain the agricultural intensification required to meet the needs of the growing world population. The world's farmers will have to produce 40 per cent more grain in 2020 to feed the growing population (particularly in developing countries) and this challenge has to be met mainly from the intensification of agricultural production (in the form of either higher yields or cropping intensity) given the serious constraints to further expand agricultural land. The challenge for FAO and SARD is to achieve sustainable intensification of agriculture, without further degradation of natural resources and the environment.

The Integrated Plant Nutrition Systems (IPNS) aim to maximize plant nutrient use efficiency by recycling all plant nutrient sources within the farm, through a balanced use of local and external sources of plant nutrients, including fertilizers, in a way that maintains or improves soil fertility. During the last three years FAO has initiated a number of collaborative programmes on integrated soil and nutrient management practices, including farmer field schools, with the national agricultural research systems in more than 15 developing countries.

The Integrated Pest Management (IPM) goal is to avoid or reduce yield loss by pests while minimizing the negative impacts of pest control. The concept has broadened over time and today it can best be described as a decision-making and action-oriented process that applies the most appropriate pest control methods and strategy, including integration of social sciences. Most IPM projects now develop around a dynamic extension model, the Farmer Field School (FFS), which places emphasis on the farmers' ability to experiment and draw conclusions, enhancing their ability to make decisions. IPM has been introduced successfully in many countries and for many different crops such as rice, cotton, and vegetables.

FAO has helped to achieve more sustainable cereal production by promoting decentralized-participatory cereal breeding and by helping to broaden the genetic base of crop species. Greater sustainability in cereal production has been achieved, partly as a result of FAO's promotion of Integrated Crop Management, hybrid rice development, and the development of inland valley swamps in sub-Saharan Africa. FAO has supported the development of improved cereals such as post-rainy season sorghum in the Sahel, barley and Andean crops in Latin America.

At the 1996 Leipzig Conference, 150 countries approved the Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture, prepared by FAO. This was the first comprehensive world-wide assessment of conservation and sustainable use of plant genetic resources at national, regional and international levels. It was subsequently endorsed by the FAO Conference and the Conference of the Parties to Convention on Biological Diversity.

FAO has assisted member countries to diversify farm production, by providing information on available animal genetic resources and local feed resources, and by disseminating proven

technologies that help to increase ownership and improve productivity, reduce losses, and add value and income through preservation and processing in short-cycle domesticated animal species, such as poultry, sheep, goats, and pigs.

The Organization has also tried to address the concerns on the effects of the various levels of agricultural intensification on environment and food safety through the establishment of Priority Areas for Inter-disciplinary Action (PAIAs) on Organic Agriculture, Biotechnology and Biosecurity carried out by Inter-Departmental Working Groups. The Inter-Departmental Working Group on Organic Agriculture attempts to respond to the growing demand for organically produced food, particularly in developed countries, while also building on low-input agriculture to enhance income earning opportunities. It provides information on organic production and trade, as well as institutional support and policy advice, for member countries to understand the organic sector.

Rural energy transitions are an important dimension in attaining SARD. Agriculture has an additional role in the energy sector, as it can become an important producer of renewable energy in the form of biomass. Agricultural and forest residues and energy plantations of sugar cane, sorghum, fast growing grasses or leguminous trees, can contribute substantially to the energy balance in many countries, with synergistic effects on employment creation as well as increasingly important substitution of fossil fuels for both economic and environmental benefits. Developing countries require assistance in establishing the necessary policy and technical mechanisms to establish sustainable renewable energy programmes and FAO is assisting them in this effort.

2. Land and Water Management

Over 80 percent of the world's population lives in countries where agriculture and the land that supports it are the primary sources of livelihood. Production from these lands must increase substantially (by 40 percent) by 2020 to feed a growing population projected to reach 8 billion. People living in developing countries will account for over 90 percent of the increase, and careful planning and action are required in the management of land resources to enable these people to help themselves.

Since UNCED, there has been increasing awareness of the problem of land degradation, even though there are differing views as to the extent and the severity of degradation at the global level. In general, many regions of the world, particularly those in tropical, subtropical, dryland, hillside and mountain areas in developing countries are affected by land degradation, largely due to factors such as deforestation, land use changes, farming and grazing practices, demographic pressure, lack of appropriate and improved technologies, poor markets, and other institutional, infrastructural, policy and legal shortcomings.

Land degradation results in a loss of soil quality with adverse impacts on agricultural productivity and food security, particularly among the poor. It also impairs the environmental and habitat functions of ecosystems, in many cases leading to hydrological disturbance and ineffective use of water resources, vegetation decline and loss of biological diversity, increased carbon emissions as well as soil erosion. Degradation of agricultural land and decline in soil fertility continue to be a major threat to food security and sustainable development – especially

in developing countries. The problem is most severe in sub-Saharan Africa where most soils are relatively infertile and where average nutrient loss is increasing.

As Task Manager for Chapter 10, Integrated Planning and Management of Land Resources, and a major partner in the implementation of Chapter 18, Protection of Water Resources (ACC Sub-Committee on Fresh Water), FAO, in partnership with other stakeholders, is assisting member countries and civil society organizations, through its normative and operational programmes, in capacity building, strengthening institutions, and promoting participation.

The last decade has also seen increased awareness of the need for integrated approaches to the planning and management of land and water resources. FAO prepared a special paper for CSD-8 on the linkages between agriculture, land and water, which highlighted the challenge to achieve food security for the expanding world population, taking into account accelerating urbanization and competition for scarce resources. Important initiatives and promising technologies have been developed that attempt to integrate soil and water management.

Through multi-partner cooperative programmes on the Soil Fertility Initiative (1996), FAO has helped some 20 countries in sub-Saharan Africa to develop programmes and activities for soil productivity improvement, taking a holistic approach that includes crops, soils and water, and nutrient management. The private sector and civil society organizations are involved in this process.

FAO, in partnership with the World Bank, the CGIAR system and other partners and networks, is also actively promoting the principles of Conservation Agriculture (CA). The essential features of CA are zero- or minimum-tillage, the maintenance of a cover of live or dead vegetal material on the soil surface, and crop rotation. The goal is to maintain and improve crop yields and build resilience against drought and other hazards, while stimulating the biological functioning of the soil. In some cases yields have risen by some 20-50 percent after a few years and also have become less variable. Labour costs can be significantly lower, and labour demand is distributed much more evenly over the year. Input costs are also lower, particularly for machinery, once the initial investments have been made. The USA and Brazil are the two main countries using CA, where the area under zero tillage is about 23 million hectares and 10 million hectares respectively, consisting of well over half of the total area worldwide under CA.

There is a consensus that conservation must include both soil and water resources, and FAO has been assisting member countries in promoting integrated soil and water conservation (ISWC) technologies through projects and training, including sharing successful experiences, participatory technology development, and mechanisms to mobilize the transformation from unsustainable to sustainable practices by resource users, for example, through the Farmer Field Schools approach. In this approach, efforts are made to build on local research and knowledge systems. FAO has been promoting an integrated approach in the use of water resources for agriculture and food security, including policy and legal advice, and the design, planning and implementation of water resources with stakeholders at farm, irrigation scheme, watershed and river basin levels, taking into account other demands. Guidelines and capacity building are provided through the International Programme for Technology and Research in Irrigation and Drainage (IPTRID) partnership, as well as projects on improved water use efficiency and productivity for food and agriculture.

The Special Programme for Food Security (SPFS) promotes the development of small-scale water control projects and improved soil productivity management with a view to enhancing food security in more than 60 countries. As an alternative to irrigation which may be costly and compete with other demands on limited surface and groundwater resources, more attention has been paid to enhancing rainwater management through more sustainable land use systems, and soil and vegetation management practices.

FAO builds capacities for integrated river basin and watershed management and development, in collaboration with partner organizations, including the functional integration of land and water management with socio-economic, policy, legal and institutional considerations (at all levels from on-farm soil moisture management to the provision of legal regimes for shared river basins). For example, long-term support has been provided to Africa on information and forecasting systems, watershed modelling, sustainable agriculture, energy and legal issues, through the Nile River Basin Initiative, the Lake Chad Basin Commission and the Niger Basin Authority.

The role of farmers' groups and associations, and effective collaboration among stakeholders, including farmers, extensionists, research workers, local authorities and the private sector, have been instrumental in ensuring the successful uptake of sustainable land and water management practices. Self-help work groups and farmers' clubs have also been an important vehicle for the diffusion of soil and water conservation practices, for example, in Kenya and Zimbabwe. In this process, important lessons can be learnt from the valuable and successful experience of farmer-led community land care groups in Australia (of which there are over 4500) and, more recently, in the uplands of southern Philippines.

FAO has provided policy advice and supported capacity building in the review of property rights, land tenure systems and land markets (including private, public, informal and indigenous regimes), the reform of national and local policies and laws, and the development of land administration systems to support sustainable land tenure. The participatory approach is strongly encouraged to ensure equal access to land and the security of land tenure, in particular for women, the poor, and indigenous and local communities. A major challenge is to ensure legal and social rights for traditional "owners" and users of areas with various forms of communal tenure. FAO, in collaboration with international financial institutions and other partners, has assisted member countries to successfully implement land tenure reforms and regularization, and to address problems where changes in land tenure affecting individuals and communities have led to land degradation.

Through the Inter-Departmental Working Group on Desertification, FAO is actively involved in the development and dissemination of technical and policy guidelines on drylands. It is also coordinating a multi-partner process to implement the GEF/UNEP funded Land Degradation Assessment in Drylands (LADA) project. The aim is to develop and implement strategies, tools and methods to assess and monitor land degradation and its impacts on ecosystems, watersheds and river basins, and carbon storage in drylands.

3. Forest Management

Forests covered 3.9 billion hectares of the world's surface in 2000, of these 95 percent were natural forests and the balance plantations. Of the total, 17 percent were located in Africa, 14 percent in Asia, 5 percent in Oceania, 27 percent in Europe, 14 percent in Central and North America and 23 percent in South America. Forests make important contributions to the well-being of society as reservoirs of biological diversity, as providers of critical environmental services, such as carbon sequestration and the source of freshwater, and as a source of livelihood and subsistence of many indigenous peoples and local communities.

Following UNCED, the focus of forest management has shifted from the largely production function of forests to the environmental and socio-economic functions, especially related to people's well-being and livelihoods. Broader approaches to forest management, such as ecosystem and landscape management, are becoming more widely accepted and put into practice. New tools to implement sustainable forest management, such as criteria and indicators, are being introduced and codes of good forest practice, including low impact logging, are being adopted. The importance of trees and forests for rural livelihoods in Low Forest Cover Countries (LFCC) has attracted particular attention. These countries, many of which are severely affected by deforestation and forest degradation, are working together to address issues in a coordinated manner.

There have been major developments in forest policies since UNCED. Many countries have introduced new policies and legislation to promote the sustainable management and conservation of their forest resources. FAO and a number of other organizations have actively collaborated to support more effective national forest policies, including facilitating the interaction of the forest sector with other sectors, decentralization and devolution, and privatization of forest resources. Perhaps the most widespread change has been the implementation of policies promoting decentralization of forest decisions to local communities. The Forests, Trees and People Programme coordinated by FAO has effectively promoted participatory processes, including major groups of civil societies, throughout Africa, Latin America and the Caribbean, and Asia and the Pacific.

FAO is involved in national initiatives to promote improved policies and technologies to support sustainable forest management; to improve governance; to reduce illegal forest practices; to promote reduced impact logging methods in tropical forests; and to implement criteria and indicators for sustainable forest management. FAO developed a Model Code of Forest Harvesting Practices, which has gained widespread recognition, as exemplified by the adoption by many countries of a Regional Code of Forest Harvest Practices.

At the level of global policy, the years following UNCED witnessed a sequence of events advancing the international forest policy dialogue. An Inter-Agency Task Force on Forests (ITFF) comprising eight agencies and chaired by FAO was established in 1995. The ITFF supported governments in policy deliberations within the framework of the Intergovernmental Panel on Forests (IPF, 1995–1997) and the Intergovernmental Forum on Forests (IFF, 1997–1999) that resulted in over 250 proposals for action to promote sustainable forest management by countries, international organizations, the private sector and civil society. FAO was a lead technical agency in preparing the background documents for the IPF/IFF discussions and

monitoring the implementation of the IPF/IFF proposals for action. The United Nations Forum on Forests (UNFF) was established under ECOSOC in 2000 for an initial period of five years. FAO is the lead technical organization for many of the key programme areas to be addressed by the UNFF. FAO also chairs the Collaborative Partnership on Forests (CPF), an affiliation of eleven agencies and organizations established in 2001 to support the UNFF process and to provide effective coordination of the forestry work of international organizations.

Support to national forest programmes (NFPs), as agreed by the IPF, is the cornerstone of FAO's work in forestry. Effective national forest programmes emphasize intersectoral approaches; they are based on participatory processes in which all interested parties are involved, they incorporate ecosystem approaches, and they promote sustainable use of forest resources. FAO supports national forest programmes in a number of ways:

- it is the focal organization for national forest programmes within the Collaborative Partnership on Forests (CPF) in which eleven international organizations, secretariats of conventions, and financial institutions work together on forests;
- it will launch a National Forest Programme Facility in 2002 which will serve as the global clearinghouse for coordinating donor support to national forest programmes: the focus of the Facility will be on capacity building and sharing of knowledge among countries and organizations;
- it plays a lead facilitator role in the development and implementation of national, regional and international processes for criteria and indicators for sustainable forest management: these processes have contributed to the strengthening of forestry institutions and promoting sustainable forest management in many countries around the world.

Regional workshops, held by FAO, have helped to build National Forestry Programmes and national capacity to develop, use and disseminate regional criteria and indicators for sustainable forest management, and improved methods to survey forests, forest products and indigenous fruit trees and other non-wood forest products, such as mushrooms and bamboo, and to develop a regional initiative to cope with drought. FAO has assisted the Southern African Development Coordination Conference (SADCC) in developing a Forest Industry Training Centre in Zimbabwe focused on training in improved wood processing and environmental protection, and has helped Mozambique to develop capacity at the national and provincial government levels for community based forestry and wildlife management.

4. Management of Fragile Ecosystems: Mountains

Over the last ten years, public awareness of the importance of the sustainable development of mountain areas has increased. Mountains and highlands are water towers of the earth, hub of a rich biodiversity, sensitive indicators of climate change, and areas of recreation for an increasingly urbanized world.

However, the level of economic development in most of the world's mountain regions, particularly in developing countries, remains very low. Abject poverty, isolation, cultural erosion, armed conflict, natural disasters and many other obstacles continue to afflict a large

number of those living in these fragile ecosystems. In more developed regions, inappropriate developments in mining, outdoor recreation, transport infrastructure and suburbanization, as well as air pollution damage have had a serious negative impact on water, flora, fauna and mountain residents.

FAO, with its Task Manager responsibility for Chapter 13 of Agenda 21, Managing Fragile Ecosystems: Sustainable Mountain Development, has taken concrete steps at all levels to promote the objectives defined under Chapter 13:

- A number of regional inter-governmental consultations on the implementation of Chapter 13 have been organized, in particular the convening and chairing of the *ad hoc* Inter-Agency Group on Mountains. This group consists of UN agencies, bilateral donors, international non-governmental organizations (NGOs) and research institutions, which provide conceptual guidance and advice for the implementation of Chapter 13 and, more recently, for the preparations for the IYM.
- In 1995, the Mountain Forum network was inaugurated. This Forum provides mutual support, information sharing and advocacy for mountain peoples and environments. It currently has more than 2000 members and is organized in regional and, in the case of Europe, sub-regional nodes.
- Within its normative programme, FAO has been very active in watershed management over the last ten years. Participatory approaches, which obviously include a strong focus on capacity building, have been a very important component of these activities. The recently terminated FAO-Italy Interregional Project on Participatory Upland Conservation and Development promoted integrated watershed management, community participation and overall sustainable resources management and development at local mountain community level.

Effective policies are arguably one of the most important determinants for the successful implementation of sustainable mountain development, given the physical isolation, political marginalization, fragility and harsh climatic conditions of mountain ecosystems.

On the whole, with some positive exceptions (such as the Convention for the Protection of the Alps, and Italy's Law on Mountain Areas of 1994), mountain-related policies have received relatively little attention over the ten years of implementation of Chapter 13.

Most sustainable mountain development activities have tended to be community-based and focused mainly on specific development and conservation efforts. The development of an overall enabling environment in countries through improved policy and legislation has received relatively little attention to date. Few countries have introduced comprehensive national mountain legislation and policies that directly address the special conditions and problems of mountain regions and their inhabitants.

Most policy decisions, including those affecting mountain areas, are made within the context of a specific sector (agriculture, education, health, etc.) and until now there have been few opportunities to engage in cross-sectoral discussions on mountain issues. However, through

watershed management and the micro-catchment approach to natural resource management, there are cases (i.e., El Salvador, Haiti and Tunisia) where FAO brought cross-sectoral linkages between agriculture, forestry, transportation and other sectors that provided new opportunities for hillside and mountain communities.

A significant opportunity to increase awareness and support mountain development was brought about by the UN General Assembly's decision in 1998 to declare 2002 the International Year of Mountains (IYM). This has given new impetus to mountain initiatives and provides opportunities for improvements in policies, capacity building and financial investment in areas affecting mountains. FAO, as lead agency for the IYM, is actively involved in this endeavour. Many countries have mobilized and launched national programmes for IYM observance, especially through the establishment of national committees, that often involve close partnership and collaboration among governments, NGOs, private sector organizations and others. These national committees for the IYM could facilitate the development of mountain-related policies and activities following the IYM.

Capacity building remains the most serious challenge in the implementation of Chapter 13. Some noteworthy examples include Mexico, which, in 1977, embarked on a sustainable mountain programme involving the participation of all stakeholders, training and capacity building and pilot field activities. China has also launched a national demonstration project on integrated mountain development in 114 counties in 30 provinces throughout China. There are also efforts in the Fouta Djallon region of West Africa for integrated upland development and resources management to protect the water supply of West African countries which is central to the livelihood of many people in the region. However, there is an urgent need for more action, assistance and cooperation.

5. Responsible Fisheries

As leading partner in the implementation of Chapter 17 of Agenda 21, Protection of Oceans (ACC Sub-Committee on Oceans), FAO works with member countries in several key areas to promote policies and technologies that facilitate long-term sustainability in fisheries. FAO has a central role in the organization of fisheries management at global and regional levels through its network of fishery bodies and its Governing Body, the Committee on Fisheries (COFI). FAO adopted a Code of Conduct for Responsible Fisheries (the Code) in 1995, which constitutes a unique integrated framework combining the requirements of the UN Convention on the Law of the Sea, UNCED and Agenda 21, the UN Fish Stock Agreement and the Convention on Biological Diversity (CBD). More information on the Code is presented in Section III, Strengthening the Regulatory Framework. A series of guidelines have been produced and a number of activities undertaken to facilitate the implementation of the Code, a few of which are mentioned below:

- In the area of fishing operations, technical guidelines have been produced to better protect the ecosystem and minimize waste. Work has focussed on minimizing by-catch and discards. A project aimed at the reduction of by-catch in tropical shrimp fisheries has been developed jointly with UNEP from funding by GEF. FAO also facilitates and participates in international meetings to review and assess by-catch and discard issues, undertakes country

visits to provide advice and liaises with research institutes, Regional Fisheries Bodies (RFBs), industry groups and non-governmental organizations.

- In the area of fish utilization, processing, and food quality and safety, activities included the accelerated transfer of processing skills and technology, leading to better utilization of fish resources for direct human consumption, including through the utilization of by-catch and low-value fish, better value-addition, promotion of fish nutritional attributes, improvement of quality and safety in conformity with international standards, and promotion of international fish trade. Within the framework of the Code of Conduct for Responsible Fisheries, an International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries has been adopted in 1999. Since its adoption, FAO has been working with member countries to promote information about the plan and facilitate its implementation, especially in those fisheries and regions where the by-catch of seabirds in fisheries is most problematic.
- In the area of fisheries governance and management, guidelines have been developed, including for the precautionary approach to capture fisheries and aquaculture and the development of indicators. FAO Regional Fisheries Bodies' status, structure and functioning have been systematically reviewed and the network has been streamlined. A collaboration has started with UNEP to improve cooperation between regional fisheries and environmental institutions. Work has focussed, *inter alia*, on reducing excess fishing capacity, reviewing the impact of subsidies (in collaboration with WTO), improving shark fisheries management, endangered species (in collaboration with CITES), illegal fishing (in collaboration with IMO), certification, and adjustments of national legislation to the Code of Conduct. Significant efforts have been made to support improvements in monitoring, control and surveillance (MCS) using regional workshops as the principal vehicle to enhance national capacity and regional cooperation, and on assessing and disseminating information including guidelines on vessel monitoring systems (VMS) aimed at reducing of costs.
- In inland fisheries and aquaculture, normative and field work has focussed on providing the enabling institutional environment for sustainable development of aquaculture and aquatic resources management. Recent activities include assistance to sustainable shrimp culture, technical guidelines on aquatic animal health management, assistance to safe transboundary movement of live aquatic animals, support to inland fisheries development and management, technical guidelines on good practices for feed manufacturing, and integrated agriculture-aquaculture development. A Sub-Committee on Aquaculture of COFI was established in 2001.

Capacity building and institutional strengthening in developing countries are the key elements in facilitating long-term sustainability in the fisheries sector. The 1995 Code of Conduct for Responsible Fisheries recognizes explicitly the importance of enhancing human and institutional capacity and urges action to be taken to this end. FAO's programme of work in fisheries stresses capacity building and institutional strengthening in a number of ways. The Organization works closely with national fishery administrations, including those in small island developing states (SIDS), to improve their operational efficiency in management and utilization and in the promotion of sustainable aquaculture through the dissemination of information and the preparation of technical guidelines.

An important aspect of FAO's fisheries capacity building work is the facilitation of cooperation among member countries in support of Regional Fisheries Bodies or arrangements. This work is critical given that all post-UNCED fisheries instruments envisage that RFBs will facilitate cooperation to conserve and manage international fisheries. FAO's work with RFBs focuses on technical and administrative support, and the promotion of collaboration and consultation among all fisheries bodies on matters of common concern (an informal meeting of all regional fisheries bodies is now organised by FAO, at their request, every two years).

6. Management of Chemicals and Waste

As a major partner in the implementation of Chapter 19 of Agenda 21, Management of Toxic Chemicals, FAO works in close collaboration with UNEP and other relevant agencies in this area.

FAO has developed guidelines on preventing the accumulation of further stocks of obsolete and unwanted pesticides, on preparing inventories of existing stocks and on their disposal. It prepared inventories of obsolete and outdated pesticides for 53 countries in Africa and the Near East. Donors, FAO and bilateral agencies assisted several countries to collect their obsolete stocks and to export them to countries where they could be disposed of safely. FAO also initiated the collection of data on stockpiles of obsolete pesticides in Asia and Latin America.

Within FAO's programme on the Prevention and Disposal of Obsolete Pesticides, regional workshops were held in various countries all over the world, often carried out in cooperation with UNEP and UNIDO. These workshops strengthened national assessment capacities for data collection of obsolete pesticides, now estimated to be at 500,000 tonnes worldwide. Disposal projects are ongoing in Colombia, Ethiopia and Yemen.

FAO has revised its programme for the development and publication of specifications for pesticides and their related formulations in order to reflect more strongly the relevance of pesticide impurities, toxicological and ecotoxicological studies. The purpose of these publications is to provide an international point of reference for a high quality standard for the buying and selling of pesticides, and to assist countries in their domestic processes for the approval and control of pesticides. These specifications also help to protect responsible vendors against inferior products and to strengthen the link between efficacy and specification requirements. To date, nearly 400 pesticide specifications have been established by FAO.

FAO is one of the founding members of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) that was established in 1995 to serve as a mechanism for coordinating efforts of intergovernmental organizations in the assessment and management of chemicals. This programme helps to ensure coordination of technical assistance and capacity building activities across participating organizations and to coordinate input to other international fora such as the Intergovernmental Forum on Chemical Safety (IFCS).

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade was adopted in 1998, two years before the date identified in Chapter 19 of Agenda 21. The Convention requires that chemicals and pesticides that have been added to the Convention because they are banned or severely restricted in at least

one country in each of two regions shall not be exported unless explicitly agreed by the importing country. It also includes severely hazardous pesticide formulations that are too dangerous to be used in developing countries. The Convention will come into force 90 days after 50 countries have ratified it; until then an interim voluntary procedure is being applied. FAO and UNEP jointly provide the secretariat to the Convention as well as the interim Prior Informed Consent (PIC) procedure.

In cooperation with UNEP, training workshops on the implementation of the Rotterdam Convention have been convened in Bangkok, Thailand (1999), Nairobi, Kenya (2000) and Cartagena, Colombia (2000). Further in-depth workshops on the Rotterdam Convention are expected to take place in 2002. These include a workshop for French-speaking African countries, to be held in Senegal in January 2002, and, if resources allow, workshops for Central and Eastern European countries, for Caribbean countries and for the Arabic-speaking countries of Western Asia.

In 1998, FAO started a regional project to support and strengthen the regional pesticide registration scheme among the nine CILSS (Comité permanent inter-États de lutte contre la sécheresse dans le Sahel) countries of the Sahel region in Africa based on trust fund support from the Netherlands. The regional CILSS registration authority, called “Comité Sahélien des Pesticides”, has to date registered 167 pesticides. The project also focuses on strengthening national pesticide management capabilities in selected CILSS countries, e.g., upgrading analytical facilities and surveillance capacities.

B. Information, Monitoring, Early Warning and Decision Support Systems

The importance of information and decision support tools for sustainable development in agriculture, forestry and fisheries has long been recognized by FAO. The Strategic Framework 2000-2015, emphasizes "improving decision-making through the provision of information and assessments and fostering of knowledge management for food and agriculture". The strategic objective identifies an integrated information resources base, with current and reliable statistics, information, and knowledge made accessible to all FAO clients as one of its priorities.

Increasingly involved in information and communication technology applications, FAO is rapidly moving toward filling the digital divide by developing a wide array of data, information and decision support products. The World Agricultural Information Centre (WAICENT) provides corporate strategies within databases, indicators and decision support tools for sustainable development, developed in the technical units. A geo-spatial information infrastructure (geonetwork) has been developed to facilitate the use of spatial data by providing access to FAO's metadata on maps, spatial information and non-spatial data.

In the field of environmental monitoring, FAO provides operational monitoring of seasonal growing conditions and vegetation through an Advanced Real Time Environmental Monitoring Information System (ARTEMIS). ARTEMIS distributes images and value-added information about rainfall and vegetation development status, which are widely used in early warning for food security, crop growing condition assessment, desert locust control, animal health, water resources management and forestry applications.

The AFRICOVER project was initiated in 1995. The project aims to establish a digital land-cover database for selected sub-regions in Africa. It produces land-cover maps on the scale 1:250,000 (1:1,000,000 and 1:100,000 in certain cases), using the same geographic references and projection system in Africa, as well as a common harmonized legend, with updated information on drainage, topography, roads, land-cover features, etc. The project has been implemented through close cooperation between regional and national remote sensing centres and mapping agencies in Africa under the supervision of FAO. A similar project has also been developed to use the Africover methodology for Asia. An effort is being made to develop a global network of land cover.

The 1990 FAO Forest Resources Assessment (FRA) project demonstrated that, with the help of remote sensing, information on changes in forest and land use could be obtained on a global basis in a cost-effective, timely and statistically sound manner. To address the information needs of the international community for studies on global changes, FAO has decided to continue to implement the FRA on a regular basis in order to build up consistent and reliable time-series observations of forest and land use. FAO is currently executing the global forest resource assessment for the year 2000 (FRA 2000) which benefits from the use of remote sensing for many of its components. The FRA 2000 includes a country capacity building activity, allowing countries to participate actively in the assessment process.

FAO has a long history of involvement in climate related activities. Currently, the main activities on agroclimatic databases and agrometeorology, using data both from satellite and *in situ* observations, include management of the climatic database for about 28,000 stations worldwide (FAOCLIM) and production of digital maps (at various levels) based on the climatic database.

FAO is a partner in the Integrated Global Observing Strategy (IGOS). The objective of IGOS is to unite the major satellite and surface-based systems for global environmental observations of the atmosphere, oceans and land. IGOS links research, long-term monitoring and operational programmes, as well as data producers and users. FAO is also a founding member of the Global Terrestrial Observing System and hosts the secretariat of GTOS, which provides policy makers, resource managers and researchers with decision support tools and access to the data needed to detect, quantify, locate, understand and warn of changes, especially reductions, in the capacity of terrestrial ecosystems to support sustainable development. Among its priorities are the development of a global database of terrestrial monitoring sites and the establishment of a global system of terrestrial carbon observation (TCO) to monitor climate change. FAO is also a sponsoring agency of the Global Ocean Observing System and is particularly involved in the development of its Living Marine Resources Module.

The collection, storage and maintaining of various geophysical data and global digital databases for environmental analysis, food security and sustainable agricultural development are a priority area of FAO. An integrated computer workstation capable of integrating remote sensing, agrometeorological, socio-economic and statistical data on a common geographic basis has been developed in the context of its Global Information and Early Warning System (GIEWS) on Food and Agriculture. The enabling facility has also been transferred for use at the regional level in several regions for early warning on food security. Given the increased incidence of emergencies in recent decades, FAO has recently developed the Rapid Agricultural Disaster Assessment Routine (RADAR), which provides a tool for the timely, quantitative and reliable assessment of

agricultural impact after the occurrence of a disaster. The information is necessary to optimize relief operations, mitigate impacts and plan for rehabilitation.

FAO supports member countries in developing a capacity to manage information on animal disease (collection, evaluation and decision-making) for early warning of disease outbreaks. Remote sensing and GIS technology have also been used in the development of schemes to control transboundary livestock diseases under the FAO Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES) Programme. The Transboundary Animal Diseases Information System (TADinfo) facilitates the recording and analysis of animal disease information and has been adopted in Ghana, Malawi, Namibia, Pakistan, Saudi Arabia and Tanzania, and on a regional scale in the Southern African Development Coordination Conference (SADCC).

FAO also provides guidance and coordinates the programmes of the regionally based INFOnetwork (INFOFISH, INFOSAMAK, INFOPECA, INFOPECHE, INFOYU and EASTFISH). This network provides technical assistance to countries with a view to facilitating responsible fisheries processing, trade and marketing. Moreover, FAO is developing a web-based seafood safety system to enhance the dissemination of information relating to this area of its work, especially for developing countries in need of timely information on international standards, regulations and scientific information in fish safety. As a lead-agency, in collaboration with all the UN agencies and programmes dealing with Oceans (including the CBD), and with co-funding from the UN Fund, FAO has developed the UN Atlas of the Oceans. This web-based, collaborative information and communication system links all the ocean-related programmes of the UN and its partners and involves national centres of excellence (in USA and Russia) as well as the private sector. In the framework of a multi-donor project (the Support Unit for International Fisheries and Aquatic Research (SIFAR), FAO contributed to the development of the OneFish Community Directory linking fisheries scientists worldwide and aiming at promoting fisheries research in support of sustainable development.

III. Strengthening the Regulatory Framework for Sustainable Development

The agricultural sector, by its nature, has major responsibilities in the governance of principal international global common goods. It provides many important ecosystem services to the environment and to society, and cannot be dissociated from ecosystem management. It has specific needs and problems to address at different levels. Realizing this, FAO member countries adopted in November 1999 the FAO Strategic Framework, 2000-2015 that gave broad direction (five Corporate Strategies) on how the Organization will serve its member countries, through an interdisciplinary programme, focusing on its comparative advantage.

Corporate Strategy B of the Strategic Framework, “Promoting, developing and reinforcing policy and regulatory frameworks for food, agriculture, fisheries and forestry”, builds on the Organization’s role as a global and neutral forum, and as a depository for a number of international agreements, codes of conduct, undertakings, standards and other instruments within areas of its mandate. Some of the key agreements for which FAO has lead responsibility include the Code of Conduct for Responsible Fisheries, the International Plant Protection Convention (IPPC), the FAO/WHO Food Standards programme and the Codex Alimentarius, and the International Treaty on Plant Genetic Resources for Food and Agriculture. In implementing this

strategy, FAO relies on partnerships with other international agencies and civil society organizations.

The Code of Conduct for Responsible Fisheries

The FAO Code of Conduct for Responsible Fisheries (the Code), adopted in 1995, is a non-binding agreement that seeks to promote structural change in the fisheries sector so that fisheries and aquaculture are utilized in a long-term sustainable and responsible manner. The Code takes a holistic view of the fisheries sector and sets principles and standards for the conservation and management of all fisheries; it addresses the capture, processing and trade in fish and fishery products, fishing operations, aquaculture, fisheries research and the integration of fisheries into coastal area management.

There are also other fisheries initiatives that promote long-term sustainable management and utilization of fisheries, and which support Agenda 21. The most recent ones include the 2001 Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem, which was endorsed by the FAO Conference in November 2001.

The 1993 FAO Compliance Agreement which aims to create a stronger international regime for achieving sustainable fisheries on the high seas, and which is a binding instrument, is an integral part of the Code. The FAO Compliance Agreement also provides for the creation of an international database of information concerning high seas fishing vessels, which is maintained by FAO.

To hasten the necessary adjustments in the fisheries sector, and to target particular problems that have been deemed by the international community to require special attention, four voluntary international plans of action (IPOAs) have been concluded within the framework of the Code of Conduct. These IPOAs, which have the effect of reinforcing different management aspects of the Code, specifically target the reduction of the incidental catch of seabirds in longline fisheries; conservation and management of sharks; management of fishing capacity; and prevention, deterrence and elimination of illegal, unreported and unregulated fishing. While recognizing that policy decisions concerning the changes aimed at achieving sustainability rest firmly with governments, the Code envisions wider stakeholder participation (NGOS, regional fishery bodies, the private sector) and cooperation, if it is to be implemented fully and expeditiously.

Progress in implementing the Code is monitored by the biennial sessions of FAO's Committee on Fisheries (COFI). Self-assessment information provided by governments and stakeholders is collated and analysed by FAO and in turn presented to COFI for review.

The International Plant Protection Convention (IPPC)

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, adopted in 1998, represents a significant source of information on chemicals. Summaries of regulatory actions to ban or severely restrict chemicals by countries are circulated to all countries through the biannual PIC Circular and posted on the Rotterdam Convention website. The Convention also gives importing countries the power to decide which chemicals they want to receive and to exclude those they cannot manage

safely. If trade does take place, requirements for labelling and provision of information on potential health and environmental effects will promote the safe use of these chemicals. In order for its full potential to be realized, countries should be encouraged to ratify/accede to the Convention. Since 1998, four additional chemicals have become subject to the interim PIC procedure.

FAO and UNEP jointly provide the interim Secretariat for the Rotterdam Convention with UNEP leading on industrial chemicals and FAO leading on pesticides. This cooperative approach to the Secretariat is unique and has been identified as one of the best examples of inter-agency cooperation within the UN system. The strength of this cooperation lies in the fact that the work for the Rotterdam Convention is closely linked with more broadly based chemicals/pest management programmes within the two organizations. The joint FAO/UNEP Secretariat thus builds on the existing broad capacity and experience of the two organizations in supporting the implementation of the Convention.

FAO, through the Rotterdam Convention Secretariat, has joined the secretariats of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and the Stockholm Convention on Persistent Organic Pollutants, in holding joint awareness-raising workshops attended by participants from South Pacific small island states, English-speaking countries of Africa and members of the Association of Southeast-Asian Nations (ASEAN). The workshops emphasized the interrelationship of the Conventions and how they can assist countries to manage hazardous chemicals and wastes.

The FAO International Code of Conduct on the Distribution and Use of Pesticides (the Code), the corner stone of FAO's work on pesticide management, sets forth responsibilities and establishes voluntary standards of conduct for all public and private entities involved in the distribution and use of pesticides. The basic function of the Code and its supporting technical guidelines is to serve as a point of reference until such time as countries have established adequate regulatory infrastructures for pesticides. FAO, in collaboration with WHO, establishes internationally recognized quality standards for the trade and use of pesticides. There are also a range of activities aimed at reducing the reliance on pesticides such as the Global Integrated Pest Management (IPM) Facility (operated in cooperation with UNDP, UNEP and the World Bank) for which FAO provides the secretariat.

The International Code of Conduct on the Distribution and Use of Pesticides was revised through a series of expert meetings and government comments and presented to the 31st Session of the FAO Conference (November 2001) for adoption. The text of the revised Code on the Distribution and Use of Pesticides, which focuses *inter alia* on risk reduction, the product life-cycle concept and integrated pest management (IPM), was accepted with the exception of one paragraph related to intellectual property rights and data protection. A technical consultation on the paragraph in question will be held in mid-2002 with the aim of obtaining an agreed text to be presented for adoption by the FAO Council in November 2002.

FAO/WHO Food Standard Programmes and the Codex Alimentarius Commission

The establishment at the national level of an effective food control system forms part of the overall regulatory framework necessary for sustainable development. The FAO/WHO

framework for food standards usually includes enabling legislation, regulations and standards, an inspection system and control laboratories.

The international food standards of the FAO/WHO Codex Alimentarius Commission are referred to explicitly in the Sanitary and Phytosanitary Measures (SPS) Agreement in relation to certain food safety matters, and are assumed to apply under the Technical Barriers to Trade (TBT) Agreement for all other matters. The following is a summary of their application:

- SPS Measures (including standards, guidelines, test methods, inspection procedures, etc.); food additives; chemical and environmental contaminants; pesticide and veterinary drug residues; microbiological contamination;
- TBT Measures (including standards, test methods and conformity assessment procedures); food safety measures not listed above; labelling requirements; nutrition and food composition; other measures having a legitimate objective related to protection of consumers' health and ensuring fair practices in the food trade.

Since UNCED, the FAO/WHO Codex Alimentarius Commission has adopted a comprehensive risk analysis approach to the setting of its standards, guidelines and other recommendations dealing with food safety in the areas referred to above. The approach applies precaution throughout the risk assessment and decision-making process to accommodate the range of scientific uncertainties that may be associated with a food safety risk analysis.

The Codex Alimentarius Commission recognizes that its processes must be inclusive and transparent and provide for participation and input from all interested groups, both at the national and international level. This is particularly important given the interest and concern among Codex members to assure that Codex processes take due account of scientific uncertainties and the element of precaution. Transparency of the criteria and process of risk assessment and decision making is paramount to achieving this objective. Therefore, in addition to actions to promote the participation of member countries at all stages of its decision-making process, the Commission will continue its efforts to promote and facilitate the participation of consumers and public interest groups in its processes at the international level and encourage governments to take action at the national level.

The Commission on Genetic Resources for Food and Agriculture (CGRFA)

FAO, through its inter-governmental Commission on Genetic Resources for Food and Agriculture (CGRFA), is the international forum for the discussion and negotiation of policy and regulatory instruments dealing with agricultural biological diversity. The 1993 FAO Conference adopted a resolution, launching negotiations among governments for the adoption of the International Undertaking for Plant Genetic Resources for Food and Agriculture (PGRFA). This was done in harmony with the Convention on Biological Diversity. The resolution also considered the issue of access to plant genetic resources, including *ex situ* collections not addressed by the Convention and the realization of Farmers' Rights.

Negotiations began in November 1994 and continued until November 2001, when the Thirty-first Session of the FAO Conference adopted the text of the legally binding International Treaty

on Plant Genetic Resources for Food and Agriculture, which will enter into force upon ratification by forty member countries. Its objectives are the conservation and sustainable use of plant genetic resources for food and agriculture, and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security.

The scope of the Treaty relates to all PGRFA. It provides for the realization of Farmers' Rights, by national governments. It establishes a Multilateral System of Facilitated Access and Benefit-sharing, applied to a list of crops compiled on the basis of food security and interdependence. It recognizes that such access itself constitutes a major benefit. The Treaty makes provision for the fair and equitable sharing of benefits, including through information exchange, access to and transfer of technology, capacity building in developing countries and countries in transition, and the sharing of the monetary benefits arising from commercialization of products that incorporate material accessed from the Multilateral System. It establishes a financial strategy and a legal framework for the *ex situ* collections of the International Agricultural Research Centres of the Consultative Group on International Agricultural Research and other international institutions that sign agreements with its Governing Body.

The 1995 FAO Conference broadened the mandate of the FAO Commission to cover all components of biological diversity of relevance to food and agriculture, to be implemented in a step-by-step manner, beginning with animal genetic resources for food and agriculture. The Commission has accordingly established Intergovernmental Working Groups on both Plant and Animal Genetic Resources, and has launched the process for the preparation of the First Report on the State of the World's Animal Genetic Resources.

With the broadening of the mandate of the FAO Commission, its Animal Genetic Resources Working Group made recommendations on the development of the Global Strategy to the Commission at its 1999 session. The Commission noted that animal genetic resources are of crucial importance for sustainable utilization in many production systems and essential components in achieving global food security and rural development. It agreed that FAO should continue to shape the Global Strategy, in consultation with governments, and should coordinate the development of a country-driven Report on the State of the World's Animal Genetic Resources.

The Report will aim to report on diversity characterization, use, development and conservation; the capacity to manage animal genetic resources, with an assessment of capacity-building requirements; the state of the art; and strategic priorities for action at national, regional and global levels. It includes the preparation of country reports in 2001 and 2002; the preparation of reports on strategic priority actions and a follow-up mechanism in 2003; the consideration of the draft Report by governments and stakeholders in 2004, and the adoption of the first Report on the State of the World's Animal Genetic Resources and its Follow-up Mechanism by the FAO Commission on Genetic Resources for Food and Agriculture in 2005.

IV. Conclusion

FAO has made significant progress and contributions to the implementation of Agenda 21 and follow-up of UNCED despite tight financial constraints. In particular progress has been made in

the safe use of chemicals and pesticides, sustainable use of forest and fishery resources, food safety, assistance to the three environmental Conventions, and decision-support systems. A concerted effort and priority should be given at the international level to sustainable agriculture, rural development and food security, land and water management, management of fragile ecosystems, particularly mountains, and trade-related agricultural and environmental issues. Progress must be accelerated in all these areas if the goals of UNCED in the economic, social and environmental dimensions are to be realized.

As the focus of the WSSD (the Johannesburg Summit) is to reinvigorate at the highest political level the global commitment to North/South partnerships, FAO will continue to provide its unwavering support to this goal. However, the declining Official Development Assistance to the agricultural and rural sector since UNCED will need to be reversed.

There is strong hope that the Johannesburg Summit will lead to a consensus on the principle of “common but differentiated responsibilities”, which will result in greater financial and technical assistance to developing countries. At the same time, there is equally an urgent need for greater national commitment to sustainable development and the involvement of civil society organizations as stakeholders in the implementation process. Above all, FAO calls for the Johannesburg Summit to deliver an action-oriented agenda with attainable targets and acceleration in the implementation of Agenda 21. FAO stands ready and committed to assist member countries and all stakeholders in this effort.