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***MEDIUM-TERM
PLAN***



Food
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MEDIUM-TERM PLAN 1992-97

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DIRECTOR-GENERAL'S INTRODUCTION

I have the pleasure to submit, for consideration by the Conference, the proposed FAO Medium-term Plan covering the period 1992-97, in accordance with Conference Resolution 10/89.

I consider this as one key step stemming from the positive outcome of the Review of FAO. This is a "new" document, although the subject of medium-term planning is not entirely novel to FAO. In fact, it was amply discussed in the Council and Conference in the late sixties and the early seventies, and somewhat sporadically since then. Over the years, a number of experiments have been tried out, with mixed results. However, this is the first time that I submit to the Conference a document of such depth and size, which attempts to map out the future of FAO over the next six-year period. It provides an opportunity for the membership to engage in a fruitful discussion focusing on strategic issues, free of more immediate concerns of budget level and cost increases which unavoidably accompany discussion of biennial proposals for the Programme of Work and Budget. In order to permit its thorough review by the competent bodies of the Organization, this Medium-term Plan is submitted to the Conference through the Programme and Finance Committees and the Council.

Scope

Forward planning is the essence of good management. There are times when we

need to extract ourselves from day-to-day pressures and take stock. The Review of FAO, concluded by the FAO Conference in November 1989, did, of course, already provide a good opportunity to do just that. Not unexpectedly, the Medium-term Plan draws heavily on the results of the Review. The Medium-term Plan should be seen as a blueprint to guide FAO action over the next six years at a time of changes in the political, economic and social conjuncture of our planet which seem to be occurring at a dizzy pace. One result of these changes is that FAO made a further step forward towards universality through the accession of the former German Democratic Republic to a united Germany in October 1990. It is hoped that the plan period will witness completion of this process of universalization through the USSR assuming full membership status in FAO.

Momentous changes bring in their wake many imponderables. In any event, there are factors affecting the work of every organization which cannot be foreseen, as decision-makers in governments know particularly well. On account of that uncertainty, the Medium-term Plan cannot pretend nor should be used to cast in iron every facet of FAO's life over a six-year period. Moreover, I see little use in a strategic discussion being lost in a sea of details. Besides, addressing every aspect of FAO's action could easily lead to the size of this document running into several hundred pages. The contents of the Medium-term Plan must, therefore, be broad in scope and selective in detail.

Medium-term challenges

In my view, the value of a medium-term plan cannot be judged solely if at all by its correspondence with a series of programme and budget details. It must rather seek to identify the forthcoming prospects and challenges to the Organization and see how in inevitably broad terms, policies and priorities can be shaped towards these.

POVERTY ALLEVIATION

The first, and without doubt the greatest challenge, is to eliminate poverty. It is poverty which is largely responsible for the fact that today there are more than 500 million people under-nourished. It is poverty that forces many people to strip trees of their branches for fuel, mine soils of their plant nutrients in raising their meagre crops and overfish. During the past few years, there has been growing awareness among both developing countries and the donor community that a major imperative for eliminating poverty is agricultural, rural and human development, through national and international policies that foster economic growth with equity. Moreover, there is an increased sense of urgency arising from the recognition that inappropriate national and international policies have been at the root of the failure of many countries to make progress, and there is also a better understanding of what was wrong with past policies. On the other hand, the economic and social conditions facing many developing countries today are more critical than they were 10 or 20 years ago.

SUSTAINABLE AGRICULTURE

The second challenge, which is in part a prerequisite for meeting the first one, is to

shift agriculture - including fisheries and forestry - onto a more productive but sustainable growth path. Current rates of crop and pasture land loss, land degradation, deforestation, fishing effort and even mineral fertilizer and pesticide use are not sustainable in many parts of the world. It will not be an easy challenge to meet. The acute human and livestock population pressures in some areas mean that greater production will have to come from a relatively static, or even declining, land resource base. Moreover, institutional and structural rigidities in social and economic systems will constrain rapid changes at the operational level.

SELF-SUFFICIENCY VERSUS SELF-RELIANCE

The other challenges are concerned particularly with achieving a better balance between complementary lines of action. The third challenge is to reach an appropriate balance between agricultural self-sufficiency and agricultural self-reliance. Some countries, for example, have created unfavourable domestic terms of trade for agriculture by maintaining unrealistic exchange rates, trade policies or urban food subsidies that have favoured food imports at the expense of local production. Other countries have supported or defended high-cost local production when resources could have been used more wisely or conserved, than to pursue self-sufficiency at any cost.

BROAD-BASED PARTICIPATION

The fourth challenge relates to development models chosen by countries that have tended to be top-down and excessively centralized and bureaucratic. They have failed to achieve an effective level of local community and farmer participation in key areas, such as natural

resource management and the setting of research priorities and programmes. Thus, there must be a better balance between the top-down and bottom-up approaches to development.

PUBLIC VERSUS PRIVATE SECTOR

Similarly, there is the imbalance between public and private sector responsibilities, which is the fifth challenge. In a number of areas public agencies are responsible for activities which must be much more responsive to market signals and, therefore, should be left to the private sector. Yet the public sector still has a key role in providing some services and relieving development bottlenecks. The painful transition from command economy to market-based economy is likely to dominate the attention of policy-makers in a number of countries.

REDRESS PAST IMBALANCES

Sixth, there is the need to find a better balance between agricultural development priorities at the sub-sectoral level, particularly in two areas. First, between rainfed and irrigated crop development. Much of the focus to date has been on the latter, and consequently large areas of some countries and a number of important crops have been neglected, resulting in serious income disparities between regions. Second, between crop and livestock development, because the latter commonly receives inadequate attention given the increasing demand for livestock products which generally arises as countries succeed in raising the incomes and living standards of their people.

LOCAL TECHNOLOGIES AND RISK ALLEVIATION

Overcoming the latter challenge requires action on two others - the neglect of local technologies and the heavy emphasis on production systems dependent on external inputs. In many instances, the starting point for agricultural intensification has been imported technologies, which have been successful in high potential areas but not in the more marginal ones, where it is more appropriate to build on local, risk-avoiding technologies. A key component of the imported technology has commonly been mineral fertilizers and other purchased inputs applied to varieties with a higher yield potential that are unprofitable in marginal situations. In these situations, productivity increases of the future will have to be much more dependent on biological and resource management inputs.

CLOSING THE GENDER GAP

The ninth challenge relates to gender issues and the widespread need for support to female farmers, for example in terms of security of tenure, access to credit and extension advice.

THE HUMAN ASPECT

Finally, there is the cross-cutting challenge of human resources development and policy formulation and implementation capabilities. This challenge underlies all of the foregoing challenges, whether it be the management of the private sector, the achievement of effective people's participation, or the implementation of policies to phase agriculture on a sustainable growth path.

Guiding principles

This presentation of the above challenges leads me to share with Member Nations a number of thoughts which have guided my colleagues and myself as we prepared this Plan.

Firstly, it has to be recognized that FAO is not and never has been a kind of world Ministry of Agriculture. It was originally conceived as such, at least in some ways, but it was not finally constituted nor developed as such nor has ever been expected to act as such by its member countries and governors. Its policies, programmes, and effective outreach have always depended on the will of its Member Nations and the resources provided by them. Nevertheless, FAO has the capacity for innovation and has been responsive to changing world events, and emerging needs at global and national levels, not only within the fields of agriculture, forestry and fisheries. As proved by the Review carried out by independent experts and the Governing Bodies during the last biennium, FAO is a solid and dynamic institution.

Secondly, Member Nations live in an increasingly interdependent world. As explained in Part I, agriculture (in the broad sense) plays a significant role in this interdependence. The world is also entering an age of greater ecological and environmental awareness. Given the multiple interplay of agriculture with the environment, I venture to forecast that FAO, the international organization dealing with agriculture cannot be allowed to stagnate or shrink. Therefore, we share the clear conviction that FAO will be given ever greater tasks in fostering further concerted international action. The greatest task obviously will be to assist countries to reconcile the demands from another billion people in the year 2000 for

food and other resources with the dictates of sustainability.

Thirdly, we have no doubt that FAO Governing Bodies are fully conscious of the capital of experience, expertise and institutional memory on agricultural development existing in the Secretariat, which has been patiently nurtured over more than four decades. Indeed, I have repeatedly stressed that the Organization's main asset lies in its staff and we would not go far without talented and dedicated staff. In the face of the negative developments in the last few years affecting particularly the conditions of service of Professional staff, I consider it my duty to flag this serious problem and to give it the necessary coverage in Part I of the document.

Fourthly, I am deeply convinced that this capital of experience owes much to the close and beneficial relationship between the Regular and Field Programmes. There has been some questioning on the future role of the specialized agencies of the UN system in technical cooperation activities. There is a desire to have them move "upstream" on the project cycle. Whatever direction FAO Governing Bodies will wish our Field Programme to take, it is in their interest to maintain close links with the Regular Programme.

Fifthly, in proposing priorities, as Director-General I simply see my role as that of "honest broker" in finding a common denominator among the wide variety of requirements and the sometimes diverging expectations of Member Nations. As this Plan indicates, many requests also come from external bodies, not from FAO constituents alone. Clearly, it is up to the membership as a whole to decide on these priorities.

Finally, the discussions at the last

Conference, on the various roles of FAO and the "balance" among them are still fresh in our minds. Part I illustrates how the specific character of food, agriculture, fisheries and forestry has shaped FAO's action and its main roles. Governments have launched many initiatives linked to FAO's domain of competence outside FAO's framework at the global, regional or sub-regional levels or within special-purpose institutions. Nevertheless, governments expect FAO to exercise leadership, not merely as an academic research institution, but as an active development partner. FAO has a good record of not being lost in sterile rhetoric, but of practical action. Yet, FAO's professional staff is not much larger than that of a big agricultural university and a lot smaller than the central cadre of the agriculture ministry of a middle-size country; hence, the importance of its catalytic action in exploiting the potential for inter-country cooperation through voluntary pooling of resources. In this light, FAO's roles are needed and complementary.

Priority-setting and resources

Member Governments expect the Medium-term Plan to be a tool for priority setting. The Secretariat has done its best to indicate relative priorities within sectoral programmes or thematic areas. Always, the comparative advantages of FAO have been weighed. However, I must state very candidly that for an international organization of 157 Member Nations, there is no rational basis for indicating across-the-board or vertical priorities six years ahead. National governments find this difficult enough even for annual periods. There is no formula or indicator which could be valid in programme terms or for the exigencies of the membership as a whole for the period covered by three

biennial budgets, which could enable us to say, for instance, that work on animal health is of lower or greater priority than work on marketing from small farmers. As befits a strategic document, in the concluding section, a number of key policy choices are offered for the consideration of the Conference. Some of them are perhaps more controversial than others, but altogether they should provide a good basis on which to build FAO's future. The conclusions also address the resources aspect.

* * * * *

The above main challenges are set forth in the context of this Medium-term Plan, but the sad fact is that they are unlikely to be solved by the end of this century, at least not in the poorest countries whose viability remains problematic. Certainly, solutions will not be found by the attempted imposition on poor countries, racked by the crushing burdens of rapidly-growing population, of external debt, drought, and other intractable problems, of exogenous policies and methods previously used in other countries. Nor will they be solved by the imposition of retroactive policies demanded by the single-issue fanaticism of some vocal groups. It will be the task of the younger group of actors in the continuing dramas of world development to face the greatest challenge of all: how to meet the needs of the further billion, which will be added to the present world population by the year 2000, for enough healthy and safe food, and at least a modicum of other resources, while not despoiling and further ruining the patrimony we leave to them.

I trust that this document, in its substance and format, fulfils the terms of Conference Resolution 10/89 and will be found a

sound basis for frank and fruitful discussions. Differences of perception and opinion among Member Nations of this Organization are to be expected.

Nevertheless, the Medium-term Plan provides an opportunity for Member Nations to unite on a platform for strengthening FAO action through the nineties.

A handwritten signature in dark ink, appearing to read 'Edouard Saouma', with a stylized, flowing script.

*Edouard Saouma
Director-General*

GUIDE TO THE DOCUMENT

o Preparations

The substance of this Medium-term Plan is based on thorough internal consultations throughout the Secretariat. It was prepared under the aegis of a working group drawing on experienced staff members from all concerned departments, so as to reflect truly collective thinking. As directed by the Conference, the advice of the technical committees of the Council (the Committee on Forestry, the Committee on Fisheries and the Committee on Agriculture) was sought, through specially prepared documents on medium-term perspectives and priorities in their respective sectors, and their views taken into account.

o Structure

There is no unique structure for a Medium-term Plan. It could be presented with different formats. The structure of this Medium-term Plan is governed by the criterion of facilitating its analysis in member countries' capitals and its discussion by the Governing Bodies. In this respect, the guidance provided in Conference Resolution 10/89, has been followed to the maximum extent possible. After considering a number of options, a four-part structure has been adopted as follows.

PART I sets the stage for substantive discussions by presenting key factors likely to affect the work of FAO throughout the nineties, both of an internal and external nature. Sometimes, it briefly goes into history as the legacy of the past cannot be ignored in shaping the prospective directions of FAO's work. This part of the document is not simply of the usual "background" nature. It raises a number of issues, as necessary in an open and candid manner. In connection with these issues, possible courses of action are suggested. These are deemed to be sufficiently important for the whole membership to consider and eventually decide on further actions.

PART II is entirely devoted to widely supported "thematic" or "cross-sectoral" priorities. This is an aspect which is of great interest to FAO Governing Bodies. FAO is a relatively large organization, with a complex mandate and worldwide operations. Its organizational structure is necessarily based on specialized, as well as functional units. This gives rise occasionally to concerns at possible compartmentalization. Moreover, for practical reasons, the Conference needs to approve a Programme of Work and Budget which is based primarily on sectoral and functional headings. Therefore, the broad sweep of cross-sectoral priorities is not always easily perceived. However, the necessary in-house coordination in relation to these thematic priorities does take place through well-tested arrangements, as explained in Part II. In this Medium-term Plan, the text is deliberately limited to the five themes which have been most consistently stressed by

FAO Governing Bodies: environment and sustainable development; policy advice; women-in-development; human resources development; and economic and technical cooperation among developing countries.

PART III follows the programme structure of the Programme of Work and Budget document to which the Conference is accustomed. It adopts a common format to the extent possible. It is limited to Chapter 2, Technical and Economic Programmes, as other aspects of FAO's work are touched elsewhere in this document. Its primary purpose, as requested by the Conference, is to set out proposed priorities which will shape the biennial "tranches" of activities in successive Programmes of Work and Budget over the plan period. After a succinct indication of the problems addressed in the perspective of each programme, the proposed objectives and relative priorities are indicated. As relevant, needed extra-budgetary support is also highlighted. The regional dimensions of FAO work are also covered in a separate section. For the first time in any FAO programme-planning document, a comprehensive description of present and planned cooperative links with external partners is provided. This demonstrates that FAO does not operate in isolation but that its work is finely enmeshed with the work programmes of other organizations which have a bearing on FAO's mandate.

The Plan ends with a section on **CONCLUSIONS**. Besides covering major policy orientations and the resources aspect, options are given with regard to possible future versions of the Medium-term Plan.

Every effort has been made to minimize redundancy in the body of this document. However, on the assumption that a Medium-term Plan cannot be read all at once from cover to cover, there is some advantage in making each part and section as self-contained as possible, to permit selective reading and facilitate its analysis and consideration by Member Nations.

PROSPECTS FOR FOOD, AGRICULTURE, FISHERIES AND FORESTRY UP TO THE END OF THE CENTURY

PART I

FAO THROUGH THE NINETIES

THE CONTEXT OF ITS ACTION

PROSPECTS FOR FOOD, AGRICULTURE, FISHERIES AND FORESTRY UP TO THE END OF THE CENTURY

1. Although at the beginning of the nineties, there are ample supplies of food at the global level, no informed person would deny the existence of serious and intractable social, economic and environmental problems linked to the world's food and agricultural economy. The widespread prevalence of extreme poverty and under-nutrition and the associated deprivation of millions of people of the basic needs for their development; the particularly unfavoured conditions of women in agriculture; the difficulties in raising output and productivity of small-scale, rainfed agriculture; the widespread degradation or over-exploitation of soil, water, forest and fish resources; the difficulties in improving agricultural trading relations; and the widespread lack of involvement of rural people in decisions affecting their livelihood and the use of natural resources on which they depend, all subscribe to an awe-inspiring challenge confronting those concerned with food and agricultural policy making.
2. Furthermore, by the end of the nineties, there will be over one billion more people to feed than at the beginning of the decade. In addition, unless there are unprecedented shifts in income distribution, both from the North to the South and from the rich to the poor within the South, the 500 - 1 000 million people who are currently underfed, largely because they are too poor to buy sufficient food, will continue to go hungry. The dangers of massive unemployment, especially among rural youth, are particularly critical.
3. The prospects for such shifts are far from good. The debt burden of many countries will probably continue to hold back their development. The evolution towards a more open international trading system may continue to face difficulties, particularly in agriculture, and it is not in itself the solution because the demand in the traditional markets of Europe and North America for developing country agricultural commodities, is close to saturation. For these and other reasons, the economic prospects are not good for much of Africa, as well as for some countries in Asia and Latin America, although fortunately they appear better than the experience during the eighties, when many non-Asian countries suffered from negative *per capita* income growth.
4. As in the recent past, agricultural production prospects differ considerably from country to country, although there seems little doubt that, at the global level, production will expand to meet effective demand. Although there are a number of threats to production, notably the potential impact of climate change or the loss of biodiversity, as well as ongoing problems such as land degradation, their primary consequences might be in the longer term, albeit policy responses are required in the shorter term as well.

. . . . differing prospects

5. In the developing countries, agricultural production is expected to keep up with population growth, except in sub-Saharan Africa where there is a risk that the past trend of declining *per caput* production may continue, or in those middle-income countries where comparative advantage in other sectors favours greater imports of food and agricultural commodities.

6. The prospects for the OECD countries are for agricultural production to continue to grow at a low rate of generally under 1 percent a year, in line with sluggish growth in both domestic and foreign demand, and in part through the increasing impact of direct income support to producers and the introduction of measures to reduce the negative impacts of agriculture on the environment. Current efforts at policy reform and structural transformation in Eastern Europe and the USSR render projections on their agricultural growth in the medium term particularly uncertain. However, even moderate success in such policy reform would suffice to check the past rapid growth in these countries' net imports of food or, for some of them, to increase their ability to export temperate zone food products.

7. The above is merely a broad sketch to set a perspective for the Plan. It should also be seen in conjunction with the major challenges outlined in the Director-General's Introduction. More detailed descriptions of prospects and challenges in the component areas of the vast food, agriculture, fisheries and forestry sectors are given in subsequent sections of this document, especially in Part III.

MULTILATERAL ACTION IN FOOD AND AGRICULTURE FAO'S ROLE

8. In presenting the major challenges and prospects confronting the community of Member Nations, the preceding sections implicitly suggested the vast scope for multilateral action in relation to food and agriculture issues. FAO was established to give concrete expression to such action.

● A Process of Continuing Evolution

9. FAO has come a long way since its establishment in 1945. Its original membership was, in the most part, drawn from only two continents and dominated by countries soon to be classified as "developed". Since then, FAO has become almost universal. It has acquired a strong developmental orientation, in the face of the pressing requirements for assistance from its poorer and less developed Member Nations. It has sought relentlessly to spearhead the fight against hunger and malnutrition.

10. As recalled in the Introduction, FAO was originally conceived as an organization which would in many respects act as a world government in agriculture, but it was not in fact instituted nor developed as such nor has ever been expected to act as such by its governors and members, which are exclusively the governments of Member Nations. The practical action, capacity for effective outreach and impact on world problems has therefore always depended on the will of, the policies and programmes approved by, and the resources provided by, its Governing Bodies. Nevertheless, FAO Governing Bodies have steered a process of evolution and adjustment of its activities and structure to changing circumstances. They have nurtured and blended in the work of FAO a number of presently well-established functions. This evolutionary process culminated in the Review of FAO's goals and operations, carried out in the 1988-89 biennium, leading to Conference Resolution 10/89.

11. The Review reaffirmed the continuing validity of FAO's Constitution and the following main roles of the Organization:

- (a) centre for collection and analysis of information on food, agriculture and nutrition;
- (b) international forum and source of policy advice; and
- (c) promoter and provider of technical assistance.

● The Specific Character of Food and Agriculture, Fisheries and Forestry

12. These roles, in the main, are exercised by most specialized agencies of the UN system in their respective sectors. However, the nature of each "sector" (food and agriculture, health, labour, industry, education, meteorology, intellectual property, atomic energy, etc.) has self-evidently shaped the "image" and perceived action of the concerned international organization. Understandably, not all sectors of UN system action are prone to the same type of multilateral approaches. The nature of food, agriculture, fisheries and forestry gives a special significance to FAO's main roles, as briefly recalled below.

Transborder problems and crisis situations:

13. Several aspects of agriculture militate for fruitful, indeed necessary cooperation among countries. One of them is the incidence of trans-border phenomena on agricultural operations. Agricultural activity and animal husbandry are at permanent risk of infestation by a great number of pests and diseases moving across borders. Substantial progress has been made in the fight against these threats, and in eradication programmes, to which FAO has taken its due part. The international community looks to FAO for necessary monitoring activities and leadership in case of sudden outbreaks, as evidenced by the Organization's long association with the struggle against locusts, animal trypanosomiasis or foot-and-mouth disease, and its present role in combatting the screwworm infestation in North Africa.

14. In view of the fair component of "crisis situations" in international relations, when it comes to agriculture and food issues, the Organization needs to be given the means to provide flexible responses to unforeseen emergencies. Such capacity has undoubtedly been improved over the years, through in particular the establishment of the Technical Cooperation Programme in the late seventies. However, it can be woefully inadequate in the case of sudden and simultaneous occurrences of large-scale emergencies.

Sharing information:

15. Another key aspect of agriculture is the considerable benefits to be derived from countries with the same ecological conditions, by sharing information on suitable technologies. Beyond technological issues, the complex socio-economic dimensions of agriculture spill largely over national borders, not only in terms of vast economic interests, e.g. tradeable commodities, pricing systems, labour implications, etc., but also in terms of consciousness of the immense social problems affecting rural areas and related international solidarity. Within the realm of policy making, it is clearly beneficial

to agricultural decision-makers and rural administrators to be able to learn about successes and failures elsewhere. In this light, the emphasis on the dissemination of information (i.e. in the broadest sense, not limited to statistics) in the Constitution of FAO, is not surprising.

16. With the exponential growth of knowledge, the exercise of any "monopoly" in the exchange of agricultural information across national borders would clearly be an unmanageable task. Potential constituents worldwide could easily be numbered in the hundreds of thousands (decision-makers in ministries, scientists and laboratory technicians, extension specialists, etc.), if not millions. Exchanges take place, spontaneously or in an organized manner, through a variety of arrangements. FAO is expected to play its due role in facilitating and regulating, as necessary for mutual benefit, this huge flow of information across national borders. Also, the Organization has proven how useful it can be in blazing the trail for regional initiatives, ushering in self-sustained cooperative arrangements (for instance in the marketing, rural credit or rural development areas). The sponsoring of associations and cooperative networks is likely to remain a conspicuous feature in the landscape of FAO activities.

Advocacy and global watch:

17. The ethical dimension of the world "hunger" problem requires an international "spokesman". This is, no doubt, the prime motivation behind the decision of the FAO Conference in 1979 to establish World Food Day, on the anniversary of the foundation of FAO. The 1974 World Food Conference conferred on FAO the unique mandate of keeping a global watch on food emergencies and provide objective assessments of required assistance, in close cooperation with other international organizations. Both responsibilities of "international spokesman" and "global watch on emergencies" involve sensitive elements, but need to be exercised in a resolute manner, in order to permit the mobilization of external assistance in line with requirements.

18. The "advocacy" role of FAO may need to be further strengthened. World Food Day is one of the prime instruments for the Organization to bring key aspects of agriculture and food problems to the attention of the general public and foster local initiatives. FAO needs to reinforce its networks of contacts, for instance through national committees and greater cooperation with those Non-governmental Organizations which share FAO's objectives. FAO has promoted major events (e.g. the World Conference on Agrarian Reform and Rural Development in 1979, the World Fisheries Conference in 1984) to focus world attention on essential issues and promote concerted action. Public opinion is at times naturally bewildered by the abundance of often conflicting slogans and is undoubtedly confused by a surfeit of assessments and warnings, stemming from a wide variety of organizations competing for attention. It is essential that FAO keep an active line of communication with international public opinion, in a two-way process, on those problems falling within its mandate.

Normative action:

19. The hundreds of billions of dollars worth of agricultural products moving into international trade lead to conflicts of interest and legitimate concerns of consumers regarding the eventual safety and health impact of such products. This and other aspects of agriculture call for the vigorous normative role of FAO including through the promotion of "codes of conduct" on sensitive aspects, as well as food standards and harmonized quarantine regulations, in cooperation with other concerned organizations.

20. At present, FAO is providing active support to the GATT Secretariat and to individual countries, on request, in the context of the Uruguay Round of Multilateral Trade Negotiations. Within the framework of this Uruguay Round, the Contracting Parties to GATT have proposed an agreement on sanitary and phytosanitary measures and barriers. This agreement would commit Contracting Parties to a long-term programme of harmonization of national requirements, taking into account international standards for foods developed by the FAO/WHO Codex Alimentarius Commission. The proposed agreement also envisages the use of these standards for resolving disputes concerning non-tariff trade barriers arising from sanitary (health) requirements. Irrespective of the direction of world trade in future years, it is not difficult to foresee an ever-growing contribution of FAO in this field.

21. The Director-General is also the depositary of the International Plant Protection Convention. The objective of the Convention is to strengthen international efforts in combatting important pests and diseases affecting plant and plant products and in preventing their spread across national boundaries. The Convention identifies a role for FAO on information exchange to rationalize the application of plant quarantine. At the request of GATT and of Member Governments, FAO, in cooperation with Regional Plant Protection Organizations, is developing a programme on harmonization of plant quarantine principles, pest risk assessment and quarantine procedures. This will support the sanitary and phytosanitary agreement that is expected to be concluded within the Uruguay Round of the GATT.

22. More generally, FAO will need to continue its long history of facilitating negotiations on, and understanding of the implications of food and agriculture policies, for instance as they relate to food security or food aid.

Agriculture in relation to environment and biological diversity:

23. Agriculture is a prime, probably the major agent in the evolution of natural habitats. Its influence can be both positive and preventative as well as negative, in view of the growing use of chemical inputs and its complex interactions with water and soils resources. It is also both a prime contributor to, and user of biological diversity of plants and domestic animals. This is more fully discussed in Parts II and III of this document.

24. As the world enters an "ecological age", it is particularly important to ensure that international debates and eventual decisions on environmental matters draw as fully as possible on the perspective of agricultural decision-makers and practitioners, *inter alia* through the global and regional fora of FAO. These debates should take account of the circumstances and interests of farmers and users of agricultural commodities, if there is to be some guarantee of effective action. FAO's role cannot only be that of a passive provider of supportive data, but that of active interlocutor and, at times, of "devil's advocate", in the shaping of conclusions and agreed international instruments and conventions.

Fisheries:

25. International cooperation in fisheries is a *sine qua non*. It is rooted in the dangers of over-exploitation of fish stocks moving freely across maritime boundaries; the complex interactions between the sustainable use of fishery resources and the environment which no single country can control; the need to regulate foreign fleets activity; and the obvious benefits from a fair system of access to stocks and markets.

26. Recent developments in world fisheries, particularly linked to environmental concerns, make it even more imperative that multilateral cooperation be intensified towards proper management of fishery resources in the high seas, coastal and inland waters with due consideration to offshore pollution, fish habitat destruction, deleterious effects of marine debris and waste, etc..

Forestry:

27. Traditionally, the international dimension of forestry lay in the exchange of information concerning the evolution of forest resources and the supply, demand and trade of forest products. This information provided the basis for consultations on forestry policies and plans at global, regional and national levels. Multilateral action was aimed at providing technical and financial assistance to individual countries.

28. In recent years, the transboundary nature of forestry problems, of some of their causes (atmospheric pollution, pests and diseases, etc.) or impacts (deforestation, land use and watershed problems, loss of biological diversity, etc.) has become increasingly evident. At the same time, international cooperation became more active in the development of solutions. The launching of the Tropical Forestry Action Plan in 1985 translated the felt need for an increased and concerted international effort in support to the conservation and development of forest resources in the developing world. TFAP exemplifies the new orientations of international forestry action and the role of the multilateral system.

● The issue of balance

29. When coupled with the vigorous technical assistance role of FAO and contrasted with the expected active part of FAO in the concert of international relations (explained in following sections), this rich palette of activities suggests difficult choices, particularly at times of budgetary restraint.

30. FAO's Constitution did not and could not reasonably establish fixed rules as to any "quantitative" relationships and desirable balance between FAO's main roles. Depending on individual countries' interests and situation vis-à-vis food and agriculture issues, and even expectations from multilateral approaches, perceptions across the membership of the Organization as to such balance, are bound to differ. This is amply evidenced by the views expressed by Member Nations, either individually or in groups, in the Governing Bodies of the Organization. This issue of "balance", not unexpectedly, surfaced prominently during the above-mentioned Review process but was, on the whole, harmoniously addressed by the membership in a pragmatic manner.

31. The present Medium-term Plan does not pretend to suggest or propose any new balance in the roles of FAO. There is little to gain from FAO's Member Nations engaging in protracted, dogmatic discussions. These would be potentially divisive and, no doubt, inconclusive. In their wisdom, FAO Governing Bodies will be able to chart the future course of the Organization by keeping a pragmatic attitude in refining the balance between the different, but equally important and complementary, roles of FAO, in the light of changing situations and requirements.

● Universality

32. In view of the absolute necessity to give primary attention to food and agricultural problems in developing countries, the Organization has come to be perceived, particularly by the general public, but also perhaps unwittingly by many observers of FAO affairs or users of FAO outputs in member countries, as being almost exclusively devoted to development assistance, or even just material assistance. This is a distorted vision of a more complex reality. This whole section does not suggest any artificial dividing line in the scope for multilateral cooperation in food, agriculture, fisheries and forestry, between presumed direct beneficiaries of FAO's substantive outputs and services and another group only marginally interested in the latter.

33. Over the long term, the unavoidable process of gradual differentiation in "stages" of development within the presently classified group of "developing" countries (for that matter also occurring within the presently classified "developed" group) will be coupled with the process of "graduation" of some countries from one "class" to the other. Any perceived dichotomy between direct beneficiaries and others, could bring a potentially divisive factor in the life of the Organization and undermine its universal character. This universal character was desired by its founding fathers and has been carefully preserved

until now. FAO must remain useful to all its Member Nations. In fact, FAO is not an entity apart from its Member Nations, it is its Member Nations.

● **Organizational Structure**

34. In the light of evolving programme contexts and the established roles of the Organization, aspects of organizational structure have been kept under review by FAO Governing Bodies. For instance, in various stages, the FAO Conference decided to expand FAO's presence first at regional and subsequently at country levels. FAO's organizational structure, both at Headquarters and in outlying offices, was discussed during the Review process in the 1988-89 biennium, both by the expert groups and the Governing Bodies. On the whole, the present structure was deemed to be performing in a satisfactory manner.

35. No organizational structure can remain "frozen" over long periods. It needs to be kept under regular scrutiny by top management and attuned to changing requirements and technological evolution, bearing in mind overwhelming considerations of most cost-effective ways to deliver programmed activities. An area of considerable uncertainty at the present time is the impact of new arrangements for UNDP support costs, and the likely expansion of national execution modalities. While some guesses can be made, no firm scenario is as yet available on which to base sound, longer-term decisions of structural nature. Whether present and short-term uncertainties will usher in a period of stability for FAO field activities is not at all guaranteed. The organizational implications will be gradually analyzed and acted upon, through related proposals to FAO Governing Bodies.

36. The question of Regional and Country Offices has attracted a great deal of attention in discussions of FAO Governing Bodies. There seems little doubt about the continued validity of FAO presence at both the regional and national levels, beyond the global level. Developments of significance to food and agriculture take place at all these three levels. In effect, there has been rapid growth of regional and sub-regional initiatives in recent years. To be of value to Member Nations, the Organization's analytical work, and its advisory services, need to take account of such developments, requiring an effective FAO presence at all levels. FAO Headquarters and the Regional and Country Offices have truly complementary roles, within a unified programme. The presence of the Organization at these three levels permits, moreover, flexibility in the selection of the most cost-effective ways to pursue specific objectives.

FAO IN THE CONCERT OF INTERNATIONAL RELATIONS

37. Besides the greatly revamped UN role in conflict mitigation and peace-keeping, the easing of East-West tensions has fuelled a large-scale revival of international debates on economic and social development issues. Both the economic integration of Eastern Europe into the world economy and North-South issues (trade, debt, commodity prices, structural adjustment, resource flows) have moved up or back to the international agenda.

38. As more amply discussed in other parts of this document, greater attention is being given to the close relationship between environment and development. The links between under-development, population growth, poverty and environmental degradation, have been highlighted in relation to the South. In the North, wasteful production and consumption patterns resulting in pervasive environmental risks, often of a transboundary nature, are viewed with alarm by scientists and the public. The need to act quickly to ensure the sustainability of development patterns and lifestyles in both the North and South, making available the necessary resources and promoting the needed transfer of technology, has become an issue of overriding importance to the international community. Agriculture, fisheries and forestry will play a key role in responding to the challenges these trends present.

39. A recurrent theme in international fora is the need for multidisciplinary approaches and integrated responses to these challenges. There is a growing conviction that success will depend, to a large extent, on intensified international cooperation, in particular through the UN system.

40. FAO priorities over the medium term, while being shaped to respond to specific imperatives within the forestry, fishery and agriculture and food sectors under the guidance of FAO's Governing Bodies, will necessarily also be shaped by concerns expressed by the international community in other fora. Implementation of priority activities will require the integration of the latter concerns into the Organization's programme of work, and close cooperation with other organizations of the UN system, as well as with other intergovernmental organizations and many others in the non-governmental sector.

41. The Medium-term Plan provides an opportunity to see the context of the numerous cooperative activities envisaged over the next six years. These are mentioned in Parts II and III, in tandem with relevant activities under the various substantive areas. An overall synthesis is provided below.

● Cooperation with the UN System

42. At intergovernmental level, FAO will follow closely the deliberations of central policy bodies such as the General Assembly and the Economic and Social Council. It will also monitor the deliberations of governing bodies of other organizations. This will serve a dual purpose: (i) to keep abreast of policy guidance provided by Member Governments on subjects of interest to the Organization; and (ii) to intervene, as necessary, in order to strengthen inter-secretariat coordination.

43. FAO will contribute to and participate in a large number of intergovernmental initiatives and their follow-up. Ongoing initiatives include:

- United Nations Conference on Environment and Development;
- GATT Uruguay Round;
- Intergovernmental negotiating fora on climate change and biological diversity;
- UNCTAD VIII.

44. Initiatives for which follow-up will be undertaken, include:

- World Summit for Children;
- Second World Climate Conference;
- Eighteenth Special Session of the General Assembly on International Economic Cooperation, in particular the Revitalization of Economic Growth and Development of the Developing Countries;
- Second United Nations Conference on Least Developed Countries;
- Fourth International Development Strategy (which has largely guided FAO's own long-term strategies).

45. FAO will also continue to participate in activities linked to United Nations Decades, such as those for the Disabled Persons (1983-1992) and for Natural Disaster Reduction (1990s).

46. FAO will continue to participate in the formulation and implementation of system-wide medium-term plans or programmes, such as those relating to environment, women and development and drug abuse control. These plans and programmes aim to enhance coordination and to promote an integrated approach to multidisciplinary issues. The present Medium-term Plan will provide a useful framework for FAO participation in such exercises. It is also foreseen that the UN system will give close attention to

emergency response capabilities and early warning of emergencies relating, for example, to refugees. In this regard, FAO will participate in relevant activities and studies in line with its own mandate.

47. At the inter-secretariat level, the Administrative Committee on Coordination (ACC) and its subsidiary machinery are key elements in system-wide decision-making and planning. FAO will continue to participate actively in the meetings of the ACC and its subsidiary bodies.

48. FAO will also continue its extensive inter-secretariat cooperation with other agencies. Such cooperative arrangements have as their *raison d'être* the marriage of technical expertise and the formulation of integrated, multidisciplinary approaches. Experience has shown that cooperation in specific fields and on specific programmes has produced concrete results. On the other hand, attempts to pursue cooperation and coordination in the abstract, or viewed as ends in themselves, have tended to be less productive.

49. The Organization has pursued for many years the closest form of inter-agency cooperation through joint divisions, in particular the FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, the FAO/World Bank Cooperative Programme, and the joint divisions with UN Regional Economic Commissions in Africa, Europe, the Near East and Latin America. In other cases, joint programmes are undertaken. Examples include: FAO/WHO Codex Alimentarius Commission; UNEP/FAO Joint Programme on the Operation of Prior Informed Consent and the Joint Panel on Integrated Pest Management.

● Cooperation outside the UN System

50. There are a large number of intergovernmental organizations (IGOs) outside the UN system which are involved in the areas of interest and work of FAO. Their growing strength and political importance, and the parallel development of their programmes, makes it essential for the Organization to follow closely their deliberations and activities in order to ensure complementarity of action, and in some cases to furnish assistance. (*N.B. This aspect is more fully covered in Part II in the section devoted to E and TCDC.*) FAO's Regional Offices will continue to provide the major interface with these IGOs in their respective regions.

51. Within this group, of paramount importance is the likely growing volume of cooperation and joint activities with regional economic and political integration organizations. The application for membership from the European Economic Community (EEC) portends a search for a new complex of relationships by these organizations with Member Nations of FAO, in specific areas.

52. With widespread recognition of the role of the non-governmental sector in promoting development, FAO is well-placed to enhance its long-standing relationships

with NGOs in both the North and the South. The variety of such organizations and their differing interests and spheres of activity, preclude simple definitions of joint activities to be implemented. The parameters of such cooperation will continue to be determined by the mandate and objectives of FAO as an intergovernmental organization dealing with food, agriculture and rural development.

53. FAO will explore how existing approaches developed under the FFHC/AD, its People's Participation Programme and World Food Day, can be translated into new orientations and modalities for cooperation with NGOs. The ultimate goal will remain that of working with governments and NGOs to broaden the base of development cooperation, to enhance the effectiveness and impact of assistance provided by the Organization to its member countries and to promote the participation of beneficiaries in sustainable agricultural and rural development. Again, the Regional Offices will have an important role to play in intensifying cooperation with the non-governmental sector in their respective regions.

● The Purpose of Coordination

54. FAO is called upon to contribute to a large number of initiatives emanating from outside its own Governing Bodies. Many of them have been referred to above. Others still will emerge in the future, and may often lead to unprogrammed and unbudgeted activities for the Secretariat. For example, during the 1990-91 biennium, FAO provided considerable input to the preparatory process for the 1992 UN Conference on Environment and Development, the convening of which was only decided by the General Assembly in December 1989, after the FAO Programme of Work and Budget had been formulated and approved.

55. Multiple requests for contributions to reports, studies and meetings, when taken together, have considerable budgetary and human resource implications for the Organization. A careful approach to cooperative activities will have to be taken, based on FAO's mandate, the guidance received from Governing Bodies, and the resources available.

56. Coordination is viewed as an important tool for enhancing complementarity and avoiding duplication and overlap of UN system efforts. However, both UN organizations and Member Nations have recognized that until the positions of governments in various fora are harmonized, effective coordination will be hampered. Secretariats of the various organizations are different, but the member countries in the different governing bodies are generally the same, and are, thus, the best placed to take a broad view of the system and consequently promote coordination. In the area of technical cooperation, the assistance provided by the UN system represents only 6 to 8 percent of the total external assistance, and only the governments, recipients and donors, can promote the much-needed harmonization of the system's work with that carried out under bilateral programmes.

57. The domain of FAO's competence is one of the most complex. A study submitted to the FAO Council in 1980 revealed that some 27 UN system organizations and programmes were involved in some way with food and agriculture, four of them in Rome. Moreover, the seventies and eighties have witnessed the creation of bodies with coordinating or "horizontal" mandates, cutting across the "vertical" structure created in the earliest years of the UN, with sectoral, technical agencies such as FAO linked to one central organization (United Nations). This further complicates efforts at coordination, and there is an increasing recognition that adding new mechanisms cannot constitute the most effective way of facing the challenges of the nineties.

58. Further "horizontal" expansion at the international level would, moreover, appear to be out of step with realities at national level. Multidisciplinary, inter-sectoral approaches are essential at the conceptual and planning level but, in many cases, action will continue to be carried out in a sectoral context through line ministries, given the structure of national governments. Similarly, while the importance of "global" issues and approaches is undisputed, effective action in areas such as sustainable development cannot be solely addressed at the global level alone. Action at the national, community and household levels, with appropriate linkages between these levels will be required. Therefore, on a number of issues it will be important to reconcile "horizontal" and "vertical" approaches in order to provide consistent assistance to member countries.

FAO'S FIELD PROGRAMMES THE PROSPECTS AND THE CHANGING ROLES OF FAO

59. Recent years have marked something of a crossroads in the evolution of the field activities of FAO, which implements the largest Field Programme in the UN system. In the Review of FAO, the Organization's field programmes came under close scrutiny and their relevance was widely endorsed.

60. There has also been conspicuous interest and concern about the UN system's field activities in other fora, resulting in a series of resolutions on "operational activities" in the latter half of the eighties, culminating in the United Nations General Assembly (UNGA) Resolution 44/211 of December 1989. This "omnibus" resolution touches on many diverse aspects of the system's provision of technical cooperation to the developing countries, and its follow-up implies shifts in the relationship between the main source of funding for such activities, the UNDP, and the specialized agencies which have been largely responsible for their implementation.

61. In particular, this biennium has witnessed intensive efforts by the members of the UNDP Governing Council, and by UNDP, FAO, and other agencies to fashion a new regime of reimbursements for agency support to UNDP-funded projects, intended, *inter alia*, to improve and enhance the efficiency and impact of such work, to ensure greater coherence, and promote strongly the role - in execution as well as overall management - of recipient governments themselves.

62. The themes and future orientations for field activities which featured in the FAO Review process were similar, if not identical, to the points underlined in UNGA Resolution 44/211. Moreover, the intent of the UNDP support cost successor arrangements is, in the view of many governments, to underpin the changes implied in such legislation. These future directions are addressed below, first by placing them in perspective.

● **Evolution Tailored to Needs**

63. FAO's Constitution defines the responsibility "to provide such technical assistance as governments may request". Technical assistance has, therefore, always formed a basic ingredient of FAO's work. Such assistance has consistently reflected the distinctive features of UN multilateral cooperation: e.g. tripartite relationship, objectivity and political neutrality, full involvement of the concerned recipient governments, attention to building self-reliance, the inherent capacity to bring broad-based experience gained elsewhere to bear on the solution of national problems. It has benefited from close interaction with an ever-increasing number of outside partners.

64. Significant instances of direct technical cooperation and assistance to Member Nations began in the late fifties and early sixties, coinciding with the efforts of many newly independent Member Nations to exploit their food and agricultural potential, and to build national capacities in various agricultural disciplines, including in the forestry and fisheries sectors. By 1965, FAO's field programmes accounted for no less than 40 percent of disbursements under the UN Special Fund and the Expanded Programme of Technical Assistance (EPTA) which were shortly afterwards merged into UNDP.

65. This "early" phase of technical cooperation was often based on long-term resident experts and advisers - posted in government ministries and other public institutions which provided significant counterpart facilities. On the whole, project size was large, with usual duration of three to four years. Much of the work was concerned with resource appraisal: the measurement and assessment of land and water resources and of forestry and fisheries potential. There were also other important projects concerned with the establishment or strengthening of national crop, livestock, forestry and fisheries institutions. There are literally hundreds of such institutions today which trace their origins to such assistance by FAO.

66. Such activity was meant to, and often did, lay the basis for the larger development and investment schemes which followed. A logical outcome was the establishment of the World Bank/FAO Cooperative Programme in 1965, which expanded rapidly and became the FAO Investment Centre, as cooperative programmes with other funding institutions were added. Today, this Centre, with some 110 Professionals, prepares investment projects worth over US\$ 2.5 billion annually. It is quite unique in the UN system.

67. By the mid-seventies, as economic as well as technical and institutional development took hold in recipient developing countries, a marked shift occurred towards specialist, short-term assistance, often in support of programmes already under way. At the same time, multidisciplinary interventions were launched, cutting across individual crop and other sectors - aimed at helping governments resolve what were complicated and deep-rooted problems of an institutional and policy nature - for instance, in agrarian reform. Field activities in follow-up to WCARRD fell squarely within this category, including activities with emphasis on women's roles in rural and agricultural development.

68. Thus, at the beginning of the eighties, the Organization's field programmes had not only grown significantly in volume - in response to strong demand from developing countries - but also in complexity. The shift from long-term resident towards shorter-term expert and consultant services was accompanied by the provision of increasingly sophisticated types of equipment in field projects, and differentiated training modalities ranging from highly specialized fellowships, through technical-level course work, to practical seminar and workshop training. Inevitably, projects became smaller and more diversified.

69. This variety in forms of action was accompanied by new arrangements providing greater flexibility of response to governments' needs. In 1976, the Technical Cooperation Programme (TCP) was launched to meet urgent needs for emergency and quick-action

of technical cooperation with governments, through small-scale interventions. TCP has proved vital in bridging gaps, and acting as a catalyst for subsequent larger-scale assistance.

70. At the same time, Trust Fund programmes, often closely linked to various FAO Special Action Programmes, have risen to almost the same level as UNDP-funded projects. Many of these programmes have concentrated on sectoral and thematic approaches, often with strong inter-country content. The circle of Trust Fund donors to FAO has progressively widened, as a mark of confidence in the relevance of FAO work to both donors' and recipients' concerns.

71. The eighties witnessed an impressive increase in the direct involvement of nationals in FAO's field programmes, both as national professional staff and as national project directors. Indeed, as of 1991, some 400 large-scale projects are already under national direction, and over 800 national professionals are employed within the Organization's field programmes.

72. Thus, FAO's field programmes have a proven record of remarkable change over the 40 or so years of significant activity and have remained responsive to the perceived and changing needs of member countries.

● The Regular-Field Programme Relationship

73. Throughout this period, the scope and content of FAO's field programmes have provided a mirror image at country level of activities undertaken under the Regular Programme. In their respective areas, the Organization's technical departments and divisions have maintained an intimate association with technical cooperation activities planned and underway.

74. Most, if not all, FAO technical officers are substantially involved with support to field activities. Indeed in many cases it is difficult, if not impossible, to separate the two kinds of work for purposes of assessment and analysis and to de-link what is being done in the field from broader action carried out under the Regular Programme. Thus, the Regular and Field Programmes are closely linked and mutually reinforcing; they are two sides of the same coin.

75. This is not just a matter of field activities providing the window whereby FAO's accumulated expertise and experience can be extended directly to member countries. The Regular Programme depends on the Field Programme to amplify its eventual impact and to obtain feedback for added relevance of activities, for example, the testing and adaptation of guidelines and training packages. The Field Programme, on the other hand, depends on the Regular Programme for technical and logistic support and for inter-change of experience. Moreover, the Regular Programme is the linchpin in terms of continuity and conceptional synthesis. The Regular Programme synthesizes the lessons

and experience of field projects for application to newly-formulated projects and in other Regular Programme activities.

76. The interaction between the Field and Regular Programmes is exemplified by the Special Action Programmes. Whereas many projects are formulated on an *ad hoc* basis from within the wide span of FAO's technical areas in response to specific country requests, such programmes offer an opportunity to focus assistance and support on central themes and/or sectors or sub-sectors. This facilitates the development of proven approaches to common problems, and the application and adoption of such approaches to differing country and project situations.

77. This "synergistic" process of cross-fertilization between the Regular and Field Programmes is influenced by the ratio between the two. There is, however, no theoretically ideal ratio. What matters is that there be an adequate level of resources in terms of ensuring the technical and operational quality of field operations as well as enhancing the coherence between them.

● The Future Direction of Field Programmes

78. FAO's field programmes have been, and continue to be, to a large extent, "demand driven". Indeed, this has been an overriding principle of UN multilateral cooperation since the UN General Assembly "Consensus" resolution of 1970, whereby recipient countries themselves determine the nature and content of the technical cooperation they require from FAO and other specialized agencies to support their national development plans and programmes.

79. Over the foreseeable future, there can be no doubt that the demand for technical cooperation services from countries at different stages of development and with widely varying local situations will remain strong, calling for various types of intervention, spanning all the main technical areas of food, agriculture, forestry and fisheries.

80. In order to meet this demand, and to reconcile it with FAO's capacities over the next five to six years, a number of factors will come into play.

Coherence, coordination and selectivity:

81. Ensuring the coherence and coordination of FAO's field programmes will pose a permanent challenge. This is already being addressed through many means, including through the active involvement of the country offices. However, further efforts will be required in order to efficiency and cost-effectiveness of technical cooperation, and to maximize FAO's development impact.

82. Accurate and up-to-date country-level information will continue to be a key part of this process. Such information is a *sine qua non* for assessing the diverse project requests received from recipient countries, for assisting in the formulation and design of projects, and ensuring that these contribute in a complementary manner to governments' overall development programmes.
83. A good start has already been made during this biennium in building up comprehensive "on-line" country-level information in over 50 countries. New computer-assisted procedures have been installed to facilitate this. The next several years will see this coverage extended to all countries served by the Organization. Building on the latest improvements in communications, the Headquarters units concerned (substantive and operational) will need to rapidly update the range and depth of country-level information essential to the planning and coordination of field activities in the various technical fields.
84. At country level, this effort will be reinforced through the expansion of activities by FAO which are "upstream" of actual project work. Such activities comprise sector and sub-sector review and analytical studies, policy review and advice, and programming exercises to assess needs and capacities. While FAO has already made progress in stepping up this kind of activity, the new UNDP support cost arrangements should add further momentum through a special facility, available to FAO and other large specialized agencies, to underwrite part of the costs of such "upstream" work.
85. While, as noted, demand for FAO assistance is expected to continue to reflect a wide range of requirements, selectivity will determine the level of new technical cooperation initiatives. The clear comparative advantage of FAO will constitute the guiding principle. This will contribute to maintaining a finely-tuned balance between FAO's Regular Programme workload on the one hand, and the backstopping of field activities on the other.
86. In this connection, the role of the Special Action Programmes (SAPs) will be emphasized in providing a framework for future activities. At the same time, these programmes will be subject to continuous review and, as appropriate, modification and change to ensure their continuing relevance. It is anticipated that the SAPs will continue to attract, primarily, the support of Trust Fund donors.
87. The above suggests much greater emphasis on the "programme" approach in future. In fact, this approach was emphasized in both the ECOSOC and General Assembly resolutions and in the FAO Review. Such programmes may be national in scope, or - as with the SAPs - thematic and applied sub-regionally, regionally or even worldwide.
88. The multidisciplinary approach and outlook highlights the need, at country level, for close cooperation and coordination among the different organizations which may be involved, as appropriate under the umbrella of the UN Resident Coordinator. FAO will, therefore continue to support the strengthening of practical coordination mechanisms at country level.

Role of recipient governments:

89. It is in the essence of multilateralism that recipient governments bear overall responsibility for the coordination and management of UN system technical cooperation. As noted above, national institutions and staff have traditionally been closely associated with the Organization's field activities.

90. The trend towards greater national involvement in the running, and even day-to-day implementation of field programmes serviced by FAO is expected to accelerate. Within the next six years, it is conceivable that over half the projects implemented by FAO will be managed by national directors. At the same time, the employment of national experts and consultants will continue its sharp upward trend, so that the majority of staff on the ground working on FAO's field projects will soon be nationals.

91. The present relatively small number of projects in FAO's fields of competence executed directly by governments and national institutions will grow. This emerging modality will require the strong and sustained support of FAO, both as a "cooperating agency" in implementing specific parts of nationally-executed projects, as well as for advice and technical services for such key aspects of the project cycle as design and formulation, appraisal, project monitoring and technical backstopping, evaluation and reporting.

92. The new UNDP support costs arrangements in fact contain a specific new facility to enable FAO (and other large specialized agencies) to draw upon resources to help underwrite the costs of this kind of work. There will be a need to work out practical and readily applicable methods for providing this required support to projects under national execution. A process of flexible and practical procedures should accompany the national execution modality to guarantee ready and direct access - at the choice of the governments concerned - to FAO's expertise and experience.

93. Subject to the availability of resources, FAO will support this process by strengthening its training programmes for national directors and national project staff in multilateral technical cooperation. This would comprise the Headquarters courses now offered and additional courses and workshops at sub-regional and country levels. It is possible to aim at a target of up to 200 government officials trained annually.

Headquarters servicing of field programmes:

94. As an increasing share of actual implementation passes over to direct national responsibility, the amount of routine operational and administrative tasks relating to projects can be expected to decline quite markedly over the next five to six years, to perhaps about 50 to 60 percent of the present level, depending on the rate by which the national execution modality expands in FAO's areas.

95. At the same time, the amounts and quality of professional technical inputs to projects will need to increase. To some extent, traditional servicing will continue to be included by FAO in the package of support to projects for which it is assigned direct operating responsibility. More importantly, however, technical support will increasingly take the form of separate and discrete services and interventions provided at various stages of the project cycle for projects not under FAO's direct control.

96. In these circumstances, the current system of overall project monitoring and control through the mechanism of "implementation task forces" (covering all project inputs) will give way progressively to a more flexible approach whereby projects are followed more strictly (and to a certain extent, more narrowly) from the point of view of technical servicing requirements. There would still be a need for administration and operational services, but increasingly restricted to managing FAO's technical servicing activities for projects under the control of national entities. Towards the end of the nineties, such a change may become more or less universal.

97. Procurement of standard equipment for projects (i.e. vehicles, office equipment, etc.) will increasingly be carried out at country level. Residual procurement work at Headquarters will, to the extent possible, shift to bulk or pool purchasing and shipment systems, where advantageous, in cooperation with other agencies and UNDP. However, specialized equipment will still require the scrutiny of Headquarters technical units. Such procurement will be governed by a rapid response management system to minimize delays in selection and shipment. This latter facility would be at the disposal of governments operating projects in FAO's fields under national execution, either to assist in the selection process (i.e. preparation of tenders, evaluation of bids), or to provide a complete package, including delivery and even installation at the project site.

98. The medium term will also see increased resort to sub-contracting methods in both cases where FAO is responsible for projects overall, or for components of projects under national execution. For this purpose, greater use will be made of specialized private sector companies, as well as experienced NGOs and public institutions, to implement discrete components of projects on a "full-package" basis. FAO would oversee the selection procedure (in consultation with recipient governments) and carry out broad supervision and technical monitoring. Thus, the sub-contracting component in field programmes is expected to more than double, in percentage terms, over the next several biennia, providing a major opportunity for increased private sector, public institutions and NGO involvement.

99. As regards the rapidly expanding amount of "upstream" activities, principally sector, sub-sector and policy review work, new mechanisms will also come into play over the medium term. These activities, which involve various units, will need to be increasingly managed as a closely coordinated whole, ensuring the full use of on-line country information, and their effective contribution to overall Field Programme planning, management and monitoring.

Decentralization and the field office structure:

100. The number of authorized FAO country representations stands at 78, covering some 110 countries (including the major recipients of the Organization's technical cooperation programmes).
101. Whereas in earlier days, FAO country representations often had only a rather sporadic and indirect role in field programmes, this role has now become very important, if not central, in many countries. This is in part because of the increased complexity of field operations (i.e. requiring more on-the-spot decisions) and the greater involvement of governments and national institutions, directors and staff in field operations. Moreover, these offices are expected to expand their involvement with policy and programming issues, as well as providing front-line inputs to inter-agency coordination.
102. Yet, FAO's field offices are on the whole neither adequately staffed, nor equipped, to deal with their expanding volume of work. This was well recognized by the FAO Review, which called for the strengthening of FAOR Offices. This strengthening is an expensive process, but must be rigorously pursued over the next several biennia. These offices will need to add significantly to their project administrative and operational support capacities, to provide necessary advice, backstopping, and a certain amount of servicing tasks to projects in part or in whole operated by national institutions, in addition to expanded policy advisory and programme development functions.
103. To achieve this, there will be a steady increase in the number of programming officers assigned to FAO country offices, as well as experienced economists and other senior advisers in some cases. Where possible and appropriate, increased recourse will be made to national professional staff. This process will be accompanied by the computerization of these offices, and installation of modern communications equipment.
104. To a certain extent, some of these functions may also be covered at sub-regional level, through appropriate grouping of countries with one particularly strengthened FAO office. This could, for instance, be the case for administrative and operational support to projects, with internationally recruited staff continuously engaged in on-the-job and formal training and assisting of national staff in this work. Thus, the strengthening of the country offices may also contain an inter-country element.
105. The strengthening of country offices will need to be accompanied by greater delegation of authority in Field Programme matters to FAO Representatives. While this process is already under way, such delegation on a really significant scale presupposes the existence of the additional professional expertise and infrastructure referred to above. Main areas for increased authority include: project approvals and revisions (for all programmes; UNDP, Trust Funds and TCP); employment of national professionals (as experts and consultants) and other national staff; and, as necessary, responsibility for continuing support to nationally-executed projects.
106. It will be important to maintain close FAOR links with the relevant sectoral ministries (i.e. agriculture, rural development, irrigation, fisheries, etc.). In fact, this

should be further strengthened by the increased technical support to projects, and the related role of the FAOR office in promoting national execution and in providing overall policy advice. Where appropriate and feasible, it may be envisaged to outpost one, or occasionally two high-level international technical staff in FAOR offices to provide advice and support to ministries, where high-priority programmes are under way to which FAO can make a special contribution.

● **Plurality in Funding**

107. As implied from the above, the existence side-by-side of three main sources of funding for FAO technical assistance activities - the Regular Budget through the TCP, UNDP and Trust Funds - has permitted the blending of their respective characteristics to the benefit of member countries. At the same time, it provided the Organization with invaluable flexibility in meeting development challenges at country level.

108. Since investment support work provides an essential complement to technical assistance activities, a fourth source of funding must be added: the resources provided through the cost-sharing arrangements with the World Bank and other multilateral financial institutions which make use of the services of the Investment Centre.

109. The existence of this plurality in funding has provided great strength and independence of action to the Organization, and has permitted FAO to meet more fully the felt needs of its Member Nations. For as long as these valuable funding sources will be available to channel development resources through FAO under the close guidance of its Governing Bodies, the door must remain open to maintain this plurality of funding for the benefit of all Member Nations, recipients and donors alike.

COMMUNICATING WITH FAO CONSTITUENTS

110. The outreach of FAO programmes depends on the ability of the Organization to communicate and hold dialogues with, in the first instance, the concerned authorities in Member Nations and, more generally, the broad-based constituencies which make use of its products and services. Key aspects such as the advocacy role of FAO, its awareness-building activities through World Food Day and special conferences, the contribution of its regional and country office structures to maintaining close links with a large number of institutions at both levels and the "extended family" of professional contacts through networks, associations, etc., either sponsored by or cooperating with FAO, have been evoked above in general and, as required, more specific terms. This section concentrates on additional key aspects.

● Information Dissemination

111. In its information dissemination, FAO is, and will continue to be, guided by the needs of Member Nations. Its main challenge is to serve users with a large spectrum of subject interests and different language requirements and levels of education. It must respond at the same time to the needs of policy-makers, researchers and development officers as well as, through national and local authorities, vast numbers of end-users at the grass-roots level. It needs to cooperate with governments and the media to improve public understanding of the issues involved in agricultural development and food security.

112. It is said that "information is power", though many see it as a commercial commodity. Thus, as accurate, up-to-date information has become increasingly available to those countries having the ability to identify, purchase and apply it, many others risk falling behind. Regarding information too, the "rich may become richer and the poor poorer". Under these circumstances, FAO should aim at a more equitable sharing of knowledge, so that access will be made easier and determined by need rather than by the mere ability to pay. The Organization's past achievements in information dissemination have demonstrated that equity can be achieved and that an international organization within the UN family, free from commercial constraints, can make this possible.

Scientific and technical information:

113. It is particularly for scientific, technical and socio-economic information that there is a huge "development gap" between the industrialized and developing countries. Similarly, there is a huge gap between what is available to major corporations and what

is available to community groups and individuals. Too often, the lack of vital information can invalidate developing country research and development, and frustrate the aspirations of impoverished rural communities.

114. FAO's bibliographic, factual, statistical and numerical databases and databanks are a unique source of data, gathered in close cooperation with relevant institutions in Member Nations. Together they constitute FAO's World Agriculture Information Centre (WAICENT), which will improve access by Member Nations and the potential user community at large to more reliable data and more pertinent information.

. . . . voluntary sharing

115. Before WAICENT, by launching international cooperative information systems such as AGRIS in the early seventies, FAO marked a milestone in bringing Member Nations into partnership in the collection and dissemination of agricultural information. They are based on the principle that each country brings to the system its data and draws from the global pool according to its needs. Two decades of experience with these networks have shown that the cooperative concept has been invaluable in achieving equity in information dissemination, and enabled FAO to cope at least cost with the so-called information explosion. FAO will maintain its coordinating role in these systems and ensure continuing development, according to evolving user needs and changing information technology. To the extent possible, it will also encourage a cooperative approach to making national documents more easily accessible to interested users.

116. As emphasized in a preceding section, by no means are FAO's systems and databases the only source of agricultural information required by development agents. They complement a large number of other existing sources. However, Member Nations can benefit from this wealth of information available worldwide only if they have the capacity to acquire, handle and use it. Especially through extra-budgetary funding, FAO will continue to support national and regional infrastructures to manage and use agricultural information resources drawing, as appropriate, on modern technologies. At the national level, the role of information should be more explicitly recognized as an integral input to the development process and adequate funding should be allocated by Member Nations themselves to the operation of local information systems and services.

● Publications

117. Publishing has always been an important component of FAO's work. The Organization's publications bring to Member Nations the results of activities at Headquarters and in the field, and are an important channel for disseminating policy advice, technical information and statistics. Publications also form an important part of the "institutional memory" of the Organization.

118. However, publications can only serve their purpose if they reach users at the right time, and in the appropriate form and language. This makes publishing a difficult and costly business. In the FAO context, it must be accepted that simultaneous publication of texts in official languages adds high translation costs and may inevitably result in significant delays.

. . . . specific problems

119. There are a number of issues related to FAO publishing activities. For instance, whereas the quality of texts depends mainly on the writing skills of authors, such skills tend to be limited in an international secretariat with primarily technical orientation. Pressures of workloads often prevent staff from developing skills for technical writing and editing. The situation is even more difficult in field projects, where the skills to produce material of the requisite editorial quality are limited. It will become more critical with the expansion of the nationally-executed projects, as editorial expertise in the main official languages will be less available. More training efforts will be required in language proficiency, report writing and desk-top publishing.

120. Users at the "grass roots" level have always constituted the group less well served. The language barrier and differences in literacy levels, require material to be produced in the local languages and simple and easy to understand texts. In many cases, the information is better provided in audio-visual form. FAO will continue to promote and support the production of such material, in cooperation with the local institutions concerned.

121. FAO's publications programme is monitored by a Publications Committee which regularly reviews priorities and detailed publication plans. A large number of documents is produced by the technical divisions for meetings and technical consultations and by field projects. With the level of resources available, these documents cannot be subjected to uniform standards of quality control. More efforts will be needed to improve their quality, and to make them more widely accessible, subject, of course, to governmental clearances.

. . . . and cost factor

122. Despite the above problems, FAO has a substantial publishing programme which is generally well-appreciated by the user community. It differs from commercial publishers in being non-profit. The production and distribution of printed output is a costly activity. FAO needs, and will actively continue to promote and sell its publications after having distributed free quota copies to member countries. As in the past, FAO will continue to enter into co-publishing arrangements to increase dissemination with less expenses; in this case, it generally receives free copies for distribution to quota recipients in lieu of royalties. It must be stressed that the usefulness of publications

distributed free of charge according to the FAO quota system, depends on recipient governments forwarding the copies they receive to interested institutions and decision-makers.

123. As the cost of printing processes increases, the Organization must constantly evaluate technological alternatives and apply those that permit better and faster service at lower cost. However, any decision to make increased use of electronic or optical publishing techniques is dependent on the levels of development in different Member Nations. Thus, for a long time, it is likely that FAO will still be required to retain the capacity to deliver information on paper. A compromise will have to be found between the current trend towards a "paperless society" and the needs of Member Nations which will still rely heavily on printed matter, especially for purely textual, as opposed to statistical or bibliographic material.

124. In view of the total requirements, a selective approach will be necessary in choosing priority subject areas and appropriate production systems. Maximum economy will probably come from systems that permit variety in output form: paper, diskettes or compact discs, according to user demand. In priority areas, documents will continue to be published and distributed on paper as at present, whereas machine-readable material or on-demand printing will be offered for the others. This entails that all texts are produced in machine-readable form, according to commonly accepted standards.

125. This blend of technological options will ease requirements for massive distribution and storage of documents and enable the Organization to use more intelligent systems for delivering the information to target audiences. In turn, the audiences must be empowered to choose the information they wish to receive and the form in which it will be delivered. In this, the FAO Country Offices act as key intermediaries, responding to local users and providing feedback to Headquarters.

● Public Information

126. In view of the ever-increasing flow of information reaching the general public, the competition for attention is becoming increasingly fierce. As a result, the old saying of the media profession holds, that the more relevant the information is to the recipient, the more likely it is that the information will receive attention. As an international institution, FAO does not seek to address individuals with information of direct relevance to them. FAO relies on intermediaries to carry its messages, such as the national mass media, institutions of learning, NGOs, etc.. For this reason, FAO must tailor-make its public information material to the needs of these intermediaries to facilitate re-dissemination. In doing so, the Organization must also bear in mind the different information needs and media situations of developed and developing countries.

127. In the field of news media, experience has shown that FAO should aim at entering the "news-stream" as early on as possible in the process. Therefore, close

attention will have to be given to contacts with and requirements of the international and regional news organizations, in order to reach the national media.

128. Another important area: the specialized media dealing with agriculture, forestry and fisheries, offers great potential for FAO to motivate particularly interested audiences and will need to assume a prominent place in the Organization's media outreach.

129. In the use of radio, there is scope for increased reliance on co-production arrangements. The same applies to television but, due to the commercialization of television in many countries and a shift away from education to entertainment, it will become increasingly difficult to find space for issues of concern to FAO. It will, therefore, be necessary to work closely with producers of specialized programmes, offering footage and factual information for use in their own programmes. Reliance on full-scale in-house productions is expected to gradually diminish.

130. In terms of content, FAO's information products and messages will concentrate on the overall priorities of the Organization. These priorities will form the basis for print materials ranging from booklets, leaflets and posters to fact sheets, features and exhibits. Overall, information will be packaged to facilitate "re-use" at the national level, with emphasis on provision of factual information. The FAO review, *Ceres*, as well as other, more specialized periodicals, will continue to provide a privileged and particularly effective vehicle for promotion of issues of concern to the Organization and the world community at large.

● Meetings

131. By organizing 200 meetings per year of various types, duration and target audiences, FAO is the world's largest agricultural forum in which decision-makers, scientists and development specialists from Member Nations meet to exchange experience and ideas and develop joint activities. Their participation in discussions on policy issues, programme management and/or technical topics is also essential to the work of the Organization and provides a clear manifestation of its universality.

132. Person to person contact remains, in fact, the best way of bringing about better understanding and communication among people and an efficient means for fostering international cooperation. In many cases, FAO's meetings are the sole opportunity offered to agricultural specialists from developing countries to meet with their peers from other parts of the developing and developed world.

133. It is well recognized that meetings are not cost-free, even when simultaneous interpretation is not required. The increase in travel and living costs puts a limit on the expansion of meetings. Extra-budgetary funding and co-sponsorship will continue to be sought to ease pressure on Regular Programme resources and maintain a vigorous programme of meetings. Even in the most optimistic expectation, however, available resources would not permit the preparation and organization of any larger number of

meetings. Selectivity is inevitable and, with time, FAO meetings will have to concentrate on the highest priority areas. When experts cannot be brought together to meet at Headquarters or in the field, the use of telecommunication networks will offer an alternative solution for tele-conferencing and at-distance consultation. Opportunities will be offered to scientific societies to use FAO's facilities for meetings on scientific and technical issues of global concern.

134. Whereas modern techniques can speed up production and distribution of meeting documents, the success of a meeting will always depend on the contribution of the participants. It is the responsibility of the authorities concerned in Member Nations to ensure the attendance of properly qualified and briefed participants. For expert consultations where participants are selected by the Organization, FAO and relevant institutions mainly in developing countries, should increase their efforts to identify such experts and give the chance to many more than at present to participate, particularly women.

135. The presence of technicians in national delegations to the technical committees of FAO is also essential. For many developing countries, this represents a problem. FAO will promote this participation subject to the availability of extra-budgetary resources.

● **Computerization and Telecommunications**

136. The nineties are likely to replicate the fast changes, particularly in terms of office automation and integration of various communications technologies, which have distinguished the previous decade and brought revolution to the workplace.

137. As befits organizations of similar size and complexity in operations, FAO has begun to invest in computer and telecommunications equipment and related software. In the first instance, it is necessary to take advantage of the tremendous productivity and efficiency gains made possible by new data and text-processing technologies. Beyond contributing to smoother and more effective workflows in administration and operations, such advanced technologies have special significance for an organization, which has a worldwide network of offices, maintains complex external contacts in a multilingual context and one of the main roles of which is to assemble, process and disseminate huge amounts of information.

138. Major initiatives have been launched to introduce more performant information systems on both the administrative (e.g. FINSYS/PERSYS) and substantive sides (e.g. WAICENT). The former is already in implementation while the latter should be completed in the 1992-93 biennium. A comprehensive Field Programme information system is also under active investigation. Subject to the normal phases of initial adjustment and regular maintenance, the basic components of data systems pertinent to FAO work appear to or will soon be in place. It is necessary to match these and other developments with the appropriate equipment and infrastructure.

139. Recent investments in computing resources have been guided by medium-term computing plans formulated by each department and approved by the Information Systems and Resources Committee (ISRC). Most recently, the ISRC and the Administration and Finance Department (AF) conducted major reviews of the Organization's computing plans. A general approach to "desktop" computing was endorsed as well as other strategic orientations as follows.

A vision for computing in FAO:

140. The ultimate goal of automation is to provide FAO users - including senior managers, Professional and General Service staff members - with tools to more effectively and efficiently accomplish their tasks. Therefore, FAO staff will be progressively provided access to desktop equipment, including personal productivity tools (word processing, spreadsheets), to strategic applications (electronic mail, management support systems), to corporate systems and databases (FINSYS/PERSYS, WAICENT), and to external communications. The use of a standard, easy-to-use workstation should also contribute to minimizing costs.

141. In view of the scarcity of resources, there is a need to maximize performance of the current computing environment. To this end, the emphasis should be on linkage of diverse technologies in place throughout the Organization, i.e. mainframe, minicomputers, networks, and desktop computers. A balance will be sought between centralized and decentralized processing, distributing capacity to the appropriate point in the most cost-effective way.

142. Computerization is not free of pitfalls. Over the years, a variety of hardware and software solutions to specific problems have been sought, leading to the need for compatibility. The Organization will seek to promote integration of software solutions. In order to obtain a seamless flow of information, software and hardware compatibility standards must be implemented in a network environment. The benefit will be ease of use of corporate systems on an integrated communications network.

Management of information processing activities:

143. Information resource management has evolved over the years. Computer policy and resource allocation are managed through the Information Systems and Resources Committee. Centralized services and support to users are provided through the Computer Services Centre (AFC). Decentralized services and support are maintained in some departments. Training of a large number of staff remains a challenge in view of the paucity of resources available for this purpose. This will be done gradually in line with the spread of equipment throughout the house and divisional priorities.

144. Another key aspect is the merger of communications support (telephones, telex and fax) into the Computer Services Centre to establish an Information Technology

Division, which is under study. Combined management responsibility for both communications and computing is a necessary pre-condition for implementing the Integrated Communications Network concept.

145. In the main, past and future investments have been and are being rationalized through departmental medium-term plans approved by the ISRC. With the gradual spread of desktop computing resources, the Organization will fine-tune its information resource management policy to maximize resource allocation.

Link to technical assistance activities in Member Nations:

146. The upgrading of computer equipment and software in FAO headquarters will also enable the Organization to discharge better the growing volume of activities of advice to member countries on the use of information technology in solving food and agriculture problems. FAO has developed a series of computer software, e.g. for data processing, analysis or modelling, which are being widely used in member countries by specialized institutions and laboratories. The Organization is particularly concerned with the effective use of these applications for information and data storage, research and technical design, and training and extension. In each of these cases, the concerned technical divisions of the Organization should be in a position to assist countries to choose the most appropriate hardware, bearing in mind compatibility aspects, and adapt the packages to local needs, both through direct assistance and through components of field projects. The rapid development of new tools in the field of information technology makes it essential for FAO to keep itself up-to-date in order to maintain the quality of its advice on computer applications and of the software products it develops or promotes.

● **The Issue of "Capital Budgeting"**

147. As demonstrated above, FAO intends to reap the benefits from evolving technological developments by availing itself of up-to-date equipment and facilities. The time when most FAO staff worked with typewriters, desk calculators and simple telephone connections, while not so far away, is definitely gone. The advantages and benefits of employing modern tools such as desk-top computers and advanced telecommunication systems, imply costly investments by the Organization, often running into several million dollars.

148. Besides computerization and telecommunications, the same considerations apply to other areas of the premises where more costly equipment needs to be acquired or replaced at regular intervals such as in printing facilities, telephone exchange and for general refurbishing of the buildings.

149. However, FAO operates on the basis of a biennial budget, whereby it is not possible to carry over or accumulate funds at the end of each financial period. FAO's

Financial Regulations do not contemplate arrangements and accounting for depreciation, in order to spread the costs of major acquisitions.

150. In fact, the Organization has very often been faced with dilemmas when coming to costly one-time acquisitions of equipment. For obvious reasons, there was reluctance to include such purchases in biennial budgetary proposals, in order to avoid sharp fluctuations under the concerned budgetary chapters or to unduly penalize substantive activities. At times of budgetary stringency, this problem becomes even more acute.

151. The Organization, therefore, has often been forced to postpone major renovation work or needed high-cost purchases, sometimes indefinitely. This process has obvious limitations and, in fact, does not lead to any economies at all, as it implies having to deal with increasingly outdated equipment, stepped-up maintenance costs and the deplorable incidence of frequent breakdowns. In order to obviate this, the Organization has tried, where possible, to enter into rental or leasing arrangements. However, even this approach has its drawbacks and may not always be possible or economically attractive.

152. As advised in the report of the Management Consultants in 1989, it is therefore suggested that the Organization should introduce the concept of *capital budgeting*. An equipment fund could be established, with appropriate arrangements for committing expenditures under the supervision of the concerned bodies such as the Finance Committee, and appropriate modalities for setting aside regular provisions from each biennial budget and/or replenishment. This fund could also accommodate the proceeds from sales or donations and voluntary contributions which Member Nations would be willing to make for that purpose.

153. No detailed analysis has, as yet, been carried out and this proposal is made in order to elicit the preliminary reactions of the Conference. Should it be found interesting, a detailed study could be made, including the consequential changes in the Financial Rules and Regulations, for consideration by the Finance Committee and the Council.

PERSONNEL MATTERS

154. In order for this Medium-term Plan to translate into effective programmes and activities, it should also embody elements of personnel policy for FAO staff. A number of serious problems have come to the fore which warrant consideration by the Organization's Governing Bodies.

● Conditions of Service

155. The Organization currently employs two main categories of staff. Staff in the Professional and Director categories have their conditions of service determined at the level of the whole UN system (except for the World Bank and the IMF). Decisions are taken by the General Assembly of the United Nations, upon advice and recommendation by the International Civil Service Commission (ICSC). The conditions of employment of General Service staff take into consideration local labour market conditions in respective duty stations and are also of the competence of the ICSC.

156. The General Assembly of the United Nations and the ICSC have regularly reaffirmed that the organizations of the common system should employ staff meeting the highest standards of efficiency, competence and integrity and drawing on the widest geographical distribution possible. Up to the mid-seventies, the conditions of employment of the UN system did not represent any impediment to ensure this. The prestige of the International Civil Service was high and, while certainly not the only factor in motivating the choice of an "international career", the remuneration level was satisfactory. Throughout the eighties, there has been a marked deterioration in the conditions of service affecting Professional staff, including repeated and prolonged freezes on their take-home pay and successive cuts in pension benefits. What were perhaps in earlier days episodic cases of potential candidates to Professional vacancies turning down offers of appointment on account of insufficient remuneration, has become now an unfortunate but regular feature of recruitment action undertaken by FAO. It has become virtually impossible to attract a sufficient number of applications by first-rate candidates from some countries, so as to enable proper selection and ensure a fair geographic distribution among the staff.

157. The remuneration package now offered, at Headquarters and in the field, acts as a strong disincentive to anybody willing to face the risks and costs of expatriation, including in many cases the costs of the usually negative changes in children's education and loss of spouses' earnings from employment. For staff already employed for instance at Headquarters, the fact that they are witnessing their living standards sinking rapidly in relation to those of the host country, is certainly not conducive to good morale. A

striking symptom of this serious situation is the growing overlap between Professional and General Service remuneration. In view of the dual system recalled above, the remuneration package offered to General Service staff, particularly at Headquarters, duly reflects the increased prosperity and cost of living of the host country. However, the ceiling put on Professional salaries negates such benefits to the other category of staff. This leads to the increasingly paradoxical situation of many supervisors earning less than those they have to supervise.

158. Besides purely material aspects, the series of negative measures affecting both remuneration and pensions relentlessly taken over the recent past, have added a dimension of uncertainty and lack of confidence on their future conditions of service by staff. This also greatly undermines morale and leads to excessively high levels of turnover.

159. Like many other specialized agencies of the UN system, FAO needs the services of specialists and needs to compete with other employers for acquiring such skills. It is proving virtually impossible now to attract prospective candidates of the requisite quality in those disciplines where competition is high.

160. Within the restricted pool of experienced development experts which FAO needs to tap for the success of its field operations, the cases of flight to the much more attractive conditions offered by international financial institutions, bilateral aid programmes and other development-orientated organizations such as the EEC, are multiplying. The problems underlined above regarding Professional expertise apply *mutatis mutandis* to the recruitment of consultants.

161. The Director-General is convinced that the quality of FAO services has so far been maintained, thanks to the continued dedication of its experienced staff. However, a policy of false economies in seeking to reduce costs by repeatedly cutting salaries and other benefits, will eventually reveal its short-sightedness with a general deterioration in the quality of the Organization's outputs and services.

162. What are the courses of action offered to FAO Governing Bodies? There is no indication that FAO Governing Bodies would be willing to consider setting special employment conditions for FAO Professional staff, at variance with the common system. However, it would, no doubt, be beneficial that FAO Governing Bodies forcefully underline the special character and requirements of FAO, as well as other specialized agencies, so as to sensitize the central bodies responsible for staff matters. A concerted call would undoubtedly alert them that urgent solutions are needed, lest the very foundation of the concept of International Civil Service be completely destroyed.

163. Within the more limited scope of ameliorative measures which fall within the purview of FAO Governing Bodies and the Director-General, efforts will continue to be made to improve conditions of work of the staff.

● **Staff Training and Development**

164. Important aspects of staff policy are training and staff development. The training opportunities offered by FAO to its staff do not compare favourably with those available in large private companies and among public services of Member Nations themselves, where the practice of refresher courses, sabbaticals, in-service training, etc., are becoming widespread. Unfortunately, staff training activities tend to be and have effectively been the first victims of austerity measures. For example, language training, which is so essential to an international organization such as FAO, has had to be suspended and, while being progressively restored, is far from being responsive to effective requirements and wishes of the staff. Within the modest latitude offered by present budgetary constraints, it is necessary for FAO to bridge the gap which separates it from other institutions in the area of staff training.

● **Employment of Women**

165. The need to increase the percentage of women, particularly at the higher grades of Professional and Director categories, has been repeatedly underlined by FAO Governing Bodies. Any further progress is also dependent on the efforts of Member Nations themselves in submitting qualified female candidates to vacant posts. The Secretariat, for its part, will do its best to raise the still relatively low percentage of women in the Professional category, although there is a known problem of fewer female experts active in agriculture, fisheries and forestry, than in some other areas of expertise. Many professional women are also hesitant to embark on a career with international organizations, which may mean several changes of duty station.

● **Geographical Representation**

166. Another aspect which is of considerable interest to the concerned Member Nations is the chronic under-representation of some countries in the staff of the Organization. In most cases, this is to be linked directly to the above-mentioned problem of uncompetitive conditions of service. Every effort will be made to ensure more balanced representation from these countries, including through special recruitment missions and active contacts with their representations in Rome.

INTRODUCTION

PART II

CROSS-SECTORAL ACTIONS

INTRODUCTION

1. FAO's organizational structure is necessarily based on a division of labour among various units by discipline or geographical focus, together with functional and servicing units. If FAO is effectively to act as a centre of excellence, as desired by its Governing Bodies, it requires expertise in such diverse specialized areas as animal health, fisheries resource assessment, genetic resources, pesticides, etc., hence the deployment of technical divisions, services and branches, at Headquarters, supplemented by teams of technical officers in the Regional Offices. The geographical approach to structure is appropriate for regional and country programming and implementation of technical assistance at that disaggregated level, but not for ensuring that the knowledge and expertise of the whole Organization in the main sectors can be effectively applied in its substantive outputs. It is, therefore, not immediately clear how cross-sectoral priorities find their way through the substantive output of the Organization, both in its global as well as country-level activities.

2. A large amount of cross-sectoral coordination is carried out through a variety of arrangements, in particular inter-departmental committees, inter-divisional working groups and suitably adapted systems of "focal points" and coordinating units. "Cross-fertilization" between units is also achieved through taking an integrated approach in those cases where various technical solutions or sectoral actions need to converge to address complex, multidisciplinary issues or problems, such as coastal area management, agro-forestry, etc..

3. Member Nations have expressed their interest in being apprised of the links between "sectoral" programmes (e.g. crop production or animal health) and "cross-sectoral" priorities. It may be observed in this regard that the permeation of "sectoral" programmes by "horizontal" concerns such as, for instance, attention to sustainability, very often takes place in an incremental fashion and may take intangible forms. It has to be borne in mind that, besides their immediate primary objectives of "sectoral" nature (e.g. assistance to veterinary services in coping with a given disease), many FAO activities incorporate secondary objectives in keeping with cross-sectoral priorities (such as training or TCDC). Any attempt to unravel completely and comprehensively all these complex ramifications would lead to a prohibitive amount of descriptive material in FAO programme-planning documents.

4. However, thematic priorities are sanctioned by the discussions of the Council and Conference, as well as in other FAO fora, often culminating in specific recommendations, resolutions or related programmes of action. Beyond the confines of FAO, many priorities are widely upheld throughout the UN system. It is not possible to cover in this document all thematic priorities to which FAO Governing Bodies attach

importance. It is intended to cover other priorities, as required and desired by the Conference, in successive versions of the Medium-term Plan.

5. This section covers the following cross-sectoral priorities:

- environment and sustainable development;
- policy advice;
- women-in-development;
- human resources development; and
- Economic and Technical Cooperation among Developing Countries (E and TCDC).

6. Each of the above major thematic priorities is *sui generis*. In most, indeed all, cases, FAO's action does not start from scratch. Training and policy advice, for instance, have been key features of FAO's work since its inception. But the Organization is receptive to new developments and new perceptions. A process of continuing adjustment is required. Within the broad sweep of each thematic priority, some hierarchy of objectives and preferred means of action needs to be observed. As far as possible, this section aims at providing the working definition of each theme used in FAO, highlighting the organizational arrangements in force or planned and presenting current thinking on how to tackle each cross-sectoral priority over the medium term.

7. These themes have a pervasive impact across the broad gamut of FAO's technical and economic activities. Graphic illustration is given in the following table of the existing programmes and sub-programmes under budgetary Chapter 2 of FAO's programme structure, which include major or minor components of relevance to these thematic priorities.

THEMATIC PRIORITIES

● = Major Contribution; • = Minor (or indirect) contribution

Sub-programme	Environment and Sustainable Development	Policy Advice	Women in Development	Human resources development	E and TCDC
MAJOR PROGRAMME 21, AGRICULTURE					
Programme 211, Natural Resources					
- 2111, Assessment and Planning	●	•			
- 2112, Farming Systems Development	•	•		●	
- 2113, Soil Management and Fertilizers	●	•		•	
- 2114, Water Development and Management	•	•	•	•	
- 2115, Conservation and Reclamation	●	•			
- 2116, Sustaining Resource Potentials	●	•			
Programme 212, Crops					
- 2121, Conservation and Management of Plant Genetic Resources	●				
- 2122, Crop Management and Diversification	•	•	•	●	•
- 2123, Seed Production and Plant Improvement	•			•	
- 2124, Crop Protection	●			•	●
- 2125, Agricultural Engineering and Prevention of Food Losses	•	•	•		
- 2126, Food and Agricultural Industries		•	•		•
Programme 213, Livestock					
- 2131, Grassland, Forage and Feed Resources	•	•			•
- 2132, Animal Health	•	•			•
- 2133, Genetic Resources	●				
- 2134, Dairy Development		•	•	●	•
- 2135, Meat Development		•		●	
- 2136, Livestock Production	•	●			
Programme 214, Research and Technology Development					
- 2141, Research Development		●		•	
- 2142, Agricultural Applications of Isotopes and Biotechnology	•			●	
- 2143, AGRIS, CARIS and Field Documentation Activities	•		•	•	•
- 2144, Remote Sensing and Agrometeorology	●			●	

● = Major Contribution; • = Minor (or indirect) contribution

Sub-programme	Environment and Sustainable Development	Policy Advice	Women in Development	Human resources development	E and TCDC
- 2145, Environment, Energy and Sustainable Development	●				
Programme 215, Rural Development					
- 21511, Agricultural Education, Extension and Training		•		●	
- 21512, Development Support Communications				●	
- 2152, Agrarian Reform and Land Settlement		●			●
- 2153, Rural Institutions and Employment		•	•	●	
- 2154, Women in Agriculture and Rural Development		•	●		
- 2155, Marketing		•	•	•	●
- 2156, Rural Finance and Risk Management		•		•	●
Programme 216, Nutrition					
- 2161, Food and Nutrition Assessment	•				
- 2162, Nutrition Programmes		•	●	•	
- 2163, Food Control and Consumer Protection		●		•	•
- 2164, Nutrition Policy at Country Level		•	•	•	
- 2165, Joint FAO/WHO Food Standards Programme (Codex Alimentarius)	●	•			
Programme 217, Food and Agricultural Information and Analysis					
- 2171, Statistical Processing and Analysis	•	•	•	•	
- 2172, Situation and Outlook	•	•			•
- 2173, Food Information and Early Warning System	•	•	•	•	●
- 2174, Statistical Development		•		●	•
Programme 218, Food and Agricultural Policy					
- 2181, Global Perspective Studies	•	•			
- 2182, Agricultural Policy Analysis		●			●
- 2183, Commodity Policies and Trade		●			●
- 2184, World Food Security	●	●	•		•
- 2185, Agricultural Planning Assistance		●		●	
MAJOR PROGRAMME 22, FISHERIES					
- 2211, Aquatic Sciences and Fisheries Information	•	•		•	
- 2212, Fishery Data and Statistics	•	•		•	

● = Major Contribution; • = Minor (or indirect) contribution

Sub-programme	Environment and Sustainable Development	Policy Advice	Women in Development	Human resources development	E and TCDC
- 2221, Marine Resources and Environment	●				
- 2222, Inland Fisheries and Aquaculture	●	•		•	•
- 2223, Fish Production	•	•		●	•
- 2224, Fish Utilization and Marketing	•	•		•	•
- 2231, Fisheries Policy and Planning	•	●	•	•	
- 2232, International Coordination and Liaison	•	•			●
MAJOR PROGRAMME 2.3, FORESTRY					
- 2311, Development and Management of Forests	●	•		•	
- 2312, Plantations, Tree Improvement and Forest Genetic Resources	●	•		•	•
- 2313, Conservation and Wildlife	●	•		•	•
- 2314, Forest Food, Fodder and Fuelwood Systems	•	•			
- 2315, Tropical Forestry Action Programme	●	●			
- 2321, Development of Forest Industries	•	•		•	
- 2322, Trade and Marketing of Forest Products		•			
- 2324, Non-Wood Forest Products and Wood-Based Energy	•		•	•	
- 2331, Training and Institutions		•		●	
- 2332, Investment Planning and Statistics		●			
- 2333, Forest Policies and Information		●			
- 2334, Community Forestry Development		•	•	●	

A. SUSTAINABLE DEVELOPMENT AND ENVIRONMENT

● The Context

8. The decade of the eighties was characterized by global recognition and concern about degradation of the environment and the sustainability of development. The need to reconcile development imperatives with those of environment protection was reflected in the report of the World Commission on Environment and Development, *Our Common Future*, in 1987 and in the decision of the UN General Assembly to organize an "Earth Summit" - the UN Conference on Environment and Development (UNCED) - to be held in Brazil in 1992.

9. In the fields of food, agriculture, forestry and fisheries, these concerns are not new: the conservation of natural resources is specifically mentioned among the objectives assigned to the Organization in the FAO Constitution. As a result, a number of activities were undertaken by FAO for the conservation of soils, water and genetic resources until 1969, when the need for integrated and coordinated approaches was recognized and led to the establishment of an in-house working group on natural resources and the human environment. The active participation of FAO in the preparation and follow-up of the first UN Conference on Human Environment in 1972 led to further impetus to FAO activities (e.g. the Soil Charter 1981, the International Undertaking on Plant Genetic Resources 1983, the International Code of Conduct on Pesticides 1985) and related active field programmes and projects.

10. During the Review of FAO, broader preoccupations emerged, in line with the global dimensions taken by some environmental problems (climate change, desertification, deforestation, marine pollution), as well as the deeper understanding of the root causes, especially the disparities of the present patterns of development, trade, consumption and life styles. A further call was made on FAO to address environmental and sustainability issues comprehensively, not only in their technical, but also in their socio-economic dimensions, particularly through its field activities.

11. The Twenty-fifth Session of the FAO Conference adopted, in November 1989, a major resolution on *FAO Activities Related to Sustainable Development* (3/89). It requested the Organization to intensify inter-disciplinary work to ensure integration of environmental considerations in all relevant FAO activities; give higher priority to sustainable development and the prevention of environmental degradation which affects agriculture, fisheries and forestry; strengthen cooperation with other organizations of the UN system in these fields; and collaborate fully in the preparations for UNCED.

12. The implementation of Conference Resolution 3/89 has led to further elaboration of the concepts and objectives of sustainable development in FAO's fields of competence. FAO has embarked on a major effort of refining priorities, putting in place necessary organizational arrangements and strengthened inter-disciplinary linkages in the Regular Programme and streamlining of field programmes. This exercise is of a long-term nature and its impact will be felt gradually, the more so as it has to be closely dovetailed with the preparations and follow-up of UNCED. This section of the Plan embodies the present state of progress and a forward outlook in broad lines. Further elaboration of selected facets of sustainable development is done in the following thematic sections and, more extensively, in Part III.

● Sustainable Development - A Holistic View

13. It may be pertinent to recall the following definition of sustainable development for the food and agriculture sectors, as adopted by the FAO Council in 1988:

"Sustainable development is the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development (in the agriculture, forestry and fisheries sectors) conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable."

. . . . embarking on SARD

14. In order to go beyond definitions and translate the concept of sustainable development into effective strategies and concrete operational action, FAO, with the support of and jointly with the Government of the Netherlands, convened a Conference on Agriculture and the Environment from 15-19 April 1991 in 's-Hertogenbosch (Den Bosch in short). A common declaration (Den Bosch Declaration) was adopted which assigns three essential objectives to a strategy for sustainable agriculture and rural development (SARD):

- *"food security by ensuring an appropriate and sustainable balance between self-sufficiency and self-reliance;"*
- *"employment and income-generation in rural areas, particularly to eradicate poverty;"*
- *"natural resource conservation and environmental protection."*

15. The objectives of SARD, as formulated above, give particular prominence to food and income aspects, whereas natural resource conservation and environmental protection are seen merely as one among the three objectives listed. This reflects the recognition, as stated in the preamble of the den Bosch Declaration, that:

"by the year 2025, the world will have to feed an additional 3.2 billion people from a natural resource base which is already seriously threatened by unsustainable farming practices and environmental pressures arising from other human activities. Already now, millions of people are caught in a poverty trap which forces them to eke out their livelihood at the expense of natural resources which are the sole means of their survival."

16. Thus, the premise of SARD is that, with the very few exceptions of countries with still unexploited reserves of suitable arable lands, there is no alternative to further intensification of agriculture until the world population stabilizes in terms of both numbers and demands. The issue faced by many countries is how and where to intensify agriculture, without depleting the resource base and degrading the environment.

17. The essential objectives of SARD should be:

- (a) to improve efficiency in the whole agricultural production-processing-marketing-consumption system so as to minimize waste and pollution;
- (b) to increase resilience and minimize risks (environmental and socio-economic) in the use of natural resources and inputs throughout this process; and
- (c) to promote diversity in the production and post-production systems and related sources of income in rural areas.

18. A number of prerequisites have to be met for the attainment of such objectives, some of them extending beyond the agricultural sector. These include, in particular, the implementation of appropriate population policies; fair terms of exchange in agricultural trade at national and international levels; measures in favour of agriculture as a vital economic sector and with due regard to its contribution to the protection of the environment; and adequate financing. More generally, full recognition is needed at policy level of the importance of granting farmers a status in society commensurate with their key roles of ensuring an adequate and steady supply of essential commodities, while contributing to the maintenance of the natural resource base.

19. For the successful implementation of the above outlined strategy, adjustments and changes will be called for, *inter alia*, in agricultural policies and plans; in devolving more responsibilities and means to the rural communities for decision-making and management of natural resources; in putting the natural resources/population relationship on a sustainable course (e.g. by land zoning, land reform as well as major investments in protecting, rehabilitating and improving the natural resource base); and in adapting technology to the dictates of sustainability.

● **The Role of FAO and its Relations with Other UN and Non-UN Organizations**

20. The pervasive nature of environmental and sustainability concerns renders FAO's supportive role in this respect not much distinct from its overall developmental action. Similarly, the interactions between the environment and agriculture, forestry and fisheries are so intimate that it is practically impossible to put any dividing line between FAO's role in environment protection and that in favour of rational management and development of the agriculture, forestry and fisheries sectors.

21. Any goal of sustainability and environment protection also calls for close consideration of the interactions across sectors and also across generations; some of the present development activities in a sector may affect not only the viability of another sector at present, but also the long-term sustainability of the whole development effort. Assessing compatibility among component actions within FAO's mandated area and also between FAO's own work and that of other institutions, has become a constant and natural preoccupation.

22. This concern at complementarity calls for an increased involvement of FAO in UNEP's endeavours towards global environment monitoring and control. Similarly, the cooperation of FAO with WHO on environmental health, with WMO on climate change, and with Unesco on basic environmental research and education, takes increasing importance. The role of FAO in this broad-based cooperation is to ensure that the interests of the food, agriculture, forestry and fisheries sectors are not only duly recognized, but also adequately balanced with those relating to the sectors of concern to other agencies.

23. The Organization's influence on the policies and plans of development institutions and involvement in the formulation and execution of projects which can contribute to sustainable development, should be expected to grow. Most of the international development agencies have set up separate environment units and elaborated environmental guidelines for projects. Within its mandate, FAO will need to assist these agencies in taking a broader approach to sustainability problems (of which environment is only one component), including the necessary changes in their funding criteria and funding methods.

24. Undoubtedly, the preparatory process of UNCED in which FAO is very actively involved, will lead to further concerted and coordinated action by the UN system in the field of sustainable development and environment, as part of the document, *Agenda 21*, prepared for this conference. As the areas of sustainable agriculture, forestry and fisheries have been specifically identified for consideration by this conference, it is likely that UNCED will influence the future role and programmes of FAO and may also lead to new mechanisms for cooperation among international institutions to this effect. For the time being, the existing coordination machinery is used to the fullest extent possible in the preparation for UNCED, namely the meetings of the Committee of International Development Institutions on the Environment (CIDIE), of the Designated Officials for

Environment Matters (DOEM) and the Ecosystem Conservation Group (ECG), in addition to inter-agency working parties of the UNCED Secretariat.

25. Another area for desirable enhanced external cooperation concerns the NGOs. NGOs play a growing role in raising environmental awareness among local people, in influencing public opinion and government policies and in promoting people's participation at grass-roots level. It is, therefore, essential that FAO strengthen its links and cooperation with NGOs, local and international, environmental and developmental, on a mutually beneficial basis.

● **Organizational Arrangements**

26. The mechanisms for internal coordination of FAO activities in the field of sustainable development and environment protection, include a Steering Committee at ADG level, under the chairmanship of the Special Adviser to the Director-General/Assistant Director-General for Environment and Sustainable Development, an Inter-departmental Working Group (IDWG) at division director level, and a series of *ad hoc* working groups and task forces on critical areas such as biodiversity, climate change, desertification control, integration of environment and sustainability considerations in policy and planning. In addition, other closely related mechanisms exist such as the IDWG on Land Use Planning, with sub-groups on geographic information systems and mixed production systems, and the IDWG on Energy.

27. Other IDWGs and internal FAO committees, which coordinate FAO action in other sectors, will also take account of sustainability and environment protection requirements. This is the case, in particular, of the IDWG on Training as regards environmental education and training, and the Field Programme Committee as regards the development of procedures related to environment protection and sustainability throughout the project cycle.

28. Overall support is provided by the Environment and Energy Programmes Coordinating Centre of the Research and Technology Development Division (AGRE), under the general guidance of the Special Adviser to the Director-General/Assistant Director-General for Environment and Sustainable Development, Office of the Director-General.

● **Medium-term Approach**

Programme implications:

29. Permeation of environment and sustainable development throughout FAO's programmes is facilitated by earmarking funds under each relevant sub-programme for

participation in cross-sectoral activities, under the aegis of the inter-departmental structures described above. In general, one department or one technical division takes the lead in specific areas which call for contributions from other departments and divisions. This is supplemented by centrally-administered provisions for cross-sectoral work in areas where no suitable focal point/lead division can be identified. Areas specifically targeted for strengthening in the 1992-93 biennium include: integration of environment and sustainability considerations in FAO's policy advisory services and planning assistance; biological diversity; climate change; agro-forestry; desertification; integrated coastal area management; and energy. Such approaches, which facilitate coordination and inter-sectoral work, should be pursued in the following biennia.

30. As regards the Field Programme, two broad programme frameworks are already established in forestry and fisheries, namely the Tropical Forestry Action Plan (TFAP) and the Plans of Action adopted by the World Fisheries Conference in 1984. These encompass a number of activities which relate to the sustainable management of forestry resources and fishery resources respectively, as well as their environmental aspects. Long-term sustainability requirements will lead to a growing consideration within these programmes of aspects such as integration of fisheries and forestry into overall rural development, coastal area management, biodiversity, pollution control and climate change.

31. In the complex area of agriculture and rural development *per se*, there was so far no overall framework for FAO field activities, such as those for forestry and fisheries. A series of Special Action Programmes (SAPs), however, exist in some priority areas (e.g. the Fertilizer Programme), coupled with many other field projects which respond to specific demands of member countries. The strengthening of FAO activities in the field of environment and sustainable development, in line with Conference Resolution 3/89 and the specific recommendations of the den Bosch Conference, have led to the development of an International Cooperative Programme Framework for Sustainable Agriculture and Rural Development (ICPF/SARD) which would include a number of existing SAPs and new ones, suitably streamlined. This is to be considered by the Twenty-sixth Session of the FAO Conference. The structure and contents of the ICPF/SARD should undergo a process of gradual elaboration, involving FAO Governing Bodies, other institutions which may participate as partners in its implementation, as well as the mechanisms for consultations in the preparation of UNCED and its *Agenda 21*.

32. As the ICPF/SARD evolves side-by-side with the TFAP and the fisheries Programmes of Action, the issue of the integration of these three broad programme frameworks for FAO field activities will arise. However, several considerations justify their separate existence. Firstly, these programme frameworks match institutional realities at national level where separate agriculture, forestry and fisheries institutional structures generally exist and call for relatively distinct services from and dialogue with FAO. Secondly, it is at national level that such coordination and integration should be ensured between the external inputs from FAO and other organizations, and the country programmes and projects. FAO field programmes should therefore remain flexible. The three broad frameworks will permit to meet a relatively steady demand in their respective areas whereas, for the largest part, field projects will continue to be designed

to meet special demands and fill certain gaps and which cannot, therefore, fit within preconceived programme frameworks.

33. Nevertheless, practical criteria will have to be elaborated to delineate the respective domains of action and linkage mechanisms will have to be provided among the three programme frameworks in a number of areas of potential joint interest such as the coastal zones, as well as for those watershed areas and forested areas, where agriculture and forestry are equally important.

Areas of emphasis:

34. Within the broad sweep of FAO's support to environmental protection and sustainable development, it is possible to highlight a number of specific, high-priority actions as follows. These generally recoup priority actions described in more detail in other sections of the Plan.

- (a) data collection, information exchange and processing to assess and monitor the sustainability of agriculture, forestry and fisheries:

This encompasses not only filling gaps and improving FAO databases in some critical areas (e.g. statistics on pesticide use, contributions of agriculture to greenhouse gas emissions), but also developing methods and systems for integrated analysis and assessment (e.g. geographic information systems, satellite-based monitoring systems, environmental accounting, environmental impact assessment), as well as related training;

- (b) policy analysis, policy advice and planning:

The attention to sustainability will influence FAO policy advisory work, in particular through: the integration of the processes of natural resource policy formulation and planning with that of socio-economic planning, including food security policy; reducing the negative impact of structural adjustments, trade liberalization and environmental policies on the long-term sustainability of the agriculture, forestry and fisheries sectors; promoting decentralization and participatory approaches in the formulation of rural development policies and plans; and facilitating the adoption of policy instruments and tools which promote sustainability and environment protection;

- (c) development of integrated production systems and diversification of rural incomes:

The association of diverse activities in the same production unit or among production units, *ipso facto*, enhances sustainability of economic activity in rural areas; this calls, in each agro-ecological zone, for a closer integration of crop and livestock production, wildlife management, forestry, aquaculture and fishery production; the design of integrated and sustainable production-processing-marketing systems, the

development of small-scale agro-industries in rural areas, and other non-farm activities. The role of FAO in these areas should be to assemble, analyze and disseminate local experiences as well as the results of relevant research, in particular through TCDC.

- (d) people's participation and human resource development programmes:
These aspects are recalled here because they are essential to empowering local communities in managing their resources in a sustainable manner, and protecting their environment;
- (e) comprehensive assessment and management of natural resources for multiple and sustainable use:
This includes:
 - multi-purpose evaluation of land resources (land zoning, land use planning, comprehensive action in soil conservation and land rehabilitation, as well as the integrated management of land resources);
 - multi-purpose management of water resources, including their use for rainfed and irrigated agriculture, livestock, fisheries and aquaculture, watershed management and waste-water recycling. In this respect, FAO will participate actively in the Dublin Conference on Water, scheduled in early 1992;
 - balanced exploitation of forest products in the supply of timber, fuelwood, food and other goods and the role of forest systems in the regulation of the water cycle and climate;
 - biodiversity, including *in situ* and *ex situ* conservation and assessment for multiple uses in agriculture, forestry and fisheries.
- (f) optimization of internal and external sources of inputs to production systems:
This includes:
 - integrated plant nutrition systems, associating biological and organic sources of plant nutrients with mineral fertilizers maximizing production and income with minimal adverse effects on the environment;
 - integrated feeding systems, both for livestock and for aquaculture;
 - integrated pest management systems and related action for the control of pesticides and the prevention of negative effects on agricultural trade;

- integrated development and use of rural energy sources such as animal power, wind, solar energy, biomass including waste recycling, fuelwood, as well as "external" sources such as fossil fuels.

35. In all the above areas, FAO's role is to collect, assess and disseminate information, provide advisory services and technical assistance and help develop, as appropriate, normative measures such as legislation and standards.

B. POLICY ADVICE

● **FAO's Role**

36. FAO is mandated to work with and assist Member Governments to achieve shared goals, specifically with respect to food, agriculture and rural development. Thus, there is at least a component of policy advice or policy assistance in almost every FAO programme. Indeed, earlier discussions of FAO's policy advisory role have recognized the pervasiveness of policy work and policy advice in the Organization's programmes. Any demarcation of boundaries between policy and non-policy advice and assistance is particularly difficult to establish in FAO's partnership with governments.

● **"Definition" of Policy Advice**

37. Earlier discussions have introduced a useful distinction between the "policy advisory function" of FAO and "policy advice". The "policy advisory function" includes:

- (a) gathering and analysis of basic data and information;
- (b) provision of technical information and advice within a given policy framework; and
- (c) the wide range of activities which may be considered implementation of policies, plans and programmes already designed.

38. In the more restricted core of activities comprising "policy advice", it is possible to distinguish the following categories:

- (a) global or regional sector studies, plans of action or policy issue studies;
- (b) direct policy advice to a country or region or sub-region; and
- (c) assistance to enhance the policy analysis and planning capability of a country, region or sub-region.

39. Among the three latter categories, it is in the first one that FAO has the longest history of achievements. These global studies have usually resulted in a framework or a set of objectives and guidelines which can be applied by individual countries. Examples of activities of this category include: (i) Indicative World Plan for Agricultural

Development (1969); (ii) Agricultural Price Policies (1985); (iii) Tropical Forestry Action Plan (1985); (iv) Agriculture: Toward 2000 (1977 and 1987); and (v) regional studies.

40. It is in the category of direct policy advice that demand by member countries for assistance has grown most rapidly. It is also in this category that activities are most broadly spread through the various units of the Organization, where the distinctions between policy and non-policy work are most blurred, and where the cross-sectoral nature of policy advice is most pronounced. The following list provides an illustration of the diversity of FAO's direct policy advice activities, sometimes undertaken in collaboration with other institutions such as the World Bank:

- (a) agricultural sector strategies, policies and plans for individual countries or sub-regions;
- (b) food security strategies and policies, under the umbrella of the Food Security Assistance Scheme (FSAS);
- (c) advice on nutritional needs, formulation of nutritional intervention programmes and the development of national food control programmes;
- (d) commodity policy advice and planning;
- (e) advice on rural development and agrarian reform, e.g. through WCARRD follow-up missions;
- (f) agricultural products and inputs price and marketing policies, including agro-industrial policies and development plans, and the provision of credit and financing services; and
- (g) policy aspects of agricultural education and extension, as instruments of human resources development for agricultural and rural development.

41. Cutting across FAO's policy advice activities, is the need to consider environment and sustainable development aspects together with women's critical roles and special needs and the means to overcome the constraints they confront as agricultural producers and workers as well as environmental and household managers.

42. Direct policy advisory work, self-understandably, implies close dialogue between FAO and the concerned governments. In fact, there is a need to work hand-in-hand with national authorities at the proper level. This does not detract from the objectivity and neutrality of the advice so provided. Indeed, perhaps the main *raison d'être* of governments turning to FAO for advice is their expectation of the disinterested nature of the assistance from international organizations in defining often sensitive policy options.

43. The third category, capacity building, includes both training for policy analysis and field projects that provide direct support to national policy analysis units. There has been a trend for capacity building to concentrate more on policy, and less on traditional

sector planning and project preparation and evaluation. More and more, member countries are recognizing the importance of policy incentives as an alternative to direct government activity to implement sector plans and achieve national goals.

44. Policy advice is underpinned by the availability of adequate information. FAO is universally recognized as the global clearing house for information on food and agriculture. Given the critical importance of timely, accurate and relevant data and information to the analysis, formulation and implementation of effective policy, the information activities of FAO are alluded to in this cross-sectoral view of the Organization's policy advice work. It is especially appropriate to take this expanded view at a time when important changes are being made in the Organization's basic information systems. Also, sweeping political and economic restructuring of formerly centrally planned economies are placing new demands on these information systems, as FAO strives to provide policy assistance to member countries involved in this restructuring.

● **Interaction with Other UN System and Non-UN Organizations**

45. The pervasive nature of policy, and the wide variety of policy concerns that influence the food and agricultural sector and agricultural development lead many UN and non-UN international organizations to be involved in policy and policy advice related to FAO's domain of competence. Hence, its interest in being associated with such important policy fora such as World Bank consultative groups and UNDP round tables, particularly as far as the food and agriculture sector is concerned. The following are examples of significant interaction and cooperative relationships with other organizations in policy advisory activities.

- (a) in sector and structural adjustment policy work, FAO works closely with the World Bank, the IMF and bilateral donors and aid agencies, especially at the country level;
- (b) food security policy work, especially development of food security programmes under the Food Security Assistance Scheme, involve close cooperation with the World Bank and support from bilateral donors;
- (c) formal discussions are held at high levels between FAO and the World Bank, the IMF and the Inter-American Development Bank to improve institutional cooperation in policy advice activities;
- (d) support to GATT and active participation in the Uruguay Round aim at both providing technical assistance to developing countries and the negotiations on sanitary and phytosanitary regulations;
- (e) in the area of data and information collection and dissemination, interaction with other organizations leads to mutually fruitful exchange

of data and information and coordination: (i) to reduce duplication; (ii) to improve communication tools as a means of increasing speed and efficiency of information exchange; and (iii) to develop and enforce international standards; and

- (f) finally, a major form of interaction is evidenced in FAO's Field Programme, which includes numerous policy advice projects including training and national capacity building funded by UNDP.

● **Organizational Arrangements**

46. Policy advice is based on continuing programme elements in the four technical departments (Agriculture, Economic and Social Policy, Fisheries and Forestry) and cannot, therefore, be considered an entirely new programme thrust. Relatively new emphases proposed for 1992-93 and beyond are measures for strengthening FAO's capacity for policy advice, especially at the country level, for integrating environmental and sustainable development issues and concerns into FAO's policy advice and planning assistance work, and for achieving better coordination and integration among the various components of policy advice.

47. Coordination and cooperation among policy advice activities involves the creation of cross-sectoral coordinating groups. Most important of these groups is the Steering Committee for Sector and Structural Adjustment Policy (SSAP) work and the associated Central Task Force for SSAP. While the primary focus of this coordinating mechanism is SSAP work at the country level, the Director-General's Bulletin establishing these groups also entrusted them with ensuring consistency of policy advice provided by FAO at all levels and with promoting coordination among other groups dealing with policy work. Membership of both the Steering Committee and the Central Task Force is drawn broadly from technical and operating units contributing to FAO's policy work.

48. A new sub-group for integration of environmental and sustainable development issues into policy work has been established under the Interdepartmental Working Group on Environment and Sustainable Development. This sub-group has as one of its objectives, supporting the various coordinating groups in the area of policy to achieve more effective integration of environmental and sustainable development issues.

49. The Director-General's Bulletin 90/51, which established the Steering Committee and the Central Task Force for SSAP, also directed to establish a Country Policy Information System (CPIS). The purpose of the CPIS, which is under development, would be to organize available information on policy and facilitate its access by those carrying out policy advice activities. The CPIS will, of course, be coordinated with WAICENT and may, in a later phase of WAICENT, be incorporated.

50. In respect of WAICENT itself, a development team has been established under the direction of the Statistics Division (ESS), with staff from AFC, ESS, ESC, FID and

FOD. This team is responsible for development, testing and implementation of the new corporate system. A user team, with representation from ES, FI, FO and data user units, will provide day-to-day operational user support to the development team.

51. All of these actions, intended to strengthen and better integrate policy advice activities, take special account of the contributions of country and Regional Offices.

● **Medium-term Approach**

52. FAO's future approach to policy advice needs to draw on recent changes in world conditions, and in perceptions and projections of what these changes imply for medium-term demands on FAO, as covered under Part I. One of the important priorities is, no doubt, to improve the policy analysis and planning framework in Member Nations. Such a framework needs to comprise, on the one hand, the provision of user-oriented, reliable and timely statistics and information; and on the other hand, enhancement of the capacity for their analysis and application for sound policies and plans.

53. FAO will, therefore, continue its long tradition, based on its comparative advantage of "honest broker", in helping interested governments to analyze existing policies and plans, formulate agricultural sector and sub-sector policies and plans, and increase their capacity for policy and planning work. Training will continue to be an important component of the Organization's policy assistance package. It must build on the beneficial effects resulting from the combination of training and advisory activities in field projects.

. . . . cautious approach

54. One of the most difficult challenges facing both member countries as they attempt to implement effective policies, and FAO in providing policy advice, is the complexity and interdependence of the food, agricultural and general development problems. This complexity and interdependence is not new, but in the past it has often been ignored, to the detriment of those affected by government policies and programmes. It is now recognized that it is ineffective, and often counter-productive, to independently design policies and programmes to achieve goals of food security and nutrition, environmental sustainability, food quality and safety, increasing women's participation, income enhancement, rural development, etc.. This is not to imply that all policy analysis and advice must be global and all inclusive - an impossible task. However, to ensure effective policy advice, it is essential that active awareness of linkages and spill-over effects characterize FAO's policy advice activities, however narrow the primary target may be. Actions already taken to achieve better in-house communications and to bring FAO's multidisciplinary strengths fully to bear on policy advice are, therefore, crucial and will be pursued.

. . . . a sound information base

55. As abundantly recalled above, access to reliable statistical information is a prerequisite for effective policy and plan formulation and analysis. FAO provides a unique service as a collector and disseminator of food, agricultural and nutrition information. While serving as a global clearing house, FAO strives to bring consistency and apply quality standards to data. However, in the final analysis, FAO is dependent on member countries for the data that enters its system.

56. During the current biennium, much of the Organization's information efforts have focused on the development of WAICENT. The planned completion of the system in 1992-93 will provide the following benefits:

- (a) reduction of demand for information on national offices by reducing redundancy and duplication of coverage;
- (b) improved consistency of information by applying common standards;
- (c) enhanced quality and timeliness of information by improvement of communication means; and
- (d) easier access through more adequate communication tools.

57. As WAICENT development and implementation is completed, it will be possible to shift emphasis and resources to other priorities. Helping developing countries to improve their data systems is critical to any significant improvement in the quality of FAO's data dissemination.

. . . . need for extra-budgetary resources

58. The final test of effectiveness of FAO's policy advisory efforts will be the increased ability of Member Governments themselves to analyze problems; design appropriate policies, programmes and plans; and implement them - with the objective of improved living conditions for their people. This means that, to a large extent, success depends on the Organization's ability to take its policy assistance and advice into countries for joint work.

59. Policy advice in the FAO context takes multiple forms ranging from relatively simple to very complex - and costly - operations, as in the case of a full-scale sectoral review. The Regular Programme cannot shoulder all requests for assistance in this respect. This means a vigorous Field Programme, for which FAO is largely dependent on external funding. The same logic also applies to efforts to improve developing country data systems.

C. WOMEN IN DEVELOPMENT

● The Context of FAO Action

60. FAO's Governing Bodies have established Women-in-Development (WID) as one of the Organization's major priorities. FAO has, thus, been directed to enhance rural women's access to equal opportunities and rights, and to help them achieve their full potential as social and economic agents of development, in all areas related to the Organization's sphere of responsibility. FAO will, therefore, support women's roles as producers, workers and resources managers in agriculture, fisheries and forestry, as well as rural household managers and income providers. This support will take multiple forms: interaction at policy level with Member Governments, full integration of women as participants and beneficiaries in FAO mainstream programmes and projects, and a wide variety of information-oriented activities.

61. Women in many regions represent a majority of the labour force engaged in food production, processing and marketing, with increasing responsibilities in the commercial sector; they are major users (and, by necessity, often abusers) of natural resources; head a third of the world's households; and generate incomes that are critical to poor families. The handicaps rural women face, are multiple and severe; as a general rule, women suffer greater poverty and malnutrition levels, poorer health, and higher labour burdens in comparison with rural men. High birth rates increase their responsibilities but limit their opportunities. Low and unequal access to resources, education, services and technology negatively affect their productivity and incomes. Deteriorating environmental conditions have a greater impact on them, and they have little participation and representation in decision-making spheres. These handicaps can be progressively eliminated or reduced through integral and cross-sectoral policies, programmes, and projects. WID concerns should permeate every technical area of work of the Organization.

. . . . resistance to change

62. In developing countries, there has been general reluctance to address women's constraints within the context of "mainstream" policies and programmes of line ministries. The national institutions responsible for women's concerns have mainly focused attention on social and welfare issues related to the domestic sphere, and are ill-prepared to provide needed financial and technical support. As a corollary, there is a continuing lack of human and financial resources devoted to meeting women's needs. These factors have prevented an effective take-off for the process of enhancing women's economic, social

and political status. The implementation of structural adjustment programmes, which tend to have greater negative impacts on women as household managers and to largely by-pass them as producers, is further fuelling concern around the need to address women's issues more firmly at the macro-level.

. . . . but increased awareness

63. There is growing recognition, however, both internationally and within Member Governments, of the need to design more effective policies and strategies for the integration of women's issues into mainstream agricultural and rural development policy, programme and projects. For FAO, this recognition has resulted in an organization-wide Plan of Action for the Integration of Women in Development, and in the definition of a series of priorities to be carried out by the relevant technical divisions.

● **Interaction with Other UN and Non-UN Agencies**

64. The UN System has established several mechanisms to coordinate actions related to WID. First and foremost, global declarations such as the Nairobi Forward-Looking Strategies (NFLS) and the resulting System-Wide Medium-Term Plan (SWMTP) establish policies for the system and assign responsibilities to each agency according to their specific mandates. FAO is expected to contribute to the following:

- Health, Nutrition and Family Planning
- Housing, Settlement, Water, Energy and Transport
- Information Dissemination
- Technical Cooperation, Training and Advisory Service
- Science and Technology

65. One UN secretariat unit, the Division for the Advancement of Women (DAW), has the responsibility of overseeing this inter-agency coordination. FAO prepares appropriate submissions to global reports and participates in the major meetings related to WID.

66. Through the ACC Task Force on Rural Development, for which FAO is the lead agency, there are regular consultations on WID activities related to agriculture and rural development.

67. FAO also cooperates with INSTRAW, UNDP, UNFPA, UNIFEM, UNSO and ILO, especially through the development of joint studies and projects. FAO actively cooperates with non-UN agencies, particularly through FAO-sponsored meetings of trade unions and through people's participation projects and women projects which are executed by NGOs.

● **WID Plan of Action and Organizational Arrangements**

68. FAO's present and future work is guided by the Plan of Action for the Integration of Women in Development, which was prepared at the request of the FAO Conference in 1987, unanimously approved by the Ninety-fourth Session of the FAO Council in 1988, and subsequently by the Twenty-fifth Session of the FAO Conference in 1989. The Plan is a comprehensive document covering the medium-term period 1989-1995, which proposes a wide range of activities in each of four spheres: civil status, economic, social, and decision-making.

69. In the civil status sphere, the Plan calls for the improvement of legislation on women's access to land, credit and membership in development organizations and cooperatives. The Plan indicates that FAO can provide advisory and training services to countries that propose to bring national legislation into conformity with standards developed by the respective UN bodies.

70. In the economic sphere, FAO's activities aim at enhancing women's roles as rural producers and consumers, by increasing women's access to resources, credit and markets, and by improving overall economic efficiency. Productivity increases should result from research and the development and introduction of technologies and training programmes that meet women's specific needs.

71. In the social sphere, activities are geared to improving rural women's health and educational status, and to the modernization of agricultural and home economics training and degree programmes, and subsequent enhancement of extension programmes. FAO is also giving emphasis to the systematic integration of population and nutritional considerations and other social components, in sectoral policies.

72. In the decision-making sphere, efforts concentrate on improving women's participation in national institutions and rural people's organizations. To achieve this, the Plan envisages promotion of specific policies and programmes, including leadership and management training for women.

73. Internally, interdepartmental coordination on WID is promoted through the Interdepartmental Working Group on WID (IDWG/WID) and under the aegis of the Women in Agriculture and Rural Development Service (ESHW). The group incorporates divisional representatives and also relies on WID Core Groups or Focal Points, as have been designated by the different FAO divisions.

● **Medium-Term Approach**

74. On endorsing the Plan, the Conference approved seven programmatic priorities. These have been updated and enlarged as follows:

Training on WID:

75. The objective of the training activities is to increase the ability of FAO staff to understand WID issues and to apply gender analysis to development activities in their respective technical fields. This should lead to greater integration of WID issues in policy, programme and project planning, implementation, monitoring and evaluation. Initial training for FAO staff members at Headquarters and Regional Offices is being undertaken under the Regular Programme. Further advanced training for interested staff will follow in areas such as credit, marketing, post-harvest technologies and agricultural research. Integration of WID issues in other FAO training courses will be continued and upgraded. Training activities of "tripartite" nature in member countries, i.e. for FAO country offices, project staff and concerned government officials, are anticipated using extra-budgetary funds.

Policy advice to Member Governments:

76. Gender aspects should be systematically introduced in policy-oriented studies, advisory services, and various follow-up activities supported by FAO, particularly in the following areas:

- (a) agricultural, forestry and fisheries sector reviews, strategies, policies and plans for individual countries or sub-regions. Governments will, therefore, be encouraged to take special consideration of women's roles, constraints and potentials, especially in those sectors where women predominate. The recommendations made by the technical committees of the Council at their cycle of sessions in the 1990-91 biennium, will be fully considered;
- (b) food security strategies and policies, under the umbrella of the Food Security Assistance Scheme (FSAS), building on the recommendations made by the CFS;
- (c) nutrition planning and policy advice;
- (d) commodity policy advice and planning;
- (e) advice and studies on rural development, agrarian reform and agrarian legislation, especially focusing on improving women's access to land; ongoing studies on rural women's legal status will be followed up by actions oriented toward promoting legal reforms, in part through WCARRD follow-up missions;
- (f) agricultural, fisheries and forestry products and input price and marketing policies, including agro-industries and development plans, and the provision of credit and financial services;

- (g) structural adjustment and environmental policies and programmes. Women's concerns should be fully integrated into stabilization, structural adjustment and agricultural and rural development policies, as these are broadened to cover human needs, environmental protection and sustainable development;
- (h) strengthening WID units in national ministries of planning, agriculture, natural resources and rural development.

Project development and monitoring:

77. FAO will both undertake women-specific projects and pursue the integration of women as participants and beneficiaries in mainstream projects, although more emphasis will be given to the latter. Gender considerations will be systematically introduced in the planning, implementation, monitoring and evaluation of projects. The coding system currently being put in place will help identify those projects that have greatest relevance to rural women. Expertise and resources will then be targeted towards these projects to increase the effectiveness of mainstream efforts on WID issues.

78. Within the context of field projects, priority will be given to the development and dissemination of technologies geared towards alleviating women's burdens, and to the evaluation of the potential impact of technology and inputs on rural women, whenever new inputs and technologies are contemplated. Both in market and subsistence contexts, the goal will be to reduce workloads in water and fuelwood collection, transport and processing.

79. In recognition of the growth of the rural informal sector and women's predominant role in this sector, priority will also be given to new products and markets or improving current products and market channels, thereby promoting an increase in value-added, and, hence, an increase in rural women's remunerated employment and improvement in competitiveness. In projects that include a credit component for rural producers and where women are potential beneficiaries, FAO will ensure that a greater proportion of financial resources are destined to rural women and that institutional channels are established to overcome the eventual obstacles women confront.

Reorientation of home economics and agricultural curricula:

80. FAO will assist in developing training materials and in redesigning curricula to reflect WID concerns in home economics and agriculture at training schools and higher education institutions. Therefore, extension workers of both sexes will be better equipped to give appropriate advice and training to rural farmers, especially women.

Preparation and promotion of WID guidelines and manuals:

81. Standard formulation formats will be modified to include clear and measurable indicators of socio-economic progress and the identification of beneficiaries in connection with project objectives, inputs and outputs. Project formulation guidelines and manuals will continue to be developed and integrated into general manuals where practical, or, in other cases, new approaches will be developed. Some examples of envisaged guidelines will deal with statistical indicators, population and development, fertilizer utilization, horticulture, irrigation, plant protection, animal husbandry, and fisheries.

Statistical indicators, data collection, analysis, communication and public information:

82. FAO will play a leading role in the identification of the statistical indicators relevant to women in agriculture and rural development, and in the incorporation of the necessary revisions in censuses and surveys. Guidelines will be developed to permit generation of the data necessary to perform gender analysis at the sub-national (project) level, and the development of baseline data will be encouraged for purposes of project formulation, monitoring and evaluation. FAO will strengthen its own database on women in agriculture, provide Member Governments with statistical indicators, analyze standard agricultural data disaggregated by sex, and carry out studies on women's issues related to agriculture and rural development.

Population education and WID:

83. Through population education activities that explicitly incorporate WID issues, FAO will seek to improve the economic and decision-making status and quality of life of rural women and their families. Innovative approaches for integrating population education into key technical areas that affect rural women will be explored. Population issues will also be promoted in ongoing projects, in pilot studies on agriculture, fisheries and forestry, in training materials and workshops, and in guidelines for project planners. Additionally, more information on the relationship between women and demographic factors in agricultural development will be collected for planning and monitoring purposes.

Sustainable development, natural resource management and environment:

84. In keeping with the recommendation of the UN Commission on the Status of Women, subsequently endorsed by the Economic and Social Council, and in follow-up to the UNEP Global Assembly on Women and Environment to be held in November

1991, FAO will address WID issues in connection with sustainable development, natural resource management and environmental activities. This will include:

- (a) preparation of a State-of-the-Art paper on Women and the Environment;
- (b) the promotion of research on the impacts of environmental degradation on women's livelihoods, on women's indigenous technical knowledge, women's roles in resource management and degradation, and other topics (i.e. soil conservation, irrigation and watershed management, shallow waters and coastal resources management, integrated pest management, land use planning, forest conservation and community forestry).
- (c) support to networks on women and the environment;
- (d) inclusion of environmental issues in relation to women in the curriculum of Home Economics and Agricultural Extension Training Institutes;
- (e) ensuring that women's roles, environmental perceptions and knowledge are incorporated in the design and implementation of development policies, programmes and projects.

85. In addition, five administrative priorities have been selected to strengthen institutional support. They are:

- o increasing organization-wide awareness of WID issues;
- o increasing female staff;
- o strengthening internal actions on WID;
- o increasing the budgetary allocation for the coordinating unit;
- o strengthening external relations.

D. HUMAN RESOURCES DEVELOPMENT

● **FAO's Roles**

86. Human resources development (HRD) has been a major FAO concern since its establishment in 1945. The Preamble of FAO's Constitution refers, *inter alia*, to raising levels of nutrition and standards of living, bettering the condition of rural populations and securing improvements in the efficiency of production and distribution of food and agricultural products. Such a comprehensive concept of development goes beyond purely technical aspects of developing and managing natural resources for agriculture, fisheries and forestry. It calls for a transformation of rural life and activities in every respect: economic, social, cultural, institutional, environmental, etc.. This, in turn, requires basic knowledge and motivation for rural populations, in addition to raising their technical abilities and skills, in order for them to fully participate in the development process, of which they are an integral part.

. . . . development with a human face

87. Within FAO's broad developmental work, human resources development should mean enabling rural people to make sound decisions and to effectively apply and benefit from them. Men, women and youth in the agricultural and rural sectors should become more creative, more productive and achieve higher levels of well-being. Hence, rural people are regarded not only as simple agents of production, but as the ultimate users and beneficiaries of the development process. This concept of human resources development goes beyond the "basic needs" approach limited to the provision of goods and services to deprived population groups to meet their needs of food, shelter, clothing, health care and water.

88. Human resources development also implies that rural people participate actively in the design and implementation of policies concerning them. Active participation of rural people can only be brought about through local community- and membership-based, "self-help" organizations. Self-help organizations are voluntary, autonomous and democratically controlled institutions including traditional community councils, informal groups, cooperatives and rural workers' organizations. For these to function effectively, rural people need practical training.

89. While the shaping of national policies (with due account of cultural factors) on human resources development in rural areas rests, of course, with individual member

countries, FAO can play a significant advisory and catalytic role on various aspects: formal and non-formal education, people's participation and institutions building.

Formal agricultural education:

90. FAO's supportive action includes:

- (a) advice on policies and strategies of agricultural (including forestry, fisheries and veterinary science) schools, colleges and universities towards more effective agricultural education systems;
- (b) widening training opportunities, including through the establishment of new institutions or the design of programmes and projects for group training, fellowships and study tours.

Non-formal agricultural and rural education:

91. FAO's lines of action include:

- (a) advice on policy formulation and on the organization and management of national agricultural extension programmes, including staff training;
- (b) methodologies to reach larger numbers of farmers at lower cost: strategic extension campaigns, use of trained farmers to train others and locally-based media support;
- (c) tailored programmes to reach rural women and youth more fully and effectively.

People's participation:

92. FAO's Plan of Action for People's Participation has been prepared for consideration by the Council and the Conference in 1991. This Plan focuses on organization-based development of rural people and envisages the following activities:

- (a) advice to governments and NGOs in the formation of local self-help groups and strengthening the capacity of existing organizations, such as cooperatives, to serve the interests of members;
- (b) formulation of national programmes for restructuring and institutional reform, including reorganization of training services and more effective trained manpower allocation;

- (c) establishment of agricultural services and institutions that support private groups of producers;
- (d) production and distribution of materials for advisory and training activities on people's participation.

Use of information and media:

93. FAO's line of action includes advisory services and support to member countries in improving the flow of agricultural information to rural populations and media support for formal and non-formal education programmes in the rural sector. FAO also has a rich experience in development support communication (DSC) based on a variety of media (video, filmstrip, radio, etc.).

● **Interaction with other Organizations and Organizational Arrangements**

94. FAO collaborates with relevant organizations of the UN system as well as with non-UN Organizations concerned with various aspects of human resources development. FAO's prime interaction with other UN agencies on human resources development is carried out through the ACC Task Force on Rural Development. On rural education and training, FAO, Unesco and ILO work closely together through the Inter-Secretariat Working Group on Agricultural Education, Science and Training (ISWG). FAO has close programme and project implementation relationships with UNDP, UNFPA and UNIFEM and non-UN Organizations. The UNDP funds more than 30 percent of FAO projects dealing with human resources, while UNFPA's contribution has been growing steadily. Collaboration takes place with several non-UN regional professional and training organizations, such as the Associations of Faculties and Universities of Agriculture in Africa, Asia, Latin America and the Near East and training centres such as the SEAMEO Regional Centre for Graduate Study and Research in Agriculture (SEARCA), the International Agriculture Centre in the Netherlands, etc. There are regular consultations with the World Bank and Regional Banks on the investment issues associated with agricultural education, extension and training, as well as with UNEP, Unesco, WHO and other organizations concerned with environmental education and training. There is close collaboration between FAO and regional rural development centres, i.e. CIRDAP and CIRDAFRICA and a growing contact with an increasing number of NGOs.

95. FAO has two divisions which directly deal with human resource development aspects, i.e. the Human Resources, Institutions and Agrarian Reform Division (ESH) and the Food Policy and Nutrition Division (ESN). In ESH, two services are completely devoted to several aspects of human resources development, including rural youth work, i.e. the Agricultural Education and Extension Service (ESHE) and the Women in

Agricultural and Rural Development Service (ESHW). Practically every technical division has specialized training officers and a focal point on training. Internal coordination is carried out through the Inter-departmental Working Group on Training (IDWGT).

● **Medium-Term Approach**

96. A number of recent seminal studies and high-level discussions have contributed to refine FAO's approach to HRD over the medium term:

- (a) the studies undertaken for and the recommendations of the Global Consultation on Agricultural Extension in 1990 and several regional consultations on agricultural extension;
- (b) the regional Round Tables on: *Strategies for Agricultural Education and Training* and the Expert Consultation on *Strategy Options for Higher Agricultural Education*;
- (c) COAG reviews of key aspects of HRD (women issues, people's participation, etc.);
- (d) The Third Progress Report on the WCARRD Programme of Action prepared for the Twenty-sixth Session of the Conference.

97. The overall perception of the medium-term challenges as far as HRD is concerned can be summarized as follows:

- (a) although considerable progress has been made in general (cf. UNDP's Human Development Report 1990) and in agriculture and the rural sector in particular, the human resource factor will continue to be a serious constraint to economic development, due to the persistence of rural poverty;
- (b) HRD problems vary considerably between groups of countries, i.e. developed, "transition", newly industrializing, middle developing and least developed countries, as well as countries within each group. Obvious areas of difference relate to explicit emphasis on HRD in national policies and to institutional capabilities;
- (c) while, generally, the demand for HRD services is high and will continue to be high, declining resources for HRD have distinguished the eighties, both at the country and international level, and shortages of resources are likely to continue, particularly on the African continent.

98. Given the above perception and the experiences of the eighties, FAO's approach to HRD over the medium term should continue to be multi-directional and "tailored" to location-specific requirements.

. . . . key prerequisites

99. FAO will assist governments in ensuring that several prerequisites are met:

- (a) enlargement of the number of participants and beneficiaries of HRD programmes;
- (b) close relevance and usefulness of training and education systems for the rural population;
- (c) improved cost-effectiveness of approaches/methods employed and overall management;
- (d) adequate resource allocation to tested HRD institutions, such as agricultural schools, agricultural extension services and cooperatives.

100. This translates into several practical types of action where FAO will work hand in hand with governments depending on requests:

- (a) forming a pool of trained manpower (in both quantitative and qualitative terms) in agriculture, forestry, fisheries and rural development in countries where professional manpower is still in short supply;
- (b) reform of teaching programmes and curricula to take account of emerging areas of concern in development, i.e.:
 - environmental management and sustainable agriculture;
 - economic and social factors in farming and agricultural and rural development;
 - the role of women in agricultural and rural development;
 - population factors in agricultural and rural development;
 - high technology applications to agriculture, forestry and fisheries.
- (c) "state-of-the-art" analysis in selected subject matters, including those listed under (b) above;

- (d) in Africa and LDC countries in other continents, quantitative expansion and capacities of agricultural extension and non-formal education institutions;
- (e) in the countries of Eastern and Central Europe in a stage of transition, reorientation of agricultural extension and similar non-formal education and advisory services away from their former "dirigiste" nature to being more "participatory". A shift in emphasis will also be needed from a strictly technology transfer or crop production orientation to improving the efficiency and profitability of farming enterprises;
- (f) in countries with well-established extension services and with satisfactory geographical coverage, the integration of a wider range of functional subject matters such as farm management and marketing advice, environmental protection and management, must be sought;
- (g) development of low-cost but pedagogically sound methods and approaches of agricultural extension, including use of mass media support and applications of microcomputers, whenever appropriate;
- (h) promotion of greater public awareness of the role of people's organizations in agricultural and rural development and creation of a favourable legal and policy framework for people's participation;
- (i) decentralization of government decision-making and promotion of dialogue and technical collaboration between governments, development agencies and people's organizations;
- (j) monitoring and evaluation of people's participation.

101. FAO's information and communication support to HRD will seek in particular:

- (a) increased popularization and dissemination of information materials particularly relevant to HRD in rural areas, such as the "Better Farming Series";
- (b) support to member countries in translating these information materials into local languages;
- (c) establishment or strengthening of development support communication (DSC) units in agricultural extension and agricultural education institutions;
- (d) innovative methods, including "distance learning".

. . . . advocacy role

102. FAO will pursue strong advocacy for higher political and financial support to HRD programmes. Governments will be encouraged to increase national budgets for programmes of direct relevance to rural HRD (i.e. agricultural extension, from the presently low average of 0.2 percent to 0.5 percent of Agricultural Gross Domestic Product). FAO, for its part, will seek to mobilize external assistance and investment for HRD programmes. It will also forge public-private sector cooperation on HRD, including involvement of NGOs.

103. This work will need to be underpinned by traditional FAO activities, in terms of studies, meetings and publications. For instance, FAO will continue to conduct studies, including in-depth case studies, in collaboration with member countries, to highlight the economic and social return of resources invested in HRD in general and in specific HRD programmes in particular. It will also continue to foster exchanges of experiences through multi-country meetings: expert consultations, round tables, workshops, symposia, as well as study tours. It will pursue a vigorous programme of technical and professional publications on both practical and organizational aspects of HRD in specific regional or local contexts.

104. The ambitious goals of Member Nations of enlarging the number of HRD beneficiaries and increasing the relevance and usefulness of HRD programmes in rural areas, imply large technical assistance requirements for training of sufficient numbers of trainers and institution building (expansion or strengthening). The UNDP, as well as Trust Funds donors have always been sympathetic to HRD objectives of Member Nations and receptive to FAO's proven record in HRD achievements. Such continued extra-budgetary support is absolutely necessary in the more complex realities of HRD in the nineties.

E. ECONOMIC AND TECHNICAL COOPERATION AMONG DEVELOPING COUNTRIES (E AND TCDC)

105. Economic and technical cooperation among developing countries are key elements in their search for collective self-reliance and represent essential contributions to the necessary structural changes required for a balanced and equitable process of world economic development. They aim at enhancing the creative capability of the developing countries and finding solutions to their problems in keeping with their own values and aspirations. In technical cooperation, these approaches remain at the root of the "New Dimensions" principle. E and TCDC are not antithetical to the traditional forms of cooperation between the developed and developing countries, but should complement them.

● **E and TCDC in FAO Context**

106. The line of demarcation between ECDC and TCDC, is not always clearly drawn. ECDC involves the establishment of institutional mechanisms by developing countries for implementing policies, programmes and projects aimed at increasing their collective self-reliance. Economic integration schemes, common markets, customs unions, groupings of countries sharing interests in specific commodities, authorities for the exploitation of shared resources, and various regional and sub-regional cooperation schemes, are among these institutional mechanisms. As far as food and agriculture are concerned, these may lead to the cooperative development or production of agricultural outputs and inputs, initiatives in agricultural trade, food security, and harmonization of policies for more effective achievement of common aims.

107. TCDC is the voluntary sharing of technical knowledge, skills and experience between developing countries for mutual benefit. It helps them to acquire, adapt, transfer and pool technical knowledge and experience. FAO, being primarily a technical organization, generally has more scope in supporting technical rather than economic cooperation between developing countries. Nevertheless, there are significant complementarities between the two, with opportunities for ECDC often emerging from TCDC, while institutions established to promote ECDC often provide a framework also for TCDC.

108. FAO's support to ECDC and TCDC originated long before these two areas received attention in international fora (e.g. regional fishery bodies, the desert locust programme, commodity groupings etc.). Such support is not limited to a number of discrete activities; it generally permeates the Organization's policies and programmes. FAO gave special attention to those areas which promised higher economic and social benefits through collective action. Activities have mainly concentrated on support to the

development of river basins, integration schemes, commodity trade groupings, regional and sub-regional centres and institutional linkages through networks, training and research collaboration, inter-country programmes for the control of animal diseases, pasture development, eradication of crop pests and diseases, genetic resources etc.. In fisheries, support is provided to the harmonization of policies and management systems for the identification, evaluation and exploitation of marine and inland water resources. The developing countries should be the prime movers and the role of FAO should be that of a catalyst and promoter.

● **Organizational Arrangements and External Coordination**

109. Historically, there have been two separate focal points for ECDC and TCDC in the Policy Analysis Division and the Field Programme Development Division respectively, mainly due to the difference in concept, orientation, implementation mechanism and inter-agency reporting requirements (ECDC to UNCTAD and TCDC to UNDP). The work of the focal points, however, has been coordinated and harmonized through a process of continuing contact and consultation.

110. The functions of ECDC and TCDC focal points have been combined in a single unit in the Development Department with a focal point for both activities in each technical division and Regional Office. The focal point unit will be involved with the preparation and appraisal processes of technical cooperation projects, including regional and sub-regional projects.

● **Medium-term Approach to ECDC**

111. The Expert Meeting on: ECDC in Food and Agriculture: Regional/Sub-regional Integration and FAO's Role, held on 12-14 December 1988, has contributed to shape FAO's approach towards ECDC in the medium term. This Expert Meeting stressed the following four areas as possible priorities for ECDC activities in the medium term:

- (a) management of common physical resources;
- (b) management of agricultural research and dissemination of technology;
- (c) selective support to integration groupings;
- (d) promoting inter-country activities.

ECDC and the management of common natural resources:

112. ECDC has self-evident advantages when countries share common property rights over physical resources and need to tackle common problems. Examples are problems of desertification in Sub-Saharan Africa, land and water management in the Near East and deforestation in Central America. FAO can work out clear operational understandings and facilitate formal agreements between the countries concerned. Such activities are not new to FAO, but will be given greater emphasis. The Amazon Cooperation Treaty is a recent example to which FAO will give due attention. The eight countries participating in the Treaty have adopted a joint declaration of the Amazon which reflects their strong commitment to the conservation and the sustainable management of forests and other natural resources of the Basin, to the benefit of the local communities.

Agricultural research and technology:

113. FAO has intensified assistance to regional centres in setting agricultural research priorities through the systematic analysis of benefits and costs as well as in institution building. Successful TCDC networks will be helped to move towards general ECDC activities. In the applied technology area, FAO will assist countries to exploit shared knowledge and identify economically interesting programmes. The most appropriate means of disseminating such technologies will be identified.

Commodity Trade:

114. ECDC activities in the field of commodity trade are of continuing significance and will be further expanded. The Committee on Commodity Problems (CCP) and its eleven intergovernmental commodity groups (IGGs) will continue to provide a forum for this work in the commodities covered, particularly those which have standing sub-groups of producing countries. The coming into force of the agreement establishing the Common Fund for Commodities could enhance the role of the IGGs in promoting ECDC.

115. Further regional seminars/workshops should help the dissemination of information on opportunities and constraints for expansion of intra- and interregional trade among developing countries in selected commodities and, to the extent practicable, to promote joint marketing efforts. Resources permitting, there is considerable scope to expand this type of activity, as well as regional commodity outlook conferences to cover the short-term market outlook for agricultural commodities.

Food security:

116. There is a clearly identified scope for further developing inter-country cooperation in training of national staff on food information and early warning systems and sharing experiences in the use of alternative monitoring techniques and technologies. The various sub-regional information and early warning systems being developed in Africa, with assistance from FAO (SADCC, IGADD and CILSS) are expected to enhance cooperation in this area between respective member countries. Activities under the Food Security Assistance Scheme (FSAS), mentioned under "Policy Advice" above, also aim at formulating regional and sub-regional food security policies and action plans.

Selective support and advice to integration arrangements:

117. Regional and sub-regional cooperation schemes, including integration bodies, provide natural channels for FAO's support to ECDC in food and agriculture. Examples of such bodies with which FAO has close collaboration are:

- (a) in the **African region:** the Permanent Interstate Committee for Drought Control in the Sahel (CILSS), the Economic Community of West African States (ECOWAS), the Intergovernmental Authority on Drought and Desertification (IGADD), the Preferential Trade Area for Eastern and Southern African States (PTA), the Central African Customs and Economic Union (UDEAC), and the Southern African Development Coordination Conference (SADCC);
- (b) in **Asia:** the Association of Southeast Asian Nations (ASEAN) and the South Asian Association for Regional Cooperation (SAARC);
- (c) in **Latin America and the Caribbean:** the Latin American Integration Association (LAIA), the Cartagena Agreement Board (JUNAC), the Latin American Economic System (LAES), and the Caribbean Community (CARICOM);
- (d) and in the **Near East Region:** the League of Arab States (LAS), the Arab Organization for Agricultural Development (AOAD), the Gulf Cooperation Council (GCC) and the Council of Arab Economic Unity (CAEU).

118. Generally, collaboration involves formulation of agricultural development strategies and agricultural planning within the framework of regional cooperation, identification of mechanisms and procedures for the expansion of intra-regional agricultural trade and, as mentioned earlier, assistance in the design and implementation of regional, sub-regional and national food security schemes. As the move towards regional integration intensifies in all regions, the scope for FAO's assistance will naturally expand.

● Medium-term Approach to TCDC

119. FAO's support to TCDC has so far concentrated mainly on the broad fields of land and water development, dairy and animal production, crop production and protection, fisheries, forestry, nutrition and rural development. The Organization perceives its role not only as catalytic and supportive but also, to the extent feasible, as dynamic and innovative in developing new concepts and approaches. FAO has been using several means to achieve this: inter-country consultations, training workshops, seminars and study tours designed to promote the exchange of experience and technical knowledge, expansion of information systems to disseminate TCDC data, and support to regional organizations and networks.

. . . . networks

120. A significant contributory factor is the growing number of networks in operation and the regional and sub-regional organizations established with FAO's support over the past decade (such as the Regional Credit Associations, and Regional Food Marketing Associations), now requiring minimum, if still essential, external assistance in conducting their own multi-faceted TCDC activities. FAO Statutory Regional Commissions have also constituted a springboard for operational TCDC activities, the most exemplary in this respect being the Regional Animal Production and Health Commission for Asia and the Pacific (APHCA), with its facility of National Currency Funds.

121. A new category for assistance under the Technical Cooperation Programme for inter-country cooperation was established to cover projects which could catalyze E and TCDC, although TCP funds had been utilized earlier for TCDC activities.

122. FAO's medium-term approach will concentrate on key areas which respond to the priority needs of the developing countries, offer prospects for effective action and where shared benefits to the participating countries can be clearly identified:

Information base for TCDC:

123. A sound information base on the capacities and needs of the developing countries is a *sine qua non* for systematic and well-organized TCDC programmes. Assistance will continue to be provided to member countries in the preparation of inventories in the fields of agriculture, forestry and fisheries, and in dissemination of related information. In some countries, these efforts have been made in connection with general programming exercises. These are mechanisms to identify, after careful preparation and direct dialogue, TCDC activities based on the matching of capacities and needs of the participating countries and, later on, to follow them up with concrete collaborative arrangements. The possibilities of organizing sectoral TCDC programming

exercises on food and agriculture in selected countries will continue to be explored, with FAO assistance concentrating mainly on the necessary documentation and technical support.

Training:

124. FAO gives particular emphasis to the use of institutions in the developing world for inter-country training. A TCDC regional training project in Turkey is a typical example. The project also typifies the cost-sharing concept of TCDC. The Turkish Government covered all local costs including board, lodging and internal transport. FAO assisted with technical advice and covered international travel and essential equipment.

125. Technical workshops and group training, which are among the traditional modes of TCDC promotion, will concentrate on dissemination of successful technologies to benefit small farmers, women and other disadvantaged groups. Examples of such technologies include fish smoking, low-cost meat preservation, rural household biogas, fertilizer block demonstration, small-scale cheese processing in mountainous areas and rural milk cooperatives.

Networks:

126. The network approach reflects the conviction that TCDC initiatives should not constitute only collections of *ad hoc* activities, but should have a strong institutional framework, within which dialogue and cooperation among groups of institutions or countries can be carried out on a sustained and continuing basis.

127. FAO has, within its fields of competence, used networks to foster research and technical collaboration, to upgrade national research capabilities, facilitate information exchange and transfer of technology. Networking takes various forms and approaches depending on the problems to be solved, the capacities of the institutions involved and the funding mechanism. Consolidation of existing networks and promotion of new ones in key priority areas will be an important objective in the medium term. Twinning arrangements between similar organizations and institutions will be promoted, wherever feasible, with a view to increasing their management capabilities, training their staff or improving their operational procedures.

. . . . focus on Africa

128. TCDC activities are largely conditioned by the financial, institutional and technical manpower capabilities of the cooperating countries. There are regional variations in the range and nature of these activities. Despite the large number of

regional/sub-regional intergovernmental bodies and integration groupings in Africa, TCDC efforts in this region have been hampered by serious financial and technical constraints. These financial and technical constraints are not for TCDC alone, but special attention will be given to the identification and implementation of feasible TCDC activities in Africa on a selective basis.

Evaluation and dissemination of lessons of experience:

129. FAO's experience in its support to TCDC activities will continue to be evaluated and analyzed with a view to drawing lessons and to disseminate them for future application. A newsletter will be issued twice a year to sensitize FAO staff and inform government authorities of innovative E and TCDC approaches and opportunities and to disseminate information on completed/planned activities.

Catalyzing financial support:

130. Lack of finance, particularly to cover external costs, is a major constraint to TCDC efforts. The search for extra-budgetary resources will continue to receive attention. The support of Trust Fund donors to many collaborative activities under sub-regional/regional projects has significantly contributed to their success. An FAO/Japan Trust Fund project for training agricultural extension workers in Latin America and the Caribbean at the Brazilian training centre for storage, is a case in point and demonstrates the potential of donor support to TCDC.

131. Apart from exploring TCDC opportunities through UNDP-financed projects under the country and inter-country Indicative Planning Figures (IPFs), assistance in tapping other UNDP resources (Special Programme Resources, for example) will continue to be provided.

Administrative arrangements at national level:

132. In the ultimate analysis, it is the developing countries themselves which have to guide and lead the process of economic and technical cooperation. Apart from financial constraints, inadequate administrative arrangements, in particular the absence of strong and effective national and sectoral focal points in many countries, continue to hamper the growth of TCDC. Such units are needed to remind ministries, in the midst of their many functions and concerns, of the potential role that TCDC can play in achieving agricultural development objectives, as well as the need for a continuing search for TCDC opportunities. Training of national staff in TCDC approaches, methodology and procedures could significantly contribute to the expansion of TCDC activities. This is a task in which FAO, in cooperation with UNDP and other organizations of the United Nations development system can play a supportive role.

INTRODUCTION

FAO's technical and economic activities under the Regular Programme are grouped under the main Budgetary Chapter - Chapter 2 - of the Financial Programme of Work and Budget. This sets a somewhat conventional, though necessary, dividing line through the large "continuum" of FAO's technical and economic work. The latter also includes field activities (despite the fact that both the Regular Budget - through the CP - and extra-budgetary resources) and, for instance, intervention support was subjected under Chapter 3. This document is subject to biennially country programme and thematic group work each against follow-up respectively decision-making procedures. Chapter 2 covers mostly work of global and regional significance. It provides in many ways, the "foundation" of the more larger "continuum" while ensuring outreach down to the country level.

PART III

Subsidiary Chapter 2 covers the entire range of technical and economic programmes of FAO, spanning agriculture, forestry and fisheries. It covers, at the same time, a considerable spectrum and virtually all conceivable activities (e.g. statistical work, training, etc.). These directives emerge from the multiple requests and recommendations from FAO members and advisory bodies which invariably ask for more to be done (if, of course, with necessary changes in orientation) rather than less.

PROGRAMME PRIORITIES AND REGIONAL DIMENSIONS

FAO could well claim to have been a pioneer among the organizations of the UN system in adopting a programme-budgeting approach in the administration of budgets. This is in the Governing Body, as far back as the early seventies. Since then, it has been progressively developed and refined both procedurally and substantively. The programme structure used for presentation of activities under Chapter 2, current January, divides major programmes dealing respectively with agriculture, fisheries and forestry, the members divided into sub-programmes, eight for agriculture and three each for fisheries and forestry. The latter programmes are divided into a number of sub-programmes which in most cases correspond to key functions (e.g. agricultural policy, extension, rural institutions and employment in agriculture, etc.) or to specific activities (e.g. marketing). All are pertinent to FAO's mandate and depend on operations of FAO's action by Member Nations.

This programme structure has been kept under constant review to match external developments and evolving requirements for FAO's assistance. This is evidenced by number of changes introduced over time, particularly at the level of sub-programmes and, more frequently, at the lower level of programme elements.

INTRODUCTION

1. FAO's technical and economic activities under the Regular Programme are grouped under the main budgetary chapter - Chapter 2 - of the biennial Programme of Work and Budget. This puts a somewhat conventional, though necessary dividing line through the large "continuum" of FAO's technical and economic work. The latter also includes field activities (themselves financed by both the Regular Budget - through the TCP - and extra-budgetary resources) and, for instance, investment support work budgeted under Chapter 3. This continuum is subject to broadly consistent programmatic and thematic priorities, whereas each segment follows its respective decision-making procedures. "Chapter 2" covers mostly work of global and regional significance. It provides, in many ways, the "foundation" of the above large "continuum", while ensuring outreach down to the country level.

2. Budgetary Chapter 2 covers the entire range of technical and economic programmes of FAO, spanning agriculture, forestry and fisheries. It covers, at the same time, a complex of continuing and virtually incompressible activities (e.g. statistical work, servicing of statutory and expert bodies, recurrent publications, etc.) and a more variable component of other activities, in response to the directives of the Governing Bodies. These directives emanate from the multiple requests and recommendations from FAO governing and advisory bodies which invariably ask for more to be done (if, of course, with necessary changes in orientation) rather than less.

3. FAO could well claim to have been a pioneer among the organizations of the UN system in adopting a programme-budgeting approach in the submission of budgetary proposals to its Governing Bodies, as far back as the early seventies. Since then, it has been progressively developed and refined both presentationally and substantively. The programme structure used for presentation of activities under Chapter 2, currently identifies three major programmes dealing respectively with agriculture, fisheries and forestry, themselves divided into substantive programmes, eight for agriculture and three each for fisheries and forestry. The latter programmes are divided into a number of sub-programmes which, in most cases, correspond to key disciplines (e.g. agricultural policy analysis), issues (e.g. rural institutions and employment) or sub-sectors of economic activity (e.g. marketing). All are pertinent to FAO's mandate and respond to expectations of FAO's action by Member Nations.

4. This programme structure has been kept under constant review to match external developments and evolving requirements for FAO's assistance. This is evidenced by a number of changes introduced over time, particularly at the level of sub-programmes and, more frequently, at the lower level of programme elements.

5. FAO's Governing Bodies are well-acquainted with this programme structure. Any programme structure necessarily reflects some measure of presentational compromise and, therefore, cannot be perfect for all time. The present structure has a proven record of facilitating understanding of the thrust of FAO's action under the Regular Programme, while remaining reasonably simple to comprehend. It appears to have kept its validity, although some further changes might be justified over the medium term, which cannot be foreseen at the present time.

6. This part of the Medium-Term Plan aims at providing a synthetic presentation, programme-by-programme, of the following:

- the major problems addressed, as presently assessed;
- the objectives proposed for FAO, in the light of related requirements for assistance;
- an explanation of the rationale for FAO's action and, as needed, of present organizational arrangements (*Programme Focus*);
- the proposed relative priorities over the medium term; and
- an indication of the major cooperative links established with other institutions and development partners (*External Cooperation*).

7. The regional dimensions of FAO's substantive programmes are addressed at the end, in a separate section.

MAJOR PROGRAMME 2.1 - AGRICULTURE

● Prospects, Problems and Opportunities

. . . . pressures on the resource base

8. There is no doubt that additional pressures will be put on the natural resources of the developing countries stemming from population growth and pent-up demands for improved living standards. These pressures will need to be met by the development of appropriate agricultural production practices, systems and strategies for areas with different resource endowments and considering environmental constraints and sustainability aspects. In addition, there is the risk of long-term climate change. Although several decades may elapse before any significant effects on agriculture could take place, responses could be required in the short to medium term. Assessments in FAO's study, *Agriculture Towards 2000*, indicate that if current aggregate food self-sufficiency levels are to be roughly maintained, some 50 million ha. of additional arable land must be brought under cultivation in the developing countries (excluding China) during the nineties. In addition, irrigation would also have to be expanded substantially from 110 to 165 million ha., while the average cropping intensity, as well as the use of fertilizers and pesticides, will also have to increase.

9. Many countries in the developing world, however, are already cultivating all land which can be safely used for annual crops. Not only are opportunities for bringing new land under cultivation limited, but much of the remaining land reserve is required for other uses such as grazing or forestry or has special management, infrastructure and conservation problems.

10. Especially in arid and semi-arid areas, agricultural production, food security and indeed the quality of life itself, are dependent on the availability and reliability of water resources - rainwater, surface water, groundwater or stored water supplies. While the consequences of drought and desertification have attracted widespread attention, endemic water shortages and the problems of climate variation have not been addressed sufficiently in international and national strategies and action plans for environmental improvement and sustainable development. There are increasingly tight limits on the quantity of water available at reasonable cost to support both food production and other water-dependent activities. This raises serious challenges in any large scale efforts to introduce irrigation schemes and other input-intensive practices which meet environmental standards.

. . . . environmental issues

11. In developed countries, environmental issues related to agriculture stem primarily from the intensive farming methods, although some developing countries also have similar problems. Heavy application of fertilizers and intensive stock raising operations have led to soil and water pollution that may pose serious health hazards. Practices such as monoculture have led to the heavy use of pesticides and consequently to rising concentrations of pesticide materials in food chains, widespread development of pesticide resistant species of pests and the elimination of natural predators. From the wider social viewpoint, modern farming has tended to destroy or damage visual variety, amenity and wildlife habitats. The prospects for the developed countries are that increased public concern over health effects and environmental quality and slower growth of output will lead to a more environmentally sustainable agriculture.

12. In the developing countries, on the other hand, the main environmental problems are those arising from extensive farming. Under existing production systems, large areas are subject to misuse and over-exploitation. In rainfed areas, fallow periods have been shortened below safe limits and marginal lands are being put under cultivation because of pressure to meet food demands. On irrigated lands, improper water use and management lead to salinity, sodicity and waterlogging. The net result is that production falls short of the potential and there is widespread land degradation. More sustainable agriculture practices are required to counter these trends. In particular, full use must be made of the farmers' indigenous knowledge base. Full understanding of the interactions between farm-household systems and their social and economic environment is also essential in this respect.

13. In sum, rationalization of resource use, matching potentials and demands within the dictates of sustainability, is a prerequisite for future growth of agriculture. Rational and sustainable resource utilization remains the ultimate goal for member countries individually and collectively.

. . . . sustaining crop production

14. The remarkable increases in agricultural production in many developed countries over the last 100 years were due to a combination of increased use of external inputs, changed agricultural cropping patterns and the use of varieties that are responsive to increased inputs. Very intensive agricultural production systems have been developed, which have resulted in secondary problems like soil and water pollution, human health hazards, etc.. These systems produce more agricultural products than needed by the population and de-intensification may, in certain cases, be required to reduce ecological problems and ensure the long-term sustainability of agricultural systems.

15. In contrast, many developing countries have an urgent need to increase production to satisfy their needs. Population pressure is the prime determinant, which

leads to additional pressures on the earth's vegetative cover, including those produced by domestic animals. These pressures will require appropriate crop practices for different agro-ecological zones to increase production and to avoid severe and irreversible adverse ecological effects.

16. An added concern of the scientific community is to establish *in situ* protected areas to ensure plant biodiversity and wild animal life, within a medium- and long-term perspective, looking at genetic erosion as a fundamental problem. Natural mutation in this biomass would be of importance in relation to possible climate change and other environmental aspects.

. . . . more integrated approaches

17. The man-made vegetation cover brought about by cultivating annual and perennial plants to face food, non-food and feed requirements, needs to be re-analyzed, not only at the farm level but also in a broader sense, considering environmental requirements, as for example, the ability of graminaceae and leguminous plants to provide between them, a suitable balance in carbon dioxide emission and absorption. The integration of production and processing in rural settings can be a powerful tool to improve income and enhance job opportunities which, in turn, can reduce the migration of rural populations to urban centres. Integrated crop management, as a consequence, should be devised within farm, community, region and country levels and strategies should be adopted to ensure appropriate and better relationships among natural resource endowment, socio-economic constraints and technological inputs.

18. Especially in developing countries, but also in developed ones, national strategies and action plans for environmental improvement and sustainable agricultural development are dependent upon a holistic approach, which should encompass studies within a crop chain - from germplasm to the food industry and consumers - via gene banks, plant improvement (breeding and biotechnology), agronomical practices of inputs, use of seeds, correctives, fertilizers, pesticides, power/machinery, cropping patterns (irrigated and rainfed), and post-harvest clearing, drying, first processing (agro-industry) and full processing (food industry). This is a complex and formidable task, particularly under the agro-forestry (agro-sylva-pastoral) concept.

19. Changes in cropping practices such as shorter fallow periods, shorter rotations, replacement of mixed cropping by large-scale monocultures of genetically uniform varieties, often result in the escalation of pest problems. In many cases, the solution to these problems has been the introduction and/or intensification of the use of pesticides. This tendency has occurred in both developed countries as well as developing countries. In developed countries, pesticide use has stabilized at a high level and national policies, in most cases, are now aimed at reducing this use. In developing countries, pesticide use is still increasing rapidly. Pest control practices require rationalization and need to take into account ecological and public health effects. This should rely as much as possible

on non-chemical control methodologies. Especially in developing countries, institutional arrangements are insufficient to keep pesticide control practices under effective review.

. . . . from production to processing

20. Improved farmer access to appropriate tools and engineering inputs, are of crucial importance in achieving national goals of increased crop and livestock production. Chronic food shortages are also exacerbated by food losses that occur in the post-harvest system and which tend to be highest in those areas where the need for food is greatest. Food losses of variable magnitude occur and need to be reduced at all stages in the post-harvest system from the physical harvesting operation, through handling, storage, processing and marketing activities to final delivery to the consumer.

21. Agro-industrial processing is an essential part of the continuous flow of products from the farm gate to the consumer. This is particularly critical where the agricultural products are perishable and must be stabilized in order to provide a secure food supply throughout the year. In many cases, the full potential of agricultural products can only be realized through value addition into convenient finished products in both the food and non-food sectors. Furthermore, if traditional staple crops, such as sorghum, millet, roots and tubers, are to be able to maintain their market shares in the face of imported cereals such as wheat and rice, increased attention needs to be given to appropriate technologies to utilize these staples more effectively in meeting consumer preferences. In most developing countries, only 10-20 percent of the agricultural output undergoes processing compared with 80 percent in developed countries. Agro-industries are relatively labour intensive and are consequently a major potential source of rural employment.

. . . . animal production

22. Feed availability and feed costs will remain the main determinants of livestock development, under both extensive and intensive conditions. The lack of feed or poor feed quality are major constraints in much of the developing world. In both developed and developing regions, feed cost is a major, if not the major component of total costs of intensive animal production (up to 60-70 percent). Therefore, any increase in feed availability and reduction of feeding cost has a dramatic effect on production and distribution of animal products.

23. The foreign exchange difficulties of many developing countries, have resulted in reduced feed imports, especially for monogastric animals (pigs and poultry). Alternatively, these imports have become a major burden on balances of payments. Therefore, there is a need to put in place sustainable/alternative feeding systems which maximize the use of national feed resources without environmental penalties (e.g. based on cereal substitutes or greater crop/livestock integration).

24. Sustainable livestock development requires the appropriate utilization of animal genetic resources to match the local feed resources, health conditions and ecological characteristics. Germplasm of indigenous breeds is needed to provide the necessary adaptation to environmental constraints, whereas the use of germplasm of highly productive foreign breeds is possible and appropriate for many species, following improvements in management and feed availability. Thus, environmental and genetic changes are to be considered in unison.

. . . . animal health

25. The protection of animal health and control of animal diseases is an essential component of livestock husbandry. However, despite remarkable technical advances in the diagnosis, prevention and control of animal diseases, the generally poor animal health conditions throughout the developing world causes substantial economic losses and remains a major obstacle to improvement in livestock production.

26. Serious weaknesses still exist in the animal health services of many developing countries, notably: deficient veterinary infrastructures; inadequate disease control programmes, veterinary legislation and information services; and lack of investment, laboratory capacities, transport, communications, veterinary products and equipment. Public veterinary services are costly to operate, another serious constraint in the face of serious competition for scarce public funds.

27. A great number of people suffer from diseases transmitted from animals, mainly in rural areas of developing countries, and sanitary risks threaten the consumers of food of animal origin.

. . . . dairy and meat sectors

28. The small livestock producers in most developing countries have limited access to markets and it is necessary to organize milk collection, processing and marketing systems to maximize their incomes.

29. On the assumption that the current GATT negotiations are completed satisfactorily, the supply of subsidized dairy products, such as powdered milk and butter oil, may contract and, therefore, the international prices for such commodities may rise further. This favours the development of dairy industries in the third world based on local milk production, with consequent benefits for employment and income generation.

30. The situation of meat production and consumption in the developing world varies from self-sufficiency, or even surplus production, to low levels of production and poor facilities for slaughter, meat handling and meat marketing. Major shortcomings are: inadequate utilization of meat and slaughterhouse by-products, due to lack of meat

handling and meat processing skills and of proper premises and equipment; post-harvest losses of valuable proteins due to spoilage.

. . . . the importance of research

31. The development of agriculture requires the continuous generation and adoption of new and improved technologies, most of which originate from organized research. Although substantial progress has been made in many countries, much remains to be done in most of them to reach a fully effective capacity for well organized research. This capacity must, today, include awareness of the many and rapid advances taking place worldwide, as well as the ability to pursue actively the transfer of new and improved technologies developed outside national systems. Areas in which FAO is well placed to support rapid technology advancement for the benefit of developing member countries include the exchange of scientific information, nuclear techniques, remote sensing, biotechnology and energy.

. . . . and related information

32. As recalled in Part I, agricultural research and development both relies upon and generates scientific and technical information which must be accessible to interested scientists and practitioners alike. This store of information has been growing at such a fast rate that no single country or organization can cope with it alone. Modern computer and communication technologies are being increasingly used to organize this mass of information and provide easy access to it. However, access to actual publications and documents remains a difficult and complex problem which prevents developing countries from receiving full benefits of the knowledge available. The FAO international cooperative information systems: AGRIS (International Information System for the Agricultural Sciences and Technology) and CARIS (Current Agricultural Research Information System) are major multilingual information tools for providing access to this information.

. . . . four key areas

33. Nuclear and related techniques can be useful in helping to understand and address a number of problems in agricultural production, as well as in monitoring reproductive efficiency and diagnosing diseases in livestock. Isotopic tracers provide some of the most exact and efficient methods of studying soil/plant/animal relationships as needed to make more efficient use of agricultural inputs. Similarly, radiation has proven to be a highly efficient means of enhancing genetic diversity and genetic attributes such as disease resistance, early flowering, etc.. In addition, the use of

radiation sterilized insects offers alternatives to and can, in some instances, be superior to chemical methods of insect control.

34. Remote sensing has a great potential for meeting national, regional, international and global requirements for gathering earth resources information. Planning in member countries depends to a large degree on the availability and quality of baseline data concerning natural resources. The application of remote sensing techniques can significantly reduce requirements for ground surveys and speeds up the compilation of natural resource inventories.

35. In addition, meteorological satellites can be applied not only to operational meteorology, but also to studies related to climate modelling and to monitoring of environmental conditions at regional and national levels. The latter is one of the objectives of the ARTEMIS system recently launched by FAO. It uses the data from METEOSAT and NOAA-AVHRR satellites to monitor vegetation development and growing conditions over Africa and Asia as a component of FAO's Global Early Warning System. There is also a need for better understanding of the interactions between weather and climate, and agriculture in order to improve planning, monitoring and forecasting of crop production and pest/disease control. FAO's agro-meteorological activities, therefore, concentrate on improving understanding of the quantitative relationships between weather and climate with agriculture production.

36. New biotechnologies, including genetic engineering, offer potential for productivity increases in crop and livestock farming. This potential can only be fully realized where infrastructures are well developed and natural resources and levels of needed inputs are optimal. Resource-poor farmers in high-risk production environments are ill-placed to benefit. Means should be found to encourage biotechnology research aimed at overcoming production constraints in these environments.

. . . . rural energy, neglected sector

37. Most countries still lack sustainable long-term rural energy supply structures. In many developing countries, there is prime reliance in rural areas on fuelwood, agricultural residues, and animal power for providing limited amounts of energy for subsistence and income-generating activities. In industrialized countries, heavy reliance on non-renewable fossil fuels is increasingly being related to air and water pollution and other environmental concerns. In the medium and long term, industrialized countries will imperatively need to pursue energy conservation on a large scale and develop alternative and renewable energy sources while developing countries will need to combine more efficient use of renewable energy resources with the judicious use of fossil fuels, giving particular attention to rural areas. There is, therefore, a substantial requirement in member countries for assistance in the areas of rural energy policy, planning and technology development.

. . . . the extent of poverty and hunger

38. In spite of the efforts made by many member countries to achieve equitable economic growth, recent studies indicate that the number of rural poor has increased, and remains high in comparison with the total rural population (more than 30 percent in the Near East, about 50 percent in Asia, more than 50 percent in Latin America and more than 60 percent in Africa). This deplorable situation is due in part to badly conceived policies and programmes as well as weak political support to programmes of poverty alleviation. Comprehensive rural development strategies, therefore, will continue to be important for all countries encompassing the upgrading of human resources, the betterment of living conditions, narrowing rural/urban and regional disparities, and coping with environmental constraints.

39. Despite adequate food supplies at the global level, distribution of and access to food is uneven, leading to large numbers of people subject to mal- or under-nutrition. Current estimates indicate that 15-23 percent of the total population of developing countries do not have adequate access to food to meet minimum consumption needs to lead an active and healthy life. The absolute number of mal- or under-nourished can grow in the immediate future, due to continued population growth.

40. The prevalence of under-nutrition and malnutrition in vulnerable groups, infants and children, is particularly high. It is estimated that, on a global level, about 330 million children under five years of age are underweight, stunted, or otherwise adversely affected by hunger and malnutrition. The impact of food shortages among low-income families is made worse by the poor quality and safety of those limited supplies which are available. Long-term trends indicate improvement in South East Asia since the seventies, but in Africa the overall picture shows a deterioration, while no significant improvement occurred in Latin America. Economic stress, natural and man-made disasters and population pressures in many countries are likely to contribute to the perpetuation of this trend in the medium term.

. . . . the effects of structural imbalances

41. During the past decade, many developing countries have faced unsustainable internal and external imbalances which will continue to pose difficult challenges to food and agricultural policy, at both national and international levels. The main factors are: the widespread fiscal and current account imbalances and associated serious constraints on investment; the continuing huge foreign debts and net capital outflows from many debtor countries; the slow response of national economies to structural adjustment programmes and the consequent adverse effects on nutritional status, social welfare and trade flows; inadequate growth of food and agricultural sectors; slow growth of international commodity markets coupled with protectionism; and the persistence of poverty and environmental degradation.

42. Economic stabilization and structural policy reforms have been undertaken and are expected to continue, both at the macro and sectoral levels, often in close coordination with the IMF and World Bank. The response of national economies to structural adjustment programmes, while generally positive, can be slow in achieving their objectives and may have adverse effects on social welfare, and particularly on the nutritional status of certain segments of the population. Human needs, therefore, should be balanced in national policies with economic necessities of servicing external debt and applying structural adjustment measures, including improved nutritional status.

43. Policy-makers need to address issues which constrain agriculture and rural development and contribute to the persistent problems of poverty and malnutrition. Thus, Member Governments will also need to monitor and revise, as necessary, their development policies and strategies to improve food security and stimulate equitable and sustainable growth within the agricultural sector and between rural and urban areas. They will also need to translate these policies and strategies into concrete plans, programmes and projects which could be conducive to private and public investment from internal and external sources. New and innovative approaches are still required in many countries to reduce food insecurity, particularly by attacking rural poverty, improving access to food at the household level and reducing the instability of food supplies, and enhancing self-reliance in circumstances of stringent restraint in public expenditure.

. . . . food security and better nutrition

44. Increasingly, FAO Governing Bodies have placed particular emphasis on developing and strengthening food security policies and programmes. This has led to a broadened concept of food security, to include improved access to food supplies as well as enhancement of the availability and stability of supplies. The formulation of comprehensive food security policy packages in line with this concept, remains of high priority to many developing countries.

45. Food consumption in rural areas of developing countries lacks both variety and quality, resulting in widespread prevalence of undernutrition and micronutrient deficiencies, particularly Vitamin A, iron and iodine. Vitamin A deficiency is a leading cause of childhood blindness; iodine deficiency is a major risk factor affecting physical and mental development for about 1 000 million people; and iron deficiency is a major cause of mortality and morbidity among mothers and children. Technologies for preventing these deficiencies are available, but programmes for their elimination must be pursued more vigorously.

46. Lack of proper nutritional knowledge and inappropriate dietary practices are hindering progress towards nutrition improvement. For rural and urban populations of many developing countries, the continuing decline of breastfeeding and the adoption of inappropriate weaning practices are contributing substantially to infant mortality and childhood malnutrition. Similarly, inappropriate consumption patterns in developed

societies and in some population groups in developing countries are contributing to increasing prevalence of diet-related, non-communicable diseases.

. . . . urbanization

47. Unprecedented growth of urban areas is occurring in all parts of the developing world, outstripping the provision of goods, services and employment. The food needs of urban populations are not only increasing rapidly, but they are compounded by demands for greater variety, quality, safety, and convenience foods. In many developing countries, consumption of local traditional foods is giving way to newer convenience foods preferred by the urban consumer. These changes in food habits can create nutritional problems for the urban poor and the unemployed, necessitating in some cases the provision of food at subsidized rates, or food aid. Due to growing urban demand the street food industry is flourishing. While it provides employment to millions of people, particularly women, unregulated proliferation of street food vendors is creating great concern about potential adulteration and contamination.

. . . . food control

48. People need to rely on public authorities and the food industry to ensure that their food supply is of good quality, nutritious and safe. In many countries, particularly in the developing parts of the world, efficient infrastructure and procedures to carry out these tasks are still lacking. Technical assistance, including the training of manpower, is therefore urgently needed to address food quality and safety problems. The expert scientific advice and food control assistance of FAO will have to be expanded.

49. Contamination of foods can cause both immediate and long-term food safety concerns. Various industrial chemicals, mycotoxins, radionuclides, pathogenic and spoilage micro-organisms, heavy metals and excessive levels of agricultural chemicals such as pesticides, continue to cause serious problems to domestic and international trade, and to the safety and wellbeing of the consumer. Food additives, veterinary drugs and other chemicals are increasingly used in production and processing of different food products. Safe levels for the international use of chemicals in food must be established in order to protect the consumer. Similar levels must be set for contaminants in foods. This requires expert evaluation and guidance in all aspects related to the safe use of these chemicals.

. . . . rural services

50. In efforts to expand food and agricultural production, national and international agricultural research has been producing a large volume of technological

recommendations; public and private services for farm input supply have improved in the recent past, and so have the policies and programmes for rural credit and marketing. Furthermore, studies indicate that public investment in extension services to farmers has had favourable returns. Despite these favourable premises for balanced rural development, there are still major problems regarding agricultural education and extension which need to be solved.

51. The appropriate use of communication methods and techniques can facilitate dialogue with rural people, increase their participation and improve the outreach and impact of extension and training activities. Scarcity of qualified development agents, the large number of people to be reached, the remoteness of many rural areas, illiteracy, the different local languages are some of the problems that communication can help to overcome. Communication technology has become cheaper and widely available for use in rural areas of developing countries. It can be systematically applied for the sharing of knowledge and the promotion of ideas and innovations in development. FAO has been a pioneer in the field of communication for rural development, and its leadership role continues, as evidenced by increasing requests for assistance to develop and implement rural communication programmes.

. . . . land reform

52. In respect of land reform and land settlement, key aspects are the persistent inequalities in land ownership, and a continuous decrease of the availability of per capita arable land and land under permanent crops *per capita* (0.62 ha in 1985 and only 0.56 ha in 1988). In Africa, land tenure is still vastly characterized by communal ownership according to clan or tribe. There are trends of change of this age-old system. The transformation and adaptation of communal property resources in Africa will pose major problems in the future.

53. In countries which have attempted land distribution and tenancy reforms, the success has been limited due to opposition by landlords, erroneous conception, insufficient financing, inadequate institutional arrangements and inefficient support services. Access to productive resources, inputs and services, require legal and operational instruments to ensure the participation of the intended beneficiaries in the identification, formulation and implementation of such programmes, which are still lacking in many cases.

54. In the medium term, this means increased assistance for "classical" land tenure institution building, in areas such as land registration, cadastering, consolidation, evaluation, land taxation and so forth. There is a need to transmit the lessons learned, with regard to what kind of land tenure arrangements bring the greatest benefits in marginal environments. The way in which fragile forests, arid and hillside soils are owned, transferred and used is a critical variable in any development plan. WCARRD principles of equity of access, provision of institutional services and helping the rural poor continue to be valid in shaping rural development policies.

. . . . marketing and credit policies. . . .

55. Policies relating to agricultural marketing are gradually being changed in many developing countries, largely as a result of the implementation of structural adjustment measures. Such policies include the promotion of the private sector and the re-organization of the functions of marketing parastatals, as well as the introduction of more liberal pricing regimes. However, policy reform has encountered a number of constraints. Further work is required to identify their causes. Of equal importance is the need for providing equal and non-discriminatory access of small farmers to marketing services, particularly those in the most remote areas, who may not now be as well served by the private sector as formerly by parastatals. Similarly, increasing urbanization and the growing demand from consumers for better quality produce place great demands on the marketing systems in most developing countries. Improved and more cost-effective marketing systems linking producers to consumers require investments in infrastructure such as storage facilities and rural and urban markets, as well as improved market information and support to farmers to meet market requirements and to derive adequate returns.

56. The generally tight terms of trade for farmers in most developing countries, coupled with the need for environmental protection and sustainable agriculture in all farming areas, means special responsibilities for rural financing institutions. Such institutions need to improve their efficiency, in order to lower operating costs. They also need to play an active role in controlling negative impacts on the environment of investment and in encouraging investment which is environmentally sound. These are significant challenges, which are likely to require changes in the mix of short, medium and long-term investment and lending policies, with significant consequences for the collection of funds, lending procedures and staff training. A number of steps can be taken to improve access to credit by the small and landless farmers and the artisanal fishermen. They include relaxation of the collateral requirements of bank loans; enactment of legal stipulations on commercial banks to lend to rural groups; expansion of credit provisions outside the formal banking system. High standards of loan recovery must be insisted on for any system to remain viable.

. . . . international trade

57. There has also been a serious deterioration in international trade relations and in efforts to foster stability and growth in international markets. This situation has been reflected in increased protectionism in domestic markets, a dramatic escalation in export subsidies, and the virtual disappearance of any regulatory activities in international commodity agreements. Lack of cooperation amongst exporters and importers and inappropriate national policies led to surplus production in many commodities, including those of export interest to developing countries. While there was less instability in the unit export values for several commodities than was experienced during the seventies, in many instances this reflected the low levels to which prices had fallen in international

markets. Although developing countries during the latter part of the eighties experienced some improvement in their agricultural trade balances, this improvement often reflected reduced capacity to finance imports rather than a remunerative expansion of exports.

58. Consumer interest in the quality and safety of internationally traded foods will continue in most countries along with concerns about environmental contamination. While the need to protect consumers from food hazards and deception is beyond question, the potential for applying the respective regulations in an inequitable, or even discriminatory way, is ever present. The adoption of inequitable or discriminatory practices amounts to non-tariff technical barriers, which impede rather than facilitate the international food trade. Even when such barriers can be justified, exporting countries are faced with a bewildering array of regulations, standards and certification requirements applied by importing countries, while they lack the necessary food export quality control and certification schemes. Pressure for such measures is expected to remain strong in the medium term, and the political influence of consumer movements is likely to increase even further. The prospect of technical non-tariff trade barriers being created which have no scientific justification, threatens the ability of many countries to use exported food products as a source of foreign earnings. Harmonization of national requirements applying to trade in foods would continue to facilitate trade and related earnings for exporting countries. Current and future work of the Codex Alimentarius Commission including cooperation with the General Agreement on Tariffs and Trade (GATT), will need to be pursued vigorously.

. . . . countries in transition

59. Changes in the relative roles of the state and the private sectors and the orientation of policies to cope with the macroeconomic constraints, have had and continue to have considerable impact on food and agriculture and on rural economies. Parallel with these developments, most of the former centrally planned economies, particularly in Eastern Europe but also among the developing countries in Asia and Africa, are undertaking major reforms of their political and economic systems, including their agricultural sectors. The extent of these reforms are not yet clear in most instances, but are bound to have far-reaching implications on how farming is organized in these countries, with consequent repercussions on FAO's role in providing advice and technical assistance. More generally in the world, changes in the role of state-dependent agencies vis-à-vis private enterprises, and the orientation of policies to cope with external constraints, have had and will continue to have considerable impact on agrarian structures. New relationships are also being established or are under consideration within groupings of countries, including western Europe, the Americas, Africa and the Pacific rim. In aggregate these changes, depending on how the ensuing policies will be articulated, could have an important impact also on the global agricultural economy in the medium term.

. . . . and changing country capabilities

60. Changes have occurred in the relative importance of the main problems which member countries face, in their capabilities for overcoming these problems, and therefore in their needs for external assistance. A number of developing countries have strengthened substantially their agricultural institutions and infrastructure, and their economies have greatly broadened and diversified. Such countries have less need of FAO's support for general technical assistance, but more need for help on policy formulation and sophisticated technical assistance in specific areas. However, there are many other countries that have been unable to make sufficient progress and the economic prospects of which remain bleak, because of continued institutional constraints, worsened in some cases by external debt burdens. In particular, the Least Developed Countries (LDCs) require focused attention, within the Programme of Action for the 1990s, as approved by the Second UN Conference on the LDCs held in September 1990. These and the other low-income countries look to FAO for both general and sophisticated technical assistance and policy advice, often in the context of continuing structural adjustment efforts. Thus, FAO has to cater for a widening spectrum of development needs, and this trend is likely to continue and even intensify.

61. There is general recognition that government action alone is not sufficient to achieve rural development and that non-governmental organizations (NGOs) and the private sector generally, have important developmental roles to play and an increasing capability to perform them. As NGOs increase the scope of their development activities, they can participate in development programmes and projects. The task for FAO, as for other developmental agencies, is to take advantage of the NGO's particular skills, know-how, dynamism and financial resources, to further common developmental objectives.

. . . . timely, accurate data. . . .

62. The ability of governments to formulate sound, flexible and responsive policies with respect to food and agricultural development is critically dependent on the availability of timely, accurate and relevant data and information. Public and private sector institutions share many of the same data and information requirements, to be able to react quickly and efficiently to changing market and policy conditions. Policies and decisions are made on the basis of current expectations of future needs derived from observation and analysis of historical behaviour. Thus, the need not only for historical data but also for analysis of factors affecting national and international food production, consumption and markets.

63. Global requirements for food and agricultural information range from early warning of impending emergencies to the data necessary for the formulation of long-term food security and development plans. The importance of agriculture as a source of income, employment and foreign exchange for many countries, makes reliable

information about and forecast of market conditions highly valuable. The interdependence of national agricultural sectors with other sectors, and with the agricultural sector of other countries, continues to place high priority on information about and analysis of the general, global economic environment and the policy setting.

. . . . national policies. . . .

64. Continued priority attention must be given to providing direct assistance to member countries in reviewing national policies, monitoring their performance, and redesigning and translating them into sound plans and programmes. This assistance includes the strengthening of national capabilities for policy analysis and planning work. In particular, special attention must be given to analyzing the interrelationships between sectors, the links between agricultural and macroeconomic policy, as well as sustainable agricultural and rural development considerations.

. . . . the need for training

65. A fundamental task related to the strengthening of developing countries' capacity for policy analysis and planning, will continue to be training in concepts and techniques related to various aspects of food and agricultural policy analysis, agricultural sector analysis and planning, including decentralized planning and investment analysis. The need for trained human resources in nutritional disciplines in developing countries is also likely to increase rapidly to match implementation of national activities.

66. This background of increased complexity of decision-making places new demands on FAO's information and analysis programme. One of the limitations on the programme's ability to respond to these demands is the dependence on national statistical and analytical institutions, many of which are unable to supply reliable data in a timely manner. While several countries have strengthened their capacities in this regard, this remains the most serious constraints to further improvement of FAO-generated data and information.

67. While there are many constants which argue for continuity in FAO's activities to meet member countries' needs for data, information and analysis, there are also new conditions, problems and perceptions which argue for flexibility and adaptation. Also, the rapidly changing technologies of data collection, processing, storage and transmission offer opportunities to improve the efficiency with which FAO provides these services, and opportunities to provide new services not previously available.

68. In the light of the above problems and prospects, the proposed objectives and programme priorities of the eight programmes comprising Major Programme 2.1, Agriculture, are given below.

● **Programme 2.1.1, Natural Resources**¹

□ **Objectives**

Overall objective:

69. The overall objective of Member Nations in relation to the Natural Resources Programme, is to ensure more productive and efficient use of land, labour, water and farm inputs, in order to meet present and future food and agriculture demands on a sustainable basis.

70. For the fulfilment of this general objective, key aspects are: quantification of national and sub-regional land and water resource potentials; farming systems development; balanced soil and plant nutrition systems; optimum efficiency of water use for irrigation; halting and reversing land degradation; and promotion of sustainable land-use practices.

Specific objectives:

71. In the light of the related requirements for FAO's assistance and catalytic action, specific objectives under the programme are, therefore:

- (a) to determine alternative land-use policy options based, *inter alia*, on the systematic assembly and analysis of information on land and water resources and crop requirements, and incorporation into databases and geographic information systems;
- (b) to examine the socio-economic and technical constraints on existing farming systems and to propose improved and tested technologies for small-scale farmers to raise their production and productivity on a sustainable basis;
- (c) to assist Member Nations in making the most efficient use of presently-available water supplies, and in developing new supplies in the light of future demands, potential resources and economic factors; furthermore to formulate sound national policies and strategies for fertilizer use, plant nutrition and maintenance of soil productivity;

¹ A number of aspects related to environment and sustainable development are also covered in Part II above.

- (d) to maintain a lead role in halting and reversing current degradation of soil, including soil fertility and water resources with the associated objective of improving health aspects of land and water development projects;
- (e) to foster integrated plant nutrition systems, which make efficient use and balanced use of internal and external sources of nutrients; and
- (f) to analyze development options on an interdisciplinary basis in order to sustain natural resource potentials in Member Nations.

□ **Programme Focus**

72. Core activities of the Natural Resources Programme include providing improved knowledge and methods to member countries for more efficient and sustainable use of their land, water and other production inputs. This also includes the development of computer-aided resource data management systems, together with the analysis and dissemination of such data for agricultural policy formulation.

73. An added new thrust is for the programme to provide an interdisciplinary nucleus and a recognizable FAO contribution to sustainable development. This covers collection, analysis, design and dissemination of information on sustainable production systems to assist Member Nations in introducing corrective actions and responding to the possible adverse effects of climate change on agriculture, forestry and fisheries.

74. The programme is sub-divided in six sub-programmes: natural resources assessment and planning, farming systems development, soil management and fertilizers, water development and management, conservation and reclamation, and sustaining resource potentials. All sub-programmes and related objectives are of equal importance to Member Nations.

75. While three sub-programmes are geared to specific aspects and techniques of natural resources management, Sub-programme 2.1.1.1 deals with the assessment of physical potentials and the other two put the issue of natural resources use into the broader perspective of prevailing and improved farming systems and national policies for sustainability. This programme has strong connections with other substantive FAO programmes, particularly Programmes 2.1.2, Crops, 2.1.3, Livestock, and 2.3.1, Forest Resources and Environment.

76. The strong field orientation throughout the programme is exemplified by the large volume of extra-budgetary resources which it has traditionally been able to mobilize, many times the Regular Programme allocation. Two long-standing Special Action Programmes - the Fertilizer Programme (FP) and the International Fertilizer Supply Scheme (IFS) - are of direct relevance to this programme. In terms of regional orientation, there is a concentration of activities in Africa in recognition of the

magnitude of problems in the use of natural resources and current pressures due to desertification and rapid population growth in that continent.

77. A prerequisite for reversing land degradation within the framework of national soil and water conservation policies and programmes is to demonstrate and ensure widespread application of sound conservation practices which are compatible with local socio-economic conditions. In effect, the need to respond to the increasing problems of land degradation has been widely recognized among the international soil conservation community in recent years. The main agents of change have been the environmental lobbies, the aid agencies and the soil conservation specialists who are developing new approaches and techniques more appropriate to the needs of land users in developing countries. In this new approach, the emphasis is on prevention rather than cure, on limiting loss of productivity rather than loss of soil, and on joint soil and water management.

78. An "International Programme for Sustainable Development of Soil Productivity" is to be launched to provide a framework for national strategies in order to conserve and regenerate soil fertility and productivity. It will integrate in the long term the above two SAPs. It is also envisaged to expand on the work done under Farming Systems Development (FSD) and to focus on micro-economic issues and on promotion of active farmers' participation in technology development for efficient and environmentally-sound farming systems.

79. The programme makes major contributions to a number of FAO's thematic priorities, e.g. training, in particular through the numerous demonstration activities at field level, or training in farming systems development and on the use of computerized systems; and women in development, in view of the need to enlist support from rural women for the safe and sustainable management of scarce resources such as water or fertilizers.

☐ Main Priorities

80. Detailed water resources assessments, also at national and sub-regional levels, will be undertaken as a matter of relative priority, in order to contribute to the formulation of water development and management policies and strategies.

. . . . agro-ecological zoning

81. The well-established work of FAO on soil mapping, land evaluation, assessment of crop and population potentials by agro-ecological zones (AEZ) in which the Organization possesses unique comparative advantage in view of its universal coverage, will need to continue, especially at the country level. Relative priority will be given to methods for integrating ecological and economic aspects with natural resource

assessments. This will be complemented by the wide application of recent work on land-use planning methodology under the aegis of the Interdepartmental Working Group on Land-use Planning. The FAO Geographic Information System (GIS) will continue to be utilized in cooperation with concerned member countries and organizations. Although still to be fully developed, it is being increasingly used to assess land and water resource potentials, and for training in AEZ applications.

82. To date, information on water resource potentials, necessary for development of irrigated agriculture in arid and semi-arid areas, has centred on the availability of sub-surface water and rainfall. Modern techniques, such as the GIS and satellite imagery interpretation, however, will permit more sophisticated evaluation of small basin surface water potential, which has so far been under-utilized in many countries.

83. The availability of extra-budgetary support has been traditionally strong in the areas of assessment of resource potentials at both country and regional levels (soils and water), reflecting corresponding demands for external assistance in Member Nations. Over the medium term, the methodological advances related to the application of Geographic Information Systems and to assessments of potentials by agro-ecological zones, should lead to new generations of projects not only at the traditional regional and country levels, but also at the infra-country level as a major input to land use planning. Extra-budgetary support will be essential for this, whereas the Regular Programme will continue to cover conceptual and methodological developments.

. . . . farming systems

84. The application of a farming systems approach to a range of development efforts is relatively new. Most work to date has concentrated upon identifying promising medium-term research programmes designed to increase the productivity of a given farming system. FAO's Farming Systems Development (FSD) work will extend this approach. Multidisciplinary teams working at the local and national levels should collaborate closely with the rural population concerned, through flexible programmes, in order to facilitate the introduction of improved systems and contribute to the development of more relevant extension messages, more effective support services and appropriate agricultural policies. Improved systems should build on the strategies, technologies and practices of the better farmers, and incorporate new, economically viable technologies adapted to local conditions, after appropriate on-farm testing. Relative priority will be given to strengthening of support services, institution building, the development of training materials and refining analytical and planning techniques. Basic farm level economic analysis is also expected to improve the formulation of investment in agricultural production, through better understanding of the micro-effects of national fiscal, financial and agricultural sector policies.

85. While the Regular Programme has shouldered a large part of application work so far, the planned expansion of the scope of FSD would need to be supported by sufficient extra-budgetary resources so as to lead to a growing portfolio of projects, as

member countries are better aware of the application of FSD to the identification of options for sustainable agricultural improvements.

86. With respect to soil management and fertilizers, progress towards well balanced, efficient plant nutrient systems will depend on a number of factors. Firstly, the increased recognition that many agricultural areas are being degraded by continual removal of plant nutrients without adequate replenishment. Secondly, the promotion of Integrated Plant Nutrition Systems (IPNS), including mineral fertilizers, biological nitrogen fixation and recycled organic materials, designed for entire cropping systems. Thirdly, the more efficient and economic use of mineral fertilizers, based on sound integrated plant nutrition strategies and national fertilizer policies. Fourthly, the maintenance and improvement of physical and biological soil conditions through improved tillage practices and crop residue management. FAO is uniquely placed to carry out the related promotional and technical assistance activities.

. . . . focus on IPNS

87. Relative priority will be accorded to the development, promotion and application of Integrated Plant Nutrition Systems (IPNS) and to the more efficient and balanced use of mineral fertilizers. Fertilizer aid will continue to be provided to needy countries under the International Fertilizer Supply Scheme, as resources permit, depending on future levels of pledges. Physical and chemical soil-related constraints, including acidity and micro-nutrient deficiencies will be addressed primarily through network arrangements. The consultations on the FAO Fertilizer Programme, the sessions of the FAO/Fertilizer Industry Advisory Committee and its Technical Sub-Committee and working parties will continue to generate feedback and advice on approaches and solutions to technical problems.

88. Greater emphasis will be given to advising governments on strategies, programmes and policies, including appropriate incentives, related to fertilizer use. Greater priority is to be given, therefore, to improving input availability through better procurement, distribution and pricing systems and reduction in input marketing costs from increased efficiency of marketing agencies.

89. FAO's work on water development and management involves several component actions, singly or in combination: advice on irrigation development, improvement and modernization; increased efficiency and improved water management techniques; energy aspects of irrigation methods and practices; use of waste water and development of measures both for increasing production and meeting environmental standards, including disease vector control.

.... irrigation management

90. Work on irrigation management will give priority to improvement and rehabilitation of existing schemes. All future activities will need to keep a strong training orientation. Coordination is to be ensured among several units in FAO - particularly for those activities associated with training, involvement of women in irrigated agriculture, mobilization and participation of farmers - and with a large number of national and international institutions and agencies. Continued extra-budgetary support is of critical importance in irrigation management where the ratio of field activities to Regular Programme has been consistently high.

91. In the area of conservation and reclamation, community participation is a key element. Relative priority will be given to new methods to ensure effective participation of farming communities on the premise that conservation practices lead to increased production when farmers are considered as part of the solution and not as part of the problem. The core development activities undertaken under the aegis of the Interdepartmental Working Group on Energy and the Environment, will continue.

92. The increased and safe use of marginal quality water and the reduction of health hazards in irrigation areas, form integral parts of conservation and reclamation efforts. The increased use of marginal quality water and over-irrigation have accentuated problems of salinization. The reclamation of salt-affected soils and the use of marginal quality and waste water will, accordingly, receive relative priority. However, progress can only be tangible if Regular Programme resources are matched by sufficient donor interest to fund specific projects in Member Nations.

.... analytical core

93. With regard to broad analytical work for sustaining resource potentials, medium-term core activities are the assessment of the impact of climatic change on land and water resource potentials and, through identification of viable systems, assistance to member countries in preparedness planning and prevention. FAO has a unique role to play in this regard because of its well-established work on agro-ecological zoning and land suitability evaluation for a range of users. Inter-divisional, short-term working groups will be entrusted specific tasks and, subsequently, disseminate concepts and issues as appropriate. While the Regular Programme can to some extent accommodate a number of key conceptual activities, it is hoped that donor support would be forthcoming to fund additional ones as part of the commitment of the international community to foster sustainable development. The formulation of a strategy and the implementation of an inter-agency programme on water and sustainable agricultural development in the nineties will be undertaken as a follow-up to the Mar del Plata Action Plan.

□ External Cooperation

94. The programme will involve extensive links with other international organizations, *inter alia*:

- (a) use of GIS in cooperation with the World Bank, UNEP, ISRIC;
- (b) work on soil-related constraints in coordination with that of the International Board for Soil Research and Management (IBSRAM) and the *Centro Internacional de Agricultura Tropical* (CIAT);
- (c) in the field of fertilizer and plant nutrition, FAO will maintain linkages with a number of international organizations. The FAO/UNIDO/Working Group on Fertilizers will continue to review the latest worldwide and regional fertilizer demand and supply situation and forecast the likely situation in the medium term. The findings of the Working Group will be reported periodically to the members of the Commission on Fertilizers;
- (d) the FAO/Fertilizer Industry Advisory Committee of Experts (FIAC) will continue to study and give advice to FAO on the planning and implementation of the FAO Fertilizer Programme;
- (e) cooperation on irrigation improvement with the US Agency for International Development (USAID, Washington); the Overseas Development Administration (ODA, London); the International Institute of Land Reclamation and Improvement (ILRI, Wageningen); the International Irrigation Management Institute (IIMI, Sri Lanka); *le Comité Interafricain d'Etudes Hydrauliques* (CIEH, Burkina Faso); and the International Commission for Irrigation and Drainage (ICID, New Delhi). Within the UN system, FAO will ensure the important responsibilities given to it in the follow-up to the Mar del Plata Action Plan;
- (f) health and environmental aspects of land development will be based on the work of the FAO/WHO/UNEP/HABITAT Panel of Experts on Environmental Management; and
- (g) on climate change issues, within the UN system, FAO will continue to actively participate in the Intergovernmental Panel on Climate Change (IPCC).
- (h) on farming systems work, with the *Institut National de la Recherche Agronomique, Département des Systèmes Agraires* (INRA-DSA, France), *Centre de Coopération Internationale en Recherche Agronomique pour le Développement* (CIRAD, France), the West African Farming Systems

Research Network, the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), and the International Institute of Tropical Agriculture (IITA).

● **Programme 2.1.2, Crops**

□ **Objectives**

Overall objective:

95. The overall objective of Member Nations in relation to crop production and protection is to match food, feed and other agricultural production with increasing human needs. This entails conservation, evaluation, improvement and full utilization of plant biological diversity and improved agronomic practices which include both production of major crops, as well as the agricultural value of under-utilized crops.

96. FAO's Crops Programme is a complex one as it provides information, policy guidance and technical assistance to Member Governments in relation to the above key objective. It addresses major aspects of agricultural practices and food production, including varietal and seed improvement, the conservation of genetic resources, reduction of pre- and post-harvest losses, processing and conservation and agricultural engineering.

Specific objectives:

97. The specific objectives under the programme are:

- (a) to promote national capabilities and capacities to conserve, enhance and utilize plant genetic diversity through collection, characterization, documentation, exchange of germplasm, breeding programmes and related research activities, plant propagation (seeds and planting materials);
- (b) to promote international collaboration and related information systems on the conservation and rational utilization of plant genetic resources and on the identification of sustainable crop production systems;
- (c) to promote the development and adoption of modern plant biotechnologies in germplasm conservation, plant improvement, plant propagation, crop production and food industry by establishing inter-

exchange and collaboration among laboratories, international centres and developing countries' institutions;

- (d) to promote studies and analyses of crop chains for domestic consumption, export-oriented activities and commodities of importance for developing countries with comparative production advantages;
- (e) to promote innovative agricultural practices, particularly in integrated crop management, based on the suitable assembly of natural resource endowments, socio and economic parameters and technological inputs;
- (f) to prevent and reduce crop losses caused by pests in member countries through the reduction of the spread of quarantine pests, the promotion of integrated pest management; to reduce the adverse effects of pesticides on human health and the environment and coordinate control of migratory pests;
- (g) to ensure that farmers have access to appropriate engineering inputs, advice and incentives in the context of integrated farming systems; and
- (h) to provide practical assistance to member countries in combating losses at various stages of the post-harvest food system and in the development of an active small-scale agro-industrial sector.

□ **Programme Focus**

98. The programme is sub-divided into six sub-programmes: *Conservation and Management of Plant Genetic Resources*; *Crop Management and Diversification*; *Seed Production and Plant Improvement*; *Crop Protection*; *Agricultural Engineering and Prevention of Food Losses*; and *Food and Agricultural Industries*. These sub-programmes are of importance to all Member Nations.

99. While keeping to its strong field orientation, the programme will strengthen "upstream" activities to provide a framework for international and national strategies in plant breeding and biotechnology. "Downstream" activities are to be launched mainly to assist farmers in integrated crop management and issues such as agro-forestry and other farming systems.

100. FAO has, in the past, actively promoted crop breeding and will continue to do so. However, genetic improvement of germplasm, leading to new varieties in farmers' fields, addresses only part of the needs of sustainable production. If the potential of new varieties is to be fully realized, their release must be supported by appropriate crop management practices. The activities related to crop management will focus on the generation of appropriate technologies - including biotechnology - and their transfer to agricultural production systems.

101. The basic thrust in relation to agricultural engineering is information exchange. While the ultimate beneficiaries are farmers in Member Nations, the programme channels information through existing institutions responsible for education, research, extension and other agricultural engineering support services.

102. In the area of agro-industries, a main focus is on the upgrading of traditional technologies to enhance shelf-life, marketability and consumer acceptance of traditional foods, as well as value-added products with export potential. A wide range of commodity groups is covered such as cereals, oilseeds, roots and tubers, fruits, vegetables and cash crops such as cocoa, coffee, sugar and tea, and a wide range of natural fibre products such as silk, wool, cotton and jute. Particular emphasis is placed upon the private sector and entrepreneurial development to reflect the growing importance of this sector in the development process.

103. The programme has a strong technical assistance component, as it has been able to attract large extra-budgetary resources, in particular to Sub-programmes 2.1.2.2, 2.1.2.3 and 2.1.2.4 and Prevention of Food Losses. While a major share of the extra-budgetary resources goes to supporting programmes of member countries in Africa, substantial activities are also executed in other regions. Field activities in Africa concentrate on basic production problems. Those in the other regions have "moved up" to tackle sustainability of intensified crop production systems.

☐ Main Priorities

The Integrated Crop Management (ICM) approach:

104. Emphasis will be given to integrated crop management (ICM). The ICM concept embraces all components in the production system and related management activities focusing on particular constraints, such as integrated pest management (IPM), integrated nutrient management (INM), integrated water management (IWM), etc.. It aims at optimizing the use of natural resources, reducing environmental risk and maximizing output. Each management system is dependent upon locally-specific natural, socio-economic and technological factors and their interrelationships. ICM provides a framework for analysis at different levels, through the integration of natural and social sciences and technological inputs for a dynamic approach to agricultural stability and ecological sustainability.

105. The ICM approach will receive top priority with vegetables, cereals, oil seeds, grain legumes, multiple-purpose tree crops, roots and tubers, annual and perennial cash crops, forage legumes and fodder shrubs.

Plant protection:

106. In the field of plant protection, a gradual shift will be effected from project implementation to the collection, analysis and distribution of information on plant protection to Member Governments. This does not mean that technical assistance will disappear, but the information function will gradually gain major importance.

107. With regard to plant quarantine, priority will be given to harmonization of plant quarantine principles, pest risk assessment and quarantine procedures. These aspects have been recognized in the Uruguay Round of GATT as important to reduce trade barriers caused by irrational and unjustified use of quarantine procedures. The function of information exchange will also be given more emphasis. A secretariat to the International Plant Protection Convention is planned to be established in the 1992-93 biennium to carry out this work, in close cooperation with regional plant protection organizations. It is likely that related requests for technical assistance will gradually increase.

. . . . code of conduct

108. The implementation of the International Code of Conduct on the Distribution and Use of Pesticides will keep its prominence. Guidelines on specific aspects of the Code will continue to be reviewed and updated, but such activities will be gradually reduced over the medium term. Quality standards for pesticides will be published regularly, while information exchange to assist member countries on decisions on pesticides that are banned or severely restricted (Prior Informed Consent Procedure) will be a permanent activity in cooperation with UNEP.

109. New opportunities for information exchange exist with regard to registered uses of pesticides; however, in view of the considerable tasks in other areas, it is unlikely that the Organization could give it high priority in the medium term. Regular analysis will be made on the implementation of the Code and extra-budgetary resources will be sought. This is a typically long-term activity for FAO which should be seen to continue over a period of 10 to 15 years.

110. Concerning pesticide residues in food and the environment, cooperation with WHO will continue through the Joint Meetings on Pesticide Residues, which provide technical inputs to the Codex Committee on Pesticide Residues. This work will become more important as Codex-adopted levels play a normative role in international trade. It is likely that work on maximum residue levels will gain in importance in the next years and extra-budgetary resources will be required to cover assistance to Member Nations adequately.

111. In many developing countries, there are considerable stocks of obsolete and outdated pesticides. In the medium term, technical assistance will be required on

pesticide disposal. This is a field of activity in which FAO, together with organizations like UNEP and bilateral aid organizations, can play an important role.

112. Globally, pest management will gain in importance as crop intensification increases in all regions. The Organization will maintain its capability to collect and analyze information on pest situations that need a coordinated international approach. It will prepare studies on pest problems and special emphasis will be given to situations of obvious misuse, or over-use of pesticides. It will need to intensify work on important aspects, like weed control, the control of Striga and the provision of pathogen-tested planting material. The Organization will be required to provide technical assistance to help countries formulate appropriate pest control schemes and to design, execute and evaluate technical assistance projects.

113. At present, the number of such projects is increasing rapidly, while international interest in Integrated Pest Management is growing. To support momentum, it is likely that trust funds will be required over the medium term.

114. The programme will maintain its coordinating function on migratory pest control under the guidance of the Desert Locust Control Committee, the membership of which includes all countries in the desert locust outbreak area. Main activities will continue to be the collection, analysis and distribution of information on the desert locust and other migratory pests. The analysis of data includes a forecasting aspect which is closely linked with remote sensing work. The programme will further stimulate research on migratory pests to gain a better insight into biological processes and subsequent pest control, and reduce reliance on large scale pesticide use. Technical assistance to Member Governments in emergency operations is a major well-recognized role of FAO.

115. The chronic weakness of national plant protection services will be addressed. A number of studies have been made on plant protection infrastructures, in particular in Africa, and it is likely that these will need regular updating to shape technical assistance to the countries in the region. The Organization has also a substantial task over the medium term of coordinating plant protection infrastructures.

Plant genetic resources and seeds:

116. Activities on plant genetic resources, in line with the International Undertaking, will aim at the further development and implementation of the global system; in particular, the preparation of a global Plan of Action. Secretariat is provided to the Commission on Plant Genetic Resources. Follow-up of the recommendations and decisions of the commission will include promoting global and regional networks on *ex situ* base collections under the auspices of FAO, and *in situ* conservation areas in collaboration with other relevant organizations, especially the IBPGR. The preparation of a periodical report on the *State of the World's Plant Genetic Resources* will be based upon the Global Information and Early Warning System, and the development of international instruments, such as the Code of Conduct on Biotechnology, as it affects

the conservation and use of plant genetic resources and the implementation of the concept of farmers' rights, will be pursued as a matter of priority.

117. The Seed Improvement and Development Programme (SIDP) will provide assistance in the formulation and implementation of seed programmes and projects in all fields of seed technology, keeping in mind the final objective of increasing food production. Special consideration will be given to new developments, e.g. the increased use of modern biotechnologies in seed production, and in particular, for asexually reproduced crops. Wider diffusion of information on the availability of improved cultivars is imperative and the search for adapted technologies to support on-farm seed production activities needs to be intensified. The increased involvement of the private sector will be sought.

Crop production:

118. Given the wide range of crops which the programme covers, a sketchy presentation of medium-term priorities for major crops, or crop groups, is provided as follows:

(a) **rice:**

- the utilization (transformation) of the whole plant biomass (Prosperity/Thriving Rice concept) and promotion of the use of biofertilizers in Africa;
- promotion of a new approach to hybrid rice development (two-line system) in several countries with strong conventional breeding programmes, especially in Asia. Other "upstream" technologies for optimizing rice production within sustainable systems will be promoted for "Mediterranean ecologies" through networking.

(b) **food legumes:**

- support to regional and global networks on food legumes (including soybeans) to improve both local diets and the sustainability of cereal and root crop-based production systems. Breeding for enhanced biological nitrogen fixation of food legumes will also be promoted.

(c) **coarse grain cereals:**

- promotion of maize cultivars with resistance to maize virus in Africa, as well as the promotion of breeding strategies for durable resistance to other diseases and pests;

(d) cassava:

- promotion of strategic research to investigate possible genetic manipulation of the crop to delay post-harvest deterioration. Concomitantly, promotion of village-level processing, coupled with cassava production campaigns;

(e) horticulture for nutritional improvement:

- promotion of subsistence horticulture production, in order to provide sufficient quantities, varieties and year-round supplies of fresh, vitamin-rich food to feed farming populations;
- special attention to tropical horticulture crops (plantains, breadfruit, gourds, legumes, etc.) and to traditional tree fruits (jak, carambola, annona, baobab, jujube, naranjilla, etc.), through the elaboration of guidelines and integrated horticultural programmes of intervention and diversification;

(f) horticulture for income generation:

- support to intensification and specialization of horticultural crop production (vegetables under plastic, commercial mechanized orchards, cut flowers and ornamentals, mushrooms, herbs and condiments, etc.);
- inter-country collaboration programmes for transferring specialized vegetable production technologies, including protected cultivation, irrigated production and soilless culture. Special attention will also be given to vegetable variety development and propagation technologies;
- dissemination of information and guidelines for upgrading plant propagation (including biotechnology applications), and for establishing and managing modern orchards or plantations, with a view to building up a sustainable horticultural industry and to gaining competitiveness in international markets (tree nuts, promising minor tropical fruits, temperate fruits, etc.);
- specialized horticultural production activities for women in order to generate income at family level, through the development of mushroom cultivation, fruit trees, vegetable and ornamental nurseries, herb production and processing, etc.;

(g) industrial crops:

- implementation of economically attractive mixed perennial cropping systems, aiming at the replacement of the original climax

vegetation with species that closely resemble the functions of the climax vegetation;

- crop diversification, with an accent on the utilization of under-exploited palms and the cultivation of essential oil crops in remote areas; promotion of rural agro-industry based on the widely dispersed and small-scale distillation of essential oils;
- integrated development of cotton and oil seed crops, aiming at three regional cooperative programmes in Central America, South East Asia and East Africa, for cotton, regional groups on oilseeds in all regions, as well as regional projects for sesame improvement.

Breeding and biotechnology:

119. As plant breeding remains one of the most powerful tools to improve the performance of crops, continued emphasis will be placed on the promotion and support of genetic manipulation. Modern biotechnology provides new tools for plant breeders to more effectively reach their objectives and, in several cases, constraints, hitherto unresolvable, can now, or soon, be removed. Activities will focus primarily on strengthening the capacities of national programmes; in many cases, initiatives will be taken collaboratively with international research centres. Support to and promotion of breeding activities will cover the following areas:

- (a) breeding for adaptation to diverse climatic factors such as heat, cold, excess water and drought;
- (b) exploitation of heterotic potentials, especially in rice;
- (c) breeding for tolerances to mineral stresses (deficiencies and excesses/toxicities);
- (d) breeding for durable resistances to diseases and pests; and
- (e) breeding food legumes with enhanced biological fixation capabilities.

Agricultural engineering and rural agro-processing:

120. Besides information exchange activities, assistance for the management of inputs in agricultural mechanization schemes, storage and farm buildings will be provided to ensure that increasingly sophisticated technology is used according to the development objectives and farming systems of the country. The formulation of national strategies for agricultural engineering will build on case studies from country projects and will continue to be dovetailed with national development policies in each Member Nations.

121. FAO's work on food and agricultural industries will maintain a balance between: the development of appropriate agricultural processing technologies in rural areas; and adaptive research in selected areas with greater economic and nutritional impact in low-income countries. Priority will be given to improve and adapt post-harvest technologies at the farm and village levels, in an attempt to conserve food and prevent wastage of agricultural produce, as well as provide opportunities for income-generating activities. To assist member countries in planning and implementing national food losses programmes, the private sector will be encouraged to take on greater responsibility, in a more balanced partnership with the public sector.

□ External Cooperation

122. The Crops Programme will involve extensive links with other international organizations, among others:

- (a) with IBPGR, on the implementation of the Memorandum of Understanding on Plant Genetic Resources;
- (b) with DANIDA, SIDA and other partners, for the continuous implementation of, *inter alia*, the Seed Improvement and Development Programme;
- (c) with universities and international laboratories such as Ghent, ILTAB, Wageningen, etc. on plant biotechnology;
- (d) with IARCs such as CIAT, CIMMYT, CIP, IITA, ICARDA, ICRISAT, IRRI, INIBAP and others on plant improvement and agronomic research, particularly for strengthening the capabilities of the national research systems and the transfer of technologies to farmers;
- (e) with ICRAF on research and development of agro-forestry;
- (f) with Unesco on plant biotechnology and BNF;
- (g) with other international database systems dealing with plant genetic resources and agricultural technologies;
- (h) with ICAMAS on the Mediterranean agriculture requirements and exchange of information;
- (i) with regional pest control organizations;
- (j) with UNIDO and ILO on agro-based industries; and
- (k) with the United Nations Drug Control Programme, within the framework of the System-wide Plan of Action on Drug Abuse Control.

● Programme 2.1.3, Livestock

□ Objectives

Overall objective:

123. The overall objective of Member Nations is to develop sustainable livestock production, including on extensive grazing lands, to ensure the productive utilization of crop residues and maintenance of fertility in mixed farming systems and to generate income-earning opportunities, with emphasis on value added, in order to meet the growing demand for livestock products.

Specific objectives:

124. The specific objectives under the programme are:

- (a) to assist member countries in the management of natural grazing lands and to prevent environmental degradation through over-grazing;
- (b) to increase feed resources availability at the lowest cost possible;
- (c) to improve current and long-term benefits from animal genetic resources;
- (d) to improve livestock production systems and develop, evaluate and promote strategies for sustainable systems of animal agriculture;
- (e) to promote cost-effective methods of animal health control, to protect human health against diseases transmissible from animals and to minimize the negative impact of animal diseases on international trade;
- (f) to assist in improving the economic viability of the meat and dairy sector in Member Nations in order to meet present and future demands for meat, milk and dairy products.

□ **Programme Focus**

Animal production:

125. The central focus is on increased and better use of feed resources, particularly at the level of smallholders, with special emphasis on on-farm produced feeds. For this, the programme distinguishes groups of countries having similar ecological conditions and production systems, namely: the semi-arid region of South America; the sub-humid regions of East Africa; the Maghreb countries; the wet monsoon and humid tropics of southeast Asia; the Highland Himalayan Region; the Andean Altiplano and the arid region of Patagonia. Nitrogen-fixing forage legumes and fodder trees are of prime importance in all zones. The programme emphasizes adaptation of local management systems to changing conditions and the maximum exploitation of local technical knowledge.

126. FAO's work on conservation of animal genetic resources includes cataloguing and describing the world's breeds of livestock, designing strategies of utilization of breed resources, *in situ* conservation and improvement of valuable breeds and *ex situ* preservation of endangered breeds.

127. There are also strong components of planning advice, training programmes and promotion of TCDC through networking.

Animal health:

128. FAO's work on animal health is centred on emergency assistance to member countries due to threats or actual occurrence of diseases, and on longer-term disease programmes. There is also a focus on technology transfer from developed to developing countries covering national infrastructures down to the grassroots level in rural areas.

Milk and meat sectors:

129. FAO's dairy development programme assists governments in ensuring supply of wholesome milk and milk products to urban populations and in the development of adequate and sustainable milk processing facilities at village level drawing on surplus milk in remote areas. This programme area has strong connections with overall livestock development activities and with rural development and services, through the organization of small-scale dairy farmers based on village processing units.

130. FAO's meat development programme is also based on small-scale and medium-sized units. The programme promotes the establishment of adequate facilities for

slaughtering and meat marketing and, where appropriate, for meat processing and provides training in meat technology and hygiene.

□ **Main Priorities**

Animal production:

131. In the semi-arid and arid zones, emphasis will be on improving fodder conservation, fodder trees and grazing systems. In the humid and sub-humid areas, the main emphasis is on providing high-quality feed adapted to the local production systems, often nitrogen-fixing legumes, to complement the poor pasture and coarse roughages which form the basis of livestock feed. Forage seed production is a major aspect. Networks or regional working groups will continue to be used to ensure contact between national institutions and between countries with similar ecological systems.

132. A major medium-term priority is to launch a comprehensive animal genetic resources programme, at the global, regional and national levels. Whereas overall coordination will rest on the Regular Programme, regional and country activities will mostly depend on extra-budgetary funding. Submissions of breed descriptions will be promoted in order to continuously augment information in FAO's Global Data Bank. FAO's World Watch List of Endangered Breeds and Species will be published periodically to alert on risks of erosion of genetic resources. FAO's supported regional gene banks will act as focal points for breed cryo-preservation. Projects on genetic improvement and breed utilization will be supported at the national level for valuable under-utilized breeds. Legal instruments will be prepared for the utilization and conservation of animal genetic resources.

133. Regional and sub-regional networking arrangements will be used to strengthen TCDC linkages and sharing of experience in the different factors that bear on the sustainability of animal agriculture.

Animal health:

134. By using different forms of international assistance, priority will be given to the organization, management, veterinary manpower development of veterinary services and to the economics, legislation and information systems of animal health services.

. . . . emergencies

135. Assistance in case of emergencies due to disease outbreaks and natural or man-made disasters will imply maintaining stand-by capacity to mobilize technical expertise,

vaccines, diagnosis and other assistance which may prove necessary. A prominent example is the New World Screwworm campaign which presently consists of two phases - eradication in North Africa by using the sterile insect technique and - intensive post eradication surveillance programmes to ensure screwworm free status.

136. Continued attention will be paid to non-infectious animal diseases related to nutrition, reproduction and animal production hygiene. FAO activities will need to be targeted, not only at national animal health services but mainly at the farmer-breeders and producers. In view of rural women's important role in animal production hygiene, especially in reducing mortality of newborn animals, necessary extension material will be produced and distributed as a matter of relative priority.

137. Assistance against infectious diseases, viral as well as bacterial, will continue to be oriented to strengthening national diagnostic capabilities and to improving vaccine production and control in developing countries. Among the large number of diseases, priority will be given to the global eradication of rinderpest.

138. Assistance in the field of parasitic diseases will continue giving priority to ticks and tick-borne diseases and major helminthic diseases through new diagnostic and more cost effective control methods. Insect-related disease control programmes will continue to give priority to tsetse/trypanosomiasis in Africa, applying new cost-effective methods.

139. Although at a lower level of priority, further support will be given to the development of new diagnosis and vaccine production methods based on biotechnology. FAO-supported networks of international reference laboratories for specific diseases and of collaborating centres for different animal health problems will provide advice and professional expertise to member countries.

Milk and meat sectors:

140. In the broad area of dairy development, the implementation of model integrated dairy development projects at national and sub-regional levels will be given priority. Extra-budgetary resources will be sought to organize regional workshops on milk processing at village level.

141. The meat development programme will give relative priority to improving slaughtering methods. Designs ranging from very simple slaughterlabs to small abattoirs for higher daily throughput and better hygienic conditions, will be made available according to local conditions. Another priority is the development of simple meat preservation methods without a cold chain, e.g. meat drying in open and closed systems, reduction of water content by heating and smoking and canning of meat using alternative sources of energy such as solar energy.

142. As regards meat inspection, priority will be exclusively on training of meat inspectors and refresher training for veterinarians involved in meat hygiene.

☐ **External Cooperation**

Animal production:

143. Cooperation with international organizations (e.g. UNEP, Unesco-MAB, ILCA, CIAT, CATIE) will be pursued and intensified. Cooperation will also be extended to non-governmental organizations (e.g. BAIF - India, CIPAV - Colombia).

144. Close cooperation will be maintained with financial institutions and development planning agencies, to link programme outputs to investment proposals on animal agriculture.

Animal health:

145. Cooperation and coordination of animal health programmes is ensured with relevant international organizations (such as OIE, WHO, World Veterinary Association, PAHO, OAU, etc.).

Milk and meat sectors:

146. FAO's activities involve close links with several international organizations such as the World Bank, IFAD, EEC, IDF, UNIDO, WHO and WFP.

● **Programme 2.1.4, Research and Technology Development ²**

☐ **Objective**

Overall objective:

147. The overall objective of Member Nations in relation to research and technology is to reach self-sufficiency in developing national policies and capabilities in research and technology development, transfer and application.

² The coordination of FAO's activities in environment and sustainable development forms a major component of Programme 2.1.4. However, this has been treated in full in the preceding Part II. Therefore, in order to avoid duplication, no reference is made here to the work of Sub-programme 2.1.4.5 related to environment and sustainable development.

Specific objectives:

148. In the areas of responsibility of FAO's programme on research and technology development, specific objectives are:

- (a) to strengthen national capabilities in developing countries, giving particular attention to policies and planning of agricultural research, the organization and management of research systems and programmes and evaluation, adaptation and adoption of traditional and emerging technologies for sustainable agricultural development;
- (b) to support international research efforts, particularly those under the auspices of the Consultative Group on International Agricultural Research (CGIAR) of which FAO is a co-sponsor; and to assist in the transfer of production technologies developed by the international agricultural research centres and others to countries and ultimately farmers;
- (c) to promote the voluntary sharing of information among Member Nations, and assist them in handling and use of agricultural information resources, including access to the publications and documents resulting from FAO's activities;
- (d) to assist Member Nations in applying nuclear techniques and related biotechnology, to help solve problems related to food and agriculture such as soil and water management, plant breeding, animal production and health, insect control, agrochemicals use, food preservation; and internationally agreed guidelines and protocols on food irradiation;
- (e) to promote applications of remote sensing in agriculture, forestry, fisheries and environmental protection;
- (f) to expand agrometeorological applications to forecasting, monitoring and planning of crop production and pest/disease control and to assist countries in the exchange of agrometeorological data and expertise;
- (g) to assist developing countries in meeting their energy requirements for agriculture, forestry, fisheries, and for improving the living conditions of rural populations through the development and utilization of small and medium-scale energy technologies.

□ **Programme Focus**

149. Research and technology aspects permeates activities throughout the Organization. This programme provides for the coordination of these activities. Moreover, the programme includes liaison and collaboration in matters of research, science and technology for development, agricultural information and information on current agricultural research, nuclear science applications in agriculture, remote sensing, agrometeorology, environment and sustainable development and rural energy, with a wide range of institutions and organizations, in and outside the UN system.

150. An added new thrust of the programme is the coordination of and support to international actions on environment and sustainable development, as discussed in detail in Part II of this document.

151. The programme includes five technical sub-programmes: research development; agricultural application of isotopes and biotechnology; AGRIS and CARIS; remote sensing and agrometeorology; and environment, energy and sustainable development. All sub-programmes and related objectives have been recognized as being of major importance by Member Nations.

152. While these sub-programmes deal individually with specific aspects of research and technology development, they share a common feature of provision of services to FAO's major programmes: agriculture, fisheries and forestry, both at Headquarters and in the field. The extra-budgetary resources which have been attracted, particularly by the activities of remote sensing and agrometeorology, environment, energy and the application of isotopes and biotechnology are a reflection of the leading role of the Organization in these areas.

. . . . biotechnology

153. The biotechnologies present challenges to most developing countries in policy formulation, biosafety regulations, and access to new research, development and applications. The programme will continue to assist member countries in the integration of biotechnology in research and technology development policy, planning and institutional capacity building, including the development of human resources and guidelines for environmental and socio-economic assessment of impacts of biotechnology. Through the sub-group on biotechnology of the IDWG on Science and Technology for Development, the programme coordinates activities of all FAO technical divisions in this area.

□ **Main Priorities**

154. In the area of research development, the programme will continue to be mainly concerned with the overall institutional aspects of research, while many other substantive sub-programmes deal with the technical aspects of research. Strengthening research management capabilities will continue to be emphasized through national and regional training courses and workshops for research directors, programme leaders and senior research scientists. Joint sponsorship for these training activities will be sought with interested donor agencies and regional and international organizations and institutions.

. . . . research review missions

155. Requests for advisory services related to national agricultural research are expected to continue throughout the medium term and the programme will continue to mount research review missions for this purpose. As the complexity of research systems increases, attempts will be made to ensure participation of specialized institutions, when necessary, in research review missions.

156. With the anticipated widespread development of advanced agricultural practices and technologies and sharpened policy concerns on sustainable development, increased attention must be accorded to technology assessment and transfer. Work in this area will aim at strengthening developing countries' capacities for evaluation, adaptation and transfer of traditional and emerging technologies to farmers and will take into account gender aspects in these technologies.

157. The Consultative Group on International Agricultural Research (CGIAR) is expected to expand in the medium term, with the addition of several research centres. This will place increased responsibilities both on the CGIAR and its Technical Advisory Committee. FAO, as a co-sponsor of the CGIAR and host of the Secretariat for its Technical Advisory Committee, will need to strengthen its support to these international agricultural research efforts, while priority attention will be given to the transfer of these research results to the national and local levels.

158. The Programme will further coordinate FAO's international cooperative information systems: AGRIS (International Information System for the Agricultural Sciences and Technology) and CARIS (Current Agricultural Research Information System). Priority will be given to field projects aimed at setting up and/or strengthening national/regional agricultural documentation and information systems and services. Assistance will progressively incorporate use of microcomputers, compact disc and modern telecommunications technology.

. . . . nuclear techniques

159. The medium-term strategy for increasing the applications of nuclear techniques in food and agriculture will include use of radiation and isotopes to identify suitable crop genotypes, to improve crop productivity with minimal input of water and chemical fertilizers, to improve the performance of nitrogen fixing trees and their water-nutrient relations in mixed cropping systems in arid and semi-arid areas, to increase crop productivity in salt-affected soils and to reduce environmental pollution by gaseous losses of fertilizers and their leaking into groundwater. These techniques will also be used to develop controlled-release and other environment-friendly formulations of pesticides and to monitor the effect of pesticides, other agrochemicals and their residues on food and the environment. Assistance will also be provided to strengthen the capability of national plant breeding institutes to use radiation to create genetic variation and to select varieties suitable for lower-input agricultural conditions.

. . . . especially against insect pests

160. A major area of work will be the development of regional facilities for rearing and radiation-sterilization of Medflies in the Mediterranean area and Latin America and the Tsetse flies in Africa. Importance will also be placed on improving the efficiency of the sterile insect technique by developing genetic sexing and environmentally acceptable controlled release pesticide formulations and promoting the application of radiation induced F_1 sterility for control of major crop insects (e.g. diamond-back moth, pink bollworm, cornborer).

161. Another priority is to improve the capability of national animal research establishments to use "RIA" and "ELISA" methods for measuring reproductive and metabolic hormones to improve animal productivity and for diagnosing and conducting surveys of animal diseases (e.g. food and mouth disease, sleeping sickness, brucellosis, rinderpest), gradually expanding from ruminants work into small farm animals and fish.

162. The programme will continue to assist in the development of internationally agreed guidelines and protocols on food irradiation in order to promote the harmonization of national regulations and facilitate trade in irradiated food; to develop reliable methods of detecting irradiated food and assist with the application of sterilizing doses for food preservation.

163. Complementing and supporting the programme's work on applying nuclear techniques to agriculture are a number of research networks. These research networks (coordinated research programmes), now numbering over 40, are expected to increase, thereby further strengthening support to national agricultural research institutes for applying nuclear technology to priority problems.

. . . . lead role on remote sensing

164. FAO has been systematically upgrading its remote sensing capacity, to assist developing countries in selection, testing, introduction and integration of new remote sensing data and techniques. The main priority over the medium term will be to serve as a catalyst for ensuring self-reliance of developing countries in applications of remote sensing to food security; forecasting, monitoring and assessment of natural disasters; planning of optimal land use; improving agricultural crop statistics; and monitoring of forest, grassland and water resources. This will be accomplished through advisory services, training and pilot studies. Pilot studies facilitate development and testing of appropriate technology and provide one of the most efficient means for technology transfer. Another priority will be the strengthening of regional and sub-regional remote sensing networks.

165. Attention will continue to be given to providing timely and reliable information on vegetation development, precipitation and other environmental conditions interpreted from remote sensing and agrometeorological data, to the FAO Global Information and Early Warning System (GIEWS). The programme will pursue building-up of reference material on remote sensing applications to agriculture, forestry and fisheries in order to develop a comprehensive database. Strong extra-budgetary support is anticipated for the implementation of this medium-term strategy.

166. In addition to the work on crop/weather monitoring mentioned above, work on agrometeorology during the medium term will give priority to the relationship between crop and agricultural production and weather and climate situations, including the possible impact of climate change, in order to help reduce uncertainties in agricultural production.

167. In its work on energy, the programme will stress decentralized area-based energy planning which includes integration of energy, environment and agricultural aspects. Institutional arrangements at the national, district and local levels will be supported to consolidate rural energy activities. This approach is multidisciplinary, involving concertation among planners, scientists, technologists, economists and sociologists.

168. Most countries have embarked on the development of technical solutions to provide energy to numerous and dispersed rural communities, including rural electrification programmes and reforestation schemes. Nevertheless, the impact has been limited so far because these programmes have been carried out in isolation and without a national framework. The programme will therefore support action at the national level in developing comprehensive energy policies, including selection of adapted technologies and establishment of cross-sectoral coordination mechanisms.

□ External Cooperation

169. In the area of research, collaboration will continue with the CGIAR, TAC and individual Agricultural Research Centres (IARCs). In respect of ISNAR, collaboration will include joint research review missions and joint sponsorship of research management training activities. Liaison is maintained with UN bodies, e.g. the United Nations Centre for Science and Technology for Development and the ACC Task Force on this subject. The Programme also cooperates with the EEC, OECD, IICA and the Technical Centre for Agricultural and Rural Cooperation (CTA) in the area of agricultural research and technology transfer and research management training. Other organizations with which joint activities are expected to continue include ICARDA, IFARD, IDRC, CIRAD, the Italian Ministry of Foreign Affairs and ATSAF in Germany. Support and cooperation has been particularly strong in the Africa Region with collaboration with and assistance to OMVS, OMVG, CILSS/INSAH, OAU/STRC/SAFGRAD; UDEAC, ECGL/IRAZ and IFARD-Africa.

170. The sub-programme on agricultural application of isotopes and biotechnology is implemented jointly by FAO and the International Atomic Energy Agency (IAEA). There is also close cooperation with other UN organizations such as WHO, CGIAR institutions and others: EUCARPIA, ESNA, SABRAO, and the International Consultative Group on Food Irradiation (ICGFI). In addition, programmes in Africa are often carried out in close cooperation with the OAU.

171. With its responsibility within the UN system for dealing with remote sensing activities applied to renewable natural resources, FAO will continue to have extensive contacts and cooperation with UN organizations and programmes, including OSAD, DTCD, Unesco, UNDRO, WMO, UNEP-GEMS/GRID, ESCAP and ECA. Cooperation is expected to expand with the European Space Agency. Regional and national remote sensing centres such as the Regional Remote Sensing Centres for Eastern and Southern Africa and for Western Africa cooperate in the organization of training courses and implementation of pilot studies. Close contact will also be maintained with international bodies such as the International Geographical Union (IGU), the International Union of Forest Research Organizations (IUFRO) and the International Society of Photogrammetry and Remote Sensing (ISPRS).

172. FAO will continue to cooperate closely with other UN agencies on agrometeorology, in particular through WMO's Commission for Agricultural Meteorology (CAM) and the Inter-agency Group on Agricultural Biometeorology in which FAO, WMO, Unesco and UNEP participate. Links will also be maintained with various intergovernmental groups involved in agrometeorology including SADCC, IGADD and CILSS.

173. In the area of energy, the programme cooperates closely with UNDP, the World Bank, ESCAP, UNIDO, Unesco, UNEP and UNITAR. FAO will continue its active participation in the ACC Task Force on new and renewable sources of energy and its cooperation with DIESA, DIEC and others in the follow-up to the Nairobi Plan of

Action on this subject. Contact will continue with multilateral and bilateral agencies such as the Stockholm Environment Institute, the DANIDA Centre for Energy, ENEA, GTZ and AFME concerning energy trends and priorities in developing countries. Cooperation in the exchange of information with NGOs, such as the TATA Energy Research Institute in India, universities in various regions and private firms which market products and services in the energy field will also continue.

● **Programme 2.1.5, Rural Development**³

□ **Objectives**

Overall objective:

174. The overall objective of Member Governments in relation to rural development is to ensure adequate services to farming communities, including appropriate institutional arrangements and the active involvement of farmers, both men and women. In short, a "balanced" approach is to be pursued to reverse any residual bias against rural areas.

Specific objectives:

175. The specific medium-term objectives of the programme are therefore:

- (a) to seek improvement of agricultural education services by upgrading technical and managerial competence;
- (b) to assist Member Nations in reorienting the curricula of agricultural training institutions to meet the needs of small farmers, and take account of environmental and sustainability issues;
- (c) to foster employment creation for rural youth;
- (d) to assist governments in improving land tenure patterns, land settlement planning and setting up institutions for land registration and consolidation;

³ Aspects related to human resources development and women-in-development are more extensively covered in Part II.

- (e) to promote participatory approaches for local populations, in involving them in project identification, formulation and implementation, in line with the FAO Plan of Action for People's Participation;
- (f) to promote effective delivery systems to small farmers, non-agricultural employment in rural areas and cooperative and other rural organizations;
- (g) to provide policy advice for integrating WID concerns into mainstream activities, building WID units capable of designing and implementing programmes for women and carry out supportive information gathering and analytical activities;
- (h) to build up national capacity to implement rural communication programmes as a basis for change and innovation and improve the quality and outreach of training activities;
- (i) to assist Member Nations towards improved marketing systems of produce and of farm inputs, including effective infrastructure and services such as market information and marketing extension;
- (j) to improve the efficiency of government-owned marketing agencies and review their role under liberalized market policies;
- (k) to strengthen rural financing institutions, to foster better access for rural people, both primary producers and others, to suitable savings and credit facilities, and to encourage investment directed to sustainable agriculture;
- (l) to advise on viable crop and livestock insurance schemes.

□ Programme Focus

176. The programme addresses key aspects of rural development policies through specialized sub-programmes: (a) agricultural education, extension and training; (b) development support communications; (c) agrarian reform and land settlement; (d) rural institutions and employment; (e) women in agriculture and rural development; (f) marketing; and (g) rural finance. It also provides for in-house coordination for such thematic priorities as human resources development and women-in-development.

177. Taking stock of past experience, each sub-programme will continue to provide assistance to member countries, either through regular or field activities which are mutually supporting. Some new elements are being incorporated or reinforced: environmental considerations, sustainable development, structural adjustment and tenancy reforms, market-oriented measures, diversification of employment, income-generating activities, and risk management.

178. In agricultural extension and training, there will be a shift towards participatory and low-cost extension methods (including farmers' groups), such as strategic extension campaigns and locally-adapted training and extension guides. Furthermore, integration of population factors into the agricultural extension messages (for both adult and young as well as men and women), sound resource and farm management, and essential support services (including marketing, input supply and rural finance) will be emphasized. Although efforts during the medium-term period will continue to concentrate on developing regions, attention will also be given to the needs of Eastern European countries.

179. In order to promote people's participation and to reduce public expenditures, involvement of NGOs will be sought in projects' development and implementation. The formation of small self-reliant groups of rural poor which encourage members to work together on income-generating activities, will also be supported.

☐ Main Priorities

180. Alternative options will be considered on how to re-orient socio-economic programmes in favour of the rural population. Policy advice will continue to be furnished in respect of comprehensive rural development strategies within the framework of WCARRD follow-up and detailed programmes for country specific situations will be formulated through field projects.

181. The programme will give priority to assisting member countries in implementing the Plan of Action on People's Participation, after its adoption by the Council and Conference. Past experience clearly suggests that participation of the rural poor can be best ensured through social structures which they themselves control, i.e. small informal groups as well as cooperatives, NGOs and rural workers' organizations.

182. The programme will continue to promote the creation of gainful employment in favour of the most marginalized groups and conduct supportive research on the impact of technologies and migration on employment and landlessness. Coordination with other units of FAO will be required in order to study opportunities of diversification of employment and conduct investigations on socio-economic conditions of disadvantaged groups.

183. In order to strengthen and upgrade agricultural extension and other technical services, and to reduce the high cost of in-service training of extension manpower, priority will be given to strengthening the capacities of agricultural schools, colleges, faculties and universities. During the medium-term period, a global review will be undertaken and consultations will be held on the strategic options of agricultural education institutions for the period beyond the year 2000.

184. In respect of agrarian problems, as a major priority, the lessons learnt from the past experience in land tenure and agrarian reform, together with the knowledge and information gathered from prominent research centres, will be distilled into technical

manuals to assist Member Nations in agrarian policy formulation. A second priority area will be the transformation of social property models to private tenure models. Such transformations include dismemberment of state farms, division of shares in collectives and cooperatives, assignment of rights in commonly managed resources and use of "nationalized" rural resources by private users (individuals as well as legal entities such as cooperatives, corporations, etc.). Positive results from the long experience of social property models will be taken into consideration when assisting the countries which request technical advice. Regional workshops will be organized through which dialogue between policy makers and scholars, as well as representatives of NGOs, can be promoted.

185. In the development support communications (DSC) area, the main priority is to design and backstop field projects which establish rural communication programmes for the information, motivation and training of rural populations and to provide communication support to FAO major programmes in agriculture, forestry, fisheries, women-in-development, population, nutrition, etc..

186. Therefore, technical/advisory services and training are continuously given in areas such as communication planning, rural radio, inter-personal communication skills, low-cost audio-visual media, use of traditional/popular media and multi-media communication campaigns. As a lower priority, applied research will be carried out on traditional communication systems, social/cultural values and perceptions of rural audiences as a basis for planning and implementing successful participatory communication programmes.

187. Regular Programme resources will continue to finance core staff at headquarters while most DSC activities in the field will be financed by extra-budgetary resources. Support to FAO's population activities will be financed by UNFPA.

. . . . towards efficient markets

188. With regard to marketing, priority attention is to be paid to effective marketing policies regarding private sector involvement and the future role of marketing parastatals, and analysis of policy reforms and their impact on farmers, consumers and on marketing efficiency. Marketing issues will also be addressed within FAO's Special Action Programmes on Prevention of Food Losses and on Food Security. Marketing training will be gradually expanded, in parallel with the enhancement of the quality of training materials in marketing and agri-business. Increased attention will also be paid to the development of market infrastructure. Support will continue to be given to the various regional food marketing associations to improve performance of marketing systems in the context of market liberalization.

189. Priority will be given to providing advice to rural banks and to bank-supervisory organs on issues such as market rates of interest, mobilizing of domestic savings and the lowering of operational costs. In this respect, the continued spread of low-cost computer-

based systems for handling savings and loan transactions and reports will be supported, especially in Africa. It is hoped to attract significant extra-budgetary support for this proven aid to reaching the poorer, rural sector.

190. The existing FAO-sponsored regional agricultural credit associations (RACAs) are now well-established and on the way to becoming self-sustaining networks, therefore requiring less support from the Regular Programme. They constitute a cost-effective means of liaison with a large number of savings and lending institutions which are directly serving the rural population. Through the Scheme for Agricultural Credit Development (SACRED), donor agencies are directly involved in support to the RACAs and to their members.

□ External Cooperation

191. Joint activities will be fostered with the World Bank, UNFPA and UNIFEM, in connection with projects and activities regarding agricultural extension, education, people's participation, settlement, structural adjustment related issues and the enhancement of women in rural development. Exchanges on technical matters are actively pursued with Unesco, ILO, UNEP, UNIDO and WHO.

192. The programme will continue to offer advice, technical assistance and know-how to rural development projects of WFP.

193. The ACC Task Force on Rural Development will continue to be used as the main mechanism for reviewing and promoting concerted work among the concerned UN agencies.

194. Close relationships will continue to be maintained with the Association of Food Marketing Institutions in Asia and the Pacific (AFMA), the Agricultural and Food Marketing Association for the Near East and North Africa (AFMANENA) and the Association of Food Marketing Agencies in Eastern and Southern Africa (AFMESA). FAO also cooperates closely with the International Centre for Public Enterprises in Developing Countries (ICPE) and with the International Union of Local Authorities (IULA).

195. On agricultural banking and credit, mutually supporting relationships exist with the World Council of Credit Unions (WOCCU) and the *Confédération Internationale de Crédit Agricole* (CICA), as well as the RACAs mentioned above.

● **Programme 2.1.6, Nutrition**

196. At the end of 1992, FAO and WHO will co-sponsor the first International Conference on Nutrition (ICN), in close collaboration with other UN and

international/regional organizations concerned with various aspects of nutrition, food, agriculture, and health policy. This intergovernmental conference will lead to a greater awareness of nutrition problems in all countries and will emphasize the need for greater efforts to solve these problems. The eventually adopted programme of action is likely to have deep implications for FAO's work over the medium and long term. The proposed objectives and priorities listed below are to be fully discussed at the ICN.

□ **Objectives**

Overall objective:

197. The overall objective of Member Nations in relation to nutrition is to achieve adequate nutrition for all population groups through effective policies and programmes, and information on correct choice of food by consumers, as well as optimum utilization of available food resources. Internationally, Member Nations require standards, codes of practice and other recommendations for harmonization of regulations and certification requirements.

Specific objectives:

198. In the light of the requirements for FAO assistance and cooperation, specific objectives under the programmes are:

- (a) to assist Member Nations to identify, monitor and assess nutritional problems and to formulate effective and efficient policies and programmes to alleviate hunger and malnutrition;
- (b) to support governments' efforts to assess the effects of broad policies and related development activities on nutrition;
- (c) to assist Member Nations in the formulation, implementation and evaluation of integrated nutrition programmes and of programmes addressing micronutrient deficiencies;
- (d) to provide technical assistance to food aid and group feeding programmes (school feeding, vulnerable groups' feeding) as well as disaster relief programmes (emergency feeding) and post-emergency rehabilitation programmes;
- (e) to strengthen the capacities of government services to provide nutrition education for the public, through mass-media and other educational channels;

- (f) to assist member countries in strengthening national food control infrastructures and in promoting high quality, safe foods;
- (g) to participate in the evaluation of food additives and contaminants, and in the establishment of specifications, and maximum levels in different foods;
- (h) to monitor the levels of food contaminants in major food products, evaluate their trends and assess their effect on international trade;
- (i) to assist Member Nations in the establishment of food import/export quality control and certification systems;
- (j) to foster improved food handling practices in dealing with street foods;
- (k) to develop international standards and codes of practice and foster, in cooperation with GATT, international harmonization of standards, regulations and certification.

□ Programme Focus

199. FAO's nutrition programme is organized in five substantive sub-programmes: to assess and monitor nutrition problems, and to develop policies; to implement both integrated and educational intervention programmes; to improve access to safe food of good quality; and to develop and apply standards for food quality and safety, as well as harmonization of standards, regulations and certification of food and agricultural products.

200. It has a strong "advocacy" dimension, to create political and public awareness in support of better nutritional status and access to food, and emphasize the need for formulation and implementation of policies which have a positive impact on nutrition. Community nutrition programmes are also based on people's participation, aimed at improving household food security, supplemented by education activities through mass-media.

201. The programme will continue to advise the World Food Programme in order to ensure that food aid and group feeding programmes are designed to reach the most vulnerable groups, while technical support to school feeding, vulnerable group feeding and emergency feeding will remain an ongoing activity. New emphasis will be given to post-emergency rehabilitation.

202. The programme makes significant contributions to a number of FAO's thematic priorities including: policy advice to incorporate FAO's expertise and information related to nutrition, food and agriculture into national policies; women in development through food production and marketing, family care and feeding; and the development of human resources, through training personnel needed for improved nutrition, food

control and consumer education. Environmental concerns and recognition of the importance of sustainable agriculture and rural development, are also taken into account in activities to promote food and nutrition security of present and future generations.

□ **Main Priorities**

203. FAO will encourage scientific evaluation and policy options which ensure that the quantity and type of food available is sufficient to provide a nutritionally adequate diet for all population groups at all times, and by establishing and enforcing standards that prevent unsafe food from reaching the consumer. Concerns of rural populations such as landless and small farmers and poorer urban groups must be given special consideration.

204. Strengthening institutional capability for identification of critical nutrition-related information needs, improved techniques for collection, and their analysis and application for planning, will be continuously undertaken, including analysis of the quality aspects of food demand. Information on food and nutrition will be provided and changes monitored in nutritional status, in cooperation with other organizations.

205. Nutrition situation analysis will be linked to specific programme interventions, including social action programmes, with attention to community participation and women in development issues. Until the income of the poor can be sufficiently raised, direct nutrition intervention programmes in favour of the poorest and most vulnerable groups and related FAO assistance will continue to be necessary.

206. The nutrition component of early warning/food information systems will be further developed, in cooperation with the Global Information and Early Warning System (GIEWS). Also, under FAO's Food Security Assistance Scheme, nutrition objectives will be incorporated in national food security policy reviews and action programmes.

207. Externally-supported targeted nutrition intervention programmes can make some impact. However, for lasting improvements, emphasis will be given to the generation of local community resources to deal with food and nutrition problems. Integration of community nutrition elements into large-scale development programmes will be pursued vigorously.

208. Nutrition education for the public is a particularly cost-effective type of intervention, in view of the potential it offers to improve nutritional status on a self-help basis. The promotion of traditional low-cost, but nutritionally valuable crops, is part of such nutrition communication efforts.

209. Priority will also be given to addressing widespread micronutrient deficiency, with emphasis on preventive measures, whereby governments undertake agricultural-based interventions to complement short-term, health-oriented measures. A long-term solution through increased availability and consumption of appropriate carotene- and

vitamin A-rich foods and diets will be promoted, as well as other actions to promote vitamins, iodine and iron-enriched foods.

210. In-service training of staff in management of group feeding programmes and other community nutrition programmes is to remain an ongoing activity. Emphasis will be on curriculum review and revision, as well as integration of new concepts such as population, environment and food security. FAO's main channel of exchange of experiences for professional and programme staff will be its periodical "Food, Nutrition and Agriculture", published three times per year.

211. In the area of food quality control and consumer protection, emphasis will be given to the promotion of appropriate quality assurance programmes, at all levels of the food chain; the assessment of the magnitude and geographical location of major food contamination problems, particularly from environmental sources; the building of necessary infrastructures, at national level, to control the quality and safety of food products and the establishment of food export certification systems. Efforts will be strengthened towards the harmonization of international standards and regulations for food and agricultural products.

212. The well-established role of FAO in the field of the evaluation of food additives, in which the Organization possesses unique comparative advantage, will need to continue and extend to other chemicals which have not yet been evaluated.

213. The availability of extra-budgetary support has been traditionally strong for institution-building for food control, at both country and regional levels, reflecting corresponding demands for external assistance in member countries. Over the medium term, it is envisaged to expand these activities by exploring new sources of extra-budgetary support and promoting new generations of projects, embracing quality assurance programmes throughout the entire food chain.

214. Inter-country cooperation at regional level will be promoted, through TCDC initiatives and facilitating interaction of national food control authorities. Regional centres of excellence, including FAO collaborating centres, in such activities as control of pesticides residues, heavy metals, mycotoxins and export inspection/certification will be supported. These centres will be enabled to play an effective role in the training of technical personnel and in providing technical advice to member countries in respective regions.

215. Strong support for the work of the Codex Alimentarius Commission has been expressed in the Committee on Agriculture and at the Twenty-fifth Session of the FAO Conference. Direct support to the Codex programme, in the form of host government arrangements for the holding of meetings, will continue to be sought and extended to meetings currently funded from Regular Programme funds.

□ External Cooperation

216. Work on nutrition monitoring and assessment, and on policy analysis and programme design and implementation, involves cooperation with the ACC/SCN, WHO, UNICEF, the World Bank, IFPRI, and other international organizations. Closer collaboration with NGOs is anticipated, especially with those which carry out field-level interventions. Work with international organizations such as UNU, will continue in organizing expert consultations on specific technical areas.

217. For micronutrient deficiency programmes, collaboration is ensured with the International Vitamin A Consultative Group (IVACG), the International Nutritional Anaemia Consultative Group (INACG), the International Science and Technology Institute (ISTI), the US Agency for International Development (USAID), WHO and UNICEF.

218. Collaborative work will be pursued with the Academy of Educational Development (AED), Washington, the *Réseau pour l'éducation nutritionnelle en Afrique* (RENA), and UNESCO in nutrition education programmes for the public.

219. FAO has long-standing cooperation with WHO on all matters related to food safety and quality control. This cooperation takes place through institutionalized joint activities such as the FAO/WHO Joint Expert Committee on Food Additives and Contaminants and other *ad hoc* arrangements.

220. Similarly, there are close links with UNEP, through the global FAO/WHO/UNEP Food Contamination Monitoring Programme and other technical assistance programmes, in the prevention and control of environmental contaminants. Cooperation with IAEA and with other international organizations concerned with radiation safety aim at the development of new radiation safety standards in food and the environment.

221. The Codex Alimentarius Programme represents long standing cooperation between FAO and WHO, with WHO providing approximately 18 percent of the total costs. Cooperation arrangements also exist with GATT, in the form of information exchange on harmonization of national regulations.

222. FAO will contribute to the achievement of the goals for nutrition, outlined in the Appendix to the Plan of Action for implementing the World Declaration on the survival, protection and development of children in the 1990s, as adopted by the World Summit for Children. Collaboration with other UN organizations and NGOs will be an essential aspect of FAO follow-up to the Summit for Children.

● **Programme 2.1.7, Food and Agricultural Information and Analysis**⁴

□ **Objectives**

Overall objective:

223. The overall objective of Member Nations is to obtain timely, reliable statistical and analytically based information required for the formulation and implementation of appropriate and sustainable food and agricultural policies.

Specific objectives:

224. The specific objectives are:

- (a) to operate a comprehensive corporate statistical system, the World Agricultural Information Centre (WAICENT) based on advanced computer technology and a new environment incorporating both statistical and information systems, contributing to improved data management, as well as consistency, quality and timeliness of information released;
- (b) to support national statistical offices in the development and maintenance of effective systems for collecting basic statistics on food and agriculture;
- (c) to pursue qualitative improvements of FAO and national data, with special emphasis on monitoring crop areas, improving methods for collecting data at the national level on production, land, requisites, prices, economic accounts for agriculture and food consumption, as well as relatively "new" areas of environmental statistics and the role of women in agriculture;
- (d) to promote the use of advanced techniques, such as remote sensing, in agricultural statistical work in developing countries;
- (e) to provide to governments and the public at large, regular, timely and clear assessments of the state of food and agriculture at the global, regional and country levels;

⁴ This programme underpins FAO's work in agricultural policy analysis and planning assistance under Programme 2.1.8, and more generally in policy advice, which is covered in Part II.

- (f) to provide regular assessments of the global agricultural commodity and trade situation and outlook, based on information collected and analyzed on major commodities;
- (g) to provide analyses of current food situations and timely advice on impending food emergencies to governments and the international donor community.

□ **Programme Focus**

225. This programme is at the core of FAO's analytical work. It comprises the compilation, processing, analysis and dissemination of a wide range of agricultural statistics culminating in WAICENT; reviews of the state of and changes in the world food and agricultural situation and outlook; analysis of the commodity trade situation, prospects and issues; the preparation of World Food Surveys; the Global Information and Early Warning System; assistance to countries in strengthening their food information and early warning systems; and technical support to the joint agricultural divisions and regional offices in their work on agricultural policy analysis, planning assistance and training. The Programme is managed by the Statistics Division (ESS), the Commodities and Trade Division (ESC) and the Policy Analysis Division (ESP).

226. In the first instance, the programme has a global and comprehensive orientation. The increased coverage given to developed country policy issues in recent years, will be further expanded to include, in greater depth, developments in the former centrally planned economies of Central and Eastern Europe. Such activities are not only useful for these countries themselves, but also for developing countries attempting to liberalize their economies and seeking understanding of policy changes in what may be major trading and development partners.

227. In the area of national statistical development and food information and early warning systems, the focus is naturally on the least developed and other vulnerable food-deficit countries, which have greatest need for such assistance.

228. While much of the work of compiling, processing, analyzing of and reporting on a wide range of statistical and other information belongs to the Regular Programme, this programme is expected to continue to attract significant extra-budgetary support, particularly for the establishment and strengthening of food information and early warning systems, but also the strengthening of national statistical systems.

229. Given the need for reliable statistical information and analysis to improve the knowledge of thematic issues such as women in development, human resource development, and sustainable development and environmental protection, it could be claimed that Programme 2.1.7 provides the foundation for work on many FAO thematic priorities.

□ Main Priorities

230. The development and promotion of standard statistical concepts, definitions, classifications and methods is one of the main priorities for the medium term. At the country level, FAO will aim at uniformity in these areas through its programme for the decennial *World Census of Agriculture* (WCA), as well as publications under its "Statistical Development Series". WAICENT will also contribute to this major effort. Although WAICENT is primarily concerned with headquarters statistical databases, it incorporates the establishment and implementation of statistical standards as a prerequisite for improved data management. Towards this end, more efficient data collection methods and techniques will be continuously identified and disseminated through training courses and technical publications, aimed particularly at developing countries.

231. Support of national data collection systems will continue through field projects, either entirely devoted to statistics or with a statistical component. In order to enable countries to furnish data on agriculture used in their own policy-making which could meet international needs, these field projects will seek to establish a permanent capability to collect agricultural data and not only to undertake one-time data collection operations. In addition, as far as possible, the know-how acquired through the development of WAICENT will be adjusted to local situations and transferred to national statistical offices.

232. Significant improvements in the methods for estimating land use and crop area are expected by developing links between remote sensing data and agricultural statistics, particularly in developing countries with insufficient capability in this area. This approach entails expanding dialogue and collaboration in sharing and interpreting remote sensing imagery and its analysis. A related new priority will be the establishment of archives of remote sensing image photographs, to complement existing national statistical data collections.

233. In terms of statistical coverage, the collection and processing of food consumption data to assess food distribution and consumption levels and food inadequacy will receive increased priority. Efforts will also focus on the use of household survey data for developing socio-economic indicators. Another area of priority attention will be data on trade flows to facilitate the analysis of agricultural trade between countries and groups of countries. This involves establishing a computerized trade matrix file consisting of data on exports by destination and imports by origin.

. . . . several pillars:- WAICENT;

234. The integration of all FAO's statistical systems of corporate significance into WAICENT should be completed in the 1992-93 biennium. This will eliminate duplication and redundancy of information, will eventually free resources for new priority areas, will improve the consistency of information released, and will facilitate access to

data though modern methods of communication. Indicators of data sources and quality will also be provided. Furthermore, WAICENT will be extended to include textual information. The compilation of statistics in machine-readable form, currently available only for external trade, will be extended to all other domains, reducing the work of national reporters and speeding up data acquisition.

235. Additional efforts will be made to collect agricultural statistics from local sources through field experts, FAORs and HQ staff travelling to member countries. A byproduct will be an intensified dialogue with national statistical offices on the updating and reconciliation of statistics to improve database content and accuracy.

.... GIS;

236. The integration of geographically referenced data, including physical, biological, social and economic information, in Geographic Information Systems (GIS) will broaden the use of existing databases and their interfacing with simulation models and statistical packages. The combined use of GIS and FAO's databases will greatly enhance the capability of the Organization to assist member countries in such diverse areas as integrated surveys for the assessment of natural resources, land and water use planning, aquaculture planning, environmental impact assessments, integrated coastal and watershed management, and management of living resources of the high seas.

.... SOFA;

237. The situation and outlook documents comprising the State of Food and Agriculture, will continue to be prepared for FAO governing bodies, other institutions and the general public. In particular, continued efforts will be made in introducing modern methods of statistical and information processing and presentation, to ensure timeliness and improve readability. Where feasible, information will be provided to users in machine-readable form.

.... CRO;

238. The compilation, analysis and dissemination of agricultural commodity and commodity trade information will continue to be done at the individual commodity level, and at the aggregate level in collaboration with Member Governments through their participation in various standing committees of FAO and intergovernmental groups, as well as with other commodity organizations. This approach allows problems concerning both commodities and commodity trade, to be covered through the information gathering and analytical process. This flexible approach will allow emerging issues in world agriculture to be accommodated in the commodity and commodity trade assessments and

reported in the Commodity Review and Outlook. Such issues include trade liberalization, changes in regional economic groupings, efforts of developing countries to diversify and expand agricultural exports, and the impact of new measures towards sustainable agriculture.

. . . . and GIEWS

239. The Global Information and Early Warning System (GIEWS) will continue to strengthen its information collection network, including information flows from the field, to improve its analysis of crop conditions using agrometeorological and remote sensing information, and to broaden the use of modern technologies for the analysis and dissemination of information. Such efforts will include the strengthening of national and regional early warning systems. The coverage of food commodities, initially focused on cereals, will be expanded. Additional indicators will be developed which reflect impending food supply and access difficulties in order to enhance the accuracy of assessments and early warning of food shortages.

□ External Cooperation

240. Collaboration is ongoing with other UN agencies' statistical activities in exchanging methodological improvements and information. Such collaboration is particularly important for developing consistent socio-economic indicators and data related to agricultural accounts, the environment, the role of women in agricultural development, etc..

241. The SOFA assessments draw from a wide range of sources of information from UN agencies, other international bodies and government institutions.

242. Regular assessments of the food and agricultural commodity situation and outlook also require extensive collaboration with Member Governments, specialized international commodity bodies, aid agencies and other international organizations such as the World Bank, IMF and GATT which have specialized commodity responsibilities. At the country level, cooperation exists with government ministries and agencies as well as with local representatives of other organizations and NGOs.

243. FAO is expected to actively participate in international fora responsible for policy aspects relevant to the food and agricultural situation and food security. Hence, a vast collaborative network exists, which will continue to expand but which also requires continuous monitoring and adjustment in the light of the changing food situation and emerging issues. Work on early warning for emergencies and on natural disaster reduction will be carried out with other concerned UN organizations and NGOs.

● **Programme 2.1.8, Food and Agricultural Policy** ⁵

□ **Objectives**

Overall objective:

244. The general objective of Member Nations is to improve their food, agricultural and rural development policy and planning processes, within national policy frameworks and in the context of regional and global perspectives.

Specific objectives:

245. Specific objectives under the programme are:
- (a) to monitor global and regional developments and periodically update assessments of medium and long-term perspectives, as a framework within which required national food and agricultural policy actions can be identified and assessed;
 - (b) to analyze the position of agriculture vis-à-vis other sectors of the economy under new domestic and international realities, to explore its "forward" and "feedback" linkages with other sectors of the economy and to explore the ways in which policies need to be modified to deal with overall economic conditions;
 - (c) to assist governments in formulating agricultural policies and strategies, translating them into plans, programmes and projects, analyzing the impact of economic adjustment programmes on sector performance and food security, and ensuring that sustainable agricultural and rural development considerations are incorporated;
 - (d) to improve, through comprehensive training programmes, the capacity of governments in agricultural policy analysis and planning;
 - (e) to advise governments on commodity and trade policy developments in international markets, to analyze problems and issues seeking remedial action and, at the national level, to assist governments in assessing and planning their commodity and trade policies; and

⁵ This is also to be seen in connection with the overall priority on Policy Advice covered in Part II.

- (f) to assist governments in implementing national, regional and international food security policies and programmes, in keeping with the broadened concept of food security.

□ **Programme Focus**

246. The programme operates through five substantive sub-programmes: *global perspective studies*, *agricultural policy analysis*, *commodity policies and trade*, *world food security* and *agricultural policy advice and planning assistance*. As recalled in Part II above, it makes use of a number of coordinating mechanisms. In particular, country policy work is coordinated through the newly established Steering Committee and will be facilitated by an information system specific to country policy work. Consultation mechanisms also have been established with other FAO programmes, in particular 2.1.7 (*Food and Agriculture Information and Analysis*), 2.1.6 (*Nutrition*), 2.1.1 (*National Resources*) and 2.1.5 (*Rural Development*). These linkages permit the cross-sectoral analysis required and incorporation of the major policy themes supported by FAO Governing Bodies.

247. Guidance to the programme and discussion of the issues and problems to be elaborated, analyzed and solutions sought, is done by governments themselves through the work of established committees (e.g. the Committee on Commodity Problems and its network of Intergovernmental Groups, the Committee on World Food Security) and through expert consultations and national and regional workshops. Indeed, an "added value" of this programme is its contribution to concerted policy action through consultations, at national, regional and global levels.

□ **Main Priorities**

248. The programme will need to maintain an analytical core of well-established activities. Therefore, a number of global perspective studies will continue to be carried out within which policy decisions can be made. Monitoring of international actions, such as is undertaken on International Agricultural Adjustment which is reported to the FAO Conference every four years, and by the FAO Council and its Committees, notably the Committee on World Food Security and the Committee on Commodity Problems, will also remain essential.

249. The development of a global framework for decision making, will require medium- to long-term evaluations, as provided by *Agriculture Toward 2000* (AT 2000) to be updated in 1993; the *Long-term Strategy for the Food and Agriculture Sector* (document CL 98/13) prepared in 1990 in the context of the International Development Strategy for the Fourth UN Development Decade; the *FAO Agricultural Commodity Projections* to be updated in 1992, as well as regional studies. It would seem pointless to attempt to establish a firm calendar over the 1992-97 period in this respect. Nevertheless, these evaluations and studies will keep their due prominence throughout the period.

250. The top priority given to agricultural policy analysis and planning assistance will also imply giving attention to structural adjustment and environmental and sustainable development considerations. In particular, the programme will continue to meet requests for assistance in policy formulation, sector and sub-sector strategy and planning, decentralized planning, and project identification, formulation, monitoring and evaluation. It will also analyze the interactions between agriculture and the environment and explore the policy interventions to achieve the proper balance among agricultural growth, the protection of natural resources, and the human and natural environments.

251. Work on policy analysis and planning assistance will continue to be accompanied by intensive training efforts. Training at the country and sub-regional level will be provided to officials from governmental, parastatal and, in some cases, private organizations. Priority will be given to improving analytical techniques on policy impact analysis; sector and sub-sector analysis and planning, for which the current CAPPA system (Computerized System for Agricultural and Population Planning Assistance and Training) will be disseminated more widely; decentralized planning with related generation of up-to-date methodological guidelines; and investment planning. Emphasis will also be placed on incorporating environmental considerations in policy planning and project analysis; on agro-processing and related policy and programming implications; and further integration of these with other FAO training activities.

252. Albeit at a lower level of priority, continuing attention will be paid to the financing of agricultural development; including analysis of domestic and external resource flows, levels of public expenditure on agriculture and external official and private flows.

253. The commodity and trade policy activities will continue to stress growth and stability in international agricultural commodity markets through producer-consumer consultations, primarily under the auspices of the Committee on Commodity Problems and its network of Intergovernmental Groups. Priority attention will be given to assist Member Governments in implementing the agreements eventually achieved from international initiatives, such as the Uruguay Round of Multilateral Trade Negotiations and the Common Fund for Commodities.

254. The approach to improving agricultural commodity policy and trade, the identification of issues and the search for remedies will continue to be based on firm principles. However, there must also be flexibility as problems are not always global in nature. At the international level, efforts must seek solutions based on consensus utilizing FAO's recognized contribution to consensus building. There also must be transparency and dialogue throughout the analytical and planning process related to commodity policy and trade.

255. Under the guidance of the Committee on World Food Security, activities encompassing the broadened food security concept will continue to be expanded. Priority will be given to assisting governments in the elaboration and implementation of comprehensive food security policies and programmes, emphasizing access to food as well as adequacy and stability of supplies.

256. Although a good part of the food and agricultural policy activities are carried out under the Regular Programme, these have been supplemented by extra-budgetary resources, particularly in the case of the Food Security Assistance Scheme. In future, to the maximum extent possible, the likely growing number of requests from member countries for assistance under Programme 2.1.8, will be met by focusing on short-term high-priority assistance and dialogue at senior government level.

□ **External Cooperation**

257. There are several organizations, some specialized in agriculture and food policy, others in broader assistance to development, which conduct activities related to this programme. For example, work on country policy advice and on commodity policies and trade, requires close collaboration with UNCTAD, GATT, ITC, WFP, WHO, World Bank and the IMF. The programme also relates to UN system-wide issues, such as the follow-up to the recommendations of the Intergovernmental Panel on Climate Change, contributions and most likely, follow-up to the UN Conference on Environment and Development, and the implementation of the International Development Strategy (IDS). This cooperation is for mutual benefit, these organizations assisting FAO in undertaking some of its work and FAO being requested to provide inputs into their activities. Similar cooperative arrangements exist at the regional and national levels.

MAJOR PROGRAMME 2.2 - FISHERIES

● Prospects, Problems and Opportunities

258. At the beginning of the current decade, the worldwide demand for fish is growing faster than the supply, and this gap is predicted to widen further. Because of the steady growth in world population, the projected demand for fish will be well in excess of the present annual figure of 100 million tons by the year 2000. To maintain the present level of *per caput* consumption, an increase of about 1.1 percent per annum is required over present levels of production. Demand has put pressures on fishing fleets for higher production in the sea; however, 95 percent of the marine catch is from exclusive economic zones, particularly inshore waters near the coasts and coastal marine resources are now fully exploited or overfished practically everywhere. Environmental degradation of land and water stemming from demographic and urban growth, industrial development and unwise practices in agriculture, forestry and in the aquatic ecosystems are putting at risk the quality of the environment, as well as the wellbeing and diversity of the aquatic resources. Thus, these increasing pressures have led to serious concerns over the sustainability of living aquatic resources.

259. Of the 10 million tons increase in catch achieved since 1985, 7 million tons are accounted for by developing countries. However, this increase is accompanied by an increase in waste and there is a growing need to improve fish utilization, through the better use of by-catches from fishing operations, the reduction of post-harvest losses and the economic exploitation of unconventional species. The increase in catch achieved by developing countries reflects their desire to obtain a greater share of the living resources in their extended economic zones, for which considerable investment in fleets and shore facilities are required. It also highlights the need to increase the share of developing countries in the rapidly expanding international trade in fish and fishery products, for which further assistance will have to be given to introduce better quality control and value added processes. In order to achieve an optimal contribution of the fisheries sector to the economy and to the social development of the concerned countries, all production and post-harvest processes need to be governed by efficiency considerations. It will be important to pursue the anti-poverty and equity orientation of the 1984 World Fisheries Conference's Strategy for Fisheries Management and Development, which implies giving priority to small-scale operators, as well as securing fish supplies for consumers at different levels of disposable income. A great deal will depend on the participation and performance of the private sector, including fishing communities, the driving force in fisheries exploitation and utilization, as well as support by public institutions dealing with promotion, research and control.

. . . . artisanal fisheries

260. Significantly, a large percentage of the catch used for human consumption is taken by small-scale fishermen, especially in developing countries. In some of these countries, there is a clear prospect that competition for forest products will result in a lesser amount of suitable hardwoods being available for boat building, and complete disappearance of large trees for dugout canoes in certain parts of the world. As these supplies decrease, fishermen, many at not more than subsistence level, could be faced with prohibitive costs, unless alternative materials can be used together with cost-effective boatbuilding methods. The long-term prospect is no better since some of the possible solutions, which include new fishing harbours and sheltered landing places, could lead to greater social problems through resettlement.

261. This has led to a trend to develop a more advanced type of artisanal fishery which, to be effective, requires that fishing areas traditionally dedicated to the small-scale sector be strictly enforced, displacing, in some countries, the semi-industrial and industrial fleets. New craft and gears are needed to move further offshore and, although the technology is available, credit may not be readily obtained and the problem of conflicts with the semi-industrial fishing fleets are not easily solved.

262. The current drift of population towards coastal areas and resulting impacts of human activity on coastal and shelf ecosystems have been intensifying and are likely to further increase in the immediate future, with the possible complicating factor of climate change. Analytical work is needed in describing the impacts on stocks of nutrient enrichment, pollution and the loss of critical habitat; developing strategies for rehabilitation of habitats and depleted species; introducing environmentally friendly fishing methods.

. . . . high seas fisheries

263. Most high-seas resources have a phase of their life-cycle inside the 200-mile limit (EEZ). They, therefore, depend on both international and national management actions. About 400 species can be considered oceanic, and a few of them have been exploited. A few tuna species are overfished; many of the large whale species are depleted, and some on the verge of extinction. Several Antarctic fish species and sharks in general have also been overfished. The biological information available is usually poor, except perhaps for large tunas and some whales. The management and/or conservation of some exploited high-seas resources are presently incompletely covered by international conventions and fishery commissions. Even when they are, as for some tuna or whales, there are major problems of monitoring and control. Some commissions lack the basic data required to identify conservation needs.

264. The need for a common database for high-seas fisheries has become progressively more evident, most recently with respect to the issue of large-scale pelagic driftnet fisheries. Particular management problems will continue to arise from stocks occurring within the exclusive economic zones of two or more coastal states, or both within exclusive economic zones and the areas beyond and adjacent, or from high migratory species.

265. Increases in the amount of fish being landed from inland water have apparently slowed over the last five years after a prolonged period of steady increase in catch. Global expansion of the sector has been limited to some 10 percent over this period with some areas where expansion exceeds that rate, for example in Africa (18 percent) and Asia (14 percent). Aquaculture has expanded by about 60 percent over the last five years, with the major expansion concentrated in Asia. Although insignificant in global terms, the expansion of the sector in the same period in Latin America (83 percent) and Africa (100 percent), points to the recent surge of interest in aquaculture in these continents.

266. The management of fisheries relies on the careful administration of access to stocks and legislation to control the selectivity and use of fishing gear and methods. In the case of small-scale fisheries, it also includes the protection of areas dedicated to this sector and the inclusion of socio-economic issues, when making management decisions. The participation of women and youth in small-scale fisheries and aquaculture will continue to be an essential element, to achieve sustainability of economic activity of fishing communities.

. . . . the promise of aquaculture

267. Efforts to disseminate rural aquaculture have met with limited success in some regions, especially in Africa and Latin America. Population distribution determines the impact which can be achieved through extension systems. Differences in availability of local markets, local feeding habits and social characteristics of the groups involved (property rights over land, water or production), may have a strong impact on the success (or failure!) of the introduction of rural aquaculture. The tendency to adopt a separate approach to aquaculture extension has now been shown to be limiting, and attempts will be made to ensure greater integration of this technology into general rural development management practice.

268. Another general problem experienced by the aquaculture sub-sector is that, in the past decade, the main effort has been on promotion of production, while marketing of aquaculture products has received far less attention by development agencies or governments. In future, fish production systems will have to take account the rational utilization of the output and its efficient marketing.

269. Where firmly established, there is a clear trend in developing countries to progressively intensify aquaculture production. This is achieved through a better

understanding of multi-species culture and, usually, through the increased utilization of feeds, fertilizers and energy. Taken to extremes, intensive production practices without the assistance of proper regulations have led to crisis in the sector, due to the spread of diseases and to environmental degradation.

270. Sustainability of fisheries and aquaculture depends on the maintenance of adequate water quality and quantity. Inland capture fisheries, in particular, depends on the conservation of a diversified and integral aquatic environment. In addition to environmental aspects, sustainability also depends on sound fisheries practice in the case of capture fisheries and, in the case of aquaculture, on the observance of reasonable care to avoid undesirable impacts from the culture itself. The fact that many of the processes regulating inland fisheries are outside of the control of fisheries managers means that the strategy for the development of the sector must be an integral part of overall river basin, lake and coastal zone planning. Fisheries management, therefore, has acquired a strongly conservationist overtone that relies on the prevention of further degradation of the aquatic environment, rehabilitation of waters that are already degraded and mitigation of the negative impact.

. . . . the need to cooperate

271. One of the major results of the 1984 FAO World Fisheries Conference is the increased awareness it created among policy and decision-makers of the importance and potential of the fishery sector. As recalled in Part I, the global, regional and sub-regional aspects of the problems associated with the utilization and conservation of aquatic resources, make coordination of activities particularly important, especially where management and exploitation of those stocks of fish occurring within the exclusive economic zones of two or more coastal states, or both within exclusive economic zones and in the areas beyond and adjacent, are concerned. Collaboration between developing and developed countries, and among developing countries themselves, can be also very fruitful in transfer of technology, exchange of information, harmonization of policies and provision of funds for development.

272. The trends and perspectives in world fisheries, as described above, necessitate changes in the requirements for fisheries information, data and statistics. On the one hand, there is an increasing demand for data on the impact of fishing on the sustainability of living resources in the high seas; on the other hand, the growing contribution of aquaculture to fish production has led to demands for separate and improved aquaculture statistics. There is thus a need to improve on a continuing basis the quality and completeness of global fishery information and statistics including production/trade of fishery commodities.

273. FAO is recognized by the international community as the leading international organization dealing with conservation and rational utilization of living aquatic resources on the basis of three principal responsibilities. The first is the collection, analysis and dissemination of fisheries information, data and statistics on all aspects of fisheries. The

second is the provision of policy advice and analysis, as well as technical assistance to member countries in order to help them to achieve self-reliance in the management and development of their fisheries. The third is to provide international fora for the promotion of inter-country collaboration, through the Committee on Fisheries and the FAO regional fishery bodies. During the past decade, FAO has taken a number of important steps in mobilizing the development potential of the fisheries sector and in ensuring the sustainability of world fisheries, as well as the abatement of environmental degradation. These include the convening of the 1984 FAO World Conference on Fisheries Management and Development which approved a Strategy for Fisheries Management and Development and associated Programmes of Action. The Committee on Fisheries, at its Nineteenth Session in April 1991 reaffirmed the validity of the Strategy and unanimously agreed that the Programmes of Action continued to provide a valid international framework and guidelines for fisheries management and development.

□ Objectives

274. The following medium-term objectives for the Major Programme in Fisheries were agreed upon by the Nineteenth Session of the Committee on Fisheries:

- to assist in strengthening national self-sufficiency of developing countries for the better management and development of their fisheries, the conservation of aquatic ecosystems, and the prevention of environmental degradation;
- to support full participation and equitable sharing of benefits among all who are dependent on fishery activities, in particular small-scale fishing communities and small-scale fish farmers in developing countries, so maximizing the contribution of fisheries to rural development;
- to assist developing countries to increase the productivity of their fisheries through the reduction of by-catch and post-harvest losses, the development of products from under-utilized resources, and reduction of production costs;
- to assist developing countries to increase their participation in international trade in fish and fishery products;
- to assist in accelerating sustainable aquaculture development.

□ Programme Focus

275. The Committee on Fisheries at its Nineteenth Session reiterated its view that in order to ensure the sustainability of fishery resources, FAO should respond to recent developments in world fisheries by promoting a more rational basis for capture fisheries and aquaculture development, by abating environmental degradation and by improving fish utilization practices. It also recognized that management decisions should be made on the basis of reliable scientific data and research on the biological, environmental, economic and social aspects of fisheries.

276. The Committee also agreed that there is a need for FAO to strengthen its efforts to promote international trade in fish and fishery products, especially in the provision of fish marketing information services, technical advice and the promotion of fair trade.

277. In formulating and implementing fisheries programmes in the medium-term, the World Fisheries Conference's Strategy and Programmes of Action will continue to provide the framework and guidelines, as recommended by the Committee.

278. The already close integration between the Regular Programme and Field Programme activities will be maintained over the planning period. There is evidence that a majority of countries have given higher priority to the fisheries sector in their national economic and social development plans. Hence, it is expected that field activities will be expanded especially in the areas of aquaculture, fisheries planning, research and management.

279. The major programme is organized in three technical programmes as follows:

- (a) the programme on *Fisheries Information* is responsible for the collection, compilation, analysis and dissemination of fisheries information, data and statistics. In the medium term, the main tasks include the improvement of fisheries information relevant to sustainability in fisheries, environmental protection, biotechnology and aquaculture and the development of statistical databases for catches in the high seas and in exclusive economic zones, inland waters and aquaculture. The programme is divided into two substantive sub-programmes, one on aquatic sciences and fisheries information and the other on fishery data and statistics.
- (b) the programme on *Fisheries Exploitation and Utilization* is the largest among the three fisheries programmes. The programme is concerned with the monitoring and rational development of capture fisheries both in marine and inland waters, aquaculture, the development of fishing and fish technologies for the proper utilization of fishery resources and the promotion of fisheries in alleviating under-nutrition as well as the promotion of international trade in fish and fishery products. The programme includes four sub-programmes: *Marine Resources and*

Environment, Inland Fisheries and Aquaculture, Fish Production, and Fish Utilization and Marketing. The programme is active in the promotion of and support to training in order to strengthen the capacities of personnel of developing member countries in fisheries management and development.

- (c) the programme on *Fisheries Policy* is designed to strengthen national capabilities for fisheries policy formulation and planning and institution-building and to promote international collaboration in fisheries management and development. Training is also a prominent component of this programme. The programme consists of two sub-programmes, one covers policy advice and institutional strengthening including training and research. Another provides administrative support to the Committee on Fisheries and the FAO regional fishery bodies as well as maintaining liaison with other international organizations concerned with fisheries and marine affairs.

□ Main Priorities

General orientations:

280. In pursuing the above objectives, the following general orientations will guide the development of programmes and activities under both the Regular Programme and the Field Programme:

- (a) management underlies sound and sustainable development of fisheries. Management decisions should be made on the basis of reliable scientific data and research on the biological, environmental, economic and social aspects of fisheries;
- (b) actions on conservation and development should be complementary; thus the establishment of a solid economic base for fisheries should be integrated with resource conservation;
- (c) activities should recognize the interrelationship between fisheries resources and other aspects of national policies such as food security and nutrition, water and land use, and socio-economic aspirations of rural communities;
- (d) fisheries policies must recognize and address the links between poverty and environmental degradation;
- (e) inter-country collaboration and economic and technical cooperation among developing countries must remain a cornerstone of sustainable development of world fisheries;

- (f) there will be a continuing need to collect, analyze and disseminate fisheries information, data and statistics as well as knowledge concerning methodologies and techniques employed in fisheries management and development;
- (g) there will be a continuing need for the FAO regional fishery bodies to act as vectors of international cooperation.

Fisheries Information:

281. FAO's achievements in the collection, analysis and dissemination of fisheries information, data and statistics need to be consolidated through special efforts to improve coverage of information on aquaculture, sustainable use of fishery resources, particularly those in the high seas, environmental protection and other subject matters of increasing interest to developing countries. Priority will be given to augmenting the "corporate memory" provided by reports of projects, missions and expert consultations, etc..

282. In the field of fishery statistics, growing and changing demands for fishery statistical data will be met by more refined data both at regional and global levels. These should include data on high-seas catches by type of gear; aquaculture production; inland water production; recreational fisheries; production and trade of endangered species; and economic data.

283. As a matter of high priority, FAO will also enhance cooperation with Member Nations with a view to accelerating the development of national capabilities in the collection, compilation and analysis of fisheries information and statistics and to expanding coordination between FAO and other organizations. This includes coordination with regional fisheries bodies in the Indian and Pacific Oceans to achieve a similar quality in data as that obtained through the Coordinating Working Party on Atlantic Fishery Statistics.

284. These improvements will be sought in conjunction with the World Agricultural Information Centre (WAICENT) project. This should include better, more flexible, more selective and more timely computerized products.

Fisheries Exploitation and Utilization:

. . . . focus on environment

285. In the light of the high priority given by the Organization to the sustainable use of living aquatic resources and the prevention of environmental degradation, the Fishery

Resources and Environment Division will need to give more attention to: the collection and analysis of information on changes in the bio-diversity of marine and freshwater ecosystems due to fish harvesting and other human activities; and the development of methodologies for assessing accumulated contaminant loadings of riverine, lacustrine and coastal waters over the entire watershed. The information thus derived would shed light on the potential impact of inappropriate land and water uses on freshwater and coastal marine fisheries as well as aquaculture. The work will be coordinated with that of other divisions, especially AGL, AGP, AGR and FOR through the Interdepartmental Working Group on Environment and Sustainable Development and the Interdepartmental Working Group on Land-Use Planning.

286. Environmental impact assessments will continue to be built into project formulation in fisheries as in the other areas of FAO's field programme. In this connection, the informal working group recently established within the Fishery Industries Division will play its part in reviewing future activities and projects concerned with small-scale fisheries development in regard to sustainability.

287. Activities concerning pollution of inland waters and environmental protection will need to be intensified particularly through the FAO regional fishery bodies dealing with freshwater fisheries, such as CIFA, COPESCAL, EIFAC and IPFC. There is renewed interest in Europe and Latin America on the effects of human activities other than fisheries (e.g. logging, regulation of water levels) on river basins and their living aquatic resources. FAO will continue collaborating with the countries of the Amazonian Treaty to develop environmentally-sound fisheries practices in this river basin. EIFAC's Code of Practice for the Introduction and Transfer of Marine and Freshwater Organisms which was designed to reduce the environmental and health risks of such transfers, will be promoted for adoption by other regional fishery bodies.

288. Applications of the Geographic Information System (GIS) technique for aquaculture and inland fisheries will be pursued, in cooperation with the central unit responsible for GIS development. A context of heightened awareness about climate change and coastal zone and high sea fisheries management indicates the potential application of GIS to the planning and monitoring of coastal and high sea fisheries. This would enable FAO to undertake assessments of human and natural impacts on watershed basins and continental shelves.

. . . . rational management

289. One of the major constraints to sustainability of marine fishery resources is the lack of adequate mechanisms to deal with the rational use of these resources. In the high seas, the lack of an efficient process of agreement on allocation of fishing rights among interested parties leads to unrestrained competition and threat to the resource base. The large-scale pelagic driftnet problem is a case in point. But even in exclusive economic zones in which coastal States have jurisdiction, there is a need to develop suitable mechanisms to deal with the allocation of resources in order to ensure their

sustainable use. It would thus appear necessary that FAO give priority to developing appropriate measures for the conservation and sustainable use of living resources of the high seas.

290. With regard to aquaculture, FAO's activities on planning assistance, fish diseases, development of fish feeds and feeding systems, genetic and bio-diversity, and marketing, will need to give priority attention to small-scale cultivation and integrated fish-farming.

291. In the field of fishing technology, greater priority will need to be given to the use of alternative materials to hardwoods, where these are becoming scarce, in the construction of fishing vessels. Closer attention will also be given to the improvement of the selectivity of fishing gear toward targeted species, discouraging fishing methods which destroy natural habitats and preserving the balance of aquatic ecosystems. In this connection, the elaboration of guidelines on fishing practices will be undertaken to assist in the rational management of marine living resources, including those of the high seas.

292. Fishing vessel designs will be improved to meet more stringent recommendations arising from greater awareness of the international community concerning safety of life at sea. It is also planned, albeit at a lower level of priority, to continue to promote energy optimization through guidelines in relation to the design and specification of vessels and fishing gear and methods.

293. The latter work is an integral part of overall approach to transfer of technology and, in this respect, the Fisheries Department will cooperate with the Economic and Social Policy Department in the preparation of standards and guidelines for manpower planning in the fisheries sector. This is expected to enhance training programmes and extension services of Member Nations. In like vein, the integrated approach to small-scale fisheries development will continue to be followed, covering aspects such as monitoring and evaluation, credit for fisherfolk and the involvement of women and youth.

294. The programme on fisheries exploitation and utilization will build on two initiatives which are currently approaching fully operational status. These are the *Cooperative Use of Vessels for Research, Development and Training* and the *Clearing House for Advisory Services in Fishing Technology and Aquaculture*, with support from UNDP up to the end of 1991.

295. In the area of fish processing, distribution and trade, priority attention will be given to quality assurance in the light of the expected EEC sanitary fish legislation in 1993, and the planned changes in mandatory fish inspection in the US market. With the expanding contribution of international fish trade to national economies, training and advisory activities will continue to be provided, especially to developing countries, and FAO will need to keep a permanent watch on market access.

. . . . market information

296. The FAO-assisted global network of fish marketing information and technical advisory services, will continue to serve the needs of the fishing industry of developing countries. GLOBEFISH, the Headquarters-based databank, will remain the hub of the network. It may be noted that INFOFISH which became an intergovernmental organization in 1987, is successfully operating for the benefit of Member Nations in Asia and the Pacific. It is envisaged that the network will become the principal mechanism for the execution of a number of technical assistance projects on fishery commodities, to be financed by the Common Fund for Commodities.

297. The widening gap between supply and demand of fish has resulted in the inability of lower income groups to have access to fish and fishery products. Priority will be given to nutritional considerations in fisheries development projects, either directly in using fish to alleviate undernutrition or, indirectly, by utilizing the proceeds from fisheries to improve food security in fishing communities.

298. Domestic fish marketing will remain a critical aspect of the full utilization of fishery products and requires action to prevent physical and economic losses. National action needs, for instance, to address marketing logistics and operation, particularly in respect of fish supplies for large population centres. Activities will be undertaken on a priority basis to improve the benefits of rural women, where they represent traditional providers of fish supply to urban centres.

299. Technical support will continue to be provided to the Committee on Fish and Fishery Products of the Codex Alimentarius Commission, especially in the development of Codes of Practice and standards for processing and handling of fishery products.

Fisheries Policy:

300. In the expectation of a growing flow of requests, work related to the provision of advice to Member Governments in formulating national policies, plans and programmes for fisheries development, management and investment will retain due prominence.

301. Advisory services will continue to be needed on fisheries management systems including monitoring, control and surveillance of fishing operations by both domestic and foreign fleets. Training in the concepts and techniques of planning and implementing fisheries development, management and investment will be pursued, with improved training syllabuses and material. Studies will also continue to be needed on special problems involved in the development and management of small-scale fisheries, particularly the socio-economic aspects of artisanal fisheries and fishing communities, and the enhancement of the role of women in fisheries development. Priority will also be

accorded to policy advice regarding the new concept of integrated coastal area management in relation to sustainability in fisheries and environmental protection.

302. FAO regional fishery bodies are recognized as valuable fora for the exchange of experience and information among Member Nations in the development and management of fisheries. These bodies also provide guidance for FAO's work in fisheries. Furthermore, a number of international organizations concerned with marine affairs and fisheries have recently been created or are being established. For example, there is interest in the establishment of a new tuna management body in the Indian Ocean. FAO needs to continue its support to inter-country cooperation, towards concerted action and enhanced coordination.

. . . . fisheries research

303. Fishery research capacity, in general, is still inadequate. Fishery research results are insufficiently used at both national and regional levels in fisheries development and management planning and implementation. Better coordination between planning of scientific research in fisheries and end-users is a continuing problem in many, if not most, countries. In the medium-term, the Fisheries Department will give relative priority to strengthening national research capacities and the stimulation of regional research programmes.

☐ **External Cooperation**

304. Cooperative links are indicated by programme and substantive area as follows:

Fisheries Information:

305. The Aquatic Sciences and Fisheries Information System (ASFIS) will be maintained jointly with the Intergovernmental Oceanographic Commission (IOC) and the United Nations Office of Ocean Affairs and the Law of the Sea (UNOALOS), with collaboration of the United Nations Environmental Programme (UNEP) and national ASFIS partners.

306. Coordination with the Coordinating Working Party on Atlantic Fishery Statistics (CWP) and regional organizations in the Indian and Pacific Oceans, such as the South Pacific Forum Fisheries Agency (FFA) and the Southeast Asian Fisheries Development Centre (SEAFDEC) will also be sought.

Fisheries Exploitation and Utilization:

307. The further expansion of the GIS programme will depend in large measure on the degree of external support than can be raised. Programmes on coastal zone planning and management involve cooperation with several other institutions.

308. FAO will continue to collaborate closely with other United Nations organizations, such as UNEP, in implementing regional environmental programmes and through the IMO/FAO/Unesco/WMO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP), in particular the GESAMP Working Group on Environmental Impact of Coastal Aquaculture.

309. Inter-agency cooperation is essential on matters concerning the environment including in cases where non-fisheries generated conventions affect the fisheries sector (ILO, IMO and WHO). In a number of cases, joint funding has been arranged for fisheries related activities (UNEP). On safety matters, the Organization will continue to work closely with the International Maritime Organization (IMO) and the International Labour Organization (ILO).

310. The industries component of the programme will continue to involve joint activities with other agencies such as WFP and UNIDO, and with intergovernmental bodies such as the International Hydrographic Organization (IHO) and INFOFISH.

Fisheries Policy:

311. The programme involves extensive links with other international and regional organizations, *inter alia*:

- (a) operation of FIPIS in cooperation with the World Bank, the AsDB and other regional banks and bilateral donors;
- (b) joint work on socio-economics, resource management research and studies with ICLARM and other research institutions;
- (c) cooperation with international and national NGOs in the field of fishing communities development and fishermen's organizations;
- (d) cooperation with the UN Office of Ocean Affairs and the Law of the Sea (UNOALAS) and concerned international fisheries organizations in activities concerning high seas fisheries.

MAJOR PROGRAMME 2.3 - FORESTRY

● **Prospects, Problems and Opportunities**

312. At the start of the nineties, forest cover still accounts for 25.6 and 29 percent of the land mass of developed and developing countries respectively. But there are major concerns associated with the degradation of forest resources in both areas and their sustainable development. These concerns match a significant change in the understanding of forestry's role in development and particularly of its contribution to environmental stability and to the welfare of rural people. Thus, a profound re-examination of the role of forestry in development and a re-orientation of related policies and strategies is a distinctive mark of the present period.

. . . . key features

313. Certain key features of the global forestry economy must be emphasized. Production and consumption of major industrial wood products continue to be mainly concentrated in developed countries. Wood for fuel accounts for 80 percent of total roundwood consumption in developing countries, and for 16 percent of their total energy consumption. In 1989, world trade in forest products amounted to US\$ 95 billion. Developing countries generated US\$ 13.4 billion in exports and US\$ 15.5 billion in imports. With a few major exceptions, these countries have increased their dependence on imports of industrial forest products from developed countries. The overall pattern in forest products prices has been one of slight decline of real prices over the past two decades, together with a decline in the terms of trade for developing country exporters. Nevertheless, the economic importance of the forestry sector remains, particularly for developing countries and their increasing need for wood products.

. . . . mounting concerns

314. Policy makers are, thus, aware that continued demographic growth, persistent rural poverty, and the uncontrolled colonization of forest lands are leading to the alarming degradation and destruction of forest resources in tropical countries. The accelerating rate of deforestation has resulted in severe environmental and socio-economic consequences which have extended far beyond local situations and even the forestry sector itself. Meanwhile, a positive spin-off is the increased awareness of the

crucial reliance of rural people on forests and trees and on the products and benefits derived from them.

315. Mounting worldwide concern about the extent of tropical forest degradation and the inadequacies of past forestry programmes call for new policies and strategies, with a view to effectively conserving forest resources, ensuring their sustainable use, and increasing their contribution to the welfare of local communities. As a consequence, the Tropical Forestry Action Programme (TFAP) was launched. Other concerns arose about forest dieback due to atmospheric pollution in the developed countries, the loss of biological diversity and the possible impact of "global warming".

316. The general evolution of forestry in the nineties will again be influenced by continued demographic and environmental pressures. By the year 2000, some one thousand million people will be added to the population of the developing world. There is concrete evidence that this massive increase in population will result in further conversion of forest lands to agriculture. The FAO study "Agriculture: Toward 2000" estimates that the expanding agricultural frontier may consume 10 million ha. per year. Widespread rural poverty and food insecurity, together with the issues of environment and sustainable development, will continue to be of major concern. The population of the developed world will remain stable, but sparse rural populations and high agricultural productivity will result in increased attention to more effective land management systems, which will take better advantage of the multiple economic and environmental role of forests. Within this broad diversity of situations, the forestry sector must meet the combined and potentially conflicting demands of such imperatives as economic growth, people's participation and environmental stability.

. . . . economic and social role of forests

317. Increasing forestry's contribution to economic growth implies broadening the range of wood and non-wood products, and developing industrial operations which make the fullest use of these products. Growth in wood products consumption is expected to be around 3 percent worldwide, but could reach 4 to 6 percent in developing countries. Wood fuels are also expected to continue to be a major source of energy in developing countries. These are opportunities for strengthening the economic base of forestry activities but they require a greater role for the private sector and more attention to marketing of forest products. Pricing and taxation policies, especially the level of stumpage prices, should encourage further public and private investment in maintaining or expanding the productivity of forests and tree resources in response to evolving demands.

318. Raising forest productivity can contribute to the welfare of expanding rural populations and stimulate their active participation through the creation of additional income and employment opportunities in forest-based rural enterprises. In particular, ensuring sustainable livelihoods to the landless and other rural poor will not only represent a major contribution to the alleviation of poverty but will, of course, relieve the

pressures which lead to forest destruction. Ensuring equitable participation of women in the benefits of forestry will be essential. Furthermore, the involvement of local groups in the design and management of forestry activities will facilitate participatory decision-making, an equitable flow of benefits to users, more effective integration of these activities in local production systems, and ultimately, increased sustainability.

319. Though essential, forestry's contribution to environmental protection and sustainable development cannot operate in isolation. It must be complemented by policies to slow down population growth and to provide income-generating opportunities for the rural poor. Forestry should play a particularly active role in the many resource-poor areas in the developing world by contributing to income generation and the establishment of an economic environment which makes it more profitable to conserve resources than to destroy them. Combined efforts of an interdisciplinary nature, particularly with agriculture, will be required in order to permit both productive and sustainable use of the natural resource base. At the same time, conservation of biodiversity should be made an integral part of management of natural forests whenever possible. These and other measures call for appropriate mechanisms to share in related costs and responsibilities. Moreover, careful monitoring of the complex interaction between forests and the global environment will be required.

. . . . diverse actors

320. Much of the forest area is controlled, or strongly influenced by, government agencies. Therefore, the serious challenges to forestry require profound rethinking of government policies, strategies and institutional instruments. A substantial strengthening of national capabilities for forest policy formulation and planning will be needed. Regular dialogue with other sectors and overall planning authorities is indispensable to achieve consistent and stable land uses and the full realization of forestry's potential. The private sector and local organizations should become major actors in forestry activities. A pre-condition will be a significant improvement in human resources with emphasis on participatory approaches and on strengthening technical and economic skills. The effectiveness of technical solutions will also require increased efforts in applied research and technology transfer.

. . . . FAO's role

321. FAO is generally regarded as the leading international organization dealing with forestry on the basis of three principal responsibilities. The first is the collection, analysis, and dissemination of information on all aspects of forestry and forest industry. The second is the provision of technical assistance in forestry matters to member countries. The third is to serve as forum for policy dialogue. FAO has taken a number of initiatives over the past decade in mobilizing the development potential of forestry

within the broader context of rural development. The more important initiatives included:

- (a) the launching of the TFAP as a concerted international effort for the conservation and management of tropical forest resources;
- (b) promoting the active involvement of men and women and of local groups in forestry activities;
- (c) stressing the contributions of forestry - environmental, productive, and economic - to food security; and the role of trees outside the forest for environmental stability and rural development;
- (d) promoting the role of forestry in off-farm income generation and in rural industrialization.

□ Objectives

322. The following medium-term objectives for the Major Programme in Forestry were agreed upon by the Tenth Session of the Committee on Forestry (COFO) in September 1990:

- to assist in enhancing the productivity and sustained utilization of forest and tree resources and to maximize their contribution to rural and socio-economic development;
- to promote the conservation of forest ecosystems and the integration of forests and trees into land-use systems for maintaining a productive land and water base for enhancing environmental values;
- to assist in increasing the value of forest production - both wood and non-wood - in order to meet the evolving demands for forest and tree products;
- to support full participation and equitable sharing of benefits among all people dependent on forestry activities, particularly as an off-farm source of livelihood for the most vulnerable groups;
- to facilitate the adaptation of forest policies, the strengthening of sectoral planning and institutional arrangements, and the development of human resources and research capabilities, with a view to maximizing forestry's contribution to development.

323. In addition, COFO suggested that priority should be given to the following: forest policy formulation, the TFAP, the development of databases and forestry statistics,

outlook studies, market development, the integration of socio-economic and environmental aspects in multipurpose forestry, and women in forestry.

□ **Programme Focus**

324. FAO's major programme on forestry needs to pay full attention to important interactions between forestry and other aspects of rural development. In particular, linkages with other programmes of the Organization and cross-programme activities will be actively developed and maintained in important areas such as land-use planning and Geographic Information Systems, *in situ* conservation of genetic resources, participatory management of common natural resources, policy advice, and development planning.

325. The TFAP is expected to remain the strategic framework and major instrument for the achievement of national objectives in the developing countries. The TFAP itself is an evolving, collective undertaking by the tropical countries and the international community, with close cooperation and shared efforts between technical and financial institutions active in forestry. FAO's role is to provide technical guidance and assistance in the development and implementation of comprehensive approaches and concrete actions for the conservation and sustainable management of tropical forest resources. It is also to assist in mobilizing international support to and cooperation with those countries implementing national TFAP exercises. TFAP receives technical support from each of the three forestry programmes which direct a significant share of activities and resources to this purpose.

326. In close complementarity with Regular Programme activities, field activities are expected to expand significantly over the plan period. Developing countries are assigning higher priority to forestry development and there are positive signs that the donor community and funding institutions are increasingly willing to support the necessary technical cooperation.

327. The major programme is organized in three programmes as follows:

328. The programme on *Forest Resources and Environment* deals with basic activities of survey, conservation, management and creation of forest and wildlife resources for development and conservation purposes. A significant share of extra-budgetary funding for technical assistance in forestry is related to this programme, more than ten times the Regular Programme allocation.

329. The programme is divided into five substantive sub-programmes. One is devoted to the coordination of the TFAP. Two sub-programmes cover the assessment, management and protection of forests and the management and conservation of forest genetic resources, while the other two deal with the environmental role of forests and trees and the management of wildlife. These, therefore, contribute significantly to the global priorities of the Organization on sustainable development and biodiversity and, to a lesser extent, to the use of biotechnology.

330. The programme on *Forest Products* is concerned with all types of forest industries, regardless of raw material or product, size of operation or size of enterprise. It covers traditional wood-based products such as sawn woods, panels, pulp and paper and chemical conversion of wood, as well as non-wood products. Environmental considerations are an integral part of all activities. Key aspects are non-wood products, energy, trade and marketing.

331. The programme includes three sub-programmes: *Development of Forest Industries, Trade and Marketing of Forest Products*, and *Non-Wood Forest Products and Wood-based Energy*. The development of human resources is sought through the provision of information, the preparation of training materials and the organization of training courses.

332. The programme on *Forest Investment and Institutions* is geared to strengthening the institutional and human resource base and to providing policy and planning advice to national forestry administrations. This programme covers important work on forestry policy, institutions, research and training, economics and statistics, sectoral planning, and community forestry. Broad thematic thrusts relate to the social benefits of forestry activities and people's participation.

333. The programme consists of four sub-programmes. One covers institutional strengthening including training and research. Another deals with analytical studies and international statistics and provides support for sectoral planning. A third sub-programme is concerned with policy analysis and advice and with servicing statutory bodies. The fourth sub-programme promotes the development of participatory approaches, particularly through community forestry.

□ Main Priorities

General orientations:

334. In pursuing the above objectives, the following general orientations will guide the development of programmes and activities under both the Regular Programme and the Field Programme:

- (a) actions on conservation and development should be complementary. Thus, the establishment of a solid economic base for forestry should be judiciously combined with resource conservation;
- (b) all activities and projects should recognize the complex interplay of forests, trees and wildlife with food security and nutrition, farming systems and land uses, and take account of the socio-economic fabric of rural societies;

- (c) more systematic attention should be paid to non-wood products from forests and trees in order to generate income and strengthen the economic base;
- (d) the exceptional potential of forests and trees to address the twin problems of rural poverty and environmental degradation must be realized;
- (e) the close interactions between forestry and other economic sectors will require systematic attention.

Forest resources and environment:

335. The need for sustainable management of most of the remaining accessible natural forests and of the rapidly growing amount of forest plantations is gaining ground. However, increased efforts will be needed to convince the owners - be they states, communes, local communities, private companies or individuals - to put forest resources under sustainable management and to apply technical advice. Specific priority areas will be the tropical rainforests and the woodlands of the dry tropics, as well as on other forest areas so far neglected, for example riverine and freshwater swamp forests, and those producing non-timber forest products, such as rattan and bamboo.

. . . . continuous monitoring

336. In the field of forest assessment, monitoring - as opposed to one-time inventory - will be given priority at various levels. At regional and global levels, this will entail the conversion of the series of Tropical/World Forest Resources Assessments conducted in 1980 and in 1990 into a continuous world forest resources monitoring system, with publication of overall results at five-year intervals. At national and lower levels, this will entail developing reference and training materials for change assessment, including the application of modern technologies, such as computers, remote sensing, and geographic information systems.

337. Forest plantations, and tree planting in general, are continuing activities in forestry, whether for production or environmental purposes. Guidelines for matching species and provenances with sites will be further elaborated and new developments will continue to be followed in the field of plantation establishment and management, especially on degraded lands. Emphasis will also be placed on high density short-term rotation plantation for wood and fodder production.

338. Concerning tree improvement and conservation of forest genetic resources, priority will continue to be given to supporting national institutions in the collection, characterization, improvement, exchange, *in situ* and *ex situ* conservation of forest genetic resources, particularly those of multipurpose tree species of the dry and sub-humid

tropics. These efforts are linked to the FAO Panel of Experts on Forest Gene Resources and the International Poplar Commission.

. . . . protection of forests

339. Relative priority will be given to the following aspects of protection of forest resources: prevention and control of forest and bush fires; control of specific forest pests and diseases. FAO will take its due part in studies and the international debate on the relationships between forests and climate change, and on forest die-back due to air pollution.

340. The programme will continue to cover conceptual developments concerning the role of forests and trees in diversified and sustainable mountain economy systems, with particular emphasis given to the quantification of the economic and financial benefits, participation of upland communities and the design of appropriate institutional mechanisms. The programme will continue to service the Working Party on Mountain Watershed Management of the European Forestry Commission, which also involves the active participation of representatives of non-European countries. The regional and sub-regional networks on watershed management in Asia and Latin America and the Caribbean permit FAO to foster TCDC activities.

341. In view of the contribution of wildlife to food security and rural development, priority will be given to the formulation of guidelines for wildlife and protected area management with special emphasis on: participation of local people; the collection of statistics on wildlife and wildlife products; and the dissemination of methods and economic results of game ranching and farming. Ongoing activities remain three FAO regional bulletins on wildlife and protected area management, regional networks and seminars, and servicing of the Working Party on Wildlife Management and National Parks of the Africa Forestry and Wildlife Commission.

342. In the field of arid zone forestry and desertification control, promotion of under-utilized indigenous multipurpose tree species/genera will be intensified. Transfer of knowledge will continue through guidelines and training courses on windbreaks, shelterbelts and live fences. Support will be provided to sub-regional and regional arid zone forestry networks in the Mediterranean region, in Africa south of the Sahara and in Latin America.

343. The integration of trees and shrubs in farming systems helps restore soil fertility, check wind and water erosion, provide additional fuel and fodder and diversify income. The programme, in cooperation with the Major Programme on Agriculture, will facilitate transfer of knowledge in this field through regional networks and publications on successful agroforestry case studies, and work on land evaluation for agroforestry, improved forest fallows and peri-urban agroforestry.

Forest products:

344. Training will be central to this programme and will cover subjects ranging from planning and implementing forest harvesting operations and forest industries, through means of improving operating methods and machine operation, to carrying out effective market planning and marketing activities. In view of the difficulties in obtaining raw materials for forest processing industries, progress in supply and utilization of alternate raw materials will be monitored. Emerging processing technologies will be monitored, with special attention to environmental aspects and biotechnologies. There will be a distinct shift of emphasis away from traditional wood harvesting and transport activities and large-scale industries to small-scale enterprises and environmental issues.

345. The promotion of basic and intermediate technology in wood harvesting systems will be pursued and issues relating to socio-economic and environmental aspects will be of major concern. Activities related to harvesting will focus on the planning and management of small-scale operations; the improved utilization of selected non-wood forest products; the use of residues; and the promotion of sustainable harvesting in natural tropical forests. Collection, analysis and dissemination of information on forest harvesting through seminars, training workshops and publications will continue. Local and sub-regional training efforts and institutions in forest harvesting will be supported and the exchange of information and expertise encouraged.

346. The development of small-scale forest based industries will be assisted through the preparation of case studies, which will supply practical examples of how such industries have been developed in similar regions and circumstances, and present solutions to concrete problems. Assistance will focus on the preparation of development plans and feasibility studies for the implementation of these industries, and will cover such areas as technology, marketing, financial and human resources.

. . . . broadening the product range

347. Non-wood forest products such as lac and resins, medicinal plants and essential oils, and wild foods will receive higher priority. The programme will provide advisory services to Member Governments regarding methods for identification of promising products, feasibility analysis, technology assessment for processing and packaging and market development. The development of these products requires a multidisciplinary approach. Databases on a range of products from vegetal and animal sources, will be maintained for access by concerned organizations. Support will be provided to strengthening institutional capacities to deal with non-wood forest products.

348. The energy potential of woody biomass will remain an important area of work primarily leading to training and the provision of information in support of planning. Improved efficiency in wood energy use in rural and urban households and industries will be promoted.

349. With regards to international trade in tropical forest products, there is scope for active FAO involvement with collection and dissemination of statistical data, and information concerning market conditions and prospects. Information concerning markets for non-wood products will also be developed.

Forest investment and institutions:

350. Strengthening national capacities for policy formulation and planning and improving the institutional and human resource base to implement forestry policies and programmes will continue to receive high priority. Advice will build on the continuing analysis of the policy and institutional implications of the evolving roles of forestry. Institutional instruments will be geared to provide incentives and support to the active and sustained involvement of rural people, local organizations and the private sector. This will also imply support to national research, training and education institutions mostly through TCDC at sub-regional, regional and interregional levels. The programme will continue to be guided by the Advisory Committee on Forestry Education.

351. Policy analysis work will continue to focus on the adaptation of forestry policies to evolving domestic and international contexts. Regional surveys of forest policies in Asia, Africa, and Latin America will provide insights in this regard - complementing the work already completed in Europe and the Middle East. Guidelines for assessing the impacts - economic, social, institutional, and environmental - of forestry projects will be further developed and tested in collaboration with the World Bank and UNEP.

352. The formulation of policies and plans at international and national levels will require a solid information base and analysis of the status and perspectives of the forestry sector. FAO's central role in the collection and dissemination of forestry statistics will be maintained in the framework of WAICENT. Priority will also be given to the preparation of a major world outlook study on supply and demand of forest products on the basis of the 1990 Forest Resource Assessment and the Fifth European Timber Trends Study. This outlook study will be directed to quantifying the economic, social and environmental impacts of forestry development.

. . . . self-help forestry

353. High priority will continue to be given to the development and dissemination of knowledge and tools in support of increased participation of rural people in self-help forestry activities. Increased emphasis will be placed on equity issues and more specifically on the rural poor, including women, and on their involvement at household and community levels. The application to forestry of decentralized planning will be sought, as well as better understanding of the type of support required for local or joint management of forest and tree resources. The dissemination of participatory approaches

will continue to be fostered by the Special Programme on Forests, Trees and People supported by several donors.

354. *Unasylva*, FAO's quarterly international journal of forestry and forest industry, will increasingly focus on the central issues confronting forestry and forest industries, within the broader context of rural development.

□ **External Cooperation**

355. Cooperative links are indicated by programme and substantive area as follows:

Forest resources and environment:

- (a) implementation of the TFAP with UNDP, World Bank, Regional Development Banks and other multilateral and bilateral donors;
- (b) world forest resources assessments with ECE and UNEP;
- (c) *in situ* conservation of plant genetic resources with UNEP, UNESCO, IUCN and IBPGR, within the framework of the Ecosystem Conservation Group;
- (d) training and studies in forest fire prevention and control with ECE, WMO and ICAMAS;
- (e) natural forest management with UNESCO and ITTO;
- (f) watershed management and mountain ecosystems with ICIMOD and IUFRO;
- (g) wildlife and protected area management with UNEP, IUCN, WWF, and the Latin America and Caribbean network in this field;
- (h) arid zone forestry and the role of forestry in combating desertification with CILSS, IGADD, SADCC and ICAMAS;
- (i) agroforestry with CATIE, ICRAF and ITTA.

Forest products:

356. Liaison is maintained with other international organizations such as ATO, GATT, ILO, ITC, ITTO, OECD, UNCTAD and UNIDO.

357. This includes cooperation on:

- (a) forest harvesting and transport, through the FAO/ECE/ILO Committee on Forest Technology, Management and Training;
- (b) trade and market information with ITTO and ATO;
- (c) enhancement of manpower development in forest operations with ILO;
- (d) preparation of feasibility studies, process assessment and alternate raw materials utilization with UNIDO;
- (e) wood energy development with ESMAP and the World Bank; training on charcoal making with SADCC; promotion of appropriate fuelwood conversion systems, particularly energy generation and electrification of rural communities with EEC.

Forest investment and institutions:

358. Cooperation concerns the following:

- (a) strengthening of national forestry research capabilities with IUFRO and the CGIAR;
- (b) basic information on the forestry sector for publications and analytical use, with the UN Statistics Office, ECE, ECA, ESCAP, ECOWAS, Unesco, UNCTAD, UNIDO, World Bank, and WRI;
- (c) statistics on fuelwood and energy with ESMAP and the World Bank;
- (d) analytical studies of the outlook for the forestry sector with ECE, IUFRO, and the World Bank;
- (e) Joint FAO/ECE Working Party on Forestry Economics and statistics with ECE;
- (f) indigenous knowledge in tree management with Unesco;
- (g) people and environment with UNRISD;
- (h) women-in-development with the World Bank;
- (i) community forestry and rural workers' organizations with ILO;
- (j) land-use planning and demography with UNFPA;

- (k) participatory approaches, monitoring and evaluation with IFAD;
- (l) guidelines for assessing the impact of forestry projects with UNEP and the World Bank.

THE REGIONAL DIMENSIONS

359. FAO serves 157 Member Nations. This near-universality is a great asset of the Organization. However, it means taking account of a mosaic of highly diverse natural endowments, specific requirements and interests in the food, agriculture, fisheries and forestry sectors, and even different expectations from international cooperation. There are elements of commonality within each FAO region which help shape FAO approaches to regional and sub-regional problems. These are summarized below. For the sake of avoiding duplication, indication of proposed medium-term activities are restricted to FAO regional structures (Regional Offices and Joint Divisions with the UN Regional Economic and Social Commissions).

● Africa

The regional setting:

360. The Africa Region is plagued by severe problems in meeting its economic and social development objectives. The agricultural sector, in particular, continues to face obstacles such as an increasingly uncertain climate, rapid population growth, soil degradation, the decline of plant cover, various natural and other disasters such as locust infestations, drought, political strife, persistently unfavourable terms of trade, onerous debt servicing and limited development assistance.

361. The agricultural scene throughout the region presents a number of daunting challenges:

- (a) there is a problem of overall poor quality of soils, although substantial land resources could be available for agricultural expansion. However, there is a lack of comprehensive and reliable information on their nature and distribution;
- (b) as a possible response to erratic rainfall and recurrent drought, irrigation expansion is hampered by high investment costs and lack of manpower for efficient organization and management of irrigation schemes. Less than 3 percent of arable land in sub-Saharan Africa is under some form of irrigation;
- (c) crop yields are generally very low owing to declining soil fertility, soil degradation, and the low level of technology applied by farmers who have

limited or no access to inputs such as improved seeds, fertilizers, pesticides, irrigation water, machinery, etc.. Moreover, research and extension structures regarding food crops, especially staples such as sorghum, millets, and roots and tubers are still relatively weak;

- (d) animal production is far from meeting the demand. Tsetse infestation still covers an area of about 10 million sq.km. spreading over 37 countries. Other major constraints to animal production are poor animal husbandry practices, inadequate feeding and prevalence of other diseases such as parasitic diseases, tick-borne diseases and African swine fever. Unexpected outbreaks of pest infestations such as by the American screwworm fly, require massive and timely external assistance;
- (e) agro-industrial activities are subject to a high degree of external dependence. Those developed so far in the region have mostly involved primary processing of cash crops for export and production of goods from mainly imported raw materials. The technologies and practically all machinery and other equipment used are imported. This is compounded by the low utilization rates of installed capacity, due to lack of spare parts and insufficient maintenance and management skills, as well as bottlenecks in transport and communication systems;
- (f) beyond problems of production, rural areas are beset by problems of unemployment; inadequate education, social and cultural services; and more generally by the lack of technical and economic opportunities, leading to rural-urban drifts of alarming proportions. There are also rural development concerns specific to Africa such as complex issues of settlement and land tenure, the rehabilitation of drought-affected areas, the incidence of large number of refugee populations, the settlement and/or development of oncho-freed zones and other zones recently freed from human or animal diseases;
- (g) the status of nutrition remains grossly inadequate. Beyond known problems of erratic food supplies, unbalanced diets, man-made calamities and civil strife, many countries are pursuing adjustment processes, often leading to cuts in government subsidies, general declines in purchasing power and in social services. The lower income groups have been the most adversely affected;
- (h) fish production has not evidenced much change during the last decade. Main factors are the low priority, inadequate support and insufficient allocation of resources to the fisheries sector, the lack of well-trained and experienced manpower, the low level of technology and the high incidence of post-harvest losses. The fisheries sector suffers from the lack of dynamic policies, strategies and programmes both at national and regional levels;

- (i) desertification in semi-arid and sub-humid lands and the destruction of tropical high forests remain two major problems of the region. In fact, more than one-third of Africa's continental mass is at present under threat of desertification. An estimated 5 to 7 million hectares become unproductive every year. Despite Africa's endowment of some 235 million hectares of tropical high density forests, not less than 265 000 hectares are destroyed every year without replacement or replenishment;
- (j) policy formulation and planning in all sectors is hampered by the general lack of reliable, comprehensive and timely data; inadequate knowledge of traditional farming systems; and insufficient training manpower.

The focus of FAO's work:

362. Over the medium term, FAO will continue to respond to the urgent demands of its African member countries, and support their efforts to: address the issues of environmental and resource management for sustainable development; adjust and reform domestic policies and programmes for macro and sectoral development; and strengthen the technical, infrastructural and institutional base for rural development. As part of this effort, FAO will extend support to the Organization of African Unity and the regional and sub-regional economic groupings and other intergovernmental organizations, and thereby strengthen economic and technical cooperation among African countries.

363. In the area of natural resources, this assistance will take multiple forms including the formulation of projects, consultancy services, technical cooperation networks, dissemination of information for improved land and water management and efficient fertilizer use. Inventories and evaluation of soil resources and soil conservation programmes will be undertaken within the framework of the International Scheme for the Conservation and Rehabilitation of African Lands (ISCRAL), endorsed by the African Regional Conference.

364. With regard to crop production, priority will be given to Integrated Pest Management (IPM), Striga Control and sound pesticide management. Support will continue to be given to the Pan-African Rinderpest Campaign and other animal disease control programmes. Trypanosomiasis, bovine pleuropneumonia, tick-borne diseases, worms, foot and mouth disease, dermatophilosis and african swine fever will receive particular attention. The rehabilitation of animal health services, supported by revolving livestock development funds, will also be pursued as a matter of priority.

365. Research capacities in the region will have to be upgraded and made closely responsive to needs. FAO assistance will concentrate on the adaptation of emerging technologies to meet the needs of small-scale farmers while being compatible with conservation and rehabilitation objectives.

366. Cooperation among peasant associations, informal grass-root groups and organizations will be supported in the spirit of the WCARRD principles. Particular

attention will be paid to the access of small farmers, women producers and rural youth to financial and other resources and aspects such as income-generating activities, secure flow of inputs, markets, training and management skills. Non-governmental organizations will continue to be major partners.

367. Nutrition-linked activities will include a package of the following: organization of in-service training courses for food and nutrition planners; support to research in national institutions and universities; technical backstopping to member countries in the development of food standards and food quality control infrastructures; development of technical cooperation networks on food standards and food quality control; and development of formulae for locally-based weaning foods.

368. There will be a need for continuing support to agricultural data collection and analysis systems, with emphasis on forecasting and early warning systems; promotion of user/producer workshops and other devices. The African Commission on Agricultural Statistics will be convened every second year, enabling member countries to exchange methodological experiences in censuses and surveys and to harmonize plans for the establishment of effective systems for collecting agricultural statistics.

369. The strengthening of capacities for agricultural policy analysis and planning through policy advice, training and the development of planning skills and tools, will also be a permanent concern. Assistance will particularly focus on the institutional capacity of countries to assess the impact of structural adjustment programmes (SAPs) and design, implement and monitor sectoral programmes and projects to accompany SAPs. The Technical Cooperation Network on Agricultural Project Management (AGPROMAN) will provide a vehicle for improved agricultural and rural development programmes. In response to the urgency and commitment to economic and technical cooperation among African countries, as evidenced by the foreseen establishment of an African Economic Community (AEC) and related activities, support will be given to the African Economic Community development process, through assistance to the OAU and sub-regional community organizations on food and agriculture. Continued assistance will also be given to the OAU in the development and implementation of a Common African Agricultural Programme (CAAP).

370. In the fisheries sector, priority will continue to be given to the activities of sub-regional, regional and continental intergovernmental bodies with interest in fisheries. Activities in this area will include: improved systems and methodologies for data collection and analysis; dissemination of information on available fisheries training, education and research facilities; promotion of the role of fisheries in alleviating under-nutrition/malnutrition, as well as regional cooperation in fish technology; improvement of the socio-economic conditions of artisanal fishermen and their communities; exchange of fisheries information and experiences through the Marketing Information and Technical Advisory Services for Fishery Products in Africa (INFOPECHE); and promotion of TCDC in aquaculture in view of its enormous potential for development.

371. In the forestry sector, priority will be given to three key aspects: integrated agro-forestry systems; the promotion of popular participation in forestry management; and promotion of regional information networks. The implementation of the Tropical

Forestry Action Plan (TFAP) will keep its prominence on the forestry development agenda for the region. National and regional TFAP activities will enhance the region's institutional capabilities. They will be interfaced with the International Scheme for the Conservation and Rehabilitation of African Lands.

● **Asia and the Pacific**

The regional setting:

372. The Asia and Pacific Region accounts for 53 percent of the world's population, more than 70 percent of the world's farming households, about 75 percent of the world's malnourished people, but only 27 percent of the world's arable land. Fuelled by continuing population growth and the need to improve very low income levels, development pressures are intensifying and often are inflicting injury to the environment and the very resource base of production. Collectively, developing countries of the region have increased their agricultural production with some countries achieving relatively high growth rates. However, performance has been uneven, and several countries have yet to achieve self-reliance and nutritional adequacy.

373. Many countries are facing limits to sustainable development due to high pressure on land, degradation of natural resources, high rate of deforestation and lack of attention to environmental issues in the development process. In effect, the intensification of production on existing cultivated land has brought environmental penalties including wastage of water resources, increased waterlogging and salinity, and "mining" of the soil by inadequate replenishment of nutrients removed. Additionally, fertile land is under threat from urban expansion in many countries. Rethinking of intensive agricultural practices must be carried out throughout the region.

374. Given the general scarcity of new land for cultivation, increased demand for food must still be met by increased productivity and cropping intensity. The relatively low average yields of cereal crops in many countries calls for improved production technology and high productivity inputs, including high-yielding varieties (HYV) and hybrid seeds. In many countries, the level of technology for production, handling and processing of fruits and vegetables is low and there is need for exchange of germ plasm, quality seeds, and planting materials both within and outside the region. Integrated pest management, safe use of pesticides and quarantine measures need to be further promoted. Post-harvest losses in cereals and other crops constitute a serious constraint to net product availability and farm income. With enhanced diversification of crops and increased cropping intensity, the use of farm implements and machinery has also increased but constraints remain due to lack of appropriate tools/technology, suitable machinery and trained manpower.

375. Low productivity of livestock in developing countries of the region is also a pressing problem. Main causes are: low quality of available feed, poor feeding practices,

low genetic potentials of indigenous animals and prevailing animal health conditions. The presence of endemic animal diseases is affecting the productivity of animal husbandry and is an obstacle to trade of animals and animal products.

376. Developing countries of the region are anxious to exploit the potential of new technologies, particularly biotechnology, but are constrained by lack of information, adequate research development infrastructure and trained manpower. FAO must respond both to opportunities and challenges in establishing programmes to harness modern biotechnology and help bridge the gap between developed and developing countries. Many rice-growing countries in the region also need assistance for technology transfer on hybrid rice production.

377. The region is beset by serious problems of rural poverty. Improvements are needed in monitoring and evaluation of the directions and pace of rural development, including more comprehensive and reliable data. In particular, there is need for socio-economic indicators which can measure progress in equity along with growth. As in other regions, many countries face the problems of ineffective extension services, limited facilities for agricultural education, especially for training of youth and women, weak links between agricultural education, extension and research and lack of adequate access to credit and marketing facilities by small and marginal farmers.

378. Inextricably linked to rural poverty are severe nutritional problems - under-nutrition due to insufficient food intake, and malnutrition due to the nutritional imbalance in the diet and inadequate nutritional awareness. In many countries, food safety and quality control measures are inadequate which results in a considerable loss of food and adversely affects food trade.

379. With regard to fisheries, the fish stocks in most inshore waters of the Asia and Pacific Region are heavily exploited. Productive habitats have often been degraded by illegal fishing methods and pollution. This not only has repercussions on the sustainability of fishing effort, but also severe socio-economic implications of rural impoverishment and conflict between large-scale and small-scale fisheries.

380. Despite its considerable expansion, aquaculture development is generally constrained by problems of inadequate fish seed and fish feed, the incidence of disease and the lack of engineering expertise. In regions of intensive development, problems arise with water management and disease outbreaks. Information on socio-economic implications of aquaculture development and on the marketing of its products, also needs to be greatly improved. Also, seafood exports, which are a source of substantial foreign exchange earnings for the developing countries, are adversely affected by inconsistent product quality.

381. The problem of tropical deforestation has reached critical levels during the decade of 1980-90 in several developing countries of the region. Past assessments of forest resources have shown that tropical forests were disappearing at the rate of about 2 million ha (0.6 percent) per year during 1970-80. Current estimate indicates that the rate of deforestation has reached about 4.7 million ha (about 1.2 percent) per annum, mainly due to population growth and poverty. Losses are heavily concentrated in India,

Indonesia, Philippines, Myanmar and Thailand. Thus, arresting deforestation and rebuilding forest resources have emerged as one major concern in the region.

The focus of FAO's work:

382. The FAO regional conference and other FAO bodies have provided detailed guidance on the focus of FAO's work in the region. Of particular importance is the follow-up to the 1992 UN Conference on Environment and Development, to the International Conference on Nutrition, multilateral negotiations on trade and the implementation of the Tropical Forestry Action Plan. A common denominator of regional requirements on which FAO's assistance should concentrate in the medium term can be identified as follows:

- (a) to strengthen national capabilities for the rational use of land, water and farm resources, including production inputs, on a sustainable and environmentally sound basis;
- (b) to formulate and implement policies for the prevention of food losses and promote rural-based agro-industrial development and mechanization to increase farm incomes;
- (c) to promote trade in live animals and animal products, and expand animal disease-free zones in the region;
- (d) to improve equity by raising incomes and living standards of the rural poor in general, and women in particular, through tailored support measures, technology generation and transfer, and institutional reform;
- (e) to minimize under-nutrition in food deficit countries, reduce malnutrition and achieve nutritional balance through dietary guidelines, and food and safety standards for local consumption and trade;
- (f) to strengthen food security and improve food marketing, including monitoring and analysis of the food and agriculture situation;
- (g) to improve capabilities in fish stock assessment and management, and expand aquaculture production with special attention to its environmental and socio-economic impacts;
- (h) to stem the rate of deforestation and relieve the pressure on natural forest resources by promoting tree growing by rural people themselves;
- (i) to reorient institutions imparting forestry education and carrying out forestry research and ensure active participation of non-governmental organizations in forestry development.

383. Policies on agricultural and rural development (including forestry and fishery aspects) will be monitored by the FAO regional conference and regional technical commissions. More focused issues will be addressed by various specialized networks established and serviced by the Regional Office (RAPA). Besides these, cooperation and participation of member countries will be sought through regional expert consultation/seminars/workshops and training in various sectoral programmes. The recommendations of various sessions will be brought to the attention of national authorities for implementation. Joint meetings with other UN and intergovernmental bodies will continue to be held to provide opportunities for exchange of views/information and debate on policy issues concerning agricultural and rural development.

384. Building on earlier positive results, intergovernmental consultations on follow-up to WCARRD will continue to be held, with focus on strategies for sustainable agricultural and rural development. Support to small farmers development programmes, particularly rural development projects, and promotion of agricultural cooperatives through regional networks will continue to feature prominently. As a medium-term priority, databases reflecting women's work in agriculture and rural development will be updated.

385. For the preparation of the ICN, country level, sub-regional and regional meetings will be held to sensitize Member Governments and to discuss nutrition assessment papers in order to agree upon selected themes and formulate strategies and action plans to be presented at the ICN. From 1993 onwards, programmes and strategies, as recommended by the ICN, will be supported.

386. Support and technical backstopping will be provided particularly in formulation, operation, monitoring and evaluation of projects. Training courses, through TCDC approaches, will be held on various aspects of food and agriculture development.

387. Technical assistance and training will continue to be provided to strengthen national capabilities in food and agricultural policy formulation and implementation. Where appropriate, this training and technical assistance will be organized within the framework of sub-regional arrangements, such as ASEAN, dealing with: food and agricultural sector planning; commodity policy at country level emphasizing productivity improvements, crop diversification, trade expansion and intra-regional policy harmonization; and food and agricultural marketing and trade infrastructure and services. The LDCs will be more particularly assisted in the identification and preparation of projects, mobilization of funds for investment and monitoring and evaluation of projects.

388. Regional collaboration in fisheries management and development will be further promoted through the Indo-Pacific Fishery Commission (IPFC) and the Indian Ocean Fishery Commission (IOFC) and their subsidiary bodies. Post-harvest technology will be developed primarily through a network of Asian fish technology institutes. The establishment of the Indian Ocean Tuna Commission should be completed.

389. Forestry education and forestry research will continue to be of central concern to the Asia-Pacific Forestry Commission. Through the Forestry Research Support

Programme for Asia and the Pacific (FORSPA), institutions concerned with forestry research will be supported in terms of technical as well as financial inputs. Collaboration with ITTO will be maintained in order to find appropriate solutions for sustainable management of tropical forest resources.

390. A number of regional bulletins such as *Tigerpaper* (with special focus on national park and wildlife management), *Rural Energy* (dealing particularly with non-conventional sources of energy), etc., will continue to assist in the dissemination of information for planners and decision-makers of the region.

● Europe

The regional setting:

391. The countries of the region span a wide range of natural conditions, agricultural situations, levels of development and experience in agricultural policies. However, all of them pursue similar objectives, such as food security, stable consumer prices, farm income support, and rational use of natural resources and protection of the environment. The region, as a whole, has made great achievements with regard to food security and levels of production, and is now producing basic commodities in excess of local and export demand. However, some countries have difficulty in attaining sufficient production levels or economic efficiency regarding the resources engaged in agriculture.

392. In most countries of the region, agriculture and the food system at large has become a capital-intensive, high-technology sector of the economy and is also well integrated in the national and the world economies. Therefore, agricultural policy is influenced by events and policies outside agriculture, such as money supply, interest and exchange rates. Agricultural support policies have stimulated production in excess of the domestic and export market demand, leading to serious imbalances in the main commodity markets and to trade conflicts. In spite of the high cost of such policies, certain objectives, such as farm income support, have been achieved only partially. In recent years, there has been increased awareness of the need for policy reform, mainly in the light of the rapidly shrinking percentage of the population employed in the agricultural sector, the declining share of agriculture in gross domestic product and increased costs of agricultural policies. A greater concern for a more balanced rural and regional development, protection of traditional rural values and the integration of environmental aspects in agricultural policies also calls for a revision of agricultural policy objectives. The common underlying theme is: a more efficient agriculture, more cost-effective policies and an enhanced role for market forces.

393. The prospects for European agriculture rest, to a large extent, not only on internal adjustments but also on developments in other sectors. A key policy issue for Member Nations is how to reconcile the dynamics of an efficient and highly productive agricultural sector with changes in national economies and overall social and ecological

goals. In this context, cooperation among European countries is predicated on "interdependence". Achievement of the objectives of any one country depends partly on the policies of others. Moreover, analysis and synthesis of policy experiences contribute to the emergence and spread of novel approaches in the quest for improved policies, for mutual benefit.

394. The wide range of research activities in agriculture and the rapid progress of science and technology also call for close international cooperation for a fuller utilization of existing possibilities. The application of research results and the complexity of modern methods of production are putting increasing pressure on farm management. This calls for professional training and highly qualified advisory services.

The focus of FAO's work:

395. Assistance for agricultural restructuring to economies in transition of Eastern and Central Europe will be given highest priority, leading to growing FAO involvement in support of government policies aimed at establishing a viable market-orientated rural sector. FAO's Regional Conference, various intergovernmental bodies and other joint fora with the UN Economic Commission for Europe (ECE) already provide opportunities for debate in the policy analysis area, including development in transition countries.

396. Cooperation in agricultural research could facilitate the transfer of advanced technologies and assist the process of modernization of local research institutions in these countries. Similar effects could be expected from the participation of representatives of interested countries in FAO's socio-economic programmes, commodity reviews and agrarian structure analyses. Beyond the above, there is scope for increased FAO involvement in direct provision of advice to countries engaged in reforms, alone or in cooperation with other institutions. In this respect, FAO will continue to assist countries in the preparation and execution of field projects funded by external donors and in training local experts, particularly in project formulation, agricultural planning and institution building.

397. Besides this primary emphasis on transition economies, FAO will continue to play an important role in promoting cooperation towards improved food and agriculture policies throughout the European Region. The Organization provides a unique global and pan-European forum for exchanging information on policy experiences and for common undertaking of the required analysis and for exchange of such experiences in food and agriculture, including the forestry and fisheries sectors.

398. Agricultural research and technology development will continue to be given high priority in the policy agenda of all European countries. FAO, through its Regional Office for Europe (REUR), will concentrate on the promotion of research cooperation in natural resources and in environment-safe technologies, plant and animal production, agricultural policy and economics and on the social and human dimensions of rural development issues.

399. In this respect, maximum use will be made of the existing structure within the European System of Cooperative Research Networks in Agriculture (ESCORENA) and Cooperative Networks on Rural Energy (CNRE). In addition, new flexible approaches, such as the establishment of *ad hoc* working or study groups and combined activities with other regional intergovernmental or professional bodies, will be pursued. Cooperative research programmes will be adjusted in accordance with priorities set by Member Nations within their respective agricultural policy objectives.

400. At this stage, the following areas require attention:

- (a) sustainable agriculture, integration of environmental and agricultural policies, development and evaluation of new technologies (organic and low-input farming systems, new animal production systems);
- (b) crop cultivation and animal production in less favourable environments;
- (c) improved technologies for non-feed agricultural production;
- (d) alternative land use and its impact on food security and other agricultural policy objectives;
- (e) cost-reducing and energy-saving technologies in agricultural production;
- (f) applied biotechnology and development of new research methodologies.

401. Research cooperation in the field of agricultural policy analysis and agrarian economics will be further enhanced by strengthening the existing study group and establishing other forms of cooperative undertakings, as appropriate. It is expected that these groups produce regular analyses and recommendations for the attention of national authorities, FAO bodies and other international fora dealing with food and agricultural problems. They will rely primarily on expertise and information available in participating countries, but also draw heavily on FAO's information base (WAICENT and country files).

402. Socio-economic programmes will focus on exchange and analysis of experiences in development of human resources, rural institutions, rural employment and income-generating activities in rural areas. Particular attention will be given to the promotion of the role of women and the agricultural family in rural development through direct assistance to governments in formulating and implementing rural development policies, including pilot schemes and programmes for development of less-favoured areas, and through training programmes. In addition to the existing Working Party on Women and the Agricultural Family in Rural Development, *ad hoc* study and working groups will be established to study, monitor and evaluate developments and experiences in more specialized fields such as modernization and improvements in extension programmes, leadership development, training for new economic activities in rural areas, people's participation in decision making processes. FAO's involvement in formulation and implementation of field programmes funded by local resources will be further enhanced.

403. Developments in agricultural production, prices, trade and major commodity markets will be monitored and regularly reviewed by ECE/FAO working parties serviced by the Joint ECE/FAO Agriculture and Timber Division (JEUR). The division will continue to assist Member Nations in the further improvement and harmonization of agricultural statistics and in the elaboration and/or revision of commercial quality standards of agricultural commodities. Particular attention will be given to regional development policies in less-favoured areas.

404. Cooperation in fisheries matters will be pursued through the GFCM and EIFAC.

● **Latin America and the Caribbean**

The regional setting:

405. Despite considerable differences in natural resources endowment, both between and within countries, the region has the potential to satisfy aggregate regional food needs and produce substantial export surpluses. Latin America is indeed widely perceived as being one of the few agricultural "frontiers" left in the world. However, heavy debt burdens, structural deficiencies, acute rural and urban poverty, internal and external tariff and non-tariff barriers to trade of primary and processed agricultural products, among other factors, create a fragile basis for the rational use of this vast potential of natural resources. At the end of 1989, the *per capita* product in real terms stood at the same level of 13 years earlier, and even fell for some countries.

406. Two recent important studies: *Potentials for Agricultural and Rural Development in Latin America and the Caribbean*, published by FAO in 1988, and *Changing Production Patterns with Social Equity*, published by ECLAC in 1990, provide more detailed snapshots at these regional problems. The FAO study covers the sectoral contribution of agriculture, fisheries and forestry, to overall economic activity, including inter-sectoral linkages, as well as the present situation in rural areas. The ECLAC study, in analyzing national economies, takes a multi-sectoral viewpoint but supports FAO's conclusions. Both studies propose new or revised policy options and strategies to overcome the stagnation which characterized the regional economy during the eighties.

407. Closely linked to widespread poverty in many countries is the problem of unsound management of natural resources. Over-exploitation leads to reduction in biodiversity, soil erosion and salinization, deforestation through encroachment of subsistence agriculture on tropical forests, extension of arid and semi-arid areas and pollution, including of inland and coastal waters. Besides poverty, other causes are unplanned changes in productive patterns and the urge to secure foreign exchange earnings. There are also widespread cases of indiscriminate use of agrochemicals by commercial enterprises and the unregulated disposal of industrial wastes into inland and coastal waters.

408. Due to lack of financial resources, government support services to small farmers and small-scale fishermen, including credit, are grossly inadequate in many countries. Therefore, despite a relatively high level of technological advances in the region whereby proven technologies have been adapted or developed locally and are being applied selectively in many countries, their massive application is extremely difficult. The region is also distinguished by a growing dichotomy between high-technology, capital-intensive, export-oriented enterprises on the one hand, and the traditional, small-scale, labour-intensive, low-capital, low-technology and domestic-oriented farm sector on the other. The benefits of technological innovations and consequent increases in productivity are received by only a fraction of the rural population, thus broadening the gap between rich and poor.

409. In addition to being favoured by abundant natural resources, Latin America and the Caribbean has put in place cadres of highly trained professionals and technicians, as well as numerous national institutions of good repute in different technical areas of agriculture, fisheries, forestry and rural development, thus providing a fertile ground for TCDC initiatives in the region.

410. For the first time since independence in the early nineteenth century, almost all the countries in the region now have democratic systems of government. This is coupled with changing roles of governments by which many of the traditional functions of the state are now being transferred to the private sector. This conjuncture of developments has brought about new thinking on development strategies, allocation of resources among the different sectors of the economy, external trade policies and investment priorities and the part the region should play in the international concert of nations.

411. The most important single issue is how to strike a balance between still needed vigorous economic growth and environment sustainability. Rural incomes should be improved based on technologies which contribute to soil and water conservation and the generation of non-agricultural employment in rural areas. Additional employment opportunities in rural areas will relieve pressure of rural-urban migratory flows, another common factor to most of the countries of the region. Thus, countries need to create conditions for a socially-balanced modernization process, not bypassing small-scale producers, peasants and fishermen, and improving living standards of the poorer segments of the rural population.

412. Growth with equity was underlined in the Regional Plan of Action approved by the Twentieth FAO Regional Conference, held in Brazil in 1988. The technical framework of future action is provided in the above-mentioned FAO regional study. A significant part of future regional agricultural growth should come from the integration of presently margined populations into the development mainstream. The potential of the internal regional market must also be fully realized. A market of close to 600 million people provides opportunities for income-generation and purchase of consumer goods originated in the region.

The focus of FAO's work:

413. The Organization will continue to promote technical exchanges among countries in the region through national institutions capable of adapting technologies to national situations and disseminating them to other specialized institutions. The regional system of technical cooperation networks, covering a broad range of technical areas of regional or sub-regional interest, will be a key instrument for this. Networks will be geared to promoting maximum efficiency in the application of capital investment and inputs, as well as to the full utilization of primary products and by-products. Support to the development, transfer and application of environmentally-safe technologies will be a matter of special attention.

414. Socio-economic activities will focus on the following main aspects:

- (a) organization of small farmers and small-scale fishermen and their families, for their effective participation in development;
- (b) policies and criteria to modernize and reorient the role of the public sector;
- (c) formulation of policies, programmes and projects to enhance the participation of women, including juridical aspects, dissemination of information regarding their rights, and promotion of income-generating activities;
- (d) adequation of agricultural support services to the effective needs of the rural population; and
- (e) introduction of nutritional considerations into agricultural and rural development policies, programmes and projects, including promotion of consumption of under-exploited indigenous food crops. Recent developments, especially the cholera epidemic which is affecting a number of countries in the region, highlight the need for higher efforts on food quality control and attention to street foods systems.

415. The relation of agricultural issues to macroeconomic policies through inter-sectoral linkages and their implications for external trade, are areas of major interest to Member Nations in the region. FAO will pursue close relations in this regard with regional and sub-regional economic integration and cooperation schemes, as well as other UN agencies. The joint ECLAC/FAO Agricultural Division will continue to be instrumental in analyzing and monitoring developments.

416. Agricultural research efforts need to be directed to the solution of specific sub-regional or regional problems. The role of FAO will continue to be of assistance in the formulation of research policies and objectives and in the establishment of active channels of communication between regional research centres and between these and extra-regional research centres.

417. Sustainable management of forest resources and institutional strengthening is another field where there is great scope for FAO action. Emphasis shall be given to integrated watershed management, management of natural forests for multiple uses, development of systems of protected areas, reforestation schemes for fuelwood production, restructuring of forestry services and legal measures. The Latin American Forestry Commission provides a forum for Member Nations to discuss technical and policy issues regarding the development of their forestry sectors.

418. The pollution of inland and coastal waters and the protection of live aquatic resources are matters of great concern to most countries in the region. Aquaculture development and small-scale fishery activities are other topics of great regional relevance to which more efforts are to be devoted.

419. Beyond the regional level, FAO will take account of sub-regional agreements among countries which have close linkages among them and similar development strategies and problems. CARICOM, the Central American Common Market, the Andean Pact, MERCOSUR and other integration initiatives will require tailored assistance programmes.

420. The necessary complement to technical cooperation activities is the production of promotional material, in written or audio-visual form. Besides regular documents produced by the Regional Office, such as the reports of technical meetings, increased attention will be placed on network newsletters, technical studies on specific issues, video and audio materials, as additional channels for dissemination of technological information.

● **Near East**

The regional setting:

421. The Near East Region faces severe limitations to agricultural development, particularly climatic constraints. Besides the prevalence of arid and semi-arid lands and erratic rainfall patterns, another factor is the existence of substantial differences in terms of socio-economic and political situations, income *per capita*, size of the agricultural sector, density of population and level of development among countries of the region. Yet, all countries are striving to achieve higher rates of economic development. A few countries have made great strides towards self-sufficiency in some major crops and livestock products. However, most countries still suffer from insufficient food production leading to growing and costly imports. For the region as a whole, the rate of growth in food production is lower than the population growth rate. Therefore, food security is perilous with a widening gap between domestic production and overall consumption.

422. The region includes dual systems of agricultural production. Whereas capital-intensive agriculture is practised in some areas, labour-intensive agriculture is still

generally the rule. In oil-producing countries, where heavy investment in modern farming has taken place, agriculture is nevertheless dependent on subsidies. In many other countries, low agricultural prices, especially for grains and industrial crops, are maintained for the benefit of urban consumers. The pursuit of such policies results in distorted price structures and are detrimental to the efficient utilization of resources.

423. The need for policy reforms and structural adjustment has been gaining momentum. There is acute awareness of food security problems and dependency on imports. Also, there is concern at the low rate of increase of rural incomes and the intensification of rural-urban migration. In particular, there has been growing consciousness of the importance of free market operations to improve efficiency in use of resources. Nevertheless, the dilemma of efficiency versus equity has not yet been satisfactorily solved, slowing down the privatization process for some time.

424. The need for political stability through more democratic structures of government and normalization of relationships among countries is also widely felt. However, long standing instability within and/or between countries and social tensions have negatively influenced the pace of development of agriculture. Supportive structures and services are generally rather weak. Nevertheless, more emphasis is being given to improved marketing and distribution systems, extension systems, provision of credit and the development or rehabilitation of irrigation and drainage networks.

425. The harmonization of agricultural development plans among countries and the enhancement of infra-regional trade in food and agricultural products remain key policy issues for member countries of the region. Moreover, in order to cope with rapid advancements in technology, countries of the region are determined to increase infra-regional and international cooperation in agricultural research activities. A number of regional organizations exist to foster such cooperation but require substantial external assistance.

The focus of FAO's work:

426. FAO will continue to promote infra-regional cooperation with a view to assisting countries of the region to achieve sustainable agricultural development, increase farm incomes and reach higher levels of self-sufficiency in food production.

427. In respect of rural development, FAO, through its Regional Office for the Near East (RNEA), will give attention to better income distribution within rural populations and between rural and urban areas, rural poverty issues and nutritional levels. A new regional forum in this respect will be the Regional Centre on Agrarian Reform and Rural Development for the Near East (CARDNE).

428. Another area of priority will be agricultural research and transfer of technology. FAO will continue to provide assistance to national research centres and promote research cooperation through TCDC approaches. At this stage, the following areas will receive particular attention:

- (a) integrated plant nutrition and high-yielding varieties;
- (b) integrated pest management systems;
- (c) integration of animal and crop production;
- (d) efficient use of land and water resources;
- (e) biotechnology and cost-reducing and energy-saving technologies; and
- (f) alternative sources and formulae for livestock and poultry feed production.

429. National programmes on privatization and promotion of free market operations and efforts of decentralized agricultural planning, which are of major concern to the countries of the region, will require considerable assistance. Training in policy analysis, planning and project formulation and evaluation will be intensified to increase national capacities. One key aspect will be promoting entrepreneurship in agriculture to enable private sector agents to replace public authorities in the provision of farm inputs and the marketing of agricultural products.

430. Among the various institutions supported by FAO, NENARACA, AFMANENA and INFOSAMAK will receive priority to enhance their activities in the areas of respectively agricultural credit, food marketing and distribution, and dissemination of information on fish prices and marketing. AFMANENA and INFOSAMAK will also contribute to increased interregional trade in agricultural and fish products.

431. FAO traditional assistance to planning and restructuring of the agricultural sectors of member countries will need to focus initially on the urgent requirements of the countries affected by the recent Gulf crisis and other conflicts in the region.

432. Agrarian reform laws implemented in many countries of the region have, at times, led to problems of resource conservation and sustainability of agriculture. FAO will provide assistance to Member Governments in revising these laws with a view to optimizing owner-tenant relationships and the size of agricultural enterprises.

433. FAO fisheries programmes in the region will be geared to improving policy formulation, developing favourable conditions for investment in the fisheries sector, increasing the accuracy of data collection systems and promoting infra-regional cooperation in conserving common fisheries resources.

434. In view of the key role of forestry for environment control in the context of prevalent semi-arid lands, RNEA will focus on forest land use planning, management of man-made forests, strengthening of forestry institutions and promotion of political and public commitment for the expansion of forested areas.

435. The joint ESCWA/FAO Agriculture Division (JNEA) will continue to monitor agricultural policies and related developments in ESCWA countries, jointly conduct training activities in the areas of agricultural policy, planning, project analysis and farm

management, and give support to NENARACA, AFMANENA and CARDNE. National plans of action to combat desertification and desertification control projects will receive assistance.

A. MAJOR POLICY ORIENTATIONS

As the result of the foregoing, a number of major policy orientations are offered for the consideration and possible endorsement of the Conference. The main thrust of FAO's action in the coming years are suggested as follows.

Role of FAO and its Complementary Institutions

PART IV

In order to ensure effective participation of FAO members throughout the period, its potential should be maintained. As in the past, FAO should be enabled to adapt itself progressively to changing circumstances and demands of members. The institutional and financial capacity of the Organization, as well as its operational efficiency, need to be continuously enhanced in order effectively to meet the challenges and issues. FAO should continue to be a catalyst for action and policy action in food and agriculture.

CONCLUSIONS

FAO is the major multilateral organization for food and agriculture in the food and agriculture sector. Important comparative advantages of FAO working have been stated that be emphasized.

- (a) International forum which is primarily oriented towards a broad discussion of food and agriculture issues, and which has substantial impact in international relations and policy development.
- (b) Working basis for the collection, analysis and dissemination of information on food and agriculture, and for the promotion of research and development.
- (c) Interdisciplinary technical capacity with a wide range of expertise, including a high level of experience and know-how in analyzing problems and issues in the field of FAO's competence, as well as in identifying practical solutions and assisting in their implementation; the capacity derived through various food and agriculture activities in Regular and Field Programme activities.
- (d) Capacity to analyze and synthesize a wide range of experience from all parts of the world.
- (e) Multilateral approach to food and agriculture policy and technical problems in relation to the 1976-80 World Conference.

A. MAJOR POLICY ORIENTATIONS

1. As the result of the foregoing, a number of broad and more focused policy orientations are offered for the consideration and possible endorsement of the Conference. The main tenets of FAO's action in the medium term are suggested as follows.

☐ **Role of FAO and its Comparative Advantages**

2. In order to ensure effective implementation of FAO activities throughout the Plan period, its perceived strengths will need to be maintained. As in the past, FAO should be enabled to adapt itself pragmatically to changing circumstances and demands and innovate. The intellectual and technical capacity of the Organization, as well as its operational efficiency, must be preserved and further enhanced to meet effectively new challenges and issues. FAO should remain a "centre of excellence" on both technical and policy issues in food and agriculture.

3. FAO is the major multilateral technical and development agency in the food and agriculture sector. Important comparative advantages of FAO stemming from this unique status must be safeguarded:

- (a) international forum, which is politically neutral, especially suited to policy coordination, promotion of technical standards and guiding principles;
- (b) clearing house for the collection, analysis and dissemination of information among its Member Nations;
- (c) multidisciplinary technical capacity with a wide range of expertise, buttressed by worldwide experience and know-how, in analyzing problems and issues in the fields of FAO's competence, as well as in identifying practical solutions and assisting in their implementation; this capacity derives added strength from the existence side-by-side of Regular and Field Programme activities;
- (d) capacity for analysis and synthesis of a wide range of experiences from all parts of the world;
- (e) multinational composition of its staff with ability to appraise policy and technical problems in different socio-economic contexts;

- (f) a global network of physical presence, coupled with close and direct links with Member Governments in a two-way communication process; and
- (g) a comprehensive network of contacts and cooperative links with other scientific and technical, as well as development organizations and institutions, both governmental and non-governmental, at global, regional and national levels.

□ **Guiding Principles**

4. The planning, detailed programming and implementation of the Organization's actions will be carried out under guidance of its Governing Bodies, bearing in mind the following principles:

- (a) relative priorities and new thrusts, as indicated in this Medium-term Plan, will be refined, taking into account the comparative advantages of the Organization vis-à-vis other international organizations, as well as the limits of FAO's own internal capacity, with due regard to cost-effectiveness of its action in each particular area. At the same time, urgent requirements of member countries, especially those of developing member countries, will need to be accommodated, the Secretariat making full use of existing, albeit limited, flexibility;
- (b) the three main functions of FAO, i.e. policy advice, global centre of information, and technical cooperation, as well as its subsidiary roles, i.e. normative and standard-setting role, advocacy role and global watch, etc., will need to keep to a judicious balance. Similarly, a balance will be maintained in selecting and blending different types of means available under the Regular and Field Programmes so as to forge an integrated and coherent response of FAO at various levels;
- (c) the analytical and synthesis capacity rooted in the Regular Programme will need to be carefully nurtured. This capacity will continue to form the basis for FAO's field operations of technical cooperation. In particular, care will be taken to reinforce its multi-disciplinary capacity, mobilizing the range of technical expertise within FAO, so as to be able to address increasingly multi-dimensional development issues. Such a balanced blend of Regular and Field Programme actions will further enhance the relevance and effectiveness of FAO - in particular, FAO must remain an authoritative voice above the jingle of discordant analyses, assessments and advice on issues relating to food, agriculture, fisheries and forestry;
- (d) the catalytic effects and impact of FAO interventions, especially in technical cooperation activities will be sought, in order to optimize the

use of both FAO's limited resources and complementary actions by the various parties concerned;

- (e) in all fields of FAO's competence, particular emphasis will be given to:
 - (i) investment promotion, for which the Organization has a unique capacity at both the pre-investment and investment stages, as well as cooperative links with international funding agencies, and (ii) promotion of inter-country cooperation through both the traditional fora of regional bodies and new mechanisms like technical cooperation networks; and
- (f) it will be important to ensure that FAO's actions continue to form an integral part of collaborative efforts of the member countries concerned, as well as of other international organizations and agencies involved. Thus, programme-oriented approaches will be promoted, both within the Organization and with other partners. In addition to maintaining close relationships with the other UN agencies, international organizations, multilateral and bilateral agencies, cooperation will be strengthened with NGOs on a selective basis.

☐ Substantive Thrusts

5. The detailed programme priorities have been highlighted in the preceding chapters in the context of the problems to be addressed and the specific objectives sought. The substantive thrusts of FAO are summarized as follows.

6. Most FAO actions can be subsumed under the broad concept of global food security, i.e. adequacy of and stability in supply and access to food. These food security concerns constitute the common thread of the Organization's technical work as well as the basis of its advocacy role which is to be vigorously pursued throughout its programmes and at special fora, including the forthcoming International Conference on Nutrition. Food security concerns also transcend the narrow boundaries of food, agriculture, fisheries and forestry, as they must be linked with multi-sectoral issues such as poverty alleviation, balanced rural development, environmental protection and sustainable development, as well as macro-economic policies.

7. Given that the crux of developmental action is at the national level, where policies and actions must be integrated across technical disciplinary lines and economic sectors, FAO activities, as applicable, will continue to be targeted on national capacity building for self-reliant development. The main vehicles for this will be further institutional strengthening and transfer of appropriate technological approaches at all levels. This process will go hand in hand with the emphasis on promoting inter-country cooperation of multiple forms and on investment for development impact on a larger scale.

8. In the coming biennia, the activities of the Organization in the main sectors will be further permeated by major thematic priorities, along the following lines:

- (a) environment and sustainable development with particular stress on: (i) assessment and monitoring, in an increasingly integrated fashion, of environmental and natural resource conditions; (ii) policy and planning assistance related to sustainable agricultural and rural development (SARD); (iii) conservation and use of biodiversity; (iv) efficient and safe use of food and agricultural inputs; and (v) special problems of those areas with unfavourable natural resource endowments;
- (b) policy advice and strengthening of the information base. In policy advice work, emphasis will be on: (i) support to the sector and structural adjustment work (SSAP), including closer collaboration with the World Bank, IMF and other agencies; (ii) food security strategies and policies, including nutritional aspects; and (iii) commodity and trade policies and planning, especially in collaboration with GATT. The comprehensive information for this and other work will flow, in particular, from the completion of development of WAICENT and its full implementation;
- (c) women in development, including full implementation of the FAO Plan of Action for the Integration of Women-in-Development;
- (d) human resources development, with particular attention to upgrading the skills, knowledge and motivation of people in agricultural and rural areas and to facilitating their fuller participation in the development process;
- (e) economic and technical cooperation among developing countries (ECDC/TCDC) through FAO's catalytic role in promoting self-reliant and effective inter-country cooperation;
- (f) in respect of these thematic priority areas, a balanced integration of Regular Programme and Field Programme based activities will be sought.

□ **Strengthened Capacity**

9. In the preceding sections of the Plan, a gamut of important aspects of FAO work have been covered. A number of problem areas and options have been highlighted in this connection, requiring determined action from the Governing Bodies and the Secretariat. In order to preserve and enhance FAO's technical capacity and its overall operational effectiveness in the global context, the following areas will require particular attention:

- (a) further decentralization to the country representations. FAO offices need to have more substantive capacity for policy advice, programming and project formulation, as well as capacity to provide administrative

and financial backstopping to field operations. This will be implemented within an integrated framework for functioning of the FAO office network at country, regional and global levels;

- (b) continued reliance on the plurality of funding sources for FAO's technical assistance and investment support activities. The TCP should remain the operational, quick-action arm of the Regular Programme alongside assistance financed by UNDP and Trust Funds, without prejudice to its level to be determined by the Governing Bodies;
- (c) management of the field programmes. The implementation of UNDP's successor arrangements aimed at full national execution will substantially affect the structure and content of FAO's field operations, including the possible need for major adjustments in FAO's internal arrangements for field operations. Similarly, action will continue to strengthen programming, project formulation and appraisal as well as monitoring and evaluation, together with improved Field Programme management information systems;
- (d) further consolidation and expansion in the use of modern data-processing, information and telecommunication technologies. This will cover a judicious blend of technologies and integrated solutions to expanding FAO's corporate databases, management information systems, office automation, as well as telecommunication infrastructures across FAO's office network and with other organizations and institutions;
- (e) rationalization and streamlining of administrative and operational procedures, including appropriate delegation of authority, to enhance overall FAO's efficiency;
- (f) recruiting and maintaining a cadre of qualified and motivated staff, through restoration of competitive conditions of service for Professional staff, coupled with sustained measures for staff training and career development.

B. RESOURCES CONSIDERATIONS

10. Conference Resolution 10/89 directed that the Medium-term Plan should, if possible, include provisional indications of resources by programmes. The debates at the last sessions of the technical committees of the Council, particularly in the Committee on Agriculture, when the latter bodies discussed medium-term perspectives documents in their respective areas of competence, referred to the resource aspect. Attention was drawn to the need to back up proposed policy orientations and programme priorities with an assured resource base, if the Medium-term Plan were to be translated into effective action.
11. In fact, the resource parameters of the first biennium of the period of coverage of the Medium-term Plan, as well as the related programmatic thrusts and resource shifts are, subject to their endorsement by the Twenty-sixth Session of the FAO Conference, already set in the proposed Programme of Work and Budget for 1992-93. The proposals for 1992-93 involve no real programme growth. This greatly limits the margin of manoeuvre in charting FAO's future course of activity over the medium term.
12. In the light of the above, the Director-General wishes to address the resource dimensions in the context of the present Medium-term Plan, in all sobriety and frankness. He is fully aware of the views and/or positions of principle of governments, as expressed singly or in groups, on overall budgetary matters or on areas to which they attach importance. He is also aware of the inability of governments, due to domestic budgetary procedures, to commit themselves to any level of assessed contributions to FAO's Regular Budget over a six-year period. Even if this constraint did not exist, and bearing in mind experience with attempts in FAO and elsewhere in resource projection, he is convinced that inevitably speculative, indeed abstract, projections or elaborate alternative resource scenarios would hamper rather than help the process of governing bodies reaching consensus. The painful experience of protracted cash flow difficulties in the last few years, the end of which is regrettably not yet in sight, does not provide any encouragement to indulge in any type of crystal ball gazing - quite the contrary. Going back six years, to the Twenty-third Session of the FAO Conference in November 1985, had the Conference requested the submission of a costed Medium-term Plan covering the 1986-91 period, any resource projections across the broad spectrum of FAO activities would have become almost worthless during the very first year of implementation of the Plan, because of the financial crisis.
13. An inescapable conclusion is that the imponderables inherent in the work of an international organization over a six-year period make costed projections of proposed activities only meaningful and practical in the context of the biennial Programme of Work and Budget. Broad strategic options, as many of those mentioned in this document, if endorsed, imply complex interactions and ripple effects. These are not fully

predictable. It is thus not feasible to assign "price tags", in terms of costs in successive biennia, to such options or broad policy choices, although it might be possible to give tentative incremental cost estimates for well-defined actions.

14. FAO Governing Bodies have repeatedly warned about any over-facile expectation that extra-budgetary resources can compensate for shortfalls in the Regular Programme. Essential continuing activities such as the Global Information and Early Warning System (GIEWS) or WAICENT cannot be left exposed to the vagaries of extra-budgetary funding. As emphasized throughout this document, a large portion of the Regular Budget covers essential continuing activities which are incompressible. Even the more discretionary part of the Regular Budget, meets evolving priorities and requests for assistance of Member Governments. By essence, no activity is included in the biennial Programme of Work and Budget which does not trace its justification to expressed or felt needs of Member Nations. The demands placed on FAO tend to spur its advisory and Governing Bodies to stress areas where they expect more from the Organization rather than indicating areas of possible reduced emphasis.

15. The Director-General is inclined to believe that it might still be useful for the Conference to have a broad idea of the resource implications of the Plan up to the year 1997, in terms of relative shifts of resources, but only at the "macro-level". Given the fact that the Programme of Work and Budget for 1992-93 already provides the resource bench-marks for the first biennium, global resource changes in the successive two biennia can only be based on some assumptions.

16. The positive outcome of the FAO Review which reaffirmed the main roles of the Organization, is a renewed mark of confidence in the contribution of FAO to international cooperation in food and agriculture. The Director-General believes that the policy of zero growth advocated by some governments vis-à-vis the organizations of the UN system, which has never been accepted by the Conference, cannot be pursued indefinitely. FAO, for its part, has seen virtually no growth in its approved budget in the last few biennia and, subject to endorsement of the proposed Programme of Work and Budget by the Conference, will see no growth at all in 1992-93. It has suffered heavy cuts to its approved programmes due to enforced economy measures stemming from liquidity problems, which has progressively reduced the programme level over three biennia.

17. The Organization needs an assured level of resources, however modest their growth, to address the multidisciplinary agenda of the nineties, and especially the challenges of sustainable development and poverty alleviation. In all conscience, the Director-General cannot envisage that the level of FAO resources could be allowed to stagnate in real terms. Any suggested percentage of real growth would have to be based on "demands" on the one hand, and "reasonable capacity to respond" on the other. Thus, there would be no point in airing proposals of high percentage growth, based on continuing strong demands for FAO services, without taking into account the Secretariat's capacity to grow and deliver.

18. As a working hypothesis, a 5 percent growth rate could be envisaged. This is in no way to be inferred as an implicit call for real growth of such magnitude in the two

biennia in question, or the expectation of any commitment from the Conference in this regard.

19. On this hypothesis, the possible evolution of FAO Regular Budget could be seen as follows:

(US\$ millions) *

	Base budget 1990-91	Proposed 1992-93	Tentative 1994-95	Tentative 1996-97
CHAPTER 1: GENERAL POLICY AND DIRECTION	42.1	41.8	41.5	41.5
CHAPTER 2: TECHNICAL AND ECONOMIC PROGRAMMES				
Major Programme 2.1, Agriculture	212.6	211.6	220.0	229.0
Major Programme 2.2, Fisheries	36.4	36.1	40.5	45.0
Major Programme 2.3, Forestry	25.3	25.4	30.6	36.1
CHAPTER 3: DEVELOPMENT SUPPORT PROGRAMMES	86.5	88.7	92.0	95.0
CHAPTER 4: TECHNICAL COOPERATION PROGRAMME	67.8	71.8	76.8	82.0
CHAPTER 5: SUPPORT SERVICES	79.7	77.3	78.0	80.0
CHAPTER 6: COMMON SERVICES	17.8	15.6	17.0	18.0
CHAPTER 7: CONTINGENCIES	0.6	0.6	0.8	1.5
TOTAL	568.8	568.8	597.2	627.0

* All figures at the exchange rate of US\$ 1 = Lire 1 335 and at 1990-91 cost levels.

20. As these figures suggest, resumption of growth would permit:

- (a) pursuing further the decentralization initiated in the late seventies, through the network of country offices, and ensuring their effectiveness from the substantive, administrative support and logistic points of view;
- (b) responding to the call of Conference Resolution 9/89 to increase the level of TCP and its share in the total budget;
- (c) expanding FAO's technical and economic activities, with positive discrimination in favour of fisheries and forestry activities, within the limits of the absorptive capacity of the concerned departments; thereby also meeting the likely increased workload of technical backstopping to field activities, including "upstream" programming work;
- (d) keeping administrative costs under tight control, while providing adequate services to an expanding programme and ensuring essential maintenance work; but even the optimistic assumption of being able to

maintain or even reduce further expenditure under Chapter 1 may be invalidated, for instance, by the possible admission of new countries with related language requirements; and

- (e) redress, albeit modestly, the anomaly of a provision for "Contingencies", which has remained unchanged since 1980-81.

21. The Director-General is conscious that even this theoretical level of growth could lead to protracted, and in his view unnecessary, discussions which would, moreover, detract from debates on the substance. Therefore, the following table provides the possible evolution of the same headings in percentage of the total budget, assuming no growth, or negligible growth, in the successive biennia.

(Percentage of total budget) *

	Base budget 1990-91	Proposed 1992-93	Tentative 1994-95	Tentative 1996-97
CHAPTER 1: GENERAL POLICY AND DIRECTION	7.4	7.3	7.2	7.2
CHAPTER 2: TECHNICAL AND ECONOMIC PROGRAMMES				
Major Programme 2.1, Agriculture	37.4	37.2	37.0	36.6
Major Programme 2.2, Fisheries	6.4	6.4	6.5	6.5
Major Programme 2.3, Forestry	4.4	4.5	4.6	4.7
CHAPTER 3: DEVELOPMENT SUPPORT PROGRAMMES	15.3	15.6	15.7	15.8
CHAPTER 4: TECHNICAL COOPERATION PROGRAMME	11.9	12.6	12.7	12.8
CHAPTER 5: SUPPORT SERVICES	14.0	13.6	13.5	13.5
CHAPTER 6: COMMON SERVICES	3.1	2.7	2.7	2.8
CHAPTER 7: CONTINGENCIES	0.1	0.1	0.1	0.1
TOTAL	100.0	100.0	100.0	100.0

* Excluding cost increases

22. Not unexpectedly, the above figures provide a vivid illustration of the limited margin of manoeuvre in meeting the expanded and often conflicting wishes of Member Nations.

23. The Director-General's most ardent desire is for the Conference to unite on the substance, i.e. the broad orientations outlined in the Plan, rather than to engage in lengthy and unproductive arguments over resources when few, if any, governments are in a position to undertake commitments as to future budget levels. Each successive biennial programme-formulation exercise will necessarily have to be based on the immediate financial context, more refined priority-setting and updated forecasts of external factors.

C. FUTURE VERSIONS OF THE PLAN

24. The Director-General does not wish to prejudge the reactions of the Conference on the contents of the present document and its perceived usefulness to the membership, in facilitating both understanding of FAO's possible future directions and future policy reflections and decisions of the Governing Bodies. Although a very economical approach was taken by relying totally on internal resources for its preparation, the process is not cost-free.

25. He reiterates his hope that this document provides a fruitful basis for frank and constructive discussions. On the premise that Member Nations wish to pursue the practice of the Medium-term Plan, the concept of a "rolling" medium-term plan can be interpreted basically in two ways, with the resulting two options. These need to be examined bearing in mind the parallel revision and shortening of the Programme of Work and Budget document, which has accompanied the issuance of this first version of the Medium-term Plan.

☐ Option 1

26. Short supplements to this Plan could be submitted to the Conference in November 1993 and 1995. They could present in summary fashion the major changes in the assumptions embodied in the Plan, including, if found useful by the Conference, updated resource projections. A fully revamped version of the Medium-term Plan covering the period 1998-2003 would then be submitted to the Governing Bodies in 1997.

27. The immediate advantage of this option is, of course, economy in the cost of preparation and production of the document, and perhaps also in the discussion at the concerned sessions of FAO Governing Bodies. It is pertinent to recall in this connection that long-term perspectives do not change much over a two-year period. One major drawback is that governments would not have at their immediate disposal, in two biennia out of three, the complete framework of long-term factors and perspectives, as they could affect FAO's work over the successive six-year period, which is useful to see in conjunction with Programme of Work and Budget proposals.

☐ Option 2

28. A revised version of the Medium-term Plan would be submitted to the Conference each biennium, with a "sliding" six-year coverage.

29. The advantages and drawbacks of this option are precisely the obverse of those inherent in the first option. Delegations would have the total picture of both short-term proposals and long-term perspectives handy in two complementary documents. This would, of course, add to costs of internal preparation and processing of documentation, without discounting the onus put on delegations.

30. Although perhaps more complex options could be considered, the Director-General submits the above alternatives with an open mind, as it seems to offer two clear-cut and straightforward courses of action.

ACRONYMS

ACC	-	Administrative Committee on Coordination
ACC/SCN	-	ACC Sub-Committee on Nutrition
AEZ	-	Agro-ecological zones
AF	-	Administration and Finance Department (FAO)
AFC	-	Computer Services Centre (FAO)
AFMA	-	Association of Food Marketing Institutions in Asia and the Pacific
AFMANENA	-	Agricultural and Food Marketing Association for the Near East and North Africa
AFME	-	Agence française pour la maîtrise de l'énergie (France)
AFMESA	-	Association of Food Marketing Agencies in Eastern and Southern Africa
AGL	-	Land and Water Development Division (FAO)
AGP	-	Plant Production and Protection Division (FAO)
AGR	-	Research and Technology Development Division (FAO)
AGRE	-	Environment and Energy Programmes Coordinating Centre (FAO)
AGRIS	-	International Information System for the Agricultural Sciences and Technology
AOAD	-	Arab Organization for Agricultural Development
APHCA	-	Regional Animal Production and Health Commission for Asia and the Pacific
ARTEMIS	-	African Real-Time Environmental Monitoring using Imaging Satellites (FAO)
AsDB	-	Asian Development Bank
ASEAN	-	Association of Southeast Asian Nations
ASFIS	-	Aquatic Sciences and Fisheries Information System
ATO	-	African Timber Organization
ATSAF	-	Council for Tropical and Sub-Tropical Agricultural Research (Germany)
BAIF	-	Bharatiya Agro-Industries Foundation (India)
BNF	-	Biological Nitrogen Fixation
CAEU	-	Council of Arab Economic Unity
CAPPA	-	Computerized System for Agricultural and Population Planning Assistance and Training
CARDNE	-	Regional Centre on Agrarian Reform and Rural Development for the Near East
CARICOM	-	Caribbean Community Secretariat
CARIS	-	Current Agricultural Research Information System
CATIE	-	Tropical Agricultural Research and Training Centre
CCP	-	Committee on Commodity Problems (FAO)
CFS	-	Committee on World Food Security (FAO)
CGIAR	-	Consultative Group on International Agricultural Research
CIAT	-	International Centre for Tropical Agriculture
CIDIE	-	Committee of International Development Institutions on the Environment
CIEH	-	Inter-African Committee for Hydraulic Studies
CIFA	-	Committee for Inland Fisheries of Africa
CILSS	-	Permanent Interstate Committee for Drought Control in the Sahel
CIMMYT	-	International Centre for Maize and Wheat Improvement
CIP	-	International Potato Centre
CIPAV	-	Convenio Institucional para la Producción Agropecuaria en el Valle del Cauca (Colombia)
CIRAD	-	International Cooperation Centre on Agrarian Research for Development
CIRDAFRICA	-	Centre on Integrated Rural Development for Africa
CIRDAP	-	Centre on Integrated Rural Development for Asia and the Pacific
COAG	-	Committee on Agriculture (FAO)
COFO	-	Committee on Forestry (FAO)
COPESCAL	-	Commission for Inland Fisheries of Latin America
CTA	-	Technical Centre for Agricultural and Rural Cooperation
DANIDA	-	Danish International Development Agency
DAW	-	Division for Advancement of Women (UN)
DIEC	-	Office of the Director-General for Development and International Economic Cooperation (UN)
DIESA	-	Department of International Economic and Social Affairs (UN)

DOEM	- Designated Officials for Environment Matters
DSC	- Development Support Communication
DTCD	- Department of Technical Cooperation for Development (UN)
ECA	- Economic Commission for Africa
ECE	- Economic Commission for Europe (UN)
ECG	- Ecosystem Conservation Group
ECGL	- Economic Community of the Great Lakes Countries
ECLAC	- Economic Commission for Latin America and the Caribbean
ECOWAS	- Economic Community of West African States
EEC	- European Economic Community
EEZ	- Exclusive Economic Zones
EIFAC	- European Inland Fisheries Advisory Commission
ENEA	- Ente Nazionale Energia Atomica (Italy)
ES	- Economic and Social Policy Department (FAO)
ESC	- Commodities and Trade Division (FAO)
ESCAP	- Economic and Social Commission for Asia and the Pacific (UN)
ESCORENA	- European System of Cooperative Research Networks in Agriculture
ESH	- Human Resources, Institutions and Agrarian Reform Division (FAO)
ESHE	- Agricultural Education and Extension Service (FAO)
ESHW	- Women in Agricultural Production and Rural Development Service (FAO)
ESMAP	- Energy Sector Management Assistance Program (World Bank)
ESN	- Food Policy and Nutrition Division (FAO)
ESNA	- European Society for Nuclear Applications in Agriculture
ESP	- Policy Analysis Division (FAO)
ESS	- Statistics Division (FAO)
EUCARPIA	- European Association for Research on Plant Breeding
FFA	- South Pacific Forum Fisheries Agency
FFHC/AD	- Freedom from Hunger Campaign/Action for Development (FAO)
FI	- Fisheries Department (FAO)
FIAC	- FAO/Fertilizer Industry Advisory Committee of Experts
FIPIS	- Fishery Investment Project Information System (FAO)
FO	- Forestry Department (FAO)
FOR	- Forest Resources Division (FAO)
FP	- Fertilizer Programme (FAO)
FSAS	- Food Security Assistance Scheme (FAO)
FSD	- Farming Systems Development
GATT	- General Agreement on Tariffs and Trade
GCC	- Gulf Cooperation Council
GESAMP	- Group of Experts on the Scientific Aspects of Marine Pollution
GFCM	- General Fisheries Council for the Mediterranean
GIEWS	- Global Information and Early Warning System for Food and Agriculture (FAO)
GIS	- Geographic Information System
GLOBEFISH	- Computerized System of Fish Marketing Information (FAO)
GTZ	- German Agency for Technical Cooperation
HABITAT	- Centre for Human Settlements (UN)
IAEA	- International Atomic Energy Agency
IARCs	- International Agricultural Research Centres
IBPGR	- International Board for Plant Genetic Resources
IBSRAM	- International Board for Soil Research and Management
ICAMAS	- International Centre for Advanced Mediterranean Agronomic Studies
ICARDA	- International Centre for Agricultural Research in the Dry Areas
ICGFI	- International Consultative Group on Food Irradiation
ICID	- International Commission on Irrigation and Drainage
ICIMOD	- International Centre for Integrated Mountain Development
ICLARM	- International Centre for Living Aquatic Resources Management
ICM	- Integrated Crop Management
ICRAF	- International Council for Research in Agro-forestry
ICRISAT	- International Crops Research Institute for the Semi-Arid Tropics

ICSC	- International Civil Service Commission
IDF	- International Dairy Federation
IDRC	- International Development Research Centre
IDS	- International Development Strategy
IDWGT	- Inter-departmental Working Group on Training (FAO)
IFAD	- International Fund for Agricultural Development
IFARD	- International Federation for Agricultural Research for Development
IFPRI	- International Food Policy Research Institute
IFS	- International Fertilizer Supply Scheme (FAO)
IGADD	- Intergovernmental Authority on Drought and Development
IGU	- International Geographical Union
IHO	- International Hydrographic Organization
IICA	- Inter-American Institute for Cooperation on Agriculture
IIMI	- International Irrigation Management Institute
IITA	- International Institute of Tropical Agriculture
ILO	- International Labour Organization
ILRI	- Institute of Land Reclamation and Improvement
ILTAB	- International Laboratory for Tropical Agricultural Biotechnology
IMF	- International Monetary Fund
INACG	- International Nutritional Anaemia Consultative Group
INFOFISH	- Intergovernmental Organization for Marketing Information and Technical Advisory Services for Fishery Products in the Asia and Pacific Region
INFOPECHE	- Marketing Information and Technical Advisory Services for Fishery Products in Africa
INFOSAMAK	- Fish Marketing Information, Promotion and Technical Advisory Services for Arab Countries
INIBAP	- International Network for the Improvement of Bananas and Plantains
INRA	- National Institute for Agricultural Research (France)
INSTRAW	- International Research and Training Institute for the Advancement of Women
IOC	- Intergovernmental Oceanographic Commission
IOFC	- Indian Ocean Fisheries Commission
IPCC	- Intergovernmental Panel on Climate Change
IPFC	- Indo-Pacific Fisheries Commission
IPM	- Integrated Pest Management
IPNS	- Integrated Plant Nutrition Systems
IRAZ	- Institute of Agricultural and Zootechnical Research
IRRI	- International Rice Research Institute
ISNAR	- International Service for National Agricultural Research
ISPRS	- International Society of Photogrammetry and Remote Sensing
ISRIC	- International Soil Reference and Information Centre
ISTI	- International Science and Technology Institute
ISWG	- Inter-Secretariat Working Group on Agricultural Education, Science and Training
ITC	- International Trade Centre (UNCTAD/GATT)
ITTO	- International Tropical Timber Organization
IUCN	- World Conservation Union
IUFRO	- International Union of Forest Research Organizations
IVACG	- International Vitamin A Consultative Group
JEUR	- Joint ECE/FAO Agriculture and Timber Division
JNEA	- Joint ESCWA/FAO Agriculture Division
JUNAC	- Cartagena Agreement Board
LAES	- Latin American Economic System
LAIA	- Latin American Integration Association
LAS	- League of Arab States
LDCs	- Least Developed Countries
MERCOSUR	- Southern Cone Common Market
METEOSAT	- meteorology satellite
NENARACA	- Near East-North Africa Regional Agricultural Credit Association
NGOs	- Non-Governmental Organizations

NOAA-AVHRR	-	National Oceanic and Atmospheric Administration-Advanced Very High Resolution Radiometer
OAU	-	Organization of African Unity
ODA	-	Overseas Development Administration (UK)
OECD	-	Organization for Economic Cooperation and Development
OIE	-	International Office of Epizootics
OMVG	-	Organization for the Development of the River Gambia
OMVS	-	Organization for the Development of the Senegal River
OSAD	-	Outerspace Affairs Division (UN)
PAHO	-	Pan-American Health Organization
PTA	-	Preferential Trade Area for Eastern and Southern African States
RACAs	-	Regional Agricultural Credit Associations
RAPA	-	Regional Office for Asia and the Pacific (FAO)
REUR	-	Regional Office for Europe (FAO)
RNEA	-	Regional Office for the Near East (FAO)
SAARC	-	South Asian Association for Regional Cooperation
SABRAO	-	Society for the Advancement of Breeding Research in Asia and Oceania
SACRED	-	Scheme for Agricultural Credit Development (FAO)
SADCC	-	Southern African Development Coordination Conference
SAFGRAD	-	Consultative Advisory Committee on Semi-Arid Food Grain Research and Development
SARD	-	Sustainable agriculture and rural development
SEAFDEC	-	Southeast Asian Fisheries Development Centre
SEAMEO	-	Southeast Asian Ministers of Education Organization
SEARCA	-	SEAMEO Regional Centre for Graduate Study and Research in Agriculture
SIDA	-	Swedish International Development Authority
SIDP	-	Seed Improvement and Development Programme (FAO)
STRC	-	Scientific, Technical and Research Commission (OAU)
TCP	-	Technical Cooperation Programme (FAO)
TFAP	-	Tropical Forestry Action Programme
UDEAC	-	Central African Customs and Economic Union
UNCED	-	United Nations Conference on Environment and Development
UNCTAD	-	United Nations Conference on Trade and Development
UNDP	-	United Nations Development Programme
UNDRO	-	Office of the United Nations Disaster Relief Coordinator
UNEP	-	United Nations Environment Programme
Unesco	-	United Nations Educational, Scientific and Cultural Organization
Unesco-MAB	-	Man and the Biosphere Programme
UNFPA	-	United Nations Population Fund
UNGA	-	United Nations General Assembly
UNICEF	-	United Nations Children's Fund
UNIDO	-	United Nations Industrial Development Organization
UNIFEM	-	United Nations Development Fund for Women
UNITAR	-	United Nations Institute for Training and Research
UNOALOS	-	United Nations Office of Ocean Affairs and the Law of the Sea
UNRISD	-	United Nations Research Institute for Social Development
UNSO	-	United Nations Sudano-Sahelian Office
UNU	-	United Nations University
USAID	-	US Agency for International Development
WAICENT	-	World Agriculture Information Centre (FAO)
WCA	-	World Census of Agriculture
WCARRD	-	World Conference on Agrarian Reform and Rural Development
WFP	-	World Food Programme
WHO	-	World Health Organization
WID	-	Women-in-Development
WMO	-	World Meteorological Organization
WRI	-	World Resources Institute
WWF	-	Worldwide Fund for Nature