

C 93/4

# **PROGRAMME EVALUATION REPORT 1992-93**



Food  
and  
Agriculture  
Organization  
of  
the  
United  
Nations

**C 93/4**

**April 1993**

Twenty-seventh session  
6-25 November 1993

***PROGRAMME  
EVALUATION  
REPORT  
1992-93***



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## DIRECTOR-GENERAL'S INTRODUCTION

1. I am pleased to submit this first issue of the Programme Evaluation Report, containing selected in-depth reviews and evaluations of FAO's operations under both the Regular and Field Programmes. The Programme Evaluation Report, together with the new Programme Implementation Report, now replace the Reviews of the Regular and Field Programmes as the major evaluation and accountability reports to the Governing Bodies, in line with the decision of the last Session of the Conference.

2. While the former Reviews of Regular and Field Programmes met general satisfaction of the Conference and other Governing Bodies, in great part due to progressive improvements introduced under their guidance, the new reporting arrangements offer important advantages. Firstly, we have now a clear separation between an evaluative, substantive reporting on the one hand and accountability and progress reporting for the current biennium on the other. Secondly, in both Reports we can treat Regular and Field Programme activities in a fully integrated manner. The Programme Evaluation Report, in particular, provides an opportunity for substantive interaction between the evaluators and programme managers, and thus should contribute to further effectiveness of the FAO's evaluation system, which covers comprehensively both the Regular and Field Programmes.

3. This Report was prepared building on the experience gained under the Reviews of the Regular and Field

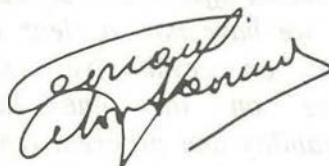
Programmes. In fact, as the first new Report, both its general approach and format are basically in line with the former Review of the Regular Programme. At the same time, given its nature, the Report employs by necessity a selective approach in scope, with the intention of covering all the key programmes of the Organization in the coming biennia, including cross-programme thematic topics, the importance of which is steadily growing in FAO's work. Similarly, attention has been given to assessing the results and impact of programme implementation as concretely and in depth as possible within the practical constraints, drawing on relevant existing information in FAO. The individual reviews and evaluations in the Report are the product of extensive analysis and of internal discussion between programme managers and the Evaluation Service. However, the value judgements expressed and issues raised retain the independent judgement of the Evaluation Service.

4. The period covered by the Programme Evaluation Report, from 1986 to the current biennium, has been a period of challenges and difficulties for the Organization and the Member Nations we serve. For the Member Nations this has been a period of curtailed Government programmes and in many cases profound structural adjustment. There has been a growing world consciousness of the emerging environmental issues and the challenges to be faced, if we are to achieve sustainable development and ensure adequate food and an improved quality of life for the World's poorest peoples.

5. Throughout the period, FAO suffered financial problems unparalleled in the Organization's history, forcing cut-backs in programme implementation and limiting the possibilities for effective forward-looking management and innovative initiatives. At the same time, the Organization's Field Programme has been declining and is being re-aligned in line with new emphases of national execution. The Review of Certain Aspects of FAO's Goals and Operations confirmed the mandate and thrust of the Organization, while re-emphasizing several of the Organization's priorities. Unfortunately, Member Countries have not made available adequate extra-budgetary resources in support of activities in priority areas, such as policy advice and support, and the strengthening of countries' institutional capability for policy and planning. Resources have been lacking for the Secretariat to respond adequately to such challenges as follow-up to the "Earth Summit" and issues related to the Uruguay Round of Multilateral Trade Negotiations.

6. Despite financial constraints, the Organization has responded well to the challenge with some imagination, resourcefulness and a sense of purpose, which guided the continuous process of programme adjustments and search for cost-effective approaches. The reviews and evaluations presented in this Report reflect both the difficulties and the energy of the Organization's response. They demonstrate that FAO does have major comparative advantages while at the same time, pointing out areas of weakness and potential improvement.

7. I trust that the Conference will find the Report informative and useful, facilitating reflection on the Organization's future priorities and modalities of action, and I look forward to constructive suggestions and guidance for future improvement of the Report.



Edouard Saouma  
Director-General



## SUMMARY

### INTRODUCTION

1. This is the first Programme Evaluation Report, which together with the Programme Implementation Report, replace the Reviews of Regular and Field Programmes. The Programme Evaluation Report is intended to provide the Governing Bodies with in-depth, evaluative assessment on selected FAO programmes and activities under both the Regular and Field Programmes. As such, the evaluative nature of the Report has been, and will continue to be, strengthened. It is hoped that the Governing Bodies will find the Report useful not only for forming their own assessment on the relevance, efficiency and effectiveness of FAO programmes covered, but also for suggesting appropriate measures for improvement.

2. Part One presents in-depth reviews of three selected programmes, covering the Sub-programme Crop Protection (2.1.2.4) in Chapter One, two Sub-programmes dealing with Statistical Processing, Analysis and Development (2.1.7.1 and 2.1.7.4) in Chapter Two, and a programme in support of small-scale fisheries in Chapter Three. Part Two deals with Field Programme aspects, and Chapter Four contains a synthesis analysis of some 580 project evaluations undertaken between 1985 and 1991. Part Three covers a cross-programme thematic topic, and Chapter Five contains an in-depth review of FAO Activities in Support of the Development of International Trade. In Part One and Part Three, the time-frame of coverage is about six years, and methodologically the approach is similar to that used for recent editions of the Review of the Regular Programme, except that further effort was made to report on concrete results and achievements.

3. Given the nature of the document, each issue of the Programme Evaluation Report is bound to have only partial coverage. To the extent possible, the coverage of topics and issues will be selected to ensure that they represent FAO's main areas of work and priority concerns. In this issue, especially in Part One, an attempt was made to cover programmes engaged in the three functions of FAO as confirmed by the Review of Certain Aspects of FAO's Goals and Operations, policy advice (including standard setting), information activities and technical cooperation support. The three subjects selected provide a good profile of FAO programmes engaged in these functions with different levels of intensity.

### PART ONE

#### Chapter One: In-depth Review of Sub-programme for Crop Protection (2.1.2.4)

4. FAO has played a pivotal role in international crop protection activities for over three decades. The International Plant Protection Convention (IPPC) was vested in FAO in 1951, and since 1955 FAO has been responsible for keeping the desert locust situation under review. More recently, the International Code of Conduct for the Distribution and Use of Pesticides was adopted by the 1985 FAO Conference and amended in 1989 to include the Prior Informed Consent Clause (PIC).



5. The Sub-programme's general objective is: "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 to coordinate control of migratory pests".

6. The major activities of the Sub-programme can be grouped into four major areas of work: (i) Plant Health and Reduction of the Spread of Quarantine Pests, which includes work in support of the IPPC and regional plant protection organizations as well as field activities to strengthen national plant protection services (Thrust One); (ii) Integrated Pest Management, including plant pathology, weed management, non-migratory pest control, and post-harvest pest management (Thrust Two); (iii) Pesticide Management, in particular activities in support of the International Code of Conduct on the Distribution and Use of Pesticides (Thrust Three); and (iv) Migratory Pest Control, especially monitoring and information exchange on locusts and grasshoppers, and operational support to field activities coordinated by ECLO (Thrust Four). During the 1986-93 period, US\$21.4 million of the Regular Programme resources were allocated to the Sub-programmes, of which roughly 30 percent were devoted to Thrust One, around 25 percent each to Thrusts Two and Three, and approximately 20 percent to Thrust Four.

7. The field projects backstopped by the Sub-programme over the 1986-92 period numbered 579 with a total budget of US\$265.6 million. IPM accounts for the lion's share of field projects, amounting to 43 percent of the total number and 57 percent of the total budget. The projects related to migratory pest control accounted for 32 percent of the total number of projects and 23 percent of the total budget. The geographical focus of field projects has been on Africa, which accounted for roughly 50 percent of all projects by number and budget. The Sub-programme's international mandate is also reflected in the regional and inter-regional projects, which totalled 110 with a budget of US\$64.6 million or a little less than one-fourth of the total.

8. During the review period, the IPPC, as the only existing instrument of global significance for regulating the spread of quarantine pests, was called upon by the current GATT Multilateral Trade Negotiations (Uruguay Round) to assist in "the establishment, recognition and application of common phytosanitary measures" to facilitate trade. A secretariat to the IPPC was established in the 1992-93 biennium to strengthen FAO's coordination function.

9. IPM activities have been guided by the joint FAO/UNEP Panel of Experts on Integrated Pest Control, and have included a large number of workshops and expert consultations on various IPM aspects. In the Field Programme, the Trust-funded regional programmes on rice have been especially successful, but the cotton IPM project in Sudan has also brought IPM recognition in the country as the officially preferred pest control strategy. The promotion of IPM for economically marginal or subsistence crops has proved more difficult, but some success was recorded in the UNDP-funded regional project in Africa on the Biological Control of Food Crop Pests, where the combination of biological control and plant resistance to combat an introduced pest proved effective.

10. The adoption of the International Code of Conduct by FAO's Governing Bodies was completed in 1989 with the inclusion of Prior Informed Consent (PIC), the implementation

of which is supported by a joint FAO/UNEP programme. In support of the Code, a joint FAO/UNEP database on pesticides was established and by end-1992, 155 countries were participating in the PIC procedure. Field Programme activities related to the Code have consisted mainly of 26 TCP projects and an inter-regional project funded by Japan, which provided assistance to 27 countries in the Asia and the Pacific, and in the Caribbean region.

11. With the outbreak of serious grasshopper and locust infestations in 1985, FAO established the Emergency Centre for Locust Operations (ECLO) in 1986 to coordinate locust campaigns, backstop projects, and collect, analyse and disseminate information. Over the 1986-89 period, ECLO organized some 38 coordination meetings, which discussed policy matters as well as research and project-related issues. The locust campaigns coordinated by ECLO involved 40 affected countries, three regional control organizations, 37 donor countries, 11 international organizations, 17 non-governmental donor organizations, and four organizations offering scientific and technical advice. The assistance mobilized totalled US\$302 million over the period.

12. The Sub-programme has a significant share of activities directly linked to FAO's mandate in fostering global or regional coordination. During the biennia under review, these international activities have gained in importance. International instruments like the IPPC and the Code of Conduct have been reinforced and amended, locust campaigns were conducted on an unprecedented scale, and the regional rice IPM programme in South-east Asia has frequently been praised as one of the best examples of IPM implementation. The increased emphasis on sustainable agricultural development, particularly under UNCED's Agenda 21, has given an additional boost to the Sub-programme's mandate.

13. The concentration on four major thrusts has helped the Sub-programme to achieve a harmonious balance in its substantive activities. The Sub-programme's work in support of the IPPC and the Code of Conduct has demonstrated FAO's unique role in facilitating international agreements and cooperation. At the same time, FAO's IPM activities in particular have proven that the Organization can be a major factor in guiding and initiating innovative technical and scientific work. The next challenge would be to define the Sub-programme's contribution to strategies for sustainable agricultural development. This task would require a more holistic approach to crop protection, including closer collaboration with other FAO units as well as an intensified dialogue with experts from different disciplines and institutions.

## **Chapter Two: In-Depth Review of Sub-programmes for Statistical Processing, Analysis and Development (2.1.7.1 and 2.1.7.4)**

14. Sub-programmes 2.1.7.1 and 2.1.7.4 are at the core of FAO's statistical work, and absorbed, during the 1992-93 biennium, about 50 percent of the Regular Programme resources devoted to the Food and Agricultural Information and Analysis Programme. The overall objective of the two Sub-programmes is to provide timely, reliable and comparable statistical information on salient aspects of global food and agriculture to member countries and in-house users. Both Sub-programmes take root in FAO's mandate to "collect, analyze, interpret and disseminate information relating to nutrition, food and agriculture", and the importance of these activities was underlined in the recent Review of FAO's Goals and



Operations, which highlighted the information role as one of the three primary functions of the Organization. Presently, FAO's statistical system comprises data on 800 agricultural commodities and 250 fishery and forestry products, covering 230 countries and territories, including aggregations at regional and sub-regional levels. It also covers data on demography, trade flows and other subjects.

15. Sub-programme 2.1.7.1 centres on the production, maintenance and dissemination of basic statistical information as well as on the development of end-user services such as AGROSTAT and WAICENT. Sub-programme 2.1.7.4 focuses on the development of statistical methods and standards and on the support to strengthening national statistical systems. The main activities under the two Sub-programmes are grouped into five components: (i) data acquisition, compilation, verification and storage; (ii) data management and dissemination, including WAICENT; (iii) data analysis; (iv) development assistance to national statistical systems; and (v) statistical statutory bodies. In the recent biennia high priority has been given to: (i) integration of FAO's statistical databases of corporate significance into the FAOSTAT component of WAICENT; and (ii) development of standardized statistical concepts, definitions, classifications and methods.

16. During the period reviewed, major achievements of the Sub-programmes included the expansion of the AGROSTAT system through the integration of major statistical databases, including Forestry and Fishery databases. The progress will be completed through the full development of FAOSTAT, a corporate statistical data system within WAICENT. Agricultural and food statistics have been regularly elaborated and presented through yearbooks, bulletins or periodic publications and distributed to end-users. In 1992, for example, 24 400 copies of the four major statistics publications were produced: two-thirds of these publications were officially distributed to member countries and over 20 percent were sold. During the same period, 18 periodic publications and 11 methodological publications were issued, all of which were widely distributed to the member countries and international organizations. The services to users have expanded, with the daily average of data items retrieved increasing from 24 000 in 1986 to 40 000 by 1991. Relevant on-line services are now provided to international organizations, basically the UN, EEC, OECD and related institutions based in Europe. The extensive use made of FAO's statistical data at the national and international levels is a testimony to the value of its comprehensive data bank, based on well-established time-series, particularly for those countries in which agricultural statistics are unreliable.

17. The Sub-programme also backstopped 102 field projects with a major focus on agricultural statistical development in some 60 countries, mostly in Africa and Asia and the Pacific regions. Generally, this assistance covered: (i) upgrading technical skills of the statistical staff; (ii) improving methodologies for collection, processing and analysis of data; and (iii) providing equipment and related staff training. Evaluation of 13 of these projects indicated that while most projects made useful contributions, especially through training and introducing new statistical methods, the majority encountered difficulties in strengthening technical and institutional capacity of national institutions due to basic financial and institutional constraints.

18. Despite resource constraints, adequate progress has been maintained in the programme implementation, including the development of AGROSTAT and WAICENT. However, the

staffing situation, exacerbated by priority work on WAICENT, has resulted in curtailment or delays of some priority work, especially in new areas of statistics related to environment and some social indicators.

19. In future, in order to regain the lost momentum and to keep up with new demands, particular care will need to be taken to ensure adequate resources for the five priority areas of work, i.e.: (i) regular selection, verification and completion of basic national agricultural statistical data; (ii) development and regular updating of global assessment aggregates and indicators; (iii) standardization of concepts and methods and training national staff; (iv) improving the quality of statistical information; and (v) analysis of the possibility of substituting some traditional statistical publications by less expensive and/or more efficient information support, e.g. PC diskettes.

20. The quality of FAO statistics depends ultimately on that of nationally-produced statistics and data. Regular assistance to member countries in the selection of adequate and reliable methods for data collection and processing needs to be continued and expanded, involving country visits for technical support and training. Training assistance in computer use for statistical work is one particular area with increasing requests. This represents an area of expertise that is not yet fully available within the ESS Division, and should be further strengthened in cooperation with AFC.

21. The ESS Division has the overall responsibility for the development of WAICENT through integrating FAO's statistical and non-statistical information databases into one corporate framework. Given its technical competence, it has concentrated its efforts on the AGROSTAT and its upgrading into the FAOSTAT component. However, a balanced development of the WAICENT would require similar progress in the FAOINFO component, which is outside the competence of ESS. While the Steering Committee in charge of the development of WAICENT provides the necessary coordination at the policy level, the enormity of the work involved rests on effective management at operational levels to ensure concerted efforts among the units and programmes involved.

### **Chapter Three: FAO Assistance to Small-scale Fisheries**

22. Small-scale fisheries are an important source of employment and provide significant amounts of animal protein, particularly in developing countries. Small-scale fishermen often have low incomes and poor living conditions, particularly in areas where fish resources have been depleted. Over-exploitation of the resource base, environmental degradation of coastal areas and continued demographic growth of fishing villages has led to decreasing yields and lower total catches.

23. Early international efforts aimed at assisting small-scale fishermen focused on raising productivity through improved techniques. However, these did not always have the desired benefits, sometimes leading to decreased employment and overfishing of resources. As a result, FAO and other organizations began to emphasize more integrated approaches, supported by socio-economic studies and interventions, and aimed at the developmental priorities perceived by fishing communities themselves. The participatory approach and integrated development were endorsed by the 1984 World Conference on Fisheries.



Programme of Action II of the Conference, "Development of Small-Scale Fisheries", provides a framework for FAO activities in the sub-sector.

24. The Programme's general objective is "to improve the socio-economic condition of small-scale fishing communities and to enhance their contribution toward the rational exploitation and utilization of fishery resources." It involves an integrated approach to development needs, beneficiary participation in planning and implementation of activities, mobilization of local and international resources, long-term technical support and training, involvement of small-scale fishermen in resource management, and enhancement of the role of women in fish production and marketing. The Programme is multi-disciplinary and emphasizes three thrusts: a socio-economic approach aimed at integrated development, technology development and transfer, and resource conservation and management. FAO provides the framework for assistance to the sub-sector, acts as a catalytic facilitator and coordinator among concerned parties and executes directly-targeted field interventions.

25. FAO's assistance involves all Divisions of the Fisheries Department, with the Fishery Industries Division most heavily involved. Within the Department, there are two committees which advise senior management on aspects of small-scale fisheries: the Working Group on Sustainability in Fishing Community Development and the Core Group on Women in Fisheries. Regular Programme activities associated with improvement of small-scale fisheries (excluding aquaculture) totalled US\$7.2 million over the period 1986-92, slightly over 6 percent of the total departmental Regular Programme budget. In the same period, there were 44 field projects, with total budgets of US\$40 million, on small-scale capture fisheries, backstopped by the Department.

26. The socio-economic aspects of the Programme have been a major element in evolving a practical integrated approach to artisanal fisheries development. Regular Programme activities have centred on gathering and synthesizing of experience on critical topics such as credit, women in development, fishermen's organizations and integrated development. The cornerstones of the Field Programme are the Bay of Bengal Programme (BOBP) and the Integrated Development of Artisanal Fisheries Programme in West Africa (IDAF). These regional programmes work with FAO and non-FAO projects at country level in varying forms of association, aimed at the objectives of Programme of Action II. FAO's activities within integrated projects have generated considerable knowledge about how fishing villages function as socio-economic units and conditions under which technology may be adopted. Projects which made use of participatory organization showed good results in a number of cases, also attracting other donors. A judicious combination of extension and credit also showed to be effective in certain projects.

27. The Regular Programme work on technology transfer has emphasized technical publications which reflect experience on selected aspects of artisanal fisheries production, processing and marketing. These have been widely distributed to field projects and concerned national institutions. BOBP and IDAF, as well as other field projects, have important elements of technology transfer relevant to artisanal fishermen. Technology transfer activities in these projects have been relatively more successful in Asia than in West Africa thus far, but it is perhaps too early to say which technologies will be adopted on a sustained basis.

28. Work on resources and fisheries management has focused on improving catch surveys for artisanal fisheries and on fisheries planning exercises, much of which is relevant to small-scale fisheries. Regional and sub-regional seminars have been held on topics of importance, such as development of community-based coastal fishery management systems. The effectiveness of surveys is constrained by high costs associated with determining catches by artisanal fishermen. There has been promising follow-up in some countries to planning exercises (e.g. Madagascar, Maldives, Tanzania) but in some cases this has been constrained by the relatively weak position of the Departments of Fisheries in many national administrations.

29. The overall results of FAO's activities in support of small-scale fisheries are mixed so far. The programme has been a catalyst for promoting more integrated approaches at the national level and has served a coordinating role between donors and recipient countries, particularly in regions served by regional umbrella projects for assistance to small-scale fisheries, although they were established only in Asia and West Africa. The programme's catalytic role has been most noticeable in the areas of gender issues, participatory community integrated development, credit and training. However, despite some promising experiences as cited above, it is as yet too premature to draw firm conclusions in many cases. Furthermore, there are also disappointing experiences that need to be studied carefully to draw lessons.

30. In short, at issue are the sustainability aspects as well as the overall effectiveness of the integrated approach. The integrated-type projects are inherently more difficult to implement and tend to have long gestation periods until impact begins to appear. They require focusing considerable effort into what are often rather small geographic areas. Sustainability of these projects is an important consideration, especially in poor countries where there may be no institutional structures in place to take over from the project, especially the new components only recently introduced.

31. An in-depth technical review of the Programme of Action is suggested to examine what has been done, what may be achieved following current approaches and whether FAO needs to revise its strategy in this area. This could be expected to lead to a more precise strategy for FAO interventions.

32. In the area of resource management, an important issue with respect to artisanal fisheries is the relative lack of information available to make resource assessments and to develop sustainable management strategies. FAO can be expected to give more attention to this aspect within the framework of community-based coastal management systems, a field in which there is little experience as yet. However, it must be kept in mind that there is always a possibility that local and national interests may not always be in harmony and that suitable co-management mechanisms may be possible only under certain circumstances.

## PART TWO

33. Chapter Four presents a synthesis analysis of findings of evaluation missions fielded over the 1985-91 period. The Annex to the Chapter contains issues arising from project evaluations in four selected sub-sectors.



34. A total of 579 individual projects were subjected to in-depth, independent tripartite evaluation over the period: 55 percent were mid-term evaluations and 45 percent terminal evaluations, with few ex-post evaluations. Missions averaged 18 days in the field, at a cost of some US\$25 000 per mission. The annual number of projects covered increased substantially from about 70 between 1985-88 to 90-100 between 1989-91.

35. About two-thirds of the projects evaluated were relatively large-scale with a donor budget of US\$900 000 or more. Eighty percent of the projects were located in Africa and Asia and the Pacific, with Africa accounting for an increasingly larger share, reaching 60 percent in 1989-91, a share significantly higher than the proportionate share of the Field Programme. UNDP projects accounted for three quarters of those evaluated, showing a fairly constant trend during the period. In terms of main technical programmes, the overall pattern remained generally stable, with Major Programme Agriculture accounting for 70 percent, Forestry 19 percent and Fisheries 11 percent.

36. The quality of evaluation reports has shown improvement, with the share of good quality reports increasing steadily from about 30 percent in 1985-86 to some 45 percent in 1990-91. Reasons for this progress include increased mission members' familiarity with evaluation principles and greater clarity of the missions' terms of reference.

37. Evaluation findings with respect to four key aspects (project design, implementation efficiency, outputs and effects), reveal that some 30 percent of the projects were rated good with respect to their outputs and somewhat less (24 percent) with respect to effects, which is to be expected since effects are a complex aspect to evaluate. The picture however is disappointing with respect to project design (18 percent rated good) and implementation (22 percent). When the evaluation reports considered of poor quality are excluded (some 20 percent), the overall pattern of assessments remains largely the same, except that for most of the key aspects, ratings are slightly less favourable.

38. In terms of trends over the period, there was a general improvement in assessment ratings on all key aspects, except for project effects. The progress was most evident in project implementation. Poor rating on project effects increased sharply since about 1988, probably as a result of the constraints and difficulties posed by the deteriorating conditions in the field, especially in Africa. However, projects in the Near East/North Africa and Latin America and the Caribbean regions also encountered difficulties in project outputs and effects. It is a matter of concern that sustained progress could not be maintained in project design, on which FAO has relatively direct control.

39. In terms of projects' success in achieving their results, 73 projects (19 percent) received good rating on both the quality and quantity of outputs produced, while 25 projects (6 percent) were rated poor on both aspects, thus leaving the great majority of the projects in between. An examination of the relative effectiveness of the various project components shows that for the total population of projects, components that obtained better ratings included: assistance in farm inputs and services, construction/rehabilitation/improvement of physical facilities, training of national staff and technical recommendations. The group of 73 projects with good outputs performed significantly better than the total population of projects, particularly in policy and planning advice and national staff training.

40. Main weaknesses in project design identified by the evaluations include: means-ends link, realism in the implementation plan, identification of counterpart inputs, institutional framework, internal project management arrangements and identification of important assumptions and risks underlying overall project success. With respect to implementation, weaknesses identified include: the project's integration and coordination with other related institutions and projects in the country, use of workplanning techniques, availability of counterpart inputs and support of the Government, both at policy and project host agency levels. It is noteworthy that FAO staff inputs were generally rated favourably in quality and effectiveness, with the major problem being timeliness in fielding staff.

41. To further analyze the relationship between project design and implementation vis-à-vis project results, a Chi Square statistical test was applied, yielding the measure of relative strength of association between some 30 individual elements of project design and implementation with project performance on outputs (both in terms of quality and quantity). Results of the analysis confirm the importance of basic aspects of good design (means-ends analysis, workplanning, validity and coherence of project concept, institutional and management arrangements), and they also underscore the preponderant role of FAO inputs in the implementation process. The important role of the host government is also reflected. The ranking pattern, in particular, indicates that project implementation elements outrank to a large extent project design. The effectiveness of project management, FAO personnel and technical backstopping appear to be factors with a much closer link with outputs performance than any design elements.

42. It is significant that among the 73 projects with good output performance, there was not a single case of a project, irrespective of the rating given to overall quality of project design, which was given a poor rating on implementation. In many cases missions found that good output was achieved notwithstanding serious flaws in the initial design of the project (concrete illustrations provided in the chapter). In particular, the key elements of project implementation which appear to determine project success are good project management and staff, effective workplans and Government support. Nevertheless, good design has a role to play in setting adequately the project within its national context and in guiding and sustaining it through implementation and follow-up.

43. There is still a further lesson to be noted. Projects that have been well designed, well implemented and have been successful in achieving their outputs, may still encounter impediments to the realization of their objectives. These impediments and constraints are usually important events and conditions affecting the dynamic momentum of project results but usually outside the project framework. Some examples are identified among the 73 successful projects with such constraints as: marketing and distribution problems, largely a result of underestimating the difficulties of commercializing the output; the absence of appropriate national legislative framework for orderly use of project outputs, like improved seed; and the uncertain sustainability of training activities, as the national training institutions often suffered from inadequate funding and/or legal status and generally lacked a solid core of permanent and adequately trained staff.

44. These findings and lessons are not new: many are familiar to the FAO Secretariat, which has been taking various measures to correct the identified weaknesses. These corrective measures have included staff training on project formulation, training of national



project directors, attention to operational and technical backstopping, especially through field visits, improving guidelines on project formulation and better feedback from evaluation to project planning and implementation. While these efforts will continue, this synthesis suggests that the future focus will need to emphasize:

- a. a more multi-disciplinary approach to project planning, design and implementation;
- b. upgrading the skills of FAO staff and consultants in project analysis and design, project management and planning, monitoring and evaluation;
- c. further improvement in FAO procedures and process for programming, project formulation, appraisal, implementation and monitoring/backstopping; and
- d. greater selectivity in identifying, formulating and implementing projects in line with FAO's comparative advantage.

### PART THREE

45. Chapter Five covers a selected topic which cuts across technical programmes, FAO Activities in Support of the Development of International Trade.

46. Within the context of FAO's broad mandate for the improvement of agriculture, the Constitution of the Organization recognises a role for FAO in the strengthening of trade in agricultural products; a role which continues to be emphasised by the Governing Bodies. The Uruguay Round is the first of the Rounds of Multilateral Trade Negotiations to give comprehensive attention to trade in agricultural products, and this has also been a period when international thinking has tended to view managed trade with disfavour. FAO's support to the development of agricultural trade during the period under review must be viewed in this context. FAO is not the forum for the negotiation of international trade agreements per se. Thus, the Organization's contribution can only be indirect, drawing on its wide-ranging technical competence in related subjects, as well as in commodities, and in cooperation with other concerned international organizations.

47. FAO has therefore recently been giving priority support to the development of agricultural trade through: provision of information and analysis on all aspects of commodity trade, especially trade analysis for the short- and longer-term outlook and basic trade statistics; reducing non-tariff-technical barriers to trade, especially by promoting agreement on internationally acceptable food quality and phytosanitary standards for trade; fostering international dialogue among the Member Countries on trade policies and practices; and the provision of technical assistance for trade development, particularly in relation to non-tariff-technical barriers to trade for food quality control and pesticides. In addition, attention continues to be given to fostering economic and technical cooperation on trade matters between developing countries (ECDC/TCDC). An emerging area of concern is the interactions between trade in agricultural products and the environment.

48. The majority of FAO's work in trade is carried out through the structure of commodity and Codex committees which have at their apex the Council and Conference. The work of the secretariat feeds into the committee structure, both providing basic information and facilitating discussion at all levels. Work on trade is distributed throughout the secretariat with the overall lead at the policy level being taken by the Commodities and Trade Division which services the Committee on Commodity Problems (CCP) and Inter-Governmental Commodity Groups (IGGs). There are also major inputs from the Fisheries and Forestry Departments and from the Food Policy and Nutrition Division and the Plant Production and Protection Division. The total Regular Programme budget for work on trade has remained almost constant in recent biennia at approximately US\$ 28 million in real terms. Half of this budget is absorbed by overall work on trade in the Commodities and Trade Division and a further quarter by work on food quality control standards.

49. Nearly all the main agricultural commodities entering international trade are covered by international commodity organizations or by FAO - IGGs. The main exception to this is the horticultural crops (excluding bananas, citrus and grapes) and some non-traditional animal feeds. Jute and kenaf and hard fibres are significant for a few of the world's poorest countries, however, their global significance is small, with their relative importance declining even for the major producing countries. Consideration could thus be given to reducing the intensity of work in the IGGs for these commodities, complemented by some expansion of cooperative activities, including with the International Jute Organization. This could facilitate increased attention to horticultural crops, which, among others, have considerable potential for growing export by developing countries.

50. FAO is the only source of comprehensive basic agricultural trade data for all agricultural commodities. The Organization also produces extensive commodity information and detailed analyses and forecasts, in particular for the commodities covered by IGGs. A number of major publications, including the annual Commodity Review and Outlook, the various statistical yearbooks and the monthly Food Outlook, summarise this information. Emphasis has not been given to current market information except for fish, where FAO has been supporting the development of a comprehensive network for market information based on regional organizations; among these, INFOFISH in Asia and the Pacific has now become an independent body. FAO has a particular strength in the medium- and long-term analysis of commodity markets, and the Organization's information and experience is made wide use of by international commodity organizations and international agencies as well as Member Countries. In this area where the Organization enjoys comparative advantage vis-à-vis other organizations, work could be further expanded. FAO's outlook information could also be effectively used to increase the depth of current market information services, including those operated by the International Trade Centre.

51. All types of FAO trade information receive extensive circulation and coverage in the press, and are used by policy makers, in trade and in academic research. Whereas IGGs utilise official FAO mailing lists as well as individual unofficial lists, both Codex and fisheries market information are more precisely targeted. This raises a broader question for FAO, as to whether the official lists, drawn up primarily for Conference and Council documentation, are equally appropriate for very detailed technical material and whether the procedure represents the most effective way of disseminating documents. It is also clear that whether or not the documentation reaches all concerned parties in a country, depends very



much on the efficiency of the Government's own distribution system. Further enhancement in the dissemination of the considerable amount of valuable information could be considered, including for example, through commercial computer networks, the introduction of a computer diskette service and systematic targeting of the trade press. Similarly, FAOR offices could be further developed as reference points for commodity information, and a still greater role for the Food Outlook in information dissemination could be explored.

52. During the period covered by this review, there has been a growing recognition of the potential importance of FAO's long-standing work on non-tariff barriers to trade. The significance of the International Plant Protection Convention (IPPC) has been highlighted in the context of international agricultural trade and FAO is now working to harmonize plant quarantine practices. With respect to trade in pesticides, there is growing acceptance of the Prior Informed Consent (PIC) clause of the International Code of Conduct on the Distribution and Use of Pesticides. Under the PIC, countries accept not to permit export of pesticides banned for use in their own territory, without the explicit agreement of the importer. The EC has accepted the PIC, and 51 importing countries have indicated their decisions regarding six pesticides banned in the country of origin.

53. The Joint FAO/WHO Codex Alimentarius Commission has played the lead role in developing standards, which now cover all the main foods entering international trade. Efforts have been continued to streamline and shorten Codex standards and to make them fully appropriate for application by both developed and developing countries. Standards are also being updated and efforts are being reinforced to make coverage fully comprehensive, particularly as regards residues and additives. Codex standards, while being used by countries in setting their own standards, have not yet found wide acceptance as the common basis for establishing individual, national import regulations. Although the outcome of the Uruguay Round remained unclear at the time of completion of this Chapter, Codex standards have been accepted as a point of reference in examining non-tariff barriers to trade in the draft agreements under discussion for the Uruguay Round of Multilateral Trade Negotiations and for the North American Free Trade Area. Successful conclusions of these discussions would provide the basis for their widespread application. It would also add priority to the development of plant quarantine standards.

54. Much of the work on agricultural trade in FAO has centred on dialogue among the Member Countries through the existing structure of committees, culminating in the Council and Conference. Attendance at FAO-IGG meetings has tended to be higher than that of the corresponding international commodity organizations, and the main exporters and importers have always been well-represented in both IGG and Codex meetings. The costs to FAO in operating the IGGs have been substantially less than the costs to international commodity organizations of similar activities and these, together with the CCP, have provided Member Countries with a valuable forum for the discussion of trade both at the detailed level and broad policy issues. The periodic updating of guidelines for trade and their systematic review in the Conference, CCP and IGGs have proved to be a valuable way of raising issues and focusing attention on the implications of individual policy instruments. In this way, the Member Countries have united their voices in FAO bodies to add impetus for the liberalization of trade and the successful conclusion of the Uruguay Round, at the same time highlighting the legitimate concerns of the developing countries.



55. In 1991 the Conference urged that FAO, following the completion of the Uruguay Round, should prepare an assessment of the implications for the world agricultural economy. Whatever the results of the Multilateral Trade Negotiations, the CCP and the IGGs can have a key role to play in follow-up, and FAO can continue to provide flexible fora for countries to voice their concerns on trading partners' import and export practices. For the successful implementation of the Uruguay Round agreements for agriculture, there may be areas where further clarification and agreement need to be sought. The ways in which the net food-importing developing countries can be realistically compensated for rising food prices is likely to remain an important area of concern. It may also be useful to clarify protection practices with respect to semi-processed commodities. Environmental issues involved in trade for agricultural commodities have already been identified as an area for attention. Without any agreement under the Uruguay Round, there would be a need to examine how the gains realised so far in the negotiations, especially on technical non-tariff barriers to trade, could be built on to realise continuing benefits to trade and to maintain pressure for the reduction of protectionism in agriculture.

56. Looking to the future, some important policy questions for FAO's work on trade could include the scope and modalities of relations with other international organizations, the emphasis of commodity coverage, and the extent and relative importance of work in methodology development and technical assistance. Policy directions and alternatives will need to be identified for discussion in the CCP. The CCP's pivotal role vis-à-vis the Council and Conference and in-depth consideration of its report, could be strengthened by the rescheduling of sessions to the non-FAO Conference year. Similarly, the CCP agenda may be rearranged to allow less time to general overall review and to give greater attention to clearly identified policy issues. The CCP should provide an integrated framework for all FAO discussion of trade issues, including forestry, fisheries and agricultural inputs, especially where issues cut across commodity lines, for example with the environment.

57. The Organization has an unparalleled experience in agricultural commodity market and trade policy analysis, for which it provides information and services to the world at large and in which many developing countries have little or no capability. Similarly, FAO's capacity to assist developing countries in the development of national food quality control has no equal elsewhere. FAO's technical assistance to developing countries for the advancement of trade could be expanded, and training and the development of training materials and manuals can play a major role in this, as well as advice on institutional arrangements and regulations for food quality, phytosanitary inspection and pesticide import. However, lessons can be drawn from experience with the Common Fund for Commodities which has not made adequate use of the knowledge of the IGGs. Thus, focusing attention on the very limited resources of the Fund has not so far proved to be an effective way of extending the IGGs' potential.

58. The mobilization of much greater resources, in addition to the Regular Programme, will be important for expanded work in these areas. Unfortunately, Member States' priorities for FAO's increased support to countries in policy advice, including trade policy and the development of institutional capability, have not been well reflected in extra-budgetary support. Although Member Countries do make substantial in-kind contributions to the operations of the Codex Alimentarius committees, extra-budgetary support for trade development has stood at an average of US\$ 9.3 million per biennium, with an overall ratio for extra-budgetary to Regular Programme resources of 0.3:1, as compared with ratios of the order of 5:1 for the main technical programmes.



## GUIDE TO THE DOCUMENT

1. This is the first issue of the Programme Evaluation Report which, together with the new Programme Implementation Report, replace the Reviews of the Regular and Field Programmes. The two new Reports both cover the Regular and Field Programmes in an integrated manner. The distinctive difference between the two Reports reflects the purpose of each: the Programme Evaluation Report provides in-depth, evaluative information on FAO programmes and activities. The Programme Implementation Report, to be issued in the autumn, will focus on progress and accountability reporting for the current biennium. In particular, the Programme Evaluation Report is expected to contribute to further strengthening of the Organization's evaluation system, which include the annual auto-evaluations undertaken by all the programme managers in FAO Headquarters and Regional Offices; programme evaluations covering both Regular and Field Programmes; evaluations of technical cooperation projects, including thematic evaluations, special evaluations commissioned by the Director-General and those conducted by the United Nations Joint Inspection Unit.

2. The format of this first edition of the Programme Evaluation Report has been kept straightforward, on the lines of the former Review of the Regular Programme. It comprises three parts: Part One covers in-depth reviews of selected individual programmes; Part Two focuses on aspects of field programmes and projects; and Part Three with in-depth reviews of thematic topics that cut across programmes.

3. Part One contains in-depth reviews of three programmes: one large Sub-programme (Crop Protection, 2.1.2.4) in Chapter One; two Sub-programmes (Statistical Processing, Analysis and Development, 2.1.7.1 and 2.1.7.4) in Chapter Two; and FAO Assistance to Small-scale Fisheries in Chapter Three. The in-depth reviews present a comprehensive account of the Sub-programmes' objectives, resources and activities during the past three biennia, provide an assessment of their effects and impact, and identify the perspective for follow-up action, including selected issues, by FAO and member countries. While the structure is similar to in-depth reviews in the former Review of the Regular Programme, more attention is now given to the field programme components as well as to follow-up measures and issues.

4. Part Two presents a synthesis analysis of some 580 project evaluations completed between 1985 and 1991 (Chapter Four). Apart from presenting an overview of assessments on the key aspects (project design, implementation, outputs and effects), it examines more closely project performance in achieving results and the relation between various design and implementation factors on one hand and result performance on the other. Such a detailed analysis is possible due to the relatively large number of project evaluations covered. While the analysis relies on the aggregate data derived from questionnaires completed by each evaluation mission, several evaluation cases are used to illustrate the points. The annex to the chapter provides a summary of issues arising from project evaluations in four sub-sectors, conducted in 1990.

5. Chapter Five, in Part Three, reviews the cross-sectoral topic, FAO Activities in Support of the Development of International Trade - a topic of broad interest to member countries, especially in the context of the Uruguay Round of Multilateral Trade Negotiations. While FAO is not the lead international organization for trade matters *per se*, it has been playing an active role in a variety of areas, ranging from policy level discussions on agricultural trade among member countries, to commodity market analysis, technical standard setting for food quality and pesticides, and technical assistance to member countries. The Chapter presents an overview of the objectives, priorities, structure of work and resources devoted to the subject, gives a detailed analysis of achievements in diverse areas of FAO activities, and assesses the strengths and weaknesses in FAO's activities in this area, including its comparative advantages.

6. In preparing this Report, good account was taken of the Governing Bodies' expressed wish for information on concrete results and achievements. Similarly, an attempt was made to select those programmes which have substantial field activities, so as to permit reporting on concrete results achieved at country levels. The practice of referring to relevant project evaluation findings has also been continued. As more experience is gained with the Programme Evaluation Report, further improvements in these respects will be pursued, and reflected in the coverage and quality of the Report.

## **PART ONE**

### **In-depth Review of Selected Programmes and Sub-programmes**



## CHAPTER ONE

### CROP PROTECTION SUB-PROGRAMME 2.1.2.4

#### I. CONTEXT

1. Crop protection is essentially the "other side of the coin" of agricultural production. Losses in plant production due to pests (insects, weeds, pathogens, nematodes and vertebrates) both at the pre- and post-harvest stages, cause a substantial reduction in agricultural yield levels. Global losses in crop production due to pests are reckoned to be in the order of US\$ 300 billion annually, and the cost of pesticides used every year is in the region of US\$ 20 billion. For developing countries, the cost of pesticides is a major drain on foreign exchange.
2. Apart from costs, the intensive use of pesticides has brought about other problems. Insects and other pests build up resistance to chemicals, requiring ever-increasing dosages to achieve the same or decreasing results. Chemicals, particularly when misused, can disrupt natural control mechanisms and have harmful effects on human health and the environment. Thus, in the 1960s an approach was developed that attempted to control pests with more ecologically appropriate and economically viable means. The new approach, initially labelled Integrated Pest Control (IPC) and now more commonly called Integrated Pest Management (IPM), was promoted by FAO, starting with the organization of symposia in 1966 and the constitution of a panel of experts in 1967. IPM has become one of the cornerstones of FAO's plant protection activities, proving its validity in a large number of countries and for a wide range of crops.
3. Pest control measures are important not only in agricultural production but also whenever plant material is moved across boundaries. Countries impose plant quarantine regulations to protect their plant resources from infestation through imported pest-infested plant material. The protection factor has to be weighed, however, against the benefits arising from free agricultural trade. This is one of FAO's central concerns in the field of crop protection: the International Plant Protection Convention (IPPC), which was vested in FAO in 1951. More recently, the Uruguay Round of the GATT trade negotiations highlighted the importance of the IPPC in relation to the use of plant quarantine as a trade barrier; FAO assists GATT by setting widely accepted plant protection standards and guidelines.
4. The setting of international standards and guidelines also fosters the safe and efficient use of pesticides. The International Code of Conduct for the Distribution and Use of Pesticides was adopted by the 1985 FAO Conference as a voluntary international instrument. The Code serves as a point of reference, among others, on hazards in the use of pesticides, and assigns responsibilities to governments, industry and pesticide users regarding the safe and efficient use and control of agrochemicals. The Code was amended in 1989 to include the Prior Informed Consent Clause (PIC), developed together with UNEP, which sets the principle that a pesticide that has been banned or severely restricted in one country for health or environmental reasons should not be exported without the explicit consent of the importing country.

5. Pesticide residues have also become a critical issue, particularly in international trade. The question of developing standards for acceptable levels of pesticide residues in agricultural produce entering international trade is addressed by the Joint FAO/WHO Meeting on Pesticide Residues (JMPR). The JMPR recommends Maximum Residue Levels for individual pesticides for consideration and adoption as Codex Maximum Residue Levels by the Codex Alimentarius Commission.

6. Since 1955, FAO has been responsible for keeping the Desert Locust situation under review, and the Desert Locust Control Committee (DLCC) and three Regional Commissions were established for this purpose. Due to the high mobility of locusts, control activities cannot be limited to one country or area and require continuous monitoring and exchange of information. FAO has played a prominent role in this regard, especially since taking over the Desert Locust Information Service from the Anti-Locust Research Centre in London in 1973. With the outbreaks of serious locust and grasshopper infestations in the mid-1980s, FAO also provided crucial project implementation and backstopping functions through the Emergency Centre for Locust Operations (ECLO).

## II. OBJECTIVES AND PRIORITIES

7. Sub-programme 2.1.2.4 (Crop Protection) is one of six Sub-programmes constituting FAO's Crops Programme. As indicated in the Medium Term Plan 1992-97 (MTP), the Sub-programme contributes a specific objective under the Crops Programme:

"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."

8. During the past three biennia (1986-1992), the Sub-programme's work in support of international agreements and conventions like the IPPC and the Code of Conduct has gained in importance, as have activities which foster catalytic and innovative plant protection concepts like IPM. More recently, the increased emphasis on sustainable agricultural development in UNCED's Agenda 21 gave an additional boost to the Sub-programme's mandate.

9. For the purpose of this review, the major activities of the Sub-programme can be grouped into four major areas of work or thrusts:

- (a) **Plant Health and Reduction of the Spread of Quarantine Pests**, which includes work in support of the IPPC and regional plant protection organizations as well as field activities to strengthen national plant protection services (**Thrust One**);
- (b) **Integrated Pest Management**, including plant pathology, weed management, non-migratory pest control, and post-harvest pest management (**Thrust Two**);



- (c) **Pesticide Management**, in particular activities in support of the International Code of Conduct on the Distribution and Use of Pesticides (**Thrust Three**); and
- (d) **Migratory Pest Control**, especially monitoring and information exchange on locusts and grasshoppers, and operational support to field activities coordinated by the Emergency Centre for Locust Operations (ECLO) (**Thrust Four**).

10. These Thrusts follow the new, more integrated approach adopted for the Sub-programme in the PWB 1992-93. Several Programme Elements were combined: Integrated Pest Management now covers four Programme Elements that used to be separate, Plant Pathology, Post-harvest Pest Management, Vertebrate Pest Management and Improving Weed Management. Plant Quarantine and Plant Protection Information activities were combined into Implementation of the International Plant Protection Convention, and the former Pesticides Programme Element was renamed Pesticide Management.

11. The Sub-programme's mandate includes the provision of information, policy guidance and technical assistance to member governments - a mandate common to the Crops Programme as a whole. It should be noted, however, that policy guidance in the context of the Crop Protection Sub-programme, involves a particular emphasis on developing and supporting international standards and agreements (eg under the IPPC and the Code of Conduct). This kind of policy guidance normally includes the following steps:

- (a) preparation of a draft "strategic" paper analysing the problem and suggesting a variety of options for its solution;
- (b) review and discussion of the paper by an independent panel of experts, working group, etc., whose members represent the various interests involved, yet are selected on the basis of their own capacity as high-level experts on teaching, research or extension in plant protection and related disciplines;
- (c) presentation of the paper and/or related expert proceedings to the regional plant protection organizations concerned, and next to the Committee on Agriculture reporting, as necessary, to the FAO Council and Conference;
- (d) adoption, as needed, of a relevant Resolution, or ratification of an agreement by member governments, resulting in a document to obtain relevant standards (e.g. the Code of Conduct, the PIC clause);
- (e) refinement, or definition of details of the document in question (eg standards for phytosanitary measures under the IPPC), again involving expert panels, ad-hoc working groups, or consultants; and
- (f) support activities, financed from Regular Programme and Extra-budgetary funds, to enhance implementation of the standards agreed upon (eg field projects, training courses, workshops).

12. Sub-programme 2.1.2.4 encompasses many "upstream" activities which are of relevance to a large number of countries. These include support to the International Plant Protection Convention (IPPC) and the Code of Conduct, workshops on regional plant protection activities (e.g. Striga control, locust campaigns), and general advice on plant protection strategies.

13. With regard to "downstream activities", the Sub-programme is providing technical assistance to help countries formulate and execute appropriate pest control schemes, in particular using the Integrated Pest Management (IPM) approach, but also providing technical advice, e.g. on pesticide applications and plant quarantine methods. The Sub-programme also assists in the strengthening of national plant protection services, a necessary complement to achieving a coherent plant protection strategy at national level.

### III. ORGANIZATION AND RESOURCES

#### Organization for Implementation

14. The Sub-programme is implemented by the Plant Protection Service (AGPP), which consists of twenty professional posts in FAO headquarters, supplemented by officers stationed in all four Regional Offices. In addition, a Desert Locust and Migratory Pests Officer is located in Algeria under the Regional Office for Africa, and a Plant Protection Officer is outposted to Trinidad and Tobago under the Latin America and the Caribbean Regional Office.

15. The main tasks of the Service include:

- (a) provision of secretariat and technical support to international and regional organizations and committees, including technical analyses, diagnosis of the problems to be addressed, identification of alternative options or trade-offs, policy formulation and assessment leading to the elaboration of standards and proposals of codes of conduct;
- (b) backstopping of networks, programmes and projects designed to get the policies and standards adopted to become operational at regional and national level;
- (c) publication of information material, guidelines in support of standards and codes of conduct application; and
- (d) training activities to upgrade plant protection expertise at all levels. However, most training is carried out under field programme activities.

16. The Service is organized into four groups: (i) five professional staff are assigned to work on plant health and reduction of the spread of quarantine pests, including the recently established Secretariat to the IPPC; (ii) three are assigned to Integrated Pest Management, including one officer on weed management; (iii) three work on pesticide management,



including a Pesticide Information Officer specifically supporting the Code of Conduct on the Distribution and Use of Pesticides; and (iv) five staff work on migratory pest control. The Service Chief is assisted by three professional staff, including an agricultural officer to liaise on PFL activities with the Agricultural Services Division and a Plant Protection Officer linked to the IPM group. During the 1992-93 biennium, actions are being taken to adjust the Service's organigram according to the Sub-programme's objectives. In particular the IPM Group will be enlarged to comprise six professionals, while the former Plant Disease and Quarantine Group will be re-named and function as the Secretariat to the IPPC.

17. The efficiency of work planning and execution has been repeatedly affected since 1986 by the financial difficulties of the Organization. In the 1991-92 biennium, budgetary constraints as well as the development of locust control capacities by national plant protection organizations led to the abolishment of a P-5 post and two General Service Posts under the Migratory Pests Thrust. Financial shortfalls also caused: (i) a scaling-down of the implementation of the PIC clause in the same biennium by delaying the recruitment of a P-3 Pesticide Information Officer; (ii) much reduced assistance to National Plant Protection Services (non-replacement of P-5 post of Cooperative Action for Plant Health and a General Service post after retirement of incumbents); and (iii) delayed or postponed meetings of the Caribbean Plant Protection Commission and the FAO Panel of Experts on Pesticide Residues in Food and the Environment.

18. Cooperation with other units in the Plant Production and Protection Division and in FAO headquarters in general, takes place on an informal basis. Joint activities commonly involve the backstopping of field projects, mainly with the Crop and Grassland Service and the PFL unit, and work in support of the international agreements coordinated by the Service is often performed in conjunction with the Legal Office. Activities in support of the Codex Alimentarius are undertaken in collaboration with the Food Policy and Nutrition Division.

19. The Sub-programme maintains close liaison with other UN agencies, especially UNEP and WHO with regard to "upstream" activities. Cooperation with UNEP covers pesticide management and IPM. With the inclusion in 1989 by the FAO Conference of the PIC clause into the Code of Conduct on the Distribution and Use of Pesticides, a joint FAO/UNEP programme was established in 1990 to implement PIC. The FAO/UNEP Panel of Experts on Integrated Pest Control, originally set up by FAO in 1967, has guided the work on entomology, plant pathology, post-harvest pest management, and vertebrate pest control and weed management. Moreover, IPM activities are constantly undergoing review and scientific updating through collaboration with national and international research institutions, including the International Agricultural Research Centres. Cooperation with WHO has concentrated on pesticide residues, through the Joint Meetings on Pesticide Residues (JMPR), which provide technical inputs to the Codex Alimentarius Committee on Pesticide Residues to determine maximum residue levels. The Sub-programme also maintains an international coordinating function on migratory pest control under the guidance of the Desert Locust Control Committee (DLCC), supported as necessary, by the Regional Locust Commissions.

### Resources

20. The Sub-programme has received in recent years a steadily increasing share of the overall Regular Programme allocations within Programme 2.1.2: Crops (see Table 1 below).

**Table 1: Sub-programme 2.1.2.4 - Allocation of Regular Programme Resources  
as Part of Programme 2.1.2: Crops  
(for 1986-92, in US\$ '000)**

	Allocation 2.1.2	Allocation 2.1.2.4	Percentage 2.1.2.4 out of 2.1.2
1986-87	24,470	4,042	16.5
1988-89	27,710	4,656	16.6
1990-91	32,135	5,675	17.7
1992-93	37,702	7,047	18.7

21. In particular, greater priority has been attached to activities connected with Integrated Pest Management, the administration of the International Plant Protection Convention, and assistance for the application of the International Code of Conduct on the Distribution and Use of Pesticides, an area that was strengthened after the adoption of the PIC clause by the FAO Conference in 1989. A secretariat to the IPPC will be established in 1993, to maintain close cooperation with regional plant protection organizations and foster harmonization of plant quarantine standards and guidelines under the IPPC.

22. The deployment pattern of Regular Programme resources shown in Table 2 in terms of the main Thrusts has been relatively consistent over time. Thrust One (Plant Health and Reduction of the Spread of Quarantine Pests) in the 1992-93 biennium absorbs 32 percent of the budget, the highest percentage, followed by Thrust Two (IPM) with 24 percent. Budget changes have followed shifts in the Sub-programme's priorities: Thrust Three (Pesticide Management) in particular shows an increase since 1986-87 reflecting increased activities to implement the International Code of Conduct on the Distribution and Use of Pesticides.

23. In terms of resource use by object of expenditure, some significant variations are evident during the period under review. The staff component was the highest cost factor of the Sub-programme, equivalent to about two-thirds of the budget. Publications came second, averaging 12 percent of the budget over the 1986-92 period. Staff costs accounted for a particularly high share in Thrust Four (Migratory Pest Control) and relatively low for Thrust Three (Pesticide Management). In two of the four Thrusts, publications accounted for a significant share: 15 percent of the total 1986-92 budget for Thrust One (Plant Health and Reduction of the Spread of Quarantine Pests) and 28 percent for Thrust Three. This reflects their respective roles in the implementation of the IPPC and the Code of Conduct, both of which are international covenants calling on FAO to fill an information role. There has been a steady trend toward a relative decline in staff costs, accompanied by an increase for publications and travel. The increase in the latter category is attributable mainly to a larger number of participants in, and a higher frequency of, expert consultations and meetings.



**Table 2: Sub-programme 2.1.2.4 - Regular Programme Resources allocated to Programme Thrusts (1986-93, in percentages)**

Programme Thrusts/Elements	1986-87	1988-89	1990-91	1992-93
Plant Health and Reduction of the Spread of Quarantine Pests	21	24	30	32
Integrated Pest Management	45	35	25	24
Pesticide Management	16	24	23	26
Migratory Pest Control	18	17	23	18
Total in %	100	100	100	100

24. There were 579 field projects backstopped by the Sub-programme over the 1986-92 period with a total budget of US\$ 265.6 million<sup>1</sup> (see Table 3). Of these, 135 projects with a budget of US\$ 131.2 million are on-going in the 1992-93 biennium: the Plant Protection Service was the lead technical unit for 69 projects while the remaining 66 projects were led technically by other units. In terms of funding of the 579 projects, UNDP accounted for 49%, TF donors 37% and TCP 14% of the combined project budgets.

25. IPM represent 43% of the total by number with 57% of total budgets. Migratory pest control projects are 32% by number and 23% of total budgets. Of these, 81 projects are ECLO projects with about two-thirds of the total budget allocated to Thrust Four. The Sub-programme's international mandate is reflected in the regional and inter-regional projects: there were 110 of these, with budgets of US\$ 64.6 million or a little less than 25% of the total. Migratory pest control activities account for 52 of the regional projects with total budgets of US\$ 34.9 million.

26. The geographical focus of field projects has been on Africa, which accounted for roughly 50% of all projects by number and budget. The other regions - Latin America and the Caribbean, Near East, Europe and North Africa, and Asia and the Pacific - had an about equal number of projects with, however, a substantially lower budget share in the Latin America and Caribbean region. Donor allocations show a divergent pattern between UNDP and Trust Funds particularly for Thrust One, where UNDP contributions by far exceed Trust Fund budgets, and Thrust Four, where the pattern is reversed, reflecting the substantial Trust Fund involvement in ECLO campaigns.

<sup>1</sup> This figure is larger than extra-budgetary support because it includes (i) total project budgets (often extending over 4 or 5 years) rather than project deliveries for that year; and (ii) projects that have other lead technical units in the lead position.

**Table 3: Sub-programme 2.1.2.4 - Technical Backstopping  
by Region/Thrust - for the Period 1986-92  
(amount in US\$ '000)**

Region	Thrust								Total <sup>4</sup>		Share in Percentage	
	1		2 <sup>1</sup>		3 <sup>2</sup>		4 <sup>3</sup>					
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Africa	31	20 310	88	54 483	20	7 908	131	33 797	270	116 498	47	44
Asia	13	6 955	57	47 264	19	4 604	5	2 236	94	61 059	16	23
Latin America and Caribbean	13	1 765	58	18 106	21	2 374	8	1 525	100	23 770	17	9
Near East, North Africa, Europe	13	2 261	45	32 755	11	2 684	31	7 596	100	45 296	17	17
Global/Inter-regional	2	1 201	2	124	2	2 431	9	15 221	15	18 977	3	7
TOTAL	72	32 492	250	152 732	73	20 001	184	60 375	579	265 600	100	100
Share in %	12	12	43	57	13	8	32	23	100	100		

<sup>1</sup> 49 projects with a budget of US\$ 29.4 million are linked to AGSD, while 27 projects with a budget of US\$ 6 million are training/equipment only (no AGPP personnel)

<sup>2</sup> 32 projects with a budget of US\$ 7.8 million are with no AGPP personnel

<sup>3</sup> 81 projects are ECLO projects with a budget of US\$ 40.5 million

<sup>4</sup> 135 projects with a budget of US\$ 131.2 million are on-going and 444 projects with a budget of US\$ 134.4 million are completed



#### IV. ACTIVITIES AND OUTPUTS

27. In this as well as the following sections, the Sub-programme implementation and its results are reviewed according to the four main Thrusts presented above: Plant Health and Reduction of the Spread of Quarantine Pests; Integrated Pest Management; Pesticide Management; and Migratory Pest Control.

##### (i) Plant Health and Reduction of the Spread of Quarantine Pests

28. The principles of plant quarantine are set out in the **International Plant Protection Convention** (see Box 1), which is the major guiding document for this Thrust.

29. Work in support of IPPC has included:

- (a) the establishment of a micro-computer database on the distribution of pests of quarantine importance, which has been communicated for validation to regional plant protection organizations;
- (b) preparation of loose-leaf, easily updatable digests of quarantine legislation and regulations for all member countries, with 72 printed digests by end 1992 and others under way. The digests are prepared in FAO and sent to the countries to be checked prior to publication;
- (c) production of about 100 data sheets on pests and biological agents of plant quarantine importance. This work is done under contract with the Commonwealth Agricultural Bureaux International (CABI);
- (d) regular publication for a broader audience of the Plant Protection Bulletin, which serves as a world reporting service on quarantine pests; and
- (e) the organization of annual meetings of regional plant protection organizations, expert consultations, and the implementation of field projects to strengthen national plant protection services.

30. Among on-going activities, the joint production with the International Board for Plant Genetic Resources (IBPGR) of crop-specific guidelines for the safe and efficient exchange of germplasm is noteworthy. Several of these guidelines, covering among others cocoa, bananas and plantains and root crops, have already been printed and distributed.

31. The assistance provided through projects designed to strengthen national plant protection services, has focussed on Africa. The institution-building objectives of these projects are complex and ambitious, and it appears that they would require sustained support beyond the usual three-to-five year project duration. Most evaluation missions to these projects have come to the conclusion that another follow-up phase is necessary to consolidate results (see Box 2).

#### **Box 1: The International Plant Protection Convention (IPPC)**

The Convention, established in 1951, replaced several previous conventions of a more restricted scope, of which the earliest, on *Phylloxera vastatrix*, dates back to 1881. The IPPC applies mainly to quarantine pests of importance to international trade and calls on the contracting parties to make provision for: (a) an institutional mechanism for plant inspection, disinfestation or disinfection of internationally traded plants and plant products, and issuance of phytosanitary certificates; (b) information within the country regarding the pests and means for prevention and control; and (c) research and investigation. In particular, it mandates FAO to circulate information related to all aspects of plant quarantine "at frequent intervals to all contracting parties and regional plant protection organizations." (Article vi).

In laying down the objectives of international cooperation (Article vii), the Convention also calls on contracting parties to cooperate with FAO in "the establishment of a world reporting service on plant pests" to provide information on the outbreak and spread of economically important plant pests, national import restrictions, requirements and prohibitions, and on effective plant protection means. Moreover, international cooperation is to be carried out through the establishment of regional plant protection organizations (Article viii).

An amended version of the Convention providing, *inter alia*, for the settlement of disputes prior to recourse to the international procedures outlined in Article ix of the Convention, which had been adopted by the FAO Conference in 1979, came into force on 4 April 1991. It should be noted, however, that even before the 1979 amendments were officially ratified, many FAO member countries were already applying the revised text of the Convention and using the new phytosanitary certificates, as called for by the Convention. By end-1992, 99 countries had adhered to the IPPC.

Annual meetings have been regularly organized by FAO with regional plant protection organizations to discuss cooperative work programmes aimed at developing harmonized quarantine standards and guidelines. The Near East is the only region currently lacking such an organization. However, a new agreement was drafted in April 1992 which, it is hoped, will enter into force in 1993. Prior to this, the Arab Society of Plant Protection had received FAO support in producing its newsletter and distribution maps for pests and diseases in the Near East and North Africa region had been published.

#### **(ii) Integrated Pest Management**

32. Integrated Pest Management (IPM) is the strategy widely recommended today for the reduction of pest damage to crops and for making agriculture less dependent on the use of pesticides. It calls for the careful integration of a number of pest control techniques that will discourage pest development and limit pesticide intervention to a minimum. These characteristics of IPM are especially advantageous for small farmers in developing countries whose access to external inputs like pesticides is often restricted by infrastructural or economic constraints. Moreover, a central paradigm of IPM is the recognition of farmers as experts, which means that IPM aims to empower farmers to diagnose and treat pest damage themselves.

33. FAO initiated a panel of experts in 1967, which became the joint FAO/UNEP Panel of Experts on Integrated Pest Control after UNEP's establishment. The Panel, whose members are distinguished authorities on teaching, research or extension on pest control, has served in an advisory function and acted as a point of reference for FAO activities in IPM. Initially restricted mainly to entomological aspects of crop protection, the IPM concept was broadened by the late 1970s to cover agronomic and cropping practices, use of biological control agents, plant resistance and pesticide application.



### **Box 2: Strengthening National Plant Protection Services**

Since 1986, 28 projects for a total budget of US \$ 17.8 million were launched to strengthen national plant protection services. Of these, 14 were financed through UNDP (accounting for 87 percent of the total budget), 13 through the TCP (11 percent) and one through a Trust Fund (2 percent). Africa received the lion's share of the assistance (17 projects amounting to 86 percent of the total budget) followed by the Near East and North Africa (4 projects, 6 percent), Latin America and the Caribbean (5 projects, 5 percent) and Asia and the Pacific (2 projects, 4 percent).

Most projects were formulated following surveys of the status of plant protection in the various countries concerned. Projects were generally patterned after a five-point strategy, which consisted in: (i) establishment of a strong national crop protection service; (ii) adoption of an effective plant protection strategy and extension of appropriate crop protection practices among producers, including IPM; (iii) establishment of a phytosanitary monitoring and forecast capability; (iv) enactment of a pesticide control legislation; (v) closer coordination at the national level between research and extension services on matters concerning pest control, and at the international level, with plant protection organizations.

Since 1989, seven evaluation missions have been fielded to such projects, all of them in Africa. The missions covered half of the UNDP-funded projects, and provided considerable information on the difficulties encountered and the results obtained. It is striking that, with one exception, they have all come to the same conclusion, i.e. that a follow-up phase is necessary to consolidate results. The exception is easily explained as it concerns a project in Ethiopia which was already in its second phase, having started in 1983. Since it was foreseen that most of its objectives would be achieved by project end in June 1991, the mission did not consider that it required a third phase but only a one year extension to complete training and make operational all the eight Plant Health Clinics created by the project. The other projects, which were still in their first phase, were found to be non-sustainable generally as a result of the institutional weakness of the national services established. This weakness was judged to stem from too few and/or insufficiently trained technical staff, delays in the construction of the necessary infrastructures (laboratories, observation posts etc), unavailability of needed equipment, and inadequate funding for recurrent expenditures or a combination of all these factors. As a consequence, a satisfactory level of pest control has not yet been achieved in the countries reviewed.

Nevertheless, such projects have been found to achieve in their short life span considerable results in terms of training of plant protection experts, generally to MSc and less often to PhD level, as well as technicians and extension staff, and beginning to reach the farmers. For example, in Mali, 751 "village brigades" consisting of ten farmers each, received training which successfully sensitized them to plant protection problems, to the extent that a number of "brigades" independently decided to create a community fund for the purchase of needed phytosanitary materials and treatment equipment. Other notable results reported by the missions include the drafting of plant health legislation, often in the process of being adopted (in Ethiopia, Uganda, Mali, Rwanda), and the introduction of the Integrated Pest Management approach to pest control, contributing to a more rational use of pesticides.

34. Regular Programme activities on IPM have included a large number of workshops and expert consultations on various IPM aspects, covering industrial and food crops as well as most agro-ecological zones. Workshops are generally organized in collaboration with the Regional Office and, as needed, with other FAO services concerned (e.g. the Horticultural Crops Group for a workshop on vegetable production and protection, held in Dakar in November 1992). Expert consultations are normally organized in collaboration with external scientific and technical organizations, with high-level experts serving on a personal basis.



35. Workshops have served to build up awareness of, and to spread information on, IPM and have inspired technical publications, changes in government programmes, and new project proposals. Most of FAO's earlier project activities, for example, were started within the context of the FAO/UNEP Cooperative Global Programme which had been recommended by the FAO/UNEP Panel of Experts. Recent publications include a manual on vegetable diseases published by the Regional Office for Latin America and the Caribbean in 1990 following a regional workshop, and draft guidelines on the introduction of biological control agents, which were reviewed by an expert consultation in September 1991, in cooperation with the International Organization on Biological Control. A follow-up mission to the Workshop on Cotton IPM held in Pakistan in February 1991 led to the formulation of a five-year cotton IPM regional project.

36. Priority in Field Programme development was initially given to widely grown crops that registered an over- or mis-use of pesticides, or alternatively to cases where new patterns of cultivation created pest problems. Projects in the former category addressed a pesticide-intensive crop like cotton in North East Africa, the Near East and Asia, and intensive rice production in South-East Asia. In particular, the Trust-funded regional programmes on rice have been successful (see Box 3), but also the cotton IPM project in Sudan has brought IPM recognition as the officially preferred pest control strategy.

37. Substantial promotion of IPM for economically marginal or subsistence crops has proved far more difficult than for intensively cultivated cash crops. This is due to the presence of other limiting factors like moisture stress, poor genetic material, soil nutrient deficiencies and inadequate access to fertilizers and other inputs. Yet, some positive experiences have been registered. These include the UNDP-funded regional project in Africa on the Biological Control of Food Crop Pests, where the combination of biological control and plant resistance to combat an introduced pest (primarily Cassava Mealybug and Cassava Green Mite) proved effective, probably because it required no inputs from the individual subsistence farmer.

38. There has also been a number of regional UNDP projects covering a wide variety of subjects, including projects to address the problem of citrus greening in Asia, and to combat the Bayoud disease of date palm in the Near East. Under the Regular Programme, a full survey of virus and virus-like diseases of citrus, stone fruits and grapevine in the Mediterranean and Near East Region was completed, which has led to the identification of productivity constraints in these crops. Also, a project for the control of virus and virus-like diseases in the Mediterranean and Near East was recently launched in January 1992.

39. Other work falling within a broader concept of integrated crop protection, includes weed control. Weed management activities have continued to emphasize the control of Striga, a parasitic weed which seriously reduces cereal production in Africa (see Box 4).

40. Efforts have also been directed at controlling the Mediterranean fruit fly in Latin America through trapping and sterile male techniques, both at national (e.g. in Chile) and regional level. Earlier work by the FAO/IAEA Joint Division did not lead to a large-scale eradication campaign due to lack of available resources.



### **Box 3: IPM Programmes on Rice in the Asia and Pacific Region**

FAO's rice IPM programme in the Region started in 1980 following large-scale pest outbreaks in several South-east Asian countries. Recent phases of the regional rice IPM programme have been funded by the Netherlands, Australia and the Arab Gulf Fund with a total budget for phases I and II of US \$ 11.5 million, while the related Government programme in Indonesia for a budget of US \$ 6 million is funded by USAID. Both projects are expected to be extended for another phase, with funding from the Netherlands and Australia and from the World Bank, respectively.

The IPM approach is most advanced in Indonesia. When the project started, the country's self-sufficiency in rice - attained mainly due to the adoption of high yielding varieties - was threatened by a surge in pest attacks despite ever-increasing pesticide applications. IPM's potential advantage became apparent when research proved that the prevalent pest - the brown planthopper - was a pest induced by pesticide overuse.

The project's basic premise was that without the conventional preventive applications of pesticides, naturally occurring parasites and predators would keep brown planthopper populations below pest status. Field training - concentrating on experiential learning and farmer participation - has been a cornerstone of the IPM programme. The aim is to have farmers as experts: train farmers who in turn run Farmers' IPM Schools for their fellow farmers. In Indonesia, by end-1991 approximately 400,000 farmers had been trained at a cost of less than US \$ 1 per person-day.

Following early positive results, the IPM concept was endorsed by a Presidential Decree in 1986 which banned a wide array of pesticides, ordered a gradual removal of pesticide subsidies until 1988 and declared IPM the official pest control policy of Indonesia. The success of the IPM concept enabled the Indonesian government to eliminate subsidies on pesticides as planned in 1988 - thereby causing a substantial reduction in pesticide production - without affecting the rice production.

At present, the Indonesian programme is serving as a prototype to guide the regional programme's activities in Bangladesh, China, India, Malaysia, the Philippines, Vietnam, Sri Lanka and Thailand. Some early successes have been achieved. For example, farmers in Bangladesh who received IPM training are reported to have spent 75% less money on pesticides in the 1990/1991 crop season than did their untrained counterparts, and to have produced 13.5% more rice. The Philippines is reported to have spent during 1984 to 1990 US\$ 1.7 million on IPM training, while at the same time saving US\$ 20.4 million on pesticide use. In China, a survey of trained versus untrained farmer households revealed that rice yields were 7.6 % (or 448 kg/ha) higher for the former category. Following a seminar on government policies for IPM, Vietnam announced in January 1992 severe restrictions for 12 of the most commonly available pesticides.

### **(iii) Pesticide Management**

41. The major emphasis of the Thrust is on support activities for the International Code of Conduct on the Distribution and Use of Pesticides and the PIC clause. Prior to the final adoption of the PIC by the Conference in 1989, FAO convened an Expert Consultation and a Government Consultation in 1988 to develop options for consideration by the Conference. Subsequent to the Conference decision, a joint FAO/UNEP programme was established to implement PIC, and joint FAO/UNEP expert panels on PIC met in 1990, 1991 and 1992. A first implementation phase was started in late 1991 (see Box 5).



#### **Box 4: Striga: an intractable problem?**

Striga is a parasitic weed that is one of the major constraints to an increase in food crop production in Africa. More than 21 million hectares of sorghum, millet, maize and cowpea are heavily infested by these root hemiparasites, causing estimated annual yield losses of more than four million tonnes of grain (or grain equivalent) at a value of almost US\$ 3 billion.

Up to the mid-1980s, the Striga problem was reputed intractable. Since then some progress has been made; yet a final breakthrough has not been reached and Striga continues to be relatively ignored by the international community.

The Pan-African nature of the Striga problem called for a concerted, coordinated regional approach. The first practical step in this regard was the convening of the joint FAO/OAU All Africa Government Consultation on Striga held at Maroua, Cameroon in October 1986. The Consultation provided the first effective inventory of knowledge, activities and findings on Striga of individual institutions and nations, and presented a forum for an assessment of the effectiveness and relevance of past and present work.

A subsequent Striga workshop organized by FAO and OAU in Banjul, The Gambia, in December 1988 concluded that the knowledge-base on Striga was limited, research results were often inconclusive, and of little use in developing practical control measures. Neither was there a mechanism for mobilizing the individual sources of expertise into a coherent endeavour to resolve this common problem. The Banjul workshop, recognizing this critical deficiency, strongly recommended the creation of the Pan Africa Striga Control Network (PASCON), which was subsequently created by FAO together with OAU, despite a general lack of interest displayed by donors. PASCON supports regular research exchange among African Striga specialists, and two PASCON workshops were organized in 1990 and 1991. These workshops identified a number of important Striga control methods, which have proved to be technically effective and economically viable for small farmers in different agro-ecological zones of Africa. The workshops also strongly recommended that the various networks involved in Striga research and control in Africa should establish a framework for cooperation and coordination of their activities at national and sub-regional levels. FAO continues to support PASCON activities on a modest scale (US\$ 49,000 for research activities and workshops in 1990, and US\$ 20,000 in 1991.)

FAO is involved in Striga control activities both through the Regular and Field Programmes. A number of on-farm trials to determine technical effectiveness of various integrated control measures in Nigeria, Burkina Faso and Tanzania in 1988-91 have been funded by the Regular Programme through letters of agreements with research institutions. These trials have complemented the work done through UNDP-funded projects, showing the way to treat Striga, although considerable field research still remains to be done before Striga can be considered as under control. At present, Striga control requires a combination of measures, including appropriate land preparation, planting dates, application of manure, breeding of resistant or tolerant varieties, crop rotation, intercropping, application of N fertilizers, and application of pre- and post-emergence herbicides.

42. As a first step, a joint FAO/UNEP database on pesticides was established, and by end-1992, 155 countries were participating in the PIC procedure, through appointment of Designated National Authorities to send, receive and/or make decisions on pesticides under the PIC procedure. To assist governments in their response, "Guidance for Governments" and Decision Guidance Documents (DGD) on 12 compounds were circulated by the end of 1992.

43. The Joint FAO/WHO Meeting on Pesticide Residues (JMPR) has met annually since 1963 to conduct scientific evaluations of pesticide residues in food. The JMPR consists of experts drawn from governments and academic circles, and provides advice on the acceptable levels of pesticide residues in internationally traded foodstuffs. The detailed evaluations



**Box 5: The International Code of Conduct on the Distribution and Use of Pesticides**

The Code, which is voluntary in nature, is meant to serve as a point of reference, particularly until such time as countries have established adequate national infrastructures and expertise to register pesticides and thereby ensure their safe and effective use. While it is not expected that the Code will solve all problems related to pesticides, it should help to define and clarify the responsibilities of the various parties involved, and particularly should be of value in countries which do not have yet control procedures.

As set out in Article 1, the Code lays down standards of conduct, particularly but not exclusively aimed at the pesticide industry and traders, to encourage "responsible and generally accepted trade practices"; to assist countries which have not yet established pesticide controls; to promote practices which "encourage the safe and efficient use of pesticides", including minimizing adverse effects on humans and the environment"; to ensure that pesticides are "used effectively for the improvement of agricultural production and of human, animal and plant health".

The Code was first suggested by FAO in 1981, and after an extensive international consultation procedure with all concerned parties, was reviewed by the Committee on Agriculture and the Council, prior to adoption by the 1985 FAO Conference (Resolution 10/85). It was completed in 1989 with the inclusion of Prior Informed Consent (PIC), the implementation of which is supported by a joint FAO/UNEP programme. Articles 2 and 9 of the Code were amended to include the definitions of PIC and PIC procedure, including Guidelines on the operation of Prior Informed Consent. PIC refers to the principle that a pesticide should not be exported without the explicit consent of the importing country. The PIC procedure and Guidelines map out the process by which PIC is to be implemented, starting out with application of PIC to pesticides that are banned or severely restricted in their country of origin. Control actions by such countries should be notified to FAO.

FAO is called upon to play a pivotal role in the application of PIC: it is to (i) review notification of the control actions taken and develop relevant guidance documents for use of the importing countries, providing the necessary information and suggesting, if possible, alternatives; (ii) develop, in cooperation with UNEP, a database of control actions; and (iii) inform all concerned parties as necessary of notifications received and decisions taken regarding the use and importation of a pesticide included in the PIC procedure.

indicate, if possible, the Acceptable Daily Intake (ADI) and Maximum Residue Levels (MRL) for individual pesticides in crops. Over 180 different pesticides were evaluated by 1992. By 1993, 2,400 MRLs were adopted by the Codex and about 500 draft MRLs were under review for adoption. They are circulated widely to member governments, international organizations and other interested parties.

44. The results of the JMPR evaluations provide an input to the work of the Codex Alimentarius Commission. The MRLs recommended by the JMPR are reviewed by the Codex Committee on Pesticide Residues (CCPR) which meets annually in the Netherlands, and eventually adopted as Codex Maximum Residue Levels by the Committee.

45. Within the context of improved pesticide management, FAO also develops specifications (quality control standards) for plant protection products to ensure that they are suitable for the purpose for which they are intended. Specifications for approximately 150 active ingredients and combinations of active ingredients have been developed in collaboration with the Collaborative International Pesticide Analytical Council (CIPAC).



46. The Code of Conduct has been supported through various field programme activities. Twenty-six TCP projects have been implemented since 1987 (two African regional projects, Belize, Comoros, Costa Rica, Ecuador, El Salvador, Ethiopia, The Gambia (2), Ghana, Guatemala, Honduras, Liberia, Mongolia (2), Morocco, Pakistan (2), Panama, Somalia (2), Sudan, Syria, Uganda, Yemen). An inter-regional project funded by Japan provided assistance to 27 countries in the Asia and the Pacific, and in the Caribbean region (see Box 6). Similar activities are in the pipeline for the Near East, Africa and Latin America.

#### (iv) Migratory Pest Control

47. FAO activities in this area date back to 1955 when the Desert Locust Control Committee was set up to keep the desert locust situation under review. In 1973, FAO took over the responsibility for the Desert Locust Information Service from the Anti-Locust Research Centre in the United Kingdom. With the outbreak of serious grasshopper and locust infestations in 1985 following the return of more abundant rainfall in most of Africa, FAO brought the serious threat to crop yields to the attention of the international community and established the Emergency Centre for Locust Operations (ECLO) in 1986. As the desert locust threat receded in 1990, ECLO was temporarily suspended as a separate entity, and its activities of a continuing nature reabsorbed in the Regular Programme. It was re-established in December 1992 in view of locust surges in Madagascar and the Near East.

48. ECLO was conceived as a coordinated campaign for continued control operations to contain the major desert locust outbreaks and as a focal point for supporting the establishment of monitoring structures in affected countries as well as organizing meetings with donors at regular intervals. Its activities concentrated on three aspects: (i) international coordination of locust campaigns; (ii) backstopping of projects; and (iii) collection, analysis and dissemination of information. Some projects simply provided pesticides, but most supported multi-component operations, involving technical assistance, training of national staff and farmers as well as procurement of pesticides, vehicles, spraying equipment, hiring of aircraft, repair of airstrips, etc. Information activities consisted originally of two publications: the Desert Locust Situation Summary and Forecast (monthly) and the FAO/ECLO Locust and Grasshopper Bulletin (appearing every ten days at the height of the campaign). These were substituted in 1989 by three publications (in English and French): the Desert Locust Bulletin (monthly), the Desert Locust update (at mid-month), and the Special Bulletin on Grasshoppers and other locusts (as needed). Annual summaries are given in FAO's Migrant Pest Newsletter.

49. Consultancies for a total of 325 man-months were also provided during 1986-89 to the Crop Protection Services of the affected countries. More than 50% of these consultancies went to countries in the West Africa and Sahel region. In addition, training sessions were organized for technical staff in the region and national staff were sent on training courses organized by other agencies. The technical support through consultancies and training has played an important role in national-level control operations.



#### **Box 6: Implementing the International Code of Conduct on the Distribution and Use of Pesticides**

Implementation of the Code of Conduct is inevitably a long, complex process, particularly when it has to start with the enactment of appropriate pesticide legislation, move next to the establishment of a pesticide registration scheme and adoption of FAO specifications for pesticides, the development of efficacy test protocols for important crop/pest combinations, labelling requirements - and all these measures need to be harmonized from one country to the next in any single region, and across regions - finally to culminate in information exchange as well as training of extension staff and farmers in the safe and efficient use of pesticides.

The mid-term project evaluation of the Japanese-funded project in Asia (carried out in July 1990) which had aimed at all these objectives, illustrates well both the difficulties and achievements. The evaluation mission noted that regional harmonization in the development and use of pesticides has made definite progress in the region. Two years after project start, of the 14 countries which had no national pesticide registration scheme or enacted the law but were not implementing it due to lack of appropriate expertise, fully seven were found to have established their own national regulatory schemes, three of them had enacted pesticide legislation (Myanmar, Vietnam, Western Samoa) while the other four countries were in the process of doing so (Bhutan, Laos, Nepal and Vanuatu).

The evaluation reported that most countries, including those with more advanced registration schemes such as Malaysia and Thailand, felt they needed further assistance from the project, essentially in enforcing regulations effectively and in promoting the safe and efficient use of pesticides at national level, including supplementary training of extensionists and farmers. Additional efforts in regional harmonization in pesticide regulatory systems (including, for example, labelling requirements) and institutionalization of information exchange were also considered necessary.

The evaluation mission recommended a two-year extension, well aware that even that additional time would not be sufficient for the project to achieve all its objectives. Moreover, a suggestion was made to consider the establishment of a regional analytical laboratory facility to serve as a centre for training of chemists on pesticide quality control and residue analysis; to provide analytical services for countries with no laboratory infrastructures in support of their registration schemes; and to act as a reference laboratory for any disputes on analysis. Such a facility had never been made a part of the project, yet the mission felt "that the overall effectiveness of the project in helping countries to observe the Pesticides Code of Conduct could be further strengthened by such a facility". So far the proposal has not found a donor.

By the end of the project, in May 1993, training had been provided to about 800 registration staff, inspectors, chemists, etc., 470 extension workers, and 2,500 farmers. In addition to the 35 workmonths of consultancies provided through the project, some 40 workmonths of consultancies were provided by the member countries themselves through the services of regional experts offered on a TCDC basis. Through these consultancies, pesticide registration and control schemes were in operation in almost all the participating countries. However, as the Project Terminal report underlined, much still remains to be done to enable them to operate their respective registration schemes efficiently on their own and another follow-up phase is needed to achieve the goal of self-reliance.

50. Involved in the campaigns were over 40 affected countries, three regional control organizations, 37 donor countries, 11 international organizations, 17 non-governmental donor organizations, and four organizations offering scientific and technical advice. To coordinate the efforts of the parties involved, ECLO organized over the 1986-89 period some 38 coordination meetings, which discussed policy matters as well as research and project-related issues. The assistance mobilized a grand total of US\$ 302 million provided over the 1986-89 period.



## V. EFFECTS AND IMPACT

### (i) Plant Health and Reduction of the Spread of Quarantine Pests

51. The IPPC is the only instrument of global significance that exists for regulating the spread of quarantine pests, and is particularly concerned with the quarantine aspects of international agricultural trade. As the international convention with broadest scope and most extensive network of associated regional plant protection organizations, the IPPC was called upon by the GATT Uruguay Round, to assist in "the establishment, recognition and application of common phytosanitary measures" to facilitate trade. The level of international support is shown by the fact that even before ratification of the amended version of the IPPC in 1991, some countries adopted the proposed new phytosanitary certificates. By end-1992, the IPPC was adhered to by 99 countries, although a number of important countries are still left out, including one in Western Europe and several in Africa.

52. The strengthening of national plant protection infrastructures - the second major component of this Thrust - has generally shown mixed results. As stated in Box 2, most projects undertaken to this end proved to be non-sustainable, owing to institutional weaknesses of the national plant protection services concerned. These weaknesses, stemming from a lack of trained technical staff, infrastructural shortcomings (inappropriate or non-existent laboratories, observation posts, etc), lack of needed equipment, and inadequate funding for recurrent expenditures, prevented the projects from achieving a significant impact. However, in specific fields progress has been registered. Training in particular has been an important component of these projects and has led to some improvement in the expertise available at national and field level (for example, the establishment of Biological Control Units under the regional project on Biological Control of Food Crop Pests). However, lack of sufficient funding is probably the most critical constraint facing plant protection activities, especially where subsistence crops are involved without prospect for immediate economic gains.

### (ii) Integrated Pest Management

53. IPM has gained broad scientific recognition as well as support for implementation over the past two decades. For example, the World Bank issued guidelines in the late-1980s which designated IPM as the central strategy for all agricultural loans with pest control components, and most bilateral development agencies are substantially engaged in IPM activities. FAO has been in the vanguard of this development, and FAO's rice IPM programme in South-east Asia, in particular, has been frequently praised as "one of the best examples of IPM implementation".<sup>1</sup>

54. Symposia and workshops organized by FAO as well as the FAO/UNEP Panel of Experts on IPC have shaped the understanding of IPM principles in the agricultural world. A recent Review of the FAO/UNEP Panel of Experts on IPC termed the "Panel, by affiliation with FAO and its network, the most important body in the world during the 1960s

<sup>1</sup> Consultant Group to the International Pest Management Task Force: IPM in Third World Agriculture: Experience and Prospects, January 1990. The Task Force was set up in 1989 by a group of interested donors in order to assist the Technical Advisory Committee (TAC) of the CGIAR.



and 1970s in creating an awareness of the IPM philosophy, principles and applications in the developing and developed world".<sup>1</sup>

55. On a global scale, however, the implementation of IPM has not yet met the expectations generated in the 1970s and 1980s. It was estimated in 1990 that less than 5% of all Asian rice farmers actually practised IPM<sup>2</sup>. Furthermore, the promotion of IPM in subsistence crops often proved futile due to other limiting factors in subsistence farmers' cropping systems.

56. Against this background, FAO's IPM field projects have achieved some notable successes. The most striking example is the South-east Asian Rice IPM programme (see Box 3), but also the cotton IPM project in Sudan and the African regional project Biological Control of Food Crop Pests have had significant impact. In these projects, a favourable policy environment helped the implementation of IPM regulations, or the setting up of biological control units in plant protection departments. Sudan and Indonesia also declared IPM the official plant protection strategy for the affected crops and phased out subsidies on pesticides, and a number of other countries are following suit.

### (iii) Pesticide Management

57. Effective implementation of the International Code of Conduct on the Distribution and Use of Pesticides depends to a large extent on the willingness of all concerned parties - governments, pesticide industry, traders, users and non-governmental organizations such as environmental groups, consumer groups and trade unions - to apply the provisions of the Code.

58. FAO has tried to enlist the support of these groups by involving them as widely and regularly as possible in the development of standards, definitions and guidelines pertaining to the Code. The pesticide industry, through GIFAP (the International Group of National Associations of Agrochemical Manufacturers) as well as representatives of consumers or environmental groups, mainly through the IOCU (International Organization of Consumers Unions), have participated in the Code procedures since its adoption in 1985. GIFAP as well as IOCU representatives have regularly provided advice both to the Panel meetings and PIC meetings on pesticide specifications, registration requirements and application standards. GIFAP has also participated in the preparation of Guidelines under the Code.

59. By end-1992, 155 countries were already participating in the PIC procedure. The rate of response to the requests for information sent out by FAO at the end of 1991 was initially slow but has recently picked up. By December 1992, 52 of the 155 countries had replied to the request to provide a decision on the first group of pesticides concerned by the PIC procedure (i.e. six pesticides that were banned or severely restricted for health or environmental reasons). Moreover, since the EEC is adopting the PIC clause in its

<sup>1</sup> P.L. Adkisson: A Review of the FAO/UNEP Panel on IPC with Recommendations for Future Activities, April 1991.

<sup>2</sup> Consultant Group, op.cit., p 16.

legislation, replies given by participating countries will be automatically binding on EEC countries.

60. Implementing the Code of Conduct will be a long-term process, as it requires several years and substantial investment to set up effective pesticide regulatory systems. Cooperation on a regional basis through harmonized legislation and control, including the establishment of regional pesticide control laboratories, would seem one solution to help reduce the cost of establishing and operating pesticide regulatory systems.

#### (iv) Migratory Pest Control

61. In spite of considerable research, there is still no simple answer nor full agreement on control methods for migratory pest outbreaks. Nonetheless, the international action mobilized through ECLO did achieve results and provided useful lessons for the future. The locust plague was contained by 1990, partly through intensive spraying in some areas in 1988 (Mauritania, southern Morocco, Saudi Arabia), partly through large-scale dispersal of locusts into the Atlantic in 1988 and failure of breeding in 1989. While grasshopper infestations in the Sahel also declined considerably, a new grasshopper upsurge in 1989 reconfirmed that the problem is a chronic one, that large-scale control operations will not reduce populations for any time longer than a season at most, and that grasshopper control measures must be applied at farmer level and by the farmers.

62. Although the diminishing of the locust emergency cannot be attributed to ECLO operations alone, ECLO proved its worth in mobilizing donor funds and international expertise: the control efforts were on an unprecedented scale, and in spite of the campaign's complexity, relatively few lapses and delays were recorded. Participation in ECLO operations also was an occasion for experts from different schools of thought to exchange opinions and agree on common control strategies.

63. The impulse given by ECLO was continued after it was suspended as a separate unit. The UNDP/FAO Scientific Advisory Committee, set up to screen research proposals and provide for an exchange of information among scientists involved in locust control, met six times between 1990 and late 1992. It recommended that priority should be given to the following fields of locust research: (i) improving control using existing technology; (ii) alternative methods of control; (iii) basic biology of locusts; (iv) environmental impact; (v) economic loss assessment. It should be noted that priorities (ii) and (iii) have been adopted by UNDP as their main priorities for funding, with several projects in the pipeline. Furthermore, while ECLO was suspended, emphasis was placed on monitoring and information activities, training of plant protection staff and research into the most effective control methods. The Desert Locust Control Committee and the Regional Locust Commissions, meeting in 1990-91, called for more intensive training and increased attention to the environmental hazards of spraying. These concerns are hoped to be addressed through field projects.

64. During the suspension of ECLO activities in 1990, FAO maintained its capacity to mobilize again donor interest in future migratory pest control campaigns. When new locust outbreaks occurred in late 1992, ECLO was re-established in December 1992, again highlighting FAO's mandate in coordinating locust control operations.



## VI. CONCLUSIONS AND ISSUES

65. The Sub-programme has a significant share of activities directly linked to FAO's mandate in fostering global or regional coordination. During the biennia under review, these international activities have gained in importance. International instruments like the IPPC and the Code of Conduct were reinforced and amended, locust campaigns were conducted on an unprecedented scale, and the regional rice IPM project set an example for Southeast Asia and other regions. The concentration on the four programme thrusts has helped the Sub-programme to achieve a harmonious balance in its substantive activities.

66. The allocation and use of resources has reflected the increased emphasis given to the Sub-programme. The proportion allocated to the Sub-programme out of the overall budget of the Crops Programme rose substantially following the 1986-87 biennium, and the streamlining of the Plant Protection Service's organizational structure according to the programme priorities clearly manifests the main orientation of the Sub-programme's work, although some regrouping of staff is still taking place.

67. The Sub-programme's activities have produced encouraging results and the work in support of the IPPC and the Code of Conduct has demonstrated FAO's unique role in facilitating international agreements. Work on IPM has proven that FAO can be a major factor in guiding and initiating innovative technical and scientific work in this field. The next major challenge is to define the Sub-programme's contribution to strategies for sustainable agricultural development. The required holistic approach to crop protection will entail closer collaboration with other FAO units as well as an intensified dialogue with experts from other disciplines and institutions.

### (i) Plant Health and Reduction of the Spread of Quarantine Pests

68. The IPPC coverage, although considerable, is not yet complete. In many cases, however, countries that are not party to the IPPC belong to organizations or conventions linked to the IPPC, but more universal adherence to the Convention would ensure a wider, more consistent coverage.

69. Harmonized quarantine standards and guidelines have not yet been developed on a worldwide basis. This requires an international consultative process to consider the various national standards and arrive at a consensus on definitions, interpretations and operational procedures - a process for which the IPPC Secretariat is well placed with its links to the regional plant protection organizations. However, as the Panel on Plant Quarantine foreseen in the PWB 1992-93 still remains to be set up, the IPPC lacks an advisory body that could function in a similar fashion as the FAO/UNEP Panel of Experts on IPM. The vacuum was partly filled by ad-hoc meetings and expert consultations, but an institutionalized advisory body seems more desirable in the longer term, and a detailed proposal has been developed for consideration by COAG, Council and Conference in 1993.

70. The IPPC calls on FAO to establish a "world reporting service on plant pests", yet FAO is constrained by countries' repeated reluctance to inform about pest outbreaks. The information normally travels from the individual country to the concerned regional plant protection organization and FAO. While the link between FAO and the regional plant

protection organizations is immediate, a greater effort is required from some countries to provide more accurate and up-to-date information on pest outbreaks. It must, however, be noted that even countries with well-developed plant quarantine systems often cannot with certainty make statements on their pest situation. Technical assistance, possibly in the form of regional projects, will be necessary in many cases to strengthen the capability to conduct the necessary surveys.

## (ii) Integrated Pest Management

71. IPM has been described as the "strategy widely recommended, although less widely used, for the reduction of pest damage through the careful integration of all available pest control techniques".<sup>1</sup> The slow adoption of IPM, together with the search for effective solutions, has been a major concern for FAO. Although FAO's IPM activities have been widely praised, and some outstanding successes have been achieved, it seems further efforts are needed to support the practical application of IPM.

72. Many crops have not yet been properly covered by IPM activities. There is scope for formulating and implementing IPM systems for vegetables, particularly in Asia and citrus in the Near East, for resuming work on IPM for cotton in Central America and parts of Asia, and for placing more emphasis on weed control, especially Striga. Other crops that deserve attention are the protected crops in the Near East and basic food crops (sorghum, millet, peanuts and pulses), especially in the dry areas of Africa.

73. The two-pronged strategy adopted by FAO to promote IPM - people's participation at farmer level, and strengthening plant protection structures at regional and national level, including training of technical staff and extensionists - has shown promising results. A general constraint is the low level of technical sophistication of many national institutions to handle the IPM approach and the frequent lack of trained personnel. For example, there are few IPM experts from francophone African countries.

74. The FAO/UNEP Panel of Experts has the potential to identify new conceptual approaches through the exchange of experiences on various aspects of IPM implementation. The Panel already has departed from its original focus on entomology and widened its membership to include non-entomologists from other plant protection disciplines, and also economists. The adoption of IPM, however, depends also on changes in agronomic practices, as well as on the recognition of institutional, socioeconomic, educational and policy constraints. For FAO's IPM projects, it appears that the inclusion of expertise to address these wider constraints could increase the acceptance of IPM. Advances in this direction have already been made, in particular by the South-east Asian rice IPM project. A broader perspective is also required under the Organization's Integrated Crop Management approach, and within the sustainable agricultural development concept adopted in Agenda 21.

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<sup>1</sup> Consultant Group, *op.cit.*, p v.



**(iii) The International Code of Conduct on the Distribution and Use of Pesticides**

75. Action is necessary at both regional and country level to either establish pesticide registration and control schemes or strengthen existing schemes so that countries can efficiently operate them on their own. A start has been made through a few FAO regional projects, but much remains to be done. Consideration should be given to alternative support strategies, such as the establishment of regional pesticide quality control laboratory facilities.

76. The existence of large stocks of obsolete pesticides and their eventual disposal, has become a major preoccupation of governments and the general public alike. FAO so far has lacked the resources to provide sufficient assistance to member countries and/or attract extra-budgetary support for field projects.

77. As the norms established through the Codex Alimentarius start to play a normative role in international trade, FAO work on pesticide residues in food and the environment will take on added importance. Although this was one of the topics raised in Agenda 21, the likely lack of funding renders any large-scale programme unrealistic. However, eventual activities will require closer coordination between FAO and other international organizations involved (OECD, ILO, UNEP and WHO), possibly through participation in a re-designed International Programme of Chemical Safety (IPCS).

**(iv) Migratory Pest Control**

78. The most fundamental concern raised by large-scale migratory pest control campaigns such as the 1986-89 Desert Locust campaign, is related to the possible side effects of massive pesticide applications over large areas, their impact on natural enemies of pests and other useful arthropods, on wildlife and on human health. Entomologists have argued repeatedly that without natural enemies, one should expect upsurges, particularly of grasshoppers, to be more frequent, more severe and of longer duration. This concern is shared by FAO, and, in cooperation with several donors, it has conducted several pilot studies preliminary to a three-year project, launched in 1991, to assess environmental impact in Senegal.

79. It is generally recognized that effective alternatives to chemical control of the locust upsurges are not available at present. This implies that continued research is of primary importance and that despite the negative environmental side-effects, pesticides still have to be used by the countries affected in as small quantities as possible. These positions are in fact taken by the FAO Desert Locust Control Committee and the Regional Locust Commissions.

80. In view of these trends and events, it is apparent that the functions performed by ECLO in the 1986-87 campaign may only be called for in emergency situations. It is, however, equally clear that FAO has the operational and technical capability to guide the research on alternative control strategies. This work could eventually involve closer collaboration between Thrusts Two (IPM) and Thrust Four (Migratory Pest Control). Similarly, as the re-establishment of ECLO has shown, FAO is still best suited to play a central coordination role in mobilizing international assistance in the event of a new emergency.

## CHAPTER TWO

### STATISTICAL PROCESSING, ANALYSIS AND DEVELOPMENT SUB-PROGRAMMES 2.1.7.1 AND 2.1.7.4

#### I. CONTEXT

1. FAO's mandate to "collect, analyse, interpret and disseminate information relating to nutrition, food and agriculture"<sup>1</sup> and its role as a clearing house for information on food and agriculture has been recognized by member countries, other specialized agencies and international organizations since its inception. The importance of this role was also underlined by the recent Review of FAO's Goals and Operations, which highlighted information as one of the three primary functions of the Organization.

2. An important part of this function has been carried out by FAO's Statistics Programme, the origin of which dates back to the International Institute of Agriculture (IIA), established in Rome in 1905. The production and publication of statistical yearbooks was initiated by IIA in 1910 and work on the first World Agricultural Census was launched in 1930. In 1947 FAO took over these tasks, and since 1950 has been responsible for the decennial programme of the World Agricultural Censuses. Analytical studies of global concern were started by FAO in 1946 with the First World Food Survey. World Food Surveys have been published at regular intervals for 1952, 1963, 1977, and 1987 and have served as a basis for discussions in key fora such as the World Food Congresses and WCARRD. The analytical work for the World Food Surveys has also provided important inputs for the elaboration of FAO regional and global studies, such as "Agriculture: Toward 2000".

3. Presently, FAO's statistical system comprises data on 800 agricultural commodities and 250 fishery and forestry products, covering 230 countries and territories, including their aggregates at regional and sub-regional levels. It covers time-series data on demography, agriculture/fisheries/forestry production (agricultural resources and inputs, production outputs, external trade, utilization, commodity balances and prices), trade flow data (crops, livestock, fishery and forestry products) and other data bases on selected subjects, such as agricultural census, development aid, and economic accounts.

4. While the primary source of its data is the member countries, one key feature of FAO's statistical work is that from the users' viewpoint it adds value to the information reported by countries in several ways. Firstly, it maintains a global and comprehensive system of data and statistics which are internally consistent under coherent statistical concepts, definitions and methodologies, thereby permitting inter-country comparison. Secondly, the data reported by the member countries are supplemented by information from other sources, including data obtained through FAO's own Regular and Field Programmes in a variety of technical fields as well as information from other international organizations

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<sup>1</sup> FAO Constitution, Article 1, paragraph 1



engaged in data collection. Thirdly, it also includes aggregates and indicators derived by FAO from basic data for analytical purposes. Fourthly, its information is designed to accommodate the needs as well as practical constraints faced by the statisticians, planners and technical analysts in using statistics and data in development situations. This is a result of the fact that the statistics and data in the system are used internally by various FAO units and externally by other international organizations and that FAO's approach also benefits from practical feedback from its experience with providing technical assistance for national statistical development.

5. Support to end-user requirements through the dissemination of timely information is also part of the FAO's mandate; thus, activities linked to the production and publication of the data are central to the FAO's statistical work. A major breakthrough in this direction has been achieved since 1986 through the creation of a computerized data bank (AGROSTAT) which allows: (a) direct and on-line access to the Organization's basic data by in-house end users and, since 1988, to selected external users; and (b) regular updating of the data bank. In 1988 the FAO Information Systems and Resources Committee further acknowledged the need for an integrated corporate data management system (WAICENT), which would facilitate access to FAO data by users, and which would eliminate redundancies and inconsistent data. The AGROSTAT is being upgraded to FAOSTAT as the statistical component of WAICENT, the other component being FAOINFO for textual information. The Statistics Division (ESS) has been given the main responsibility for its development under the overall guidance of the Steering Committee chaired by the Deputy Director-General.

## II. OBJECTIVES AND PRIORITIES

6. Sub-programmes 2.1.7.1 (Statistical Processing and Analysis) and 2.1.7.4 (Statistical Development) are at the core of FAO's statistical work, with focus on: (a) the development and promotion of statistical methods and standards, (b) the acquisition, compilation, processing, analysis and dissemination of a wide range of food and agricultural statistics; and (c) technical support to developing member countries in strengthening their national agricultural statistical systems. They also provide the statistical underpinning for analytical work by the member countries and in FAO through the provision of reliable statistical information and the development of socio-economic indicators to improve the knowledge of such issues as women in development, human resource development, the food and nutrition situation, sustainable development and environmental protection.

### Objectives

7. The overall objective of the two Sub-programmes is to provide timely, reliable and comparable statistical information on salient aspects of global food and agriculture to in-house and outside users.

8. In order to achieve this, the Sub-programmes are geared collectively towards two main objectives:

- (a) the improvement and enhancement of the comprehensiveness, timeliness and availability of data, through:
  - . data acquisition,
  - . cooperation with other international organizations to harmonize concepts and data in order to reduce the burden of reporting on respondent,
  - . modernization of data management and its dissemination.
- (b) the provision of advice and assistance to member countries in the development of their national statistical system (NSS) by:
  - . identifying technical gaps and weaknesses in their NSS,
  - . selecting, in coordination with other international statistical bodies, more adequate and modern statistical methods,
  - . publishing manuals and handbooks on the above,
  - . designing and backstopping projects.

9. Within this framework, high priority has been given in the recent biennia to the integration of FAO's statistical databases of corporate significance into the FAOSTAT component of WAICENT (to be completed during the 1992-93 biennium) with the aim of eliminating duplication in data collection efforts and redundancy of information, improving the consistency and comprehensiveness of information released, and facilitating access to data through modern methods of communication. Similarly, the development and promotion of standardized statistical concepts, definitions, classifications and methods has been another main programme priority. Towards this end, more efficient data collection methods and techniques are continuously identified and verified in FAO's specialized statutory bodies and expert consultations, disseminated through training courses and technical publications aimed particularly at developing countries. Additional efforts are being made to acquire agricultural statistics from local sources through field projects, FAORs and HQ staff travelling to member countries and intensifying the dialogue with national statistical offices on the updating and reconciliation of statistics to improve database content and accuracy.

10. At the country level, uniformity in these areas is sought through its programme for the decennial World Census of Agriculture (WCA), as well as publications of standards and methodologies. Support to national data collection systems is provided through field projects, either entirely devoted to statistics or with a statistical component to establish and/or develop a permanent national capability to collect and disseminate agricultural data.



### Programme Structure and Component

11. Sub-programme 2.1.7.1 centres on the production, maintenance and dissemination of basic statistical information as well as on the development and implementation of end-user services such as AGROSTAT and the World Agricultural Information Centre (WAICENT). Data collected through the Sub-programme does not, however, include those relating to fisheries and forestry: the latter data are collected separately under Programmes 2.2.1 (Fisheries Information) and 2.3.3 (Forest Investment and Institutions) but some aspects are processed and fed into the overall FAO systems. Sub-programme 2.1.7.4 is focused on the development of statistical methods and standards as well as support to strengthening national statistical systems, including the coordination of the World Census of Agriculture.

12. The main activities under the two Sub-programmes can be grouped into the following five components:

- (a) data acquisition, compilation, verification and storage - covering the collection, processing and maintenance of statistics and data on production, trade, economic accounts, agricultural land and inputs, prices and index numbers. It also includes operating and maintaining the major statistical working system, the Interlinked Computerized Storage and Processing System of Food and Agricultural Data (ICS);
- (b) data management and dissemination - consisting of activities aimed at user services, especially through AGROSTAT and WAICENT;
- (c) data analysis - covering consumption and demographic statistics, World Food Surveys, Consumption/Expenditure, Household Surveys, analysis of agricultural census results, socio-economic indicators and inter-country comparison of agricultural outputs;
- (d) development assistance to national statistical systems - activities in support of the development of national statistical systems based on agricultural census (World Census of Agriculture Programme), including the methodological development and training, and technical backstopping of field projects; and
- (e) statistical statutory bodies - activities including support to various FAO-sponsored regional bodies and FAO expert advisory groups.

## **III. ORGANIZATION FOR IMPLEMENTATION AND RESOURCES**

### Organization for Implementation

13. The Statistics Division (ESS) is responsible for all the activities under Sub-programmes 2.1.7.1 and 2.1.7.4. During 1992, the Division comprised four groups with total staff posts of 33 professionals and above and 57 general service: the office of the Director (with 3 professional/above staff), the Statistical Analysis Service (ESSA) (with 12 professional/above staff), the Statistical Development Service (ESSS) (with 9 professional/

above staff) and the Basic Data Unit (ESSB) (with 9 professional/above staff). All the posts and activities within ESS are funded exclusively through the Regular Programme resources. In addition, ESS staff work closely with 2 regional statisticians, one each located in the Regional Offices for Africa and Asia and the Pacific.

14. ESSB and ESSA jointly have the responsibility for activities under the Sub-programme 2.1.7.1 (Statistical Processing and Analysis), in particular, the three components dealing with data acquisition, compilation, verification and storage (component 1), data management and dissemination (component 2) and data analysis (component 3). ESSA is primarily concerned with activities under component 3, including the methodological development for the statistical systems handled by ESS, while the Office of Director, ESS has been in charge of the development of WAICENT. ESSS has the main responsibility for activities under Sub-programme 2.1.7.4 (Statistical Development), particularly development assistance to national systems (component 4) and support to Statistical Statutory Bodies (component 5). In recent years, there has been closer collaboration between ESSA and ESSS on methodological work of the Division, partly due to the staff vacancies in the latter Service.

15. Because of the nature of the specific services provided by the Division, it collaborates with a large number of in-house technical units, particularly at the intermediate working processes between the initial selection of indicators and the provision of data for in-house technical and global studies. The identification and selection of data and formats to be included in regular reporting are decided in close collaboration with the relevant technical units; e.g. ESN for nutrition, AGL for land use and fertilizers, AGP for pesticides, ESP for trade and economic statistics, and FII and FOI for production and trade data on fishery and forestry products, respectively. Similarly, basic and processed data is produced, upon request of the technical units as an input to regular and special global studies, e.g. ESD for AT 2010, ESP for country, regional studies and policy advice, ESC for trade flows, ESN for "Assessment Papers" related to the International Conference on Nutrition.

16. Coordination is also maintained with other UN and international agencies, such as the UN Statistics Division (UNSD), the World Resource Institute (WRI) and the UN Economic Commission for Europe for exchange of statistical data and methodologies on economic accounts and environmental statistics. The Division also cooperates with the UN Economic Commissions, IMF, World Bank, OECD, EUROSTAT, ILO, WHO, UNCTAD and GATT.

### Resources

17. During the last four biennia covered here, a total of US\$ 54.6 million of Regular Programme resources has been allocated to the two sub-programmes. Table 1 below shows the evolution of the resource allocations over the key components during the 1986-93 period (for explanations on the five components, see para. 12 above). Overall, over two-thirds of the resources have been for the processing and production of basic statistics (component 1) and for enhanced data management and dissemination (component 2), including the development of WAICENT.

18. There are two broad trends during the period. The share of resources for the components 1 and 2 have accounted for some 70% under each biennium, but their relative



**Table 1: Sub-Programmes 2.1.7.1 and 2.1.7.4 - Regular Programme Resource Allocation  
(in US\$ '000)**

Main Programme Components Share	1986-87	1988-89	1990-91	1992-93 <sup>1</sup>	Total
Total Allocation	10 483 (100%)	12 885 (100%)	14 881 (100%)	16 349 (100%)	54 598 (100%)
(1) Data acquisition, compilation, verification and storage	(64%)	(66%)	(61%)	(53%)	(60%)
(2) Data management and dissemination	(6%)	(6%)	(10%)	(18%)	(11%)
(3) Data analysis	(14%)	(14%)	(17%)	(9%)	(13%)
(4) Development assistance to national statistical systems	(12%)	(11%)	(9%)	(18%)	(13%)
(5) Statistical Statutory Bodies	(4%)	(3%)	(3%)	(2%)	(3%)

1 = The figures for this biennium are preliminary estimates

shares changed in different directions, i.e. the share of component 1 declining steadily while that of component 2 increasing. This is largely due to the increasing allocations for the development of the World Agricultural Information Centre (WAICENT) under component 2, which accounted for 13% of the total for the 1992/93 biennium. The budget for the present biennium also represents a departure from the previous trend, with a much greater allocation going to component 4 and a substantial reduction in the allocation for component 3. This reflects the increased support to developing countries in the implementation of the agricultural census, including support to data processing and survey methodology (the related resources for this support accounts for 10% of the total). As a result, substantial increases are notable in the allocation of resources for the programme components 2 and 4 in the current biennia. The major increase during the 1990-91 period for the data analysis (component 3) was due to the initiation during that biennium of activities related to the Sixth World Food Survey and the preparation for the ICN.

19. During the period under review, over 100 field projects with a total combined budget of US\$ 61.5 million were being technically backstopped by the ESS Division (mainly by ESSS), i.e. under its responsibility as the lead technical division (see Table 2). For 10 of these, the Division has acted as the operating unit. The great majority of these projects were operating in countries of Africa and Asia/the Pacific (73% of the total in number and 90% in terms of budget), especially in Africa (two-thirds in funds). It is noteworthy that TCP

funded a significant number of projects (44% of the total) and that only a few projects were supported by Trust Fund donors. In addition, the ESS Division participated in technical backstopping of some 170 projects which included statistics as one of their components. A large majority of projects under the Division's technical responsibility were UNDP funded (51% in number and 78% in funds).

**Table 2: Sub-programmes 2.1.7.1 and 2.1.7.4 - Field Projects Backstopped  
(By Region/Sources of Funds during 1986-91, project budgets in US\$ '000)**

Region	UNDP		Trust Fund		TCP		Total		Share in Percentage	
	No.	Budget	No.	Budget	No.	Budget	No.	Budget	No.	Budget
Africa	30	37 611	3	2 601	14	1 218	47	41 430	46	67
Asia/Pacific	11	6 089	2	6 268	15	1 590	28	13 947	27	23
Latin America/ Caribbean	5	2 066	0	0	10	868	15	2 934	15	5
Near East, North Africa/Europe	6	2 466	0	0	6	729	12	3 195	12	5
Global/Int. Regional	0	0	0	0	0	0	0	0		
Total	52	48 232	5	8 869	45	4 405	102	61 506	100	100
Share in Percentage	51	78	5	14	44	7	100	100		

20. A major strain on the Division during the recent biennia has been the continuous shifts of staff, including at the management level, in order to support the development of WAICENT and to compensate for the relatively large number of posts which have remained frozen or vacant since 1986. As seen in Table 3 below, 15 to 19% of the professional posts at Headquarters, essentially at the P5/P4 level, have remained vacant during the period. In particular, the staff turnover at the managerial level has been very high. During the period covered, the position of Division Director changed four times, and there were five different Service Chiefs for the three posts in the Division.

21. This partly reflects significant gaps between actual allocations made to the Sub-programmes and the approved budgets, due basically to cost cutting measures applied during the period under review, exacerbated by the understaffing situation due to staff departures. Actual allocations for Sub-programme 2.1.7.1 in the three biennia were well below the approved budgets (12%, 23% and 13.5% for 1986-87, 1988-89 and 1990-91, respectively). The gap in the allocations for staff reached 20% during the 1990-91 biennium.



**Table 3: Sub-programmes 2.1.7.1 and 2.1.7.4 - Posts allocated within ESS**

Posts	1986-87	1988-89	1990-91	1992-93
Total D1/D2	3	3	3	3
Total P1/P5	26	27	27	30
Total GS	61	61	58	57
Vacancies in w/m (P1/P5)	96	116	112	137
% of posts vacant	15	18	17	19

#### IV. ACTIVITIES

22. This section reviews the major activities implemented under the two Sub-programmes during the last four biennia. For the purpose of analysis, activities are presented under the five main programme components.

##### (1) Data acquisition, compilation, verification and storage

23. Activities under this component play a central role in maintaining and updating the FAO's statistical system, covering world-wide and long-term statistical data on production, trade and utilization of crops, livestock and livestock products, as well as on land use, agricultural population and labour force (including projections), agricultural inputs (machinery, fertilizers, pesticides), food supplies and consumption, prices, national economic accounts for the agricultural sector.

24. One basic task is data acquisition and entry for the maintenance of FAO's statistical data base. Data are compiled from questionnaires sent to national statistical offices, from national publications, from reports of commodity boards and associations, as well as from other relevant national, bilateral and international sources. Data received in a wide variety of computer and national languages are converted to international units and standardized to conform with FAO standards and definitions. As data included in FAO's long-term time series originate from various sources, their selection and processing is critical, and received data are systematically checked for quality and consistency through cross-reference checking and verified or completed by means of supply/utilization accounts and comparison with aggregate trends available since 1961.

25. The work on Production Statistics includes: a) the continuous review and analysis of statistics of production of crops, livestock and livestock products; and b) quarterly and ad hoc reporting on production trends and levels by commodity, by country and related aggregates. Similarly, the elaboration of Trade Statistics entails the continuous review and analysis of statistics of external trade data to report on an annual basis and/or according to specific

requests on trade trends and levels by commodity, by country and related aggregates. The outputs of these activities are disseminated through the FAO Production Yearbook, the Trade Yearbook, the FAO Quarterly Bulletin of Statistics, the AGROSTAT data base available to all users and the AGROSTAT-PC product for users with micro computers. The data gathered on trade statistics have generated, as a by-product, a very large databank of raw data on trade by origin and destination which at present is being used only for the estimation of data for late- and non-reporting countries. The data have also been exploited in the construction of trade flow in support of policy studies and planning assistance at the country level.

26. Another key aspect concerns the regular updating of the long-term series of world-wide statistics on production, trade and domestic utilization of crops, livestock and livestock products in the form of Supply/Utilization Accounts. Food Balance Sheets for more than 160 countries are updated yearly and disseminated through the AGROSTAT in-house and PC systems; a dedicated publication is also issued at five-year intervals. This information as well as derived indicators are published in FAO's Quarterly Bulletin of Statistics. Food Balance Sheets contain data (i.e. per caput food availabilities in terms of quantity, energy, protein and fat) widely used in the assessment of the food situation and needs particularly critical in emergency situations.

27. The analysis of economic indicators and the elaboration of aggregate data and inter-country comparison are also an important element of this component. This has included support to member countries in the development, and improvement of agricultural economic accounts and the collection of data on these accounts. Several thematic studies on methodologies for the collection and treatment of data on consumption, production, input use and capital formation within the agricultural sector have also been undertaken upon request of FAO's Governing Bodies, and several manuals, working papers and specific studies have been produced to disseminate standardized definitions, concepts and classifications (see para. 57 below). A data base on External Assistance to Agriculture has been regularly maintained, since 1990, to meet external and internal demand including reporting to FAO governing bodies.

28. Statistics on prices received by farmers for agricultural output and those paid by farmers for agricultural inputs are regularly monitored. Such data is extensively used by FAO technical divisions for global studies. It is also used in the Division to construct production and price index numbers as well as in the analytical study on inter country comparisons of agricultural output and productivity which was first prepared in 1986. An up-dated and expanded version of the study (methodologies on estimating agricultural GDP) was completed in 1992 to complement the related work of the UN Statistics Division, EEC, OECD and the World Bank relating to the total GDP comparison across countries. The study provides the background methodology for deriving agricultural purchasing power parities and international prices together with the comparison of output and productivity over more than one hundred countries.

29. Work was initiated in 1992 on pilot studies regarding the cost of production surveys as well as marketing costs and margins in selected countries in order to develop methodologies for estimating these parameters. The general guidelines and instructions for these were prepared in cooperation with AGSP and ESC. This will be the basis for



preparing manuals on cost of production surveys, for training courses and to serve as guidelines for developing countries in carrying out such work.

30. The work on statistics on land use, fertilizers, pesticides and agricultural machinery has gained further importance in recent years, because these data and derived global indicators are in increased demand by FAO, UN and other international agencies, and NGOs in the studies on environment and the effects of agriculture on natural resources. Activities focused on environmental monitoring have started with assessing the data availability within the Organization as well as identifying gaps in the required data. This has entailed closer cooperation with the UN Statistics Division, other agencies and the Inter-Governmental Working Group on the Advancement of Environmental Statistics.

31. Increasing attention has been given to improving data collection methods and expansion in coverage of FAO's data base, especially in updating land use data, for which difficulties are experienced in obtaining the information in countries with a significant level of shifting cultivation or with internal strife. Efforts have been made to incorporate satellite derived data with the land-use data bank; however this implies major shifts in resource allocation (i.e. equipment, staff training) not envisaged or possible under present conditions. Updating and verification of available data is done through cross-referencing and compilation of a variety of national and international sources such as USDA country data, information on areas under crops, World Bank studies, etc. Land-use and environmental-related data are regularly updated within the AGROSTAT system. On these subjects, ESS cooperates with the Inter-Departmental Working Group on Land Use Planning and the Forestry Department. Draft manuals to assist countries in the development of national data collection on land use and on agricultural machinery, have been prepared.

32. Data on fertilizer production, trade, consumption and prices have been regularly updated and published in the Fertilizer Yearbook. Fertilizer Use by Crops analyses the distribution and pattern of fertilizer use on crops, published in 1988, and jointly with the International Fertilizer Development Center (IFDC) and the International Fertilizer Industry Association (IFIA) in 1992. Definitions and methodologies for fertilizer statistics as well as country data have been reviewed at the yearly meetings of the FAO/FIAC Working Party on Fertilizer Statistics before their use and inclusion in FAO's corporate data bank. A Manual on Fertilizer Statistics, to assist countries in the collection and consolidation of data, was published and distributed in 1991. Special studies on the Analysis of Trends in Fertilizer Use and on Methodology for the Collection of Fertilizer Statistics were carried out and published in 1989 and 1992. Close cooperation is maintained with both AGLF and AGPP for the development of new questionnaires and other related issues, these units having a direct access to the data maintained by ESS. A new system for collection of data on pesticide statistics was established in 1990 in close collaboration with the EEC. Training on data collection methodologies and standards for agricultural inputs and prices is provided through participation in the courses provided by FAO and other institutions.

## (2) Data Management and Dissemination

33. Since 1986, under this component, the emphasis has centred on the development of a computerized information system, AGROSTAT and that of a corporate data base, WAICENT. AGROSTAT has been available to in-house users through the Organization's

mainframe facilities (since 1986), and on an on-line access system available to external users (AGROTEL<sup>1</sup>), and PC compatible data system AGROSTAT-PC (since 1991), while WAICENT is expected to become operational during this biennium. In all cases manuals have been prepared, to facilitate end-user access and use of the system.

34. The AGROSTAT information system has incorporated all of the time series maintained by ESS concerning external trade and production of major agricultural and livestock products, agricultural inputs (machinery, fertilizers, pesticides) and resources (land-use), population and labour force, key economic and social indicators, food consumption and utilization data, as well as commodity balances and prices. AGROSTAT's data bank (which is to become FAOSTAT as the numeric sub-system of WAICENT), is being extended to cover fisheries and forestry statistical data already contained in the working system, ICS. Substantial work will still be needed, however, to harmonize approaches and methodologies used by ESS with those presently used by other Departments.

35. Information available within AGROSTAT-PC is to be continuously expanded to reflect the information contained in WAICENT through yearly updates planned from 1991 onwards. To date, AGROSTAT diskettes are available with data on population, land use, agricultural and livestock production and trade, food balance sheets, food aid, and forestry. The information contained covers the 1961-91 period.

36. Within the FAOINFO (the textual information sub-system of WAICENT), monthly reports will be possible on global production, trade and stocks of staple foods (Food Outlook, Food Shortages, Sub-Saharan Food Supply), food standards (Codex Alimentarius), distribution of plant pests and animal diseases as well as regular updating of country level profiles on nutrition, agriculture, fisheries and forestry. Work on the standardization of present reporting formats to facilitate inter-linkage and updating of information within the FAOINFO sub-system is being carried out under the responsibility of the WAICENT Sub-group on Information headed by GIP.

### (3) Data Analysis

37. The main focus of activities has been the organization of, and analysis of the results of, special global statistical surveys as a basis for generating socio-economic statistics and indicators. Following the completion of the Fifth World Food Survey in the mid-1980's, the activities aimed at providing information on food consumption distribution and demographic estimates and projections have been significantly reoriented in order to better support the analytical work for the World Food Surveys. A computerized data base pertaining to household survey information on food consumption, income and expenditure was created in 1988 to facilitate the data analysis for the World Food Surveys, the derivation of socio-economic indicators relating to poverty, food and nutrition, and the dissemination of the related information. In order to improve data availability for the household income and consumption survey data base, 22 countries, including China, were assisted in undertaking the appropriate processing and analysis of existing household surveys data.

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Ten institutions have had direct access to AGROSTAT since 1988: EUROSTAT, ITTO, OECD, USDA, USAID, World Bank, ECLA, ESCAP, IFAD, and WFP.



38. As a result, the activities have been gradually re-organized to focus on two key areas. The group of activities relating to demographic statistics in general now includes (a) the updating of demographic data series and preparation of projections of agricultural population and labour force within the framework of the Inter-agency Work Programme on Demographic Estimates and Projections, and (b) the derivation of socio-economic indicators relating to poverty, food and nutrition. Another group is devoted to the global food supply analysis, the estimation of the prevalence of under-nutrition and related methodological studies in support of the periodic World Food Survey publication. The third group is concerned with household survey data analysis, and provides member countries with support in making use of existing household survey data for the purpose of assessing the food and nutrition situation.

39. The activities relating to global food supply analysis and estimation of the prevalence of under-nutrition is currently focused on the Sixth World Food Survey presently under way. Results will be published in collaboration with ESN in 1994. In this connection, ESS and ESN jointly organized two informal expert group meetings on the methodology for estimating the prevalence of under-nutrition, and prepared an interim report entitled "World Food Supplies and Prevalence of Under-nutrition in Developing Regions as Assessed in 1992", which served as an input for the International Conference on Nutrition (ICN) background document, "ICN Assessment and Analysis of Trends and Current Problems in Nutrition".

40. Several methodological studies have also been prepared during the period, including those on projections of agricultural population and labour force, calculation of selected statistical indicators, the construction of aggregate food accounts, the analysis of food consumption data from household income and expenditure surveys and the estimation of the prevalence of under-nutrition. In addition, reviews and bibliographies of food consumption surveys and documents on results of the global estimates and projections of agricultural population and labour force have been periodically issued. Technical support is regularly provided for the sessions of the ACC Ad hoc Inter-agency Working Group on Demographic Estimates and Projections.

#### (4) Development Assistance to National Statistical Systems

41. This component supports the promotion and dissemination of agricultural statistical methodology and practice in the member countries, especially through field projects for implementing agricultural censuses and surveys. Activities here are built around the preparation, publication and implementation of the decennial programme for the World Census of Agriculture (WCA) with the objective of standardizing concepts and definitions and recommending methodologies.

42. During the 1986-91 period, following the publication of the WCA programme for 1990, a manual on Food and Agricultural Statistics in the context of a National Information System was published, together with regional supplements to the WCA programme for Europe, Asia and the Pacific and the Near East and a study on microcomputer-based data processing. Two methodological studies based on a review of experiences from the 1980 round of the WCA were also undertaken and published in the FAO Statistical Development series, in order to provide member countries with recommendations and guidelines to build

up and improve their national data collection systems (Sampling Methods for Agricultural Surveys, Collecting Data on Livestock).

43. The data released by member countries from their national censuses have been compiled and presented in standardized format, as far as they were available. These results have been issued periodically in census bulletins during 1986-91. In addition, a publication bringing together the practices observed during the 1980 WCA in a large number of member countries was prepared and issued.

44. An important component of support to countries has been training on the WCA programme through National Demonstration Centres. Participants representing main statistical offices at the national level were, whenever possible, brought together in regional or sub-regional workshops. Table 4 summarizes the number of workshops held and their attendance. During the 1986-91 period 147 statisticians from 71 countries were trained under the programme. These training courses have been funded entirely under the Regular Programme.

**Table 4: Sub-programmes 2.1.7.1 and 2.1.7.4  
Training Courses during 1986-91**

Place	Region	Date	Language	No. of Countries	No. of Trainees
Ankara	Near East	1986	E	14	22
Santa Lucia	Caribbean	1986	E	8	18
Zaria	West Africa	1988	E	5	22
Santiago	South America	1988	S	7	15
Rabat	North Africa	1989	F	12	17
Mogadishu	Near East	1989	E	7	21
Lusaka	East Africa	1990	E	8	14
Beijing	Asia	1991	E	10	18

45. Support through field projects has assisted in the design, implementation and analysis of agricultural censuses and surveys as well as in the establishment of integrated national systems of agricultural statistics. This activity is an important means of promoting at the country level methodological material prepared under the Regular Programme, as well as the recommendations of specialized Statutory Bodies. As noted in para. 19 above, this covered over 100 projects for some 60 countries during the period. Some of these were basically short-term projects within the framework of training in planning assistance and early warning systems, rather than long-term institutional support to statistical offices, thus creating a particularly heavy load of backstopping responsibilities.



46. Activities aimed at the development and improved use of social statistics and socio-economic indicators related to rural development, especially as follow-up to the WCARRD Programme of Action; FAO was given the role of monitoring and evaluating related databases at the national level concerning special population groups, such as the landless, the rural poor, and in particular, women in agriculture. Activities on this have been limited during the period under review due to the under-staffing situation in the ESS Division; the post for this work, however, was filled during 1992.

#### (5) Statistical Statutory Bodies

47. Under this component, activities are geared to participation in, and coverage of, international specialized fora in order to verify and promote the continuous standardization of food and agricultural statistics. Such major meetings supported during the period are summarized in Table 5 below. ESS has taken part in meetings and technical consultations under the regional Statistical Commissions for Africa and Asia and the Pacific as well as the Near East Economic and Social Policy Commission, the FAO/ECE/Conference of European Statisticians-Study Group on Food and Agricultural Statistics in Europe, and the Working Group on Agricultural Statistics of CEGA (FAO/Inter-American Statistical Institute). In these meetings, new methodologies and methodological changes developed by FAO were reviewed for further improvement, and they have served to strengthen the work of the statistical systems of member countries of these regional bodies.

48. ESS also regularly participates in the meetings of the UN Statistical Commission and the ACC Sub-Committee on Statistical Activities for the coordination of statistical data collection activities and the harmonization of concepts. It also cooperates with the EEC, UN Statistics Division, UNEP, UN Economic Commissions and OECD on steps to harmonize data and criteria in order to reduce the burden placed on reporting countries. In addition, ESS participates in technical meetings within the ACC Ad Hoc Working Group on Demographic Estimations and Projects and the FAO/UNIDO/World Bank Working Group on Fertilizer Forecasts and the FAO/Fertilizer Industry Advisory Committee for the assessment of fertilizer, particularly for the non-reporting countries.

### V. **OUTPUTS AND EFFECTS**

49. The main outputs under the Sub-programmes are of a service nature and are directly linked to one of FAO's major functions among international fora, i.e. the provision and dissemination of timely and accurate information on food and agriculture, and the regular updating and interpretation of global trends within the agricultural sector. The major specific outputs have included: (a) data banks readily available to internal and outside users; (b) Yearbooks and Quarterly Statistical Bulletins published; (c) derived statistics elaborated and published periodically; (d) methodological publications (handbooks, technical papers, manuals); (e) training provided through National Demonstration Centres and courses; (f) assistance provided through the backstopping of projects.

**Table 5: Sub-programmes 2.1.7.1 and 2.1.7.4**  
**Attendance to Meetings of Statutory Bodies**  
**(1986-91)**

Type <sup>1</sup>		Participants (Average)	Average Days	1986	1987	1988	1989	1990	1991
3	2171 Sub-Committee of FAO/FIAC Ad Hoc Working Party on Fertilizer Statistics	10	3	X	X	X	X	X	X
3	FAO/FIAC Ad Hoc Working Party on Fertilizer Statistics	25	2	X	X	X	X	X	X
1	2174 FAO/ECE/CES Study Group on Food and Agricultural Statistics in Europe	25	5	X	X		X		X
3	FAO/IASI Working Group on Agricultural Statistics	20	5	X				X	
3	FAO Statistics Advisory Committee of Experts	20	5	X				X	
4	Workshop on Improvement of Statistics on Women in Agriculture <sup>2</sup>	20	13	X					

<sup>1</sup> FAO Classification: 1=Intergovernmental meetings (Conference/Council); 2=Technical and economic meetings of experts designated by Member Governments; 3=Sessions of panels, committees and working parties of experts selected by FAO; 4=Seminars, training courses workshops and other group-training activities.

<sup>2</sup> Preparatory meeting.



50. Enhancement of data banks. Improvements in the presentation, systematic updating, comprehensiveness and geographical coverage of data have been achieved through the expansion of the AGROSTAT system and also by extending the basis to cover part of the Forestry data bases. Steps are also under way to integrate a salient part of the Fishery database into the AGROSTAT system. Further improvement is to be achieved by the agrarian reform and rural development trends, as well as assisting countries in setting up incorporation of major in-house databanks into a corporate statistical data system FAOSTAT within WAICENT, as explained above (see paras. 33-35).

51. Publications on Basic Statistics. During the period under review data on agricultural and food statistics have been regularly published through yearbooks, bulletins or periodic publications, and have also been continuously available to end-users through on-line and in-house access to AGROSTAT. During 1991 24,400 copies of the four major statistics publications (i.e. the Production Yearbook, the Trade Yearbook, the Fertilizer Yearbook and the FAO Quarterly Bulletin of Statistics) were produced. Overall, around two-thirds of these publications were officially distributed to member countries and over twenty percent were sold. The main periodic publications issued during the period are summarized in Table 6.

52. Basic information on land, pesticides and fertilizer use has been in great demand given its particular relevance to global and regional environmental studies, and such organizations as OECD, World Bank, USDA, WRI and UNSO regularly access the land use data bank. The FAO database has provided a basis for major studies on environment and natural resources carried out by these international organizations as well as by national agencies.

53. Services to users Demand for services provided under the Sub-programmes has steadily increased. A major part of the demand during the years under review has focussed on the availability of timely and reliable data as an input for subsequent processing and analysis. Such services are generally aimed at responding to the needs of international institutions and the industrialized member nations. Since 1986 ad hoc requests from outside users serviced by the ESS Division, have risen from 400 in 1986 to 900 in 1991. In-house users of data bases managed by ESS have steadily increased as in-house networking facilities have expanded. For example, since 1986, the number of in-house users has risen from 61 in 1986 to 150 in 1991, with the daily average of data items retrieved having nearly doubled from 24,000 to 40,000 for the same period.

54. On-line services provided to international organizations have been re-dimensioned to serve basically the UN, EEC, OECD and related institutions based in Europe. Other overseas institutions are being served through AGROSTAT-PC. During the period 1 October 1991-31 July 1992, over 600 machine readable data sets have been sold for a total of over US\$ 50,000, eighty-six percent of which in the form of complete sets covering the initial six data series offered: population, land use, production, trade, food balance sheets and forest products. Forty-six percent of sales proceeds come from users other than member countries and official recipients of FAO publications. These have been mainly research institutions, universities and NGOs.

**Table 6: Sub-programmes 2.1.7.1 and 2.1.7.4 - Publications during 1986-92**

<u>Title</u>	<u>Date of Publication</u>
<b>A. Periodic Statistics</b>	
Production Yearbook	'86,'87,'88,'89,'90,'91,'92
Trade Yearbook	'86,'87,'88,'89,'90,'91,'92
Fertilizer Yearbook	'86,'87,'88,'89,'90,'91,'92
FAO Quarterly Bulletin of Statistics	'86,'87,'88,'89,'90,'91,'92
Food Balance Sheets	1986,1991
Fertilizer Use on Major Crops	1984,1988,1992
Statistics on Prices Received by Farmers	1988,1991
Statistics on Prices Paid by Farmers	1989,1992
Statistics on Support Prices	1987,1989,1991
Economic Accounts for Agriculture	1986,1988,1991
Inter-Country Comparison of Agricultural Output and Productivity	1986,1992
World Agricultural Statistics - FAO Statistical Pocket-book	1986,1988,1989
Agricultural Population and Labour Force	1986
Reviews of Food Consumption Surveys	1988,1989
Bibliographies of Food Consumption Surveys	1986,1989
World Food Survey	1986
Report on the 1980 World Census of Agriculture	1986,1990
Census Bulletin	1989
<b>B. Technical Manuals and Guidelines</b>	
Programme of the 1990 World Census of Agriculture	1990
National Methods of Collecting Price Statistics	1986
Guidelines for the Computation of Selected Statistical Indicators	1986
Inter-Country Comparison of Agricultural Production Aggregates	1986,1992
The FAO Agricultural Production Index Numbers	1988
Manual on Agricultural Price Index Numbers	1989
Collecting Data on Livestock Statistics	1990
Manual on Fertilizer Statistics	1991
Sampling Methods for Agricultural Surveys	1989
Food and Agricultural Statistics in the Context of a National Information System	1989



55. Within FAO, the global data and data aggregates have been regularly used in the preparation of major studies on food and agriculture such as: "Agriculture: Toward 2000" and now in the elaboration of follow-up studies for the year 2010. Data on land use, pesticides and fertilizers have been increasingly demanded by many Divisions in their work dealing on the environment and sustainable development. Similarly, the ESS Division has supported other in-house key users, such as ESP, ESN and ESC, on the elaboration of country, regional and policy studies, periodic reviews on the state of world nutrition, and trade flows, especially in the context of the Food Information and Early Warning System, Food Situation and Outlook, and SOFA.

56. Technical manuals and guidelines Given the normative role of the Sub-programmes, dissemination of methodological work has been an important output. During the period, nine main publications were issued under the FAO Economic and Social Development Paper Series (see Table 7 below): in addition, guidelines on land-use statistics and agricultural machinery statistics have been prepared in draft. In particular, "the Guidelines for the Computation of Selected Statistical Indicators" and the note on "Inter-Country Comparison of Agricultural Production Aggregates" represent FAO's important methodological contribution in assessing economic performance of the agricultural sector. All of these publications have been distributed widely to the member countries and international organizations concerned, and have also been used in training courses and workshops sponsored by FAO, both under the Regular and Field Programmes.

**Table 7: Sub-programmes 2.1.7.1 and 2.1.7.4**  
**Publications (Distribution by Type)**

	1986	1987	1988	1989	1990	1991
Periodicals	13	7	9	10	6	11
Information/Training	12	6	7	7	4	1
Overall	25	13	16	17	10	12

57. Overall, however, yearly issues and regular updates of statistical publications continue to make up the regular core of its work load. Due to understaffing, time and financial constraints there has been an overall decline in the publications, as shown in Table 7. This has particularly affected methodological and analytical publications in comparison with regular statistical outputs, with the production of manuals, technical papers and training materials reaching the lowest level in the present biennium.

58. Technical support to field projects As reported above, during the period 100 field projects with a major focus on agricultural statistical development in some 60 countries have been technically backstopped under the Sub-programmes (work done primarily by ESSS, the staff of which have devoted the major part of their time). Most of these projects were aimed at strengthening the institutional and technical capacity of national agencies responsible for food and agricultural statistics, especially in implementing national agricultural census and



improving the coverage and quality of their statistical systems. They generally covered assistance in (a) upgrading technical skills of the statistical staff, (b) improving methodologies for collection, processing and analysis of data, and (c) providing the necessary equipment and related staff training, including computer hardware and software for data handling.

59. Thirteen of these projects were evaluated by independent missions during the period. The findings of these evaluations indicate that most projects have made significant progress in strengthening the institutional and technical capacity of the counterpart national institutions, although few have succeeded in achieving their objectives fully within their period and budget. Assistance in training and in the introduction of methodologies and procedures has been particularly successful. For example, a project in China successfully assisted the Food and Agricultural Statistics Centre (FASC) in the implementation of a national training programme for provincial and country agents in projects for the first national agricultural census (see Box). In Angola, a project helped successfully consolidate the Central Statistical Unit (CSU) with the establishment of three provincial offices during 1988 and 1990: the data from the provinces are being used for regional planning and for future country planning within the SADCC soils and climatic project. Similarly in Uganda, methodologies and procedures for the national centres on agriculture and livestock were established, including the implementation of a pilot survey and a national agricultural census office and networks established with trained staff.

#### Food and Agricultural Statistics Centre - China

The project GCP/CPR/006/ITA became operational in late-1987 for a period of four years with a donor budget of US\$4,986,000.

The main objective was to establish the FASC as the national training centre for food and agricultural statistics and to train 175 national and provincial agricultural statisticians as trainers who in turn would train some 4,000 statistical agents at county level. This was to facilitate the implementation of its first national census of agriculture before the year 2000.

The terminal evaluation fielded in September 1991 found that the project was on its way to achieving its objectives, both with respect to institution-building of the FASC and training of the trainers and the county statistical agents. An effective FASC had been established with dedicated and efficient management, staffed by a total of 32 technical and administrative personnel, including 11 technical officers/lectures and 5 each of computer specialists and audio/visual technicians. All the key staff as well as the technical officers/lecturers had benefitted from in-service training (in-country and/or fellowships abroad) as well as from practical training activities and implementing the first pilot census in one county.

In terms of training, 181 agricultural statisticians at national and provincial levels (original target was 175) had been trained satisfactorily in 5 three-month courses, the last two of which had been conducted entirely by the national staff. These courses covered sample design and techniques, data processing with the use of computers, statistical techniques and analysis, and a one-week field demonstration survey in a county. For statistical agents at the county level, 4,073 persons from 30 provinces had been trained during 14 months between June 1990 and September 1991 through a total of 78 training courses at 23 locations.

Thus, the project was considered to have played a key role in laying a technical and institutional basis for nation-wide improvement in agricultural statistics, including the launching of the national census in the near future.



60. However, in most cases, there was a real need for stronger commitment and support from the government to enable the strengthened agencies to play an appropriate role, through the provision of the required staff and resources, especially the operating and recurrent costs. In view of their low status and relative neglect from which many of these agencies had suffered, the projects were often found optimistic in estimating the time-frame and resources required for sustainable institution-building in this field.

## VI. CONCLUSIONS AND ISSUES

61. Sub-programmes 2.1.7.1 and 2.1.7.4 have performed adequately in complying with end-user requirements. The data bases (maintained and improved by the ESS Division) and statistical outputs are regularly being used to underpin various reviews and analytical studies, both within and outside FAO, including global studies in the wake of international concern for the conservation of natural resources and "Global Commons". The extensive use made of FAO's data at the national and international levels is a testimony to the value of its global, comprehensive data bank, based on well-established time-series, particularly for those countries in which agricultural statistics are unreliable or even non-existent. Despite the resource constraints and additional work arising from the development work on AGROSTAT and WAICENT during the period covered, the Division managed to carry out its key tasks towards the fulfilment of one of FAO's major functions, and this has been a significant achievement.

62. However, the Division's organizational structure as well as the deployment of its financial and staff resources have, in essence, remained unchanged since 1986. Understaffing due to natural attrition and frozen posts have limited the evolution of services provided under the Sub-programmes, particularly with regard to some of the priority statistics as well as the production and dissemination of technical papers, handbooks and manuals.

63. Activities aimed at expanding the Organization's statistical database to cover specific indicators on poverty, malnutrition, environment and improved statistics on land-use, as indicated in the PWB since 1986, have suffered major delays during the 1986-91 period due to lack of specialized staff and financial resources to undertake these tasks. The implementation of work in these areas during the next biennia will require more intense inter-divisional linkages with other in-house technical expertise and data banks. This would need to be underpinned by a shift in the allocation of financial resources within the Division to facilitate the ESS staff to support and work more closely with other relevant in-house units, particularly ESH, ESP, AGR, FOR, FIR, AGL and AFC.

64. Particular attention will thus be necessary to ensure adequate resources for the five areas of priority work under the Sub-programmes, i.e.:

- (a) regular selection, verification, and completion of basic national agricultural statistical data and its inputting into a corporate data base need to be expanded in order to cover new priority areas;

- (b) the development and regular updating of global assessment aggregates and indicators need to be expanded to include socio- and macro-economic data and indicators as well as natural resources and environmental impact assessment tools, required for the analysis of sustainable development issues. These and other developments need to be elaborated in close collaboration with the relevant in-house technical divisions;
- (c) standardization of concepts and methodologies and the training of national staff in data collection have to be emphasized, if new concepts and information requirements in the area of sustainable development are to be supported through the provision of a timely and an accurate information base;
- (d) improving the quality of statistical information is another area of priority, and in particular, significant improvements in the methods for estimating land use and crop area are expected when links between remote sensing data and agricultural statistics are established. The data will be of particular interest to developing countries with insufficient capability in this area. The approach will entail expanding the dialogue among the concerned in-house technical units to combine remote sensing imagery data with statistical data systems for its analysis; and
- (e) analysis of cost-effectiveness or cost-benefit of the substitution of some traditional statistical publications, for example, the Quarterly Bulletins of Statistics, by less expensive and/or more efficient information support (e.g. PC diskettes).

65. Although data contained in FAO's statistical data bases are basically the result of extensive processing, standardization and aggregation of data obtained from a wide variety of sources, the coverage and quality of FAO data primarily depends on data supplied by national statistical agencies. Thus, assistance to member countries in the identification of adequate and reliable data collection methods and in processing relevant indicators will still remain an essential part of the Sub-programmes' activities in order to fulfil their major role, i.e. the provision and dissemination of world-wide data on food and agriculture. Country visits for technical support also need to be expanded, particularly for those areas where basic data-derived information (global aggregates) are being elaborated and where sub-sector specific indicators are being reviewed for dissemination. In some cases, this would require selectively designed technical support through field projects.

66. Training assistance in support of national information systems during the period under review has increasingly entailed training in computer use and advice on selection of appropriate hardware and software. These represent an area of expertise that is not fully available within the ESS Division. Very close linkages need to be developed between the field work being carried out under the Sub-programmes and the field support activities by other FAO units, especially AFC.

67. Similarly, the forthcoming switch from management and updating of the Division's long-term and well-established databases to the WAICENT system will result in a major stress in manpower use in the coming years. Specifically, the ESS staff will need: (a) to



maintain both the AGROSTAT and the statistical component of the WAICENT information system (FAOSTAT) until full conversion has been achieved; and b) to be trained in the use of PC software and the WAICENT programme. During the next biennia, apart from training of the divisional staff, it would be essential to upgrade the skills of formerly clerical positions and redistribution of tasks according to the Sub-programmes' priorities in order to expand FAO's information and statistical data coverage. This matter is being actively addressed by ESS management.

68. The ESS Division has the overall responsibility for integrating FAO's databases into WAICENT, and given the nature of its lead technical competence, it has concentrated its efforts on the statistical component. Thus, advances to date have centred on the development of the statistical component of the system, FAOSTAT, which is soon to become operational. A balanced development of WAICENT would require similar, timely progress in the other component outside the competence of ESS.

69. This will obviously require Organization-wide efforts with effective coordination of tasks and responsibilities within the House and among the relevant technical units, a task which is clearly outside the purview and technical competence of ESS alone. In recognition of this need, measures are being taken to strengthen the WAICENT management under the Steering Committee, including the appointment of a full-time task manager in ESS. Given the enormity of the task, it would be important to ensure that concerted efforts are made, during the coming biennia, to bring together additional resources from other technical units and Sub-programmes. In particular, more coordinated efforts will be necessary for the establishment of common standards, formats and definitions among the concerned technical units in developing FAOINFO as a very important component of WAICENT, and in the selection of the information needed to satisfy internal and external end-user requirements before determining the software requirements of WAICENT.

## CHAPTER THREE

### FAO ASSISTANCE TO SMALL-SCALE FISHERIES

#### I. CONTEXT

1. Small-scale fisheries are an important source of employment and provide significant amounts of animal protein in many countries throughout the world, particularly in the developing countries.

2. There are millions of small-scale fishermen in developing countries, the precise number of whom is unknown. In addition, there are large numbers involved in marketing and other ancillary activities. India and Indonesia are each estimated to have one million active fishermen. Artisanal fishing fleets total approximately 2 million units and their average catches are generally reported to be about 2 tonnes/year/fisherman (as opposed to an average of 30 tonnes/year/fisherman in the industrial fisheries).

3. Small-scale or artisanal fishermen often have low incomes and poor living conditions, including high rates of illiteracy and infant mortality. This is particularly true in areas of depleted resources, where alternative sources of income must be found. It is often said that artisanal fisheries are the "employer of last resort" due to the open access that prevails in most countries. There are many situations where labour in the fisheries sector increases due to migration from other sectors (especially agriculture) because fishery resources are not the object of property rights and costs of entry are low.

4. In some countries, however, it has been shown that artisanal fishermen are relatively prosperous, with earnings considerably higher than those found in agriculture.

5. Some of the distinguishing features of artisanal fisheries as opposed to industrial fisheries are related to the type of ownership of the vessels and gear (frequently property of the fisherman himself or of a group of fishermen), to the mode of distribution of the catches and/or incomes (types of systems of shares), and to the reasons for fishing. It may be a part-time or seasonal activity to complement the diet, or for reaching a minimal level of catches or income beyond which the fishing effort stops, or for maximizing labour productivity with available production means.

6. Major problems facing small-scale fisheries today include over-exploitation of the resource base as a result of a lack of established management measures, environmental degradation of coastal zones and continued demographic growth in fishing communities which, taken together, have led to decreasing yields and lower total catches. Resource depletion has also led to incursion by industrial fisheries into traditional small-scale areas.

7. From the 1950s through the 1970s, international technical cooperation was aimed principally at raising the productivity of artisanal fisheries through improved techniques, but its effects on the fishing communities' social and economic well-being was not always



significant. Moreover, such measures sometimes led to reduced employment on vessels, reduced work opportunities for women in post-capture activities and overfishing of resources.

8. These concerns led a number of organizations, including FAO, to implement new approaches and methods. Socio-economic analysis of the targeted communities and the identification of their priority needs was to provide the framework within which appropriate technology transfer should take place. Projects were oriented towards "integrated interventions" where a wide range of developmental priorities felt by the communities were simultaneously addressed. The 1979 WCARRD Conference promoted these approaches and since then "integrated rural development projects" have become one of the most common modes of intervention.

9. At the same time, "community-based approaches" to the formulation, implementation, monitoring and evaluation of projects and "peoples' participation" emerged as priority concerns. Interventions funded by international aid regarding artisanal fisheries were progressively influenced by this trend. One important reason for this was the fact that in many developing countries, weaknesses in government fisheries extension systems had proved to be a major constraint on providing effective support to the artisanal fisheries communities. Over the past decade, the community-based approaches expanded their concern to include the management of common property resources.

10. The participatory approach and the integrated development movement were endorsed by the World Conference on Fisheries held in 1984, which highlighted the role, potential and needs of the small-scale fisheries. Integrated and participatory approaches were merged and are recognizable in the Strategy and five Programmes of Action approved by the 1984 Conference. Programme of Action II, "Development of Small-Scale Fisheries", was designed to specifically address and tackle the development needs of small-scale fisheries.

## II. OBJECTIVES AND PRIORITIES

11. The programme's general objective was:  
"to improve the socio-economic conditions of small-scale fisheries communities and to enhance their contribution toward the rational exploitation and utilization of fishery resources."

12. Consideration was to be given to "all aspects of the development process: the resources and their environment; the technology for harvesting, handling, processing, distribution and marketing; and the socio-economic aspects including education, health and traditions". Socio-economic concerns, technology transfer, plus resources and fisheries management were to be the three major facets, or thrusts, of the approved action programme.

13. The programme is not concerned with aquaculture, since another separate Action Programme had been simultaneously approved to specifically address that subject. On the other hand, another Action Programme on "Planning, Management and Development of Fisheries" includes elements that are of direct concern to small-scale fisheries and have a bearing on resource and fisheries management aspects specified in Programme of Action II.

14. The group of ultimate beneficiaries targeted by the programme was broad: "marine and inland small-scale fishermen including rural fish farmers" and "small-scale fisheries communities".

15. The approach to integrated development was to be based on the following guidelines and principles: (i) integrated approach addressing both the socio-economic analysis of the needs of the fishing communities and the technical aspects of development; (ii) fisherfolk's participation in the planning and implementation of activities; (iii) mobilisation of local and national resources, skills, finances and markets; (iv) long-term technical support and in-service training at appropriate technology levels; (v) active involvement of small-scale fishermen in the management of resources; and (vi) enhancement of the economic and social role of women in fish production and marketing and in family maintenance.

16. The programme is essentially field-oriented and emphasizes, based on previous experience and reflecting the WCARRD principles, the importance of a socio-economic approach aimed at integrated development (emphasis placed on Participatory Planning and Implementation, Women in Development, Credit, Investment and Training). Technological development and technology transfer, which were traditionally among the major roles of FAO, are also given importance. Resource and fisheries management have been objects of increasing concern over the eighties. The concept is now that resource users should participate in resource conservation and management, and this orientation has become an important facet of FAO's work in support of small-scale fisheries.

17. The programme is designed to draw upon expertise covering a wide range of subject-matters under three main thrusts, as follows:

Socio-Economic Approach	Technology Transfer	Resources and Fisheries Management
<ul style="list-style-type: none"> <li>- Basic Studies</li> <li>- Community Development               <ul style="list-style-type: none"> <li>. fisherfolk participation</li> <li>. gender and equity</li> <li>. fishermen's organizations</li> </ul> </li> <li>- Credit</li> <li>- Nutrition/Health/Education</li> </ul>	<ul style="list-style-type: none"> <li>- Vessel Technology               <ul style="list-style-type: none"> <li>. boat building</li> <li>. motorization</li> <li>. energy conservation</li> <li>. safety at sea</li> </ul> </li> <li>- Fishing Technology</li> <li>- Fish Technology (post-harvest)</li> </ul>	<ul style="list-style-type: none"> <li>- Resources assessment</li> <li>- Community-based Resource Management</li> </ul>

18. The role of FAO in implementing this approach follows the programme's three major priorities: (i) to provide an integrated framework for technical cooperation interventions; (ii) on the basis of such a framework, to facilitate and coordinate action among concerned parties; and (iii) to execute directly targeted field interventions.



19. The basic concept of the Action Programme was that it would be implemented by regional or sub-regional "groups of experts" who would provide assistance to national teams working on small-scale fisheries development. The Programme would draw on FAO's ability to mobilize extra-budgetary resources, gather and disseminate information and training materials, convene meetings and provide technical backstopping to field activities. However, there was no stated time frame for the Programme, nor was there an indication of the levels of Regular Programme resources to be devoted (a total extra-budgetary resource of US\$ 17.8 million was estimated as a minimum requirement for the first 5 year period), nor were limitations provided for the identification and selection of field activities.

### III. ORGANIZATION AND RESOURCES

#### Organization for Implementation

20. FAO's assistance to the small-scale fisheries sector involves, to varying extents, all the Divisions of the Fisheries Department. Most heavily involved is the Fishery Industries Division (FII) and in particular the Fishing Technology Service (FIIT). However, the Fish Utilization and Marketing Service (FIU) also participates to a great extent in activities relevant to small-scale capture fisheries.

21. While the bulk of activities is under the responsibility of the Fisheries Industry Division, socio-economic and resources aspects of the work fall within the competence of the Fishery Policy and Planning Division (FIP), particularly the Development Planning Service (FIPP) and the Fishery Resources and Environment Division (FIR).

22. FAO's activities on the development of small-scale fisheries do not have a management structure per se. The Fisheries Department is not organized by type of beneficiary served; like the rest of FAO it is largely arranged according to the topics of the Programme of Work and Budget. Five Sub-programmes have elements which address to some degree the problems of small-scale capture fisheries.<sup>1</sup> Certain posts in FII relate almost exclusively to elements concerning small-scale fisheries (e.g. training, extension, credit) and many others also deal, but to a varying extent, with problems of small-scale capture fisheries.

23. Within the Department, there are two committees which meet periodically to advise senior management inter alia on issues related to small-scale fisheries. The Working Group on Sustainability in Fishing Community Development has terms of reference which call for it: (i) to advise on concepts for sustaining the development of fishery-based rural communities; (ii) to review selectively on-going small-scale fishery development projects with a view to identifying measures which would enhance sustainability of development; (iii) to participate in the identification, preparation, monitoring and backstopping of FAO projects dealing with fishery-based community development; and (iv) to prepare guidelines, audio-visual and other training and information materials related to sustainable rural fishing

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<sup>1</sup> 2.2.2.3 Fish Production, 2.2.2.4 Fish Utilization and Marketing, 2.2.2.2 Inland Fisheries and Aquaculture, 2.2.2.1 Marine Resources and Environment and 2.2.3.1 Fisheries Policy and Planning.

community development. The Group is composed of officers from FII and reports to the Director.

24. The Core Group on Women in Fisheries was established in October 1986 and consists of representatives of all relevant Services of the Department. Originally intended to review project proposals to determine possibilities for including women in project activities or the impact of projects on women, the Group's mandate has expanded over time to include preparation of guidelines, other documentation and audio-visuals.<sup>2</sup> The Core Group also coordinates work of the Department with the UN Fund for Population Activities. In the 1992-93 PWB, a specific budget line was identified for the core group activities. Small-scale fisheries has also regularly been a topic of discussion at the various FAO Fishery Commissions.

### Resources

25. Regular Programme activities associated with improving artisanal fisheries (excluding aquaculture) totalled some US\$ 7.2 million over the period 1986-92. This represents slightly more than 6% of the total Departmental Regular Programme budget over the same time period and this percentage has remained relatively constant in each biennium, with a minor increase in 1992.

26. FAO's assistance to small-scale fisheries has been classified, for the purpose of this analysis, into three "programme thrusts" - socio-economic approach, technology transfer and resource management. Although the categories overlap to some extent, all Regular and Field Programme activities dealing with small-scale capture fisheries have been classified under one of these three programme thrusts (see Tables 1A and 1B). The activities of each of the FI Department's five sub-programmes have been reviewed and estimated percentages assigned to the efforts devoted to small-scale fisheries.

27. Within the programme thrusts, there has been some variation over the biennia. The share of the socio-economic approach has varied from 28 to 40% of the artisanal fisheries total, technology transfer from 28 to 44% and resources management from 19 to 33%. Sub-programme 2.2.2.3 (Fish Production) has the largest share of the Regular Programme activities at slightly over 50% of the total; Sub-programme 2.2.3.1 (Fisheries Policy and Planning) is second at 26% (see Tables 1A and 1B).

28. In Table 2, it has been assumed that the percentage applied to the overall activity is applicable to each individual component or object of expenditure. While this may not be entirely correct, it gives an order of magnitude for comparative purposes. The biggest percentage (72%) was allocated for staff time (principally for technical backstopping and programme development); other components in the range of 6-8% each of the total were (i) consultants, (ii) publications, (iii) contracts and (iv) travel. This is not surprising, given the size of the Field Programme relative to the Regular Programme (5.6:1).

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<sup>2</sup> See Outputs section



**Table 1A: Regular Programme Budget by Sub-Programme/Thrust<sup>1</sup>**  
(US\$ 000)

Sub-Programmes and Thrust Components	Share in %	Total	Share in %	1986-87	Share in %	1988-89	Share in %	1990-91	Share in %	1992
<b>2.2.2.1 Resources and Environment</b>										
1.Socio-Econ.Appr.										
2.Technology Transfer										
3.Resources and Fisher. Management		193		116				40		37
<b>TOTAL</b>		<b>193</b>		<b>116</b>				<b>40</b>		<b>37</b>
<b>2.2.2.2 Inland Fisheries and Aquaculture</b>										
1.Socio-Econ.Appr.		18		4		8		3		3
2.Technology Transfer										
3.Resources and Fisher. Management		417		89		114		92		122
<b>TOTAL</b>		<b>435</b>		<b>93</b>		<b>122</b>		<b>95</b>		<b>125</b>
<b>2.2.2.3 Fish Production</b>										
1.Socio-Econ.Appr.		1487		345		440		440		262
2.Technology Transfer		2095		576		440		624		455
3.Resources and Fisher. Management		21								21
<b>TOTAL</b>		<b>3603</b>		<b>921</b>		<b>880</b>		<b>1064</b>		<b>738</b>
<b>2.2.2.4 Utilization and Marketing</b>										
1.Socio-Econ.Appr.		454		87		87		223		57
2.Technology Transfer		624		237		30		264		93
3.Resources and Fisher. Management										
<b>TOTAL</b>		<b>1078</b>		<b>324</b>		<b>117</b>		<b>487</b>		<b>150</b>
<b>2.2.3.1 Policy and Planning</b>										
1.Socio-Econ.Appr.		562		76		154		196		136
2.Technology Transfer		21		7		8		6		0
3.Resources and Fisher. Management		1283		311		452		285		235
<b>TOTAL</b>		<b>1866</b>		<b>394</b>		<b>614</b>		<b>487</b>		<b>371</b>
<b>TOTAL</b>										
1.Socio-Econ.Appr.	35	2521	28	512	40	689	40	862	32	458
2.Technology Transfer	38	2740	44	820	27	478	41	894	39	548
3.Resources and Fisher. Management	27	1914	28	516	33	566	19	417	29	415
<b>GRAND TOTAL</b>	<b>100</b>	<b>7175</b>	<b>100</b>	<b>1848</b>	<b>100</b>	<b>1733</b>	<b>100</b>	<b>2173</b>	<b>100</b>	<b>1421</b>

<sup>1</sup> Notes: (i) based on estimated percentage of activities (in each element of each sub-programme) actually dedicated to small-scale fisheries sub-sector; (ii) staff time allocated to SSF under "Support to Field Programme" (budget lines 2.2.2.8 and 2.2.3.8) has been included in the above figures.

**Table 1B: Regular Programme Budget by Thrust/Sub-Programme (1986-92)<sup>1</sup>**  
(US\$ 000)

Component Thrust and Sub-Programme	Total RP Budget (US\$ 000)	Share in %
<u>Socio-Economic Approach</u>	0	0
2.2.2.1 Resources and Environment	18	1
2.2.2.2 Inland Fisheries and Aquaculture	1 487	59
2.2.2.3 Fish Production	454	18
2.2.2.4 Utilization and Marketing	562	22
2.2.3.1 Policy and Planning		
<b>TOTAL</b>	<b>2 521</b>	<b>100</b>
<u>Technology Transfer</u>		
2.2.2.1 Resources and Environment	0	0
2.2.2.2 Inland Fisheries and Aquaculture	0	0
2.2.2.3 Fish Production	2 095	76
2.2.2.4 Utilization and Marketing	624	23
2.2.3.1 Policy and Planning	21	1
<b>TOTAL</b>	<b>2 740</b>	<b>100</b>
<u>Resources and Fisheries Management</u>		
2.2.2.1 Resources and Environment	193	10
2.2.2.2 Inland Fisheries and Aquaculture	417	22
2.2.2.3 Fish Production	21	1
2.2.2.4 Utilization and Marketing	0	0
2.2.3.1 Policy and Planning	1 283	67
<b>TOTAL</b>	<b>1 914</b>	<b>100</b>
<b>GRAND TOTAL</b>	<b>7 175</b>	<b>100</b>
Socio-Economic Approach	2 521	35
Technology Transfer	2 740	38
Resources and Fisheries Management	1 914	27

<sup>1</sup> Notes: (i) based on estimated percentage of activities (in each element of each sub-programme) actually dedicated to small-scale fisheries sub-sector; (ii) staff time allocated to SSF under "Support of Field Programme" (budget lines 2.2.2.8 and 2.2.3.8) has been included in the above figures.



**Table 2: Regular Programme Budget by Object of Expenditure/Thrust (1986-92)<sup>1</sup>**  
(US\$ 000)

Object of Expenditure	Share in %	TOTAL	Socio-Economic Approach	Technology Transfer	Resources and Fisheries Management
Staff	72	5192	1873	1891	1428
Consultants	8	571	249	214	108
Contracts	6	442	156	221	65
Travel	6	441	130	130	181
Meetings	0	4	0	2	2
Publications	7	498	110	259	129
Computer	0	4	2	2	0
Other	0	23	1	21	1
<b>TOTAL</b>	<b>100</b>	<b>7175</b>	<b>2521</b>	<b>2740</b>	<b>1914</b>
Share of Percentage		100	35	38	27

<sup>1</sup>

It has been assumed that the % of each PWB activity dedicated to small-scale fisheries is equally distributed among the different objects of expenditure. This approximation is intended for comparative purposes only.

29. Tables 3A and 3B refer to the Field Programme. Some 44 projects, with total expenditures of US\$ 40 million during the period under review, have been identified as being concerned with small-scale capture fisheries. Purely aquaculture projects have been excluded (some of the included projects, however, may contain minor aquaculture components). It should be noted that some programmes have more than one source of funding, each counted as a different project (e.g. four regional projects for the Bay of Bengal). Of the 44 projects, 10 (23%) are funded by TCP, 21 (48%) by UNDP and 13 (29%) by Trust Funds. Many of the 44 projects have more than one "programme thrust" but for the purpose of analysis, each is classified under its major area of emphasis. Those under the "socio-economic" thrust have the highest donor contribution, although it must be recalled that two programmes under this category (Bay of Bengal - BOBP and Integrated Development of Artisanal Fisheries for West Africa - IDAF) represent over 40% of the total for the regional components alone and both these projects (especially BOBP) include elements of "technology transfer" and "resources and fisheries management".

30. Over 90% of the projects (both by value and number) are in Africa or in Asia and the Pacific. This is partially explained by the presence of BOBP and IDAF programmes, which formulate and backstop national projects in these geographical areas. Four projects, totalling almost US\$ 1.7 million in value, were implemented in the Near East, and the Latin America and Caribbean regions. It should be noted, however, that the importance of fish in the diet of these regions (6-10% of protein intake) is much lower than in Asia and Africa (29% and 23%, respectively).

#### IV. ACTIVITIES AND OUTPUTS

31. The Field Programme is a striking feature of FAO's work in artisanal fisheries, being almost six times larger in financial terms than the activities under the Regular Programme. The latter, however, provides the linchpin, ensuring technical analysis and synthesis of experience on key problems and issues, including backstopping to field projects. It should be noted also that FAO's activities in small-scale fisheries go beyond those which strictly come under Programme of Action II. Within this overall framework, programme outputs are analyzed hereunder by programme thrust.

##### (i) Socio-Economic Approach

##### Regular Programme

32. As noted above, the socio-economic aspects have been a major element in evolving a practical integrated approach to artisanal fisheries development. The Regular Programme activities in this area have consisted mainly of the gathering and synthesizing of experiences in the critical topics, i.e. credit, women in development, fishermen's organizations and integrated development. The outputs were principally published case studies and guidelines, as well as meetings, expert groups, etc., related to these subjects.



**Table 3A: Projects Backstopped by the Programme during 1986-92 per Region <sup>1</sup>**  
(US\$ 000)

REGION	Socio-Economic Approach		Technology Transfer		Resources and Fisheries Management		TOTAL		Share in Percentage	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Africa	11	16401	5	3231	7	2686	23	22318	52	56
Asia and Pacific	6	10634	7	2092	4	3333	17	16059	39	40
Latin America and Caribbean	1	19	0	0	1	15	2	34	5	0
Near East and Europe	0	0	2	1654	0	0	2	1654	5	4
Global/Inter-Regional	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>18</b>	<b>27054</b>	<b>14</b>	<b>6977</b>	<b>12</b>	<b>6034</b>	<b>44</b>	<b>40065</b>	<b>100</b>	<b>100</b>
Share in Percentage	41	68	32	17	27	15	100	100		

<sup>1</sup>

Budget allocations registered in this table cover the period under review only (1986-92). For on-going projects, budget allocations prior to 1986 or after 1992 are not included.

**Table 3B: Projects Backstopped by the Programme during 1986-92 per Source of Funds<sup>1</sup>**  
(US\$ 000)

SOURCE OF FUNDS	Socio-Economic Approach		Technology Transfer		Resources and Fisheries Management		TOTAL		Share in Percentage	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
UNDP	8	7243	8	3775	5	4671	21	15689	48	39
Trust Fund	9	19711	2	2862	2	1070	13	23643	30	59
TCP	1	100	4	340	5	293	10	733	23	2
TOTAL	18	27054	14	6977	12	6034	44	40065	100	100
Share in Percentage	41	68	32	17	27	15	100	100		

<sup>1</sup> Budget allocations registered in this table cover the period under review only (1986-92). For on-going projects, budget allocations prior to 1986 or after 1992 are not included



33. A good example of linkages between the Regular and Field Programmes was the issuance in 1989 of a set of Management Guidelines on Revolving Loan Funds and Credit Programmes for Fishing Communities. This study, prepared in cooperation between the Fisheries Department and the Credit and Marketing Service of the Agricultural Services Division, drew on relevant project experience and gave advice on lending policy and procedures, institutional arrangements, repayment and loan recovery procedures and revolving fund administration. It also included checklists and forms which could be used or adapted by institutions which were embarking on credit programmes of this kind. Also in 1989, FAO published as a Fisheries Technical Paper a series of case studies on fisheries credit programmes and revolving funds. Case studies covered Africa, Asia, Latin America and the Caribbean and the Near East, with a summary for each region. These case studies were intended to document the success or failure of credit programmes and provide lessons for the design of such programmes in future projects.

34. Another set of guidelines on Women in Fishing Communities was published in 1988. Divided into ten subject areas, they contain detailed checklists meant to be used by those who are identifying, formulating, reviewing or evaluating projects involving women in fishing communities.

35. An internal study on the Integrated Approach to Small-Scale Fisheries Development was carried out in 1988 at the request of senior Departmental staff, based on the IDAF project. It contains some valuable conclusions: e.g. that it is necessary at the project identification stage to identify how the activities will be taken over locally (not necessarily by the Government); that projects should have a clear fisheries focus; that effects and impact monitoring should be kept simple and cost-effective.

36. A global workshop on fishery credit and marketing development was held in 1989 in Bangkok. It was attended by more than ninety senior officials of public and private institutions from 21 countries, all of whom attended entirely at their own expense. In Asia, the global workshop was followed by national workshops in India and Pakistan. A West African workshop was held with 65 representatives in Abidjan in 1991, again with all participants attending at their own expense and there are plans for follow-up national workshops in several countries of this sub-region.

#### Field Programme

37. The cornerstones of this programme are the Bay of Bengal Programme (BOBP) and the Integrated Development of Artisanal Fisheries (IDAF) programme in West Africa (see Boxes 1 and 2). These regional programmes work in association with FAO and non-FAO implemented projects at country level in the same regions. The forms of such association vary from project to project. In some cases, national projects were identified by the regional programmes which also assisted in the search for donors. Some were fully national projects which collaborated with the regional programmes on an informal partnership basis. Others were integral components (sub-projects) of the regional programme, but implemented at national level.

38. The emphasis within this overall framework has been on supporting activities which promote an integrated approach to development, i.e a combination of improvement in basic



living conditions and village infrastructure, villagers' participation in planning, decision-making and project implementation, workable credit schemes, grass-root organizations and enhancement of the role of women at fisherfolk community level.

**Box 1: Bay of Bengal Programme (BOBP)**

BOBP began in 1979, providing a starting point for Programme of Action II in Asia. The justification for the programme was the generally low living standard of small-scale fisherfolk within the region (about 500 000 artisanal fishermen and an estimated 5 million dependants and associated workers). The programme undertakes country-based sub-projects. In the present phase, these are in the areas of extension, brackish water culture and fishing technology. Participating countries benefiting from sub-projects are Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka and Thailand. During Phase II (1987-1992), some 23 sub-projects were carried out.

BOBP began with a major emphasis on technology transfer; it evolved later towards a more integrated approach. The programme has undertaken activities in four subject areas (extension, brackish water culture, fishing technology, fishery resources) and two support areas (development support and information services). Of these, the most active elements are extension, brackish water culture, fishing technology and information services. BOBP provides the framework for a series of country-based mini-projects in various disciplines, which are largely experimental in nature. The evaluation team which reviewed the project in 1991 noted that it had been difficult to find feasible and viable methodologies and technologies to improve incomes of small-scale fisherfolk, and even more difficult to identify those which could be widely spread and have a positive effect on incomes and living conditions of the target groups. Even if such technologies are found, there may well be obstacles in the delivery system, such as absence of or ineffective extension and financing systems. The mission also noted that there was only limited scope for improvement of incomes through new capture fisheries technology, which underlined the need to address the problem of poor living conditions in other ways. As a result, an extension of the project for five years was recommended, but with emphasis on resource management and extension support, while de-emphasizing introduction of new technologies and methodologies in capture fisheries.

39. A total of 19 projects (FAO and non-FAO) have been associated, to varying extents, with IDAF. Close technical backstopping has been provided to a core group of nine projects (three in Guinea, three in Sierra Leone and one each in Ghana, Guinea Bissau and Senegal). IDAF has organized regional workshops and round-tables on women's activities and community development (1990), migrating fishermen (1990, 1991), credit (co-sponsored with EEC, 1991) and sustainability of artisanal fisheries (1992).

40. IDAF assisted a UNDP-funded Integrated Rural Fisheries Development project in Nigeria with socio-economic studies. The studies helped to define approaches for main project activities, including the establishment of two Rural Fisheries Development Units and cooperative unions with community welfare programmes as well as improving fishing and fish processing technology. Project implementation suffered, however, due to the inability of the Government to provide the foreseen counterpart contribution.

41. In the Shenge Peninsula of Sierra Leone, two phases of a UNDP-funded artisanal fisheries development project and an associated Danida-funded community development project have been assisted and monitored by IDAF. The activities at Shenge, which also draw upon the achievements of other integrated development projects in the area



### **Box 2: Integrated Development of Artisanal Fisheries (IDAF) in West Africa**

IDAF began in 1983 with Danish and Norwegian funding and has continued in a second phase since 1989 with Danish funding alone. Although theoretically the project operates in some 20 countries, the focus of attention has been on seven countries where the project has been most active, i.e. Benin (where the project headquarters is located), Côte d'Ivoire, The Gambia, Guinea, Ghana, Nigeria and Sierra Leone. The project is intended to bring economic and social benefits to small-scale fishermen, boat builders, repairmen and other small operators associated with fishing villages and their families (the sub-region is estimated to have 200 000 full-time and some 400 000 part-time fishermen). Early work concentrated on a "model project" in Benin operating in five coastal villages, selected by sociologists and anthropologists. The Benin project intended to introduce new fishing methods and has promoted with some success non-fishing productive activities (agriculture, trade) while simultaneously establishing community development mechanisms and methods (Village Development Committees and Fisheries Development Units). Due to resource depletion in the Gulf of Guinea, the fishing techniques introduced met with limited adoption, while non-fishing and village organization activities proved relatively successful. In retrospect, the Gulf of Guinea may not have been the best choice for the model intervention due to depleted resources in the area. Project results have proved difficult to put into wider practice and lessons learned may not be applicable to more resource-rich areas.

An evaluation mission in late 1992 found that the regional programme had compiled valuable knowledge about West African fisheries and provided substantial assistance to countries in the region. It had actively promoted the integrated development approach. The mission found that the experience gained and the informal network of persons and institutions established by the programme were laying the ground for improved assistance to the sub-sector. It recommended a third phase of five years of international assistance to the programme. The new phase should draw upon the lessons learned regarding integrated development. It was further recommended that the linkages with national projects should be reinforced, and the newsletter and information system revamped.

(including investments by UNCDF in road-building and other infrastructure), have shown some positive results in terms of income generation and community development. At this resource-rich site, three projects have been implemented in succession. The first, aimed at adoption of improved vessels and gear, met with limited success. The second, focusing on community development and gender issues, led to positive effects in the areas of people's participation and organization and infrastructure building. In the third, a renewed emphasis has been placed on fishing technology to increase production, with positive prospects for the future. Possibilities of marketing fresh fish in inland markets and exporting lobster have also been explored, thanks to the upgrading of the access road with UNCDF support. The experience of the Shenge case showed that possibilities for raising a community's income through productivity increase may need to be preceded by efforts to improve basic needs, in order to open the community's access to communications, transport, trade possibilities, etc.

42. At Kabak, Guinea, an IDAF-formulated, UNDP-funded project has achieved significant sustained catch increases by setting up an effective grassroots village organization system (Village Development Committees), supported by a Fisheries Development Unit and a project-linked credit system. The project has been catalytic in attracting donor interest (EEC, NGOs) for the supply of engines and building of wells for water supply. The availability of credit to purchase gear and motors was the decisive factor in the success achieved. The project also had a well-designed, functioning monitoring system, emphasizing participation and co-management by nationals.



43. Other noteworthy projects which have emphasized a socio-economic approach include a Dutch-funded credit and technical assistance activity in Tanzania and a UNFPA-funded project for disadvantaged women in fishing communities in the Philippines. This latter project provides a credit guarantee fund for income-generating activities to a local bank in two Provinces; as of August 1992, some 754 women organized in 45 groups had benefitted from the scheme.

44. Other outputs related to the socio-economic features of the programme are linked to Programme of Action V of the 1984 World Conference, aimed at alleviating malnutrition. A number of socio-economic studies linked to those carried out in Programme of Action II have been conducted within the framework of an inter-regional project for "Strengthening the Role of Fish and Fisheries in Alleviating Malnutrition". Studies in Africa have shown that artisanal fisheries produce widely varying levels of income and that the biggest problems in villages are access and distance, i.e. villages are generally too remote to receive visits from extension workers and have little access to markets. The project promotes the techniques of Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA) with focus on nutrition and development aspects of artisanal fisheries communities.

## (ii) Technology Transfer

45. Virtually all the work under this programme thrust has been under Sub-programmes 2.2.2.3 Fish Production and 2.2.2.4 Fish Utilization and Marketing.

### Regular Programme

46. The outputs have consisted largely of technical publications which reflect experience on selected aspects of artisanal fisheries production, processing and marketing. These publications have been widely distributed to the field projects and national institutions concerned. The FAO Training Series is a set of user-friendly publications, written in fairly simple language and with many illustrations, which are meant for use by extension workers. During the reporting period, three such publications were issued, on purse seining with small boats, on attracting fish with light and on fish-aggregating devices.

47. In 1987, FAO issued a Fisheries Technical Paper on small-scale fishing with driftnets. The paper had a wide intended audience in developing countries, including fishermen, skippers, net makers, fishery officers, extension and training officers. It provided guidance for upgrading fishing technology in relation to gillnetting and included discussion of the advantages and disadvantages of various gear materials and fishing methods. Included also were detailed technical drawings of driftnet fishing gear and techniques.

48. Lack of developed landing sites and other infrastructure in fishing villages are often cited as major bottlenecks to catch increases. A Technical Paper issued in 1988 on small-scale fish landing and marketing facilities provided information on the planning of such facilities and included case study material drawn from the Indo-Pacific, Caribbean and African regions.

49. The introduction of hydraulics in fishing boats is fairly recent, having begun with the seine net hauler some 30 years ago. Their use has extended to other types of machinery.



A Technical Paper on hydraulics for small fishing vessels (less than 30 meters in length), published in 1989, explained the basic principles of hydraulics, related this to fishing vessels and provided a reference on the subject to vessel designers, marine engineers, workshop personnel and ship owners and operators.

### Field Programme

50. A UNDP-funded project for small-scale coastal fisheries development in ASEAN countries was operational from 1985-1991. This multi-faceted project emphasized training, the primary need felt by participating countries. Short-term training courses were aimed at upgrading skills of fishermen and extension workers, while workshops promoted exchange of information among countries on subjects related to coastal fisheries development and management. The project collaborated on a study of fish resources in the region that was presented to a Regional Workshop on Artificial Reefs Development and Management (Penang, 1988). It showed generally a poor state of marine resources in the region due to overfishing, caused largely by non-enactment of management measures. The project also assisted in the development of several projects in member countries and carried out a study in the Philippines which showed the advantages to fishermen of the use of set net fishing and hook and line fishing in "payaw" (a fish aggregating device).

51. A UNDP-funded project in the Cook Islands achieved promising results in a fish capture programme that included bottom set longlining, bottom set gillnetting and tuna longlining. Subsequently, some island fishermen have made investments or requested assistance in designing longlining systems. Various mariculture projects were attempted, including seaweed culture, pearl oyster culture, giant clam culture and trochus transplant. The pearl oyster programme was particularly successful as a research activity and a comprehensive management plan was drawn up to provide the framework for an orderly development of the industry.

52. Much of the work of the BOBP and IDAF programmes relates to technology transfer. For example, IDAF organized in 1989 an ad hoc Regional Technical Meeting on Artisanal Fishing Crafts, Gear Propulsion and Security. Some IDAF-associated projects organized successful demonstrations of multi-monofilament nets, but absence of an assured, regular import supply seems to be a limiting factor for further adoption. BOBP carried out a number of fishing technology demonstration and promotion activities concerning outrigger canoes (Sri Lanka and Indonesia), beach landing craft (India), flying fish fisheries (India), fishing for large pelagic species (India and Sri Lanka) and set bagnets (Bangladesh).

### **(iii) Resources and Fisheries Management**

#### Regular Programme

53. The work to improve quality of frame and catch surveys relevant to the compilation of valid statistics on artisanal fisheries has been supported by FIDI, with technical contributions from FIR. In addition, FIR has assisted regional fisheries bodies in promoting among their members, improvements in techniques and approaches to resource assessment for the enhancement of small-scale fisheries management. FIR has also conducted national and regional studies which assist with resource assessment and management.

54. The bulk of the effort under this thrust has been in fisheries planning exercises, under the aegis of FIP. Fisheries planning exercises in Cameroun, Ethiopia, Indonesia, Madagascar, Myanmar, Pakistan, the Philippines, Rwanda, Sierra Leone and Vietnam have included significant components on artisanal fisheries, such as socio-economic studies and studies on traditional management of resources. National planning seminars held after the planning exercise were intended to be broadly participatory, with significant representation from the artisanal fisheries sub-sector.

55. Another set of major activities under the Regular Programme was the organization of regional and sub-regional seminars and meetings on selected problems. One noteworthy example was the FAO/Japan Expert Consultation on the Development of Community-Based Coastal Fishery Management Systems for Asia and the Pacific (Kobe, June 1992). The Consultation brought together experts from the region who exchanged experience in what is an emerging topic of concern, both within and outside FAO. A number of countries in the region, including China, Kiribati, the Philippines, Republic of Korea and Sri Lanka, have shown particular interest in this approach to coastal management, in which FAO plays an important catalytic role.

56. Two seminars were held in 1990, aimed at development of management strategies for inland fisheries in the Sahel. The first was on planning and management in the Lake Chad Basin (N'Djamena, January). It involved representatives of fishery administrations from all countries of the Lake Chad Basin Commission, experts of international organizations concerned with fisheries development and donors (UNDP and USAID). It identified limiting factors on fisheries planning and management and made recommendations for future strategies in the areas of fishery resources, institutions and improving living conditions of fishermen. The second on traditional and modern fishery management systems (Conakry, May) analyzed traditional and modern management methods on the basis of case studies and evaluated the efficiency of both systems in the present Sahelian context, including conflict where the two systems co-exist. The seminar recommended that greater incorporation of positive aspects of traditional management be made in legislation and planning. It also recommended that considerable autonomy be given to fishing communities for management of water bodies within decentralized administrative structures, including the possibility to place limits on free access to resources. With respect to migration, it was recognized, however, that competition can facilitate the development of efficient operators and that limiting the access of foreigners can lead to declines in revenues, catches and employment.

#### Field Programme

57. With UNDP funding, FAO implemented a regional project in 15 countries of the South Pacific, where virtually all fishing is artisanal. The project provided advice to Governments in fisheries development plan formulation, management/ administrative skills enhancement, technical service improvement and fisheries information. It also provided advice on the upgrading of negotiating skills, to achieve maximum benefit from foreign fishing activity within the national 200-mile zone. The project showed the importance of consolidating information available on fisheries in the region and on obtaining information from other tropical small island countries, e.g. the Caribbean. The project also identified further needs in fisheries development planning, craft development and business advice.



58. Again with UNDP financing, FAO implemented a reef fish research and resources survey in the Maldives. The survey concluded that the reef fish resources were underfished, but it recommended that if the Maldivian reef fishery were expanded, it would be necessary to monitor developments and gather detailed information to allow a more accurate assessment of stocks. A survey implemented on *bêche-de-mer* (sea cucumber) showed that export earnings had dropped because of overexploitation of the most valuable species and consequent harvesting of less valuable species and smaller individuals. Processing techniques were also found to be inadequate, leading to lower prices.

59. Improvement of statistics regarding small-scale fisheries has been the object of UNDP-funded projects in Burundi and Tanzania, and the regional Inland Fishery Planning, Development and Management project for Eastern and Southern Africa (IFIP) has contributed significantly to the possibility of improvement of resource evaluation and management in inland waters. Through these activities, FAO continued to make an important contribution to the improved knowledge and management of fisheries in Lakes Tanganyika, Victoria and Kivu, and other smaller water bodies of the sub-region.

60. Finally, a number of projects not classified under Programme of Action II but rather under Programme of Action I (Planning, Management and Development of Fisheries) Policy and Planning, do carry out work of direct relevance to small-scale fisheries resource management. In particular, five TCP projects (in Argentina, the Bahamas, Ethiopia, Rwanda and Sri Lanka) and three UNDP-funded projects (in Malawi, Trinidad and Suriname) implemented during the period under review, address issues linked to the development of fisheries planning, research, management and data collection in areas mainly concerned with artisanal fisheries. The Malawi project, for example, is aimed at the production of a management plan for lake fisheries focusing principally on tilapia.

61. Inland fish-stock assessments have generally been satisfactorily implemented, resulting in improved opportunities for the management of resources and artisanal fisheries. Marine stock assessments involving artisanal fisheries are more problematical, especially in waters deeper than thirty meters, because they rely on catch data which are sometimes unreliable.

## **V. EFFECTS AND IMPACT**

62. An examination of the effects and impact of FAO's support to artisanal capture fisheries under each of the three "programme thrusts" is presented below.

### **(i) Socio-Economic Approach**

63. Although socio-economics has become an important part of many small-scale fisheries projects, a review of the programme's effects should first focus on IDAF and BOBP as well as the projects associated with them. The IDAF programme, in particular, demonstrated participatory organization at village level, supported by well trained teams of nationals, in promoting fisheries and non-fisheries related income-generating activities. Rural development needs, identified through participatory approaches, were addressed (water, roads, health and education infrastructure and literacy). The substantial improvements achieved through several sub-projects, such as the ones in Kabak, Guinea and Shenge

Peninsula, Sierra Leone, tend to confirm the validity and effectiveness of this approach. In most cases, projects linked to IDAF have been catalytic in attracting specific contributions from other donors to the development of the community. The major challenge is to reach a threshold of momentum so that productivity increases become self-supporting. Ways and means also need to be explored, such as privatisation and collaboration with NGOs, for enhancing sustainability. However, pre-requisites for arriving at the threshold include a sound resource base and access to national markets. The satisfaction of health and education needs may also, but not always, be a pre-condition to successful efforts.

64. Similarly, some of the elements of this approach, such as a judicious combination of the extension and credit schemes, have been shown to be effective. For example, the Dutch-funded project for Integrated Technical Assistance for Artisanal Fishermen in Lake Tanganyika contributed to a revival of fishing in the Kigoma area. This was achieved through an effective extension of credit to fishermen for the purchase of gear and equipment and to women for start-up capital for processing and marketing. The fund, administered through a local bank, attracted considerable attention which was encouraging but the ability to respond was limited by its relatively modest capital. The project has contributed to increased fish availability and employment opportunities but these have never been precisely quantified.

65. Finally, this approach has been accepted and adopted by many countries, especially those associated with BOBP and IDAF, as a main policy framework for artisanal fisheries development. These programmes and projects have also created a cadre of trained national staff.

66. Summing up, it can be said that FAO's activities and coordination with others have led to a much improved knowledge of how fishing villages function as socio-economic units and of the conditions under which technologies may be adopted (at least in West Africa and Asia). This understanding is in itself important for designing future interventions aimed at assisting small-scale fishermen and enhancing the economic performance of artisanal fisheries. It also provides a basic framework for better targeted technology transfer and policy planning and paves the way for improvements in fisheries management and policy. The emphasis on socio-economics is thus fully justified, provided that studies and surveys result in technical recommendations which are then applied.

## (ii) Technology Transfer

67. Under the Regular Programme, the emphasis in the reporting period has been on techniques such as fish aggregating devices, light attraction, purse seining from small boats and driftnets. RP work has also been carried out on marketing and fishermen's organizations.

68. Some of the technologies developed in earlier phases by the BOBP have been taken up extensively, e.g. fish cages which were demonstrated in Thailand. For technologies and extension methodologies that are being demonstrated in the present phase, it may be speculative to say which will have the most impact. The most promising are the outrigger canoes introduced in Sri Lanka and the floating shrimp nursery cages introduced in Bangladesh and West Bengal.



69. IDAF's achievements in terms of successful technology transfer have been fewer. Significant efforts have been deployed for improving fish smoking with varying degrees of adoption in Benin, Congo, Gabon, Ghana, Sao Tome and Principe, Sierra Leone and Zaire. Promising improvements in canoe/boat building have been introduced in Guinea and Sierra Leone, but it is too early to assess their effect. FAO's orientation towards improvement of existing traditional vessels designs rather than promoting new devices seems to be highly relevant in the current situation of most African artisanal fisheries. On the other hand, demonstrations and training courses were made for the introduction of multi-monofilament nets and simple echo-sounders in Benin, Côte d'Ivoire, Ghana and Togo, but without significant adoption so far. In-board and out-board diesel engines have also been promoted, but with very limited response.

### (iii) Resources and Fisheries Management

70. The emphasis in this programme thrust is currently on the role that fishermen themselves have to play in resource management and conservation. The 1992 Kobe Expert Consultation on Community-Based Coastal Fishery Management Systems was successful in terms of participation and may prove significant in stimulating future Field Programme activities in this area. Only limited work has been carried out on determining catches of small-scale marine fishermen (inland resources monitoring is further ahead). This was done mostly within projects and it is unlikely that more can be done due to methodological difficulties and very high costs in determining these catches with reliability. Many fisheries departments in developing countries dedicate important parts of their scarce staff and financial resources to data collection on catches (e.g. West Africa), the results of which are not always useful for resource management.

71. Policy work has had some success at country level, but it has been constrained by the relatively weak position of the departments of fisheries in most national administrations. This is an area where FAO did not become notably active until the beginning of the reporting period, and there is a lag time between the conducting of a planning exercise and decisions to implement recommendations. However, there are already some promising developments. In Tanzania, socio-economic studies have begun in the Lake Tanganyika and Lake Victoria regions and the statistics gathering system on resources and production has been re-designed and expanded to take better account of the activities of artisanal fishermen who are responsible for 90% of the country's catch. A socio-economic study carried out in Madagascar showed the important role played by small-scale fishermen in such valuable species as shrimps, crabs and lobsters; a better organized system for management and production of these products was developed and implemented, in which artisanal fishermen now have improved marketing arrangements with industrial processors while the resources are protected from incursions by trawlers. Both artisanal fishermen and industrial processors appear to be benefitting from the new system. Finally, in the Maldives project mentioned previously, a giant clam survey concluded that the current level of fishery could not be sustained. As a result, the Ministry of Trade and Industry stopped issuing export licenses and would not renew existing licenses upon their expiry.

## VI. CONCLUSIONS AND ISSUES

### Conclusions

72. Since the 1984 World Conference on Fisheries, FAO's traditional activities in support of small-scale fisheries have been accommodated mostly within the framework of Programme of Action II, as part of the overall Strategy endorsed by the Conference.

73. There were two basic hypotheses underlying the proposed Programme of Action, i.e. that the poverty of artisanal fisherfolk in developing countries called for priority attention and reinforced field action by FAO and other aid agencies; and that small-scale fisheries are an economic sector with a significant potential for generation of added value and improving nutritional status in the developing countries. Both remain valid.

74. The programme was strongly field-oriented and was intended to provide a "formulated and integrated framework" within which FAO was expected to play a role of "catalyst and facilitator", executing directly a number of targeted field interventions in line with the approach endorsed by the FAO World Conference on Agrarian Reform and Rural Development (WCARRD).

75. The results after almost a decade show a mixed performance. Comparing the programme's current situation vis-à-vis its original priorities and areas of concentration, it can be said that:

- Although it was understandable at the time as there was need for considerable latitude in experimentation, the elements of the Programme of Action II did not provide detailed guidelines for strategy development, planning individual projects, or rationalization of resource allocation. After many years of experience (the socio-economic approach began earlier than 1984), it may be time to define this framework more precisely.
- The programme does seem to have been instrumental as a catalytic facilitator and coordinator among donors and recipient governments. The related field programme consists of a portfolio of forty-four FAO executed projects totalling approximately US\$ 40 million for the period under review. The programme has performed coordinating functions at regional and sub-regional levels, through BOBP, IDAF and the regional fishery bodies. However, the expected network of regional and sub-regional umbrella projects or programmes did not materialize. Where the umbrella projects exist, they have served as focal points but their linkages with national projects and non-FAO supported projects could have been more systematic and broader in scope.
- Finally, the programme was expected to execute directly targeted field interventions. The shape and structure of the field programme are an amalgam of country requests, FAO's proposals and donors' grants. Thus the programme may not necessarily reflect what would have been an optimal choice from technical and geographical viewpoints. Nevertheless, it is disappointing that only in West Africa and in the Bay of Bengal have regional umbrella projects been implemented.



76. On the technical side, the programme's impact is difficult to assess, although there are indications of some locally successful technology transfer in fishing and fish technology. Its catalytic role seems to have been most noticeable in the fields of gender issues and integrated development.

77. In terms of integrated development, the programme shows the following, somewhat mixed achievements:

- It has actively promoted the integrated approach to development of small-scale fisheries communities, both by directly formulating and executing projects and by stimulating government and donors to adopt this approach and to coordinate interventions at specific sites. Many African countries have implemented projects of this nature, with UNDP, UNCDF and NGOs in some cases becoming partners of FAO in joining efforts for the integrated development of specific sites. There are examples where an integrated approach resulted in effective transfer of technologies with positive effects on productivity and incomes of artisanal fishermen as well as better resource management practices. However, there is a need for an in-depth analysis of the nature and magnitude of these benefits, including the critical factors involved and the sustainability of the achievements.

- Specific efforts have been made on credit, with guidelines and innovative credit schemes produced under the programme. However, investment needs within projects have tended to focus on the needs other than for fisheries infrastructure. Thus, there is a need to address investment follow-up aspects more systematically.

- Training and extension are areas where regional and national projects have performed satisfactorily, although the relevance of, and follow-up to some important training efforts have not always been adequate. Important Regular Programme outputs have included the high quality training series, practical technical manuals for extension and a good standard of technical backstopping of field operations.

#### Issues

- (i) **The programme effectiveness and its underlying strategy should be re-examined.**

78. The 1984 World Conference laid down a series of priorities for FAO in fisheries which, to a great extent, represented a re-orientation. Firstly, it acknowledges that an improved standard of living also results from betterment of the community's socio-economic environment (education, health, infrastructure, communications, etc.). Secondly, it assumes that technology transfer is better channelled and promoted on the basis of a knowledge of the socio-economic constraints facing the communities and that solutions require community involvement. Finally, it placed emphasis on the need for attention to conservation and rational utilization of resources.

79. Integrated pilot-type projects are inherently more difficult, since they involve other government bodies besides the fisheries departments and because the development process, from identification of sites to generation of some desired impact, may take 15 years or more. The introduction of a socio-economic approach in projects has proven itself to significantly improve the knowledge of the subsector and its problems, and has in some cases laid the ground for more effective technology transfer. But it takes considerable time and requires a focusing of much effort into what may appear to be rather small geographic areas.

80. There is a question as to whether these projects have taken a sufficiently broad view of problems, i.e. whether the grassroots, site-specific focus has taken into account government policies and other factors such as resource depletion, coastal erosion, markets, adequacy of investments in harbours/landing sites, national credit schemes, etc., in designing interventions. The Benin "model project" and the Kabak and Kamsar projects in Guinea have faced one or another issue of this kind.

81. There is also the important question of sustainability of results once project assistance is withdrawn. In poor countries, there may be no structures in place, such as extension services, which can continue the assistance formerly given by the project. There may well be no credit facilities in place to take over the project's role in this area. The sustainability of project activities and results has been recognized as an important issue but it has not been satisfactorily resolved thus far. Connected with this is the issue of equity, i.e. when improvements are introduced into a community, who benefits? It may be those members of the community who are already relatively more privileged and entrepreneurial. In the absence of more detailed information about the results and impact of projects, this remains an issue to be clarified.

82. In view of the mixed record, an in-depth technical review of the Programmes of Action would be useful to examine what has been achieved, what may be done following this type of approach and, most importantly, whether FAO still can play a meaningful catalytic role by following the current approaches, methods and organization of work, or whether a revised strategy is needed. This could begin with a comprehensive stock-taking exercise of BOBP and IDAF. Although these projects may continue to operate for some time, it is not too early to draw lessons from them.

83. Such an in-depth review may be expected to result in a more precise strategy for FAO's assistance or interventions in the small-scale sector. For FAO itself, this is important. Small-scale fishing community problems tend to be very site-specific. FAO's interventions, to be cost-effective, must be catalytic and draw upon its comparative advantages. The gap between the needs of the sector and the financial possibilities of FAO (including both Regular and Field Programmes) underscores the need for selectivity in activity choice and deployment of human and financial resources. It also points to a need for a more focused set of objectives to FAO's assistance. In the end, the question becomes how much can FAO devote to this particular sub-sector and how it should do so, taking into account all of its other responsibilities in the Fisheries sector.



## **(ii) Resources and Fisheries Management**

84. FAO's contribution to the development of methods for assessment and statistical analysis of marine and inland fishery resources is well recognized by the world fisheries community, and these methods and techniques have been widely adopted and applied in many parts of the world.

85. Although most projects under Programme of Action II include a resource assessment component and a number specifically address this issue in direct conjunction with artisanal fisheries, more work needs to be done on resource assessment to meet the sub-sectoral needs. Some methodological difficulties and the potential cost of this kind of activity have hindered such developments, especially concerning marine fisheries. More attention to this issue should be given in the future. In areas of resource depletion, more accurate information would be a prerequisite for sustainable management. Where there are potentially high catches, it is necessary to monitor adequately trends and subsequently orient the catch effort. The relative lack of information directly relevant to sub-sectoral issues and strategies seems to be an issue for FAO in the design of its strategy and programmes in small-scale fisheries.

86. The idea of promoting community-based coastal zone management systems, as was discussed in Kobe last year, is inherently appealing as an area of intervention for resource management. Similarly, a system approach is also being promoted with UNDP support regarding "Integrated Coastal Fisheries Management", a concept which has recently crystallized from problems that have emerged over the past years. It puts FAO in a role of interacting with governments in promoting fishery communities' responsibility and self-reliance on managing resources. It must be recognized, however, that there is always a possibility that local and national interests may not be in harmony and that suitable co-management mechanisms may be feasible only under certain circumstances. It should also be borne in mind that this is a field where there is little experience and is thus exploratory.

87. Both these approaches represent valid contributions to resource management problems and to the promotion of responsible fishing directly linked with artisanal fisheries.

## **PART TWO**

### **Evaluation of Field Programmes**



## CHAPTER FOUR

### SYNTHESIS OF PROJECT EVALUATIONS FOR 1985-91

#### INTRODUCTION

1. Evaluation is a standard feature of technical cooperation projects executed by FAO, particularly for large-scale projects or innovative projects. Such in-depth evaluations of individual projects and the necessary funds are normally provided for in the project document. The evaluations are carried out by independent missions comprising the three parties involved (the donor, recipient government and FAO) during the project implementation period. In addition to accountability, project evaluations serve two broad purposes: (a) identification and resolution of specific management and technical issues, including follow-up to the project; and (b) providing a basis for drawing broader lessons relevant to future planning, design and implementation of similar projects.

2. This chapter highlights practical lessons emerging from evaluation experience, in order to help improve the planning, design and implementation of technical cooperation projects executed by FAO. It also presents a synthesis of findings of evaluation missions on key aspects of project design, implementation and the results achieved. The information basis for the analysis is the questionnaire completed by every evaluation mission regarding its findings on salient aspects of the project reviewed. The information is maintained in a database operated by the Evaluation Service. The database also supports periodic feedback reports, including an annual synthesis of project evaluations which is distributed to FAO staff and reviewed by the Field Programme Committee.

3. In the past, analytical syntheses of project evaluations were published in the biennial Review of Field Programmes, usually covering a period of 2-3 years. On this occasion the analysis covers 579 project evaluations conducted between 1985-91. The relatively large number of project evaluations permits a more in-depth analysis.

#### SECTION 1 PROFILE OF PROJECT EVALUATIONS

##### (i) Quality, constraints and costs of evaluation

4. The quality of each evaluation mission report is assessed by the Evaluation Service as part of its overall monitoring of project evaluation missions, covering the entire cycle from their planning stage to the review/comments on the reports. Of a total of 579 project evaluation reports, some 20% were considered unsatisfactory in quality, either because of poor understanding of project design and evaluation concepts or inadequate analytical rigour or both; about 40% were judged to be of good quality. While the percentage of poor quality reports was about the same for both UNDP and Trust Fund (TF) projects, the share of good quality reports was somewhat higher for TF project evaluations, probably reflecting the

quality of consultants participating on behalf of the TF donors. Over the period (1985-91), the quality of evaluation reports has shown improvement (the share of good quality reports increasing steadily from about 30% in 1985-86 to some 45% in 1990-91).

5. Among various factors affecting the quality of evaluation reports are mission members' familiarity with evaluation principles (especially international members representing the donors and FAO) and the quality of the missions' terms of reference. In terms of familiarity with evaluation concepts and methods, there has been a clear improvement over the period: while only 30-40% of the international mission members had such familiarity in 1985-86, this share increased to 80-90% during 1990-91. Similarly, steady progress has been made in improving the coherence of the missions' terms of reference over the period: the proportion of mission members stating that they had "very clear" terms of reference increased from 36% in 1985 to 69% in 1991, with practically no cases of "unclear" terms of reference since 1987. The trend is somewhat stronger for TF project evaluation missions.

6. Another factor, the mission duration in the field, was checked to see if it had any significant relationship with report quality. Although about one-third of the evaluation missions indicated that they experienced time constraints in mission work, the distribution pattern of report quality (poor, satisfactory and good) was virtually identical between one group of missions expressing a time constraint and the other without. The average duration of mission (in the field) for all evaluations was 18 days, ranging from 5 days (3 evaluations) to 55 days (2 evaluations). Some 40% of all evaluations were for 15-21 days, but 34% were for 6-14 days and 26% for 22-55 days.

7. The direct costs of evaluation missions are normally covered by the project budget, comprising on average some two work-months of international consultants and travel expenses, including DSA, per mission. As a rough order of magnitude, this would amount to an average cost of US\$ 25,000 per mission. There is also considerable indirect cost to FAO in terms of staff inputs in technical and operational backstopping, both at HQ and in the field, especially with regard to the project management staff.

## (ii) Profile of Projects Evaluated

8. The distribution of 579 projects evaluated is given in Table 1, by geographical region and funding source. About two-thirds of these projects were relatively large-scale with a donor budget of US\$ 900,000 or more. About 40% of these were mid-term evaluations and 60% terminal evaluations, with very few ex-post evaluations. In terms of regional distribution, over 80% of the projects evaluated were located in Africa and Asia and the Pacific, with Africa accounting for an increasingly larger share (about 60% between 1989-91) with that of Asia and the Pacific steadily declining. This pattern reflects broadly the overall regional distribution of FAO's field projects, but the share of projects in Africa is higher in evaluation than that in the overall field programme. In terms of source of funding, UNDP projects accounted for three-quarters of those evaluated, a fairly consistent trend in spite of a substantially similar number of TF projects during the period. A partial explanation is that a number of TF projects were subjected to "review missions" (which are not covered here), rather than in-depth evaluation missions which are the usual review mechanisms under the UNDP arrangements.



**Table 1: Projects Evaluated - Coverage by Fund/Region (1985-91)**

Region	UNDP		TF		Total	
	No.	%	No.	%	No.	%
Africa	248	56.4	65	46.8	313	54.1
Asia and Pacific	140	31.8	31	22.3	171	29.5
Latin America/Caribbean	28	6.4	19	13.7	47	8.1
Near East, North Africa and Europe	24	5.4	16	11.5	40	6.9
Inter-Regional	-	-	8	5.7	8	1.4
<b>Total</b>	<b>440</b>	<b>100.0</b>	<b>139</b>	<b>100.0</b>	<b>579</b>	<b>100.0</b>

9. Table 2 gives the distribution of projects evaluated by year and main technical programmes. While the annual number of projects covered fluctuated considerably between the years, it has increased substantially from about 70 between 1985-88 to 90-100 between 1989-91. Though exact data are not available, this implies that as a rough estimate, between 5-7% of on-going reports (UNDP and TF) were evaluated annually during the period. In terms of programme coverage, the overall pattern remained fairly stable over the period, with Major Programme Agriculture accounting for 70%, Forestry 19% and Fisheries 11%. Within this, there was a concentration on six programmes, Crops (23%), Livestock, Rural Development and Natural Resources (12% each), Forestry Resources and Environment (10%) and Fisheries Exploitation and Utilization (9%). This pattern broadly reflects the distribution of on-going projects by programmes, except that the forestry programmes accounted for a proportionately larger share in the project evaluations.

## SECTION 2 ACHIEVEMENTS AND DIFFICULTIES ENCOUNTERED

### (i) An Overview of Evaluation Findings

10. Evaluation assessment covers, *inter alia*, four key aspects (project design, implementation efficiency, project outputs and project effects), both in summary form and on more detailed elements. The general assessment on the total of 579 projects is given in Table 3. A majority of projects (50-60%) were assessed in the middle category, satisfactory, on all key aspects. Assessment was, however, more favourable with respect to project outputs, and to a lesser extent effects, than project design and implementation, with higher shares of good and lower shares of poor rating. It is gratifying that some 30% of the projects were rated good with respect to their outputs, especially in terms of quality. The assessment pattern on project effects was also encouraging, but as this is a complex aspect to evaluate, especially during project implementation, the data must be interpreted with caution: in fact, in many cases, the evaluation missions qualified their assessment on this as preliminary. On the other hand, the picture is disappointing with respect to project design and implementation, both of which had the lowest shares of good rating among the four aspects, with nearly 30% rated poor.

11. In view of the fact that some 20% of the evaluation reports were considered of poor quality, thus reducing the confidence level, the assessment pattern was examined for 437 projects with a satisfactory or good quality evaluation report. The overall pattern was practically identical to that for the 579 projects presented in Table 3, except that for most of the key aspects, rating was slightly less favourable, i.e. good rating declining and poor rating increasing by a few percentage points. One aspect of this pattern of assessment, i.e. relatively unfavourable rating on project design and implementation versus more favourable rating on outputs, bears some explanation. This appears partly because assessment on project design and implementation covers many factors beyond those directly linked with outputs and partly because many projects manage to produce some outputs in spite of many defects in project design and/or difficulties in project implementation. The interplay of these factors are analyzed more in depth in Section 3.



**Table 2: Projects Evaluated - Coverage by Programme (1985-91)**

Programme	1985 %	1986 %	1987 %	1988 %	1989 %	1990 %	1991 %	Total	
								No.	%
2.1.1 Natural Resources	7.6	17.4	11.8	6.9	12.8	11.4	15.2	69	12.0
2.1.2 Crops	22.8	29.0	19.1	27.8	23.4	24.8	18.5	136	23.5
2.1.3 Livestock	11.4	15.9	10.3	11.1	13.8	12.4	10.8	71	12.2
2.1.4 Research and Technology Development	3.8	2.9	4.4	4.2	-	5.7	-	17	3.0
2.1.5 Rural Development	15.2	14.5	11.8	13.9	10.6	7.6	14.1	71	12.2
2.1.6 Nutrition	-	-	-	1.4	1.1	-	1.1	3	0.5
2.1.7 Food and Agricultural Information and Analysis	-	-	7.3	-	2.2	4.8	3.3	15	2.6
2.1.8 Food and Agricultural Policy	2.5	4.3	4.4	1.4	8.5	1.9	4.3	23	4.0
2.1 Sub-Total	63.3	84.0	69.1	66.7	72.4	68.6	67.3	405	70.0
2.2.1 Fisheries Information	-	-	1.5	1.4	-	-	2.2	4	0.7
2.2.2 Fisheries Exploitation and Utilization	13.9	5.8	7.3	9.7	9.6	10.5	7.6	54	9.3
2.2.3 Fisheries Policy	-	1.4	-	1.4	-	-	2.2	4	0.7
2.2 Sub-Total	13.9	7.2	8.8	12.5	9.6	10.5	12.0	62	10.7
2.3.1 Forestry Resources and Environment	8.9	4.3	10.3	12.5	7.4	13.3	12.0	58	10.0
2.3.2 Forest Industries and Trade	3.7	1.4	3.0	1.4	3.2	0.9	3.3	14	2.3
2.3.3 Forest Investment and Institutions	10.2	2.9	8.8	6.9	7.4	6.7	5.4	40	7.0
2.3 Sub-Total	22.8	8.6	22.1	20.8	18.0	20.9	20.7	112	19.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0
Total Number of Projects	79	69	68	72	94	105	92	579	

**Table 3: Overall Assessment of Project Evaluations**  
(A total of 579 evaluations in 1985-91)

Key Aspect	Percentage rated:			Total	No. of cases covered
	Poor	Satisfactory	Good		
Project design	26	56	18	100	525
Implementation	29	49	22	100	521
Project outputs:					
quality	9	62	29	100	521
quantity	13	57	30	100	517
Project effects	16	60	24	100	457

12. In terms of trend over the period, there was a general improvement, to a varying degree, in assessment on all the key aspects, except for project effects (see Table 4). Progress was most evident with respect to implementation, for which good rating steadily increased from a very low level, accompanied by a continuing decline in poor rating. Improvement in design assessment was shown primarily in the form of a significant and steady decline in poor rating, but the share with a good rating showed considerable annual variations. Starting from a somewhat low level, ratings on output quality showed some improvement. Assessment on project effects indicated some deterioration over the period, especially since 1988, with a decline in good rating and an increase in poor rating. However, the latter may be partly due to the improved quality of evaluations with an increasingly realistic assessment on project effects.

13. It is disappointing that recent improvements in project implementation have not led to similar improvements in project results (outputs and effects). This is likely to be due to constraints and difficulties posed by the deteriorating conditions in the field, especially in Africa which accounts for an increasingly larger portion of the projects evaluated. Table 5 shows the assessment of 432 projects in four developing regions on the four aspects. While differences among the regions are not as sharp or consistent as one might expect, the Table clearly indicates relatively unfavourable rating on projects in Africa with respect to implementation, outputs and effects. For all three aspects, these projects were rated below average (lower in good rating and higher in poor rating), providing a contrast to assessment on projects in Asia and the Pacific. However, difficulties regarding output (quality) and effects are also detected among projects in other regions, such as the Near East and North Africa and Latin America and the Caribbean regions.



**Table 4: Trend in Overall Assessment of Project Evaluations over 1985-91**  
(Percentage distribution for 437 projects)

Year	Project Design		Implementation		Project Outputs				Project Effects	
					Quality		Quantity			
	Poor	Good	Poor	Good	Poor	Good	Poor	Good	Poor	Good
1985	51	9	62	5	10	21	16	29	11	23
1986	41	17	41	7	4	20	2	30	2	16
1987	28	23	30	24	16	36	11	40	9	20
1988	26	13	15	24	19	28	25	21	16	32
1989	20	23	10	28	12	30	12	35	20	24
1990	24	10	26	31	9	29	19	24	28	17
1991	17	13	18	21	6	29	9	25	24	25
Average	27	15	26	22	10	28	14	29	17	22

**Table 5: Percentage of Assessment of Key Aspects by Region (1985-91)**  
(percentage distribution among 437 projects)

Region	Project Design		Implementation		Outputs				Effects	
					Quality		Quantity			
	Poor	Good	Poor	Good	Poor	Good	Poor	Good	Poor	Good
Africa	27	14	29	19	11	28	16	28	18	20
Asia and Pacific	28	14	24	27	8	29	14	32	12	25
Latin America/Caribbean	26	11	27	27	15	30	9	33	21	31
Near East, North Africa and Europe	35	28	14	14	14	14	4	21	24	20
Inter-Regional	0	25	0	50	0	75	0	25	50	0
Overall Average	27	15	26	22	11	28	14	29	17	22



14. One striking aspect in the above trend is the degree to which annual assessment patterns fluctuate, making it rather difficult to draw firm trends. This is partly because the individual projects evaluated each year vary with respect to types, location and complexities, and partly because each evaluation team differs in its technical expertise and evaluative judgement. This is an important constraint on this type of aggregate analysis. It is also a fact that political, social and economic conditions in countries change, sometimes very dramatically in a relatively short time. Nevertheless it is a matter of concern that the evaluation assessment trend indicates a lack of sustained progress, especially in those aspects where FAO has more direct control, in particular project design.

## (ii) Assessment of Project Results (Outputs and Effects)

15. As noted in para. 11 above, nearly 30% of the 437 projects were assessed good in project outputs (28% for quality and 29% for quantity). At the same time, 11% were rated poor in output quality and 14% in quantity. In terms of project effects (use and application of outputs to achieve project objectives), 22% of the 437 projects were rated good, with 17% rated poor. The performance pattern may be considered reasonable with respect to outputs, which are under the managerial control of the project. The realization of effects depends on a number of other factors, beyond the projects' direct managerial control, although the projects' success in providing useful outputs and in mobilizing local resources and energy for developmental changes is also a key factor.

16. A relevant question in this connection would be: how many projects actually succeed in performing well against these criteria? Of the 394 projects for which reliable data are available, 19% (73 projects) meet the criterion of output performance with good rating on both the quality and quantity of outputs produced: some 6% (25 projects) were rated poor on both aspects of outputs. When the criterion of result was expanded to cover both outputs (quality and quantity) and effects, 11% (47 projects) were rated good and nearly 4% (16 projects) were judged poor. Thus, in terms of the project result, 11-19% of the projects could be considered successful, depending on the criterion, while 4-6% can be considered failures.

17. In order to get a more concrete picture regarding the types of project results achieved, evaluation assessment on the projects' effectiveness in this regard for different components was examined. A comparative analysis was made for three groups of projects, i.e. the total cases, 73 successful projects with respect to outputs and 47 projects successful with respect to outputs and effects. The result is shown in Table 6.

18. For the 437 projects as a whole, those components with a relatively favourable assessment included: assistance in farm inputs and services, construction/rehabilitation/improvements of physical facilities (including irrigation facilities), training of national staff (on the job and abroad) and technical recommendations. On the other hand, assessment was less favourable for such components as policy/planning advice, management advice, survey work and generating results with good investment potential; in these components, poor rating exceeded good rating. The latter pattern of assessment is disturbing since many of these components are critical to effective institution-building and technology transfer. In terms of sub-sectors, projects for rural development and fishery development received the most favourable ratings both on outputs and effects: those for crop development and

**Table 6: Assessment of Project Results for Groups of Projects Evaluated in 1985-91**  
(percentage distribution on components)

Project components (effectiveness)	All projects <sup>1</sup>		Projects with Good Outputs <sup>2</sup>		Project with Good Results <sup>3</sup>	
	Poor	Good	Poor	Good	Poor	Good
- survey work	30	22	9	46	7	71
- research/pilot activities	25	24	9	52	10	67
- extension support-demonstrations	23	25	4	50	0	79
- farmer inputs/services	16	35	6	71	10	70
- physical facilities	18	30	0	67	0	80
- technical recommendations	16	27	2	64	0	83
- policy/planning advice	35	19	7	59	5	68
- management advice	24	21	7	48	5	68
- investment potential	33	22	9	36	11	44
- staff training (on-the-job)	12	28	0	60	0	79
- staff training (abroad)	16	26	7	55	4	79
- farmers/producer training	16	23	4	58	0	78
No. of projects	437		73		47	

<sup>1</sup> 437 projects with good or satisfactory evaluation reports

<sup>2</sup> 73 projects whose outputs are rated good for quality and quantity

<sup>3</sup> 47 projects whose outputs and effects are rated good



protection, livestock, policy and planning support and forestry development were also assessed favourably with respect to their output performance but less favourably regarding effects.

19. The group of 73 projects with good outputs can be considered as successful cases, which would indicate the type of components where FAO-assisted projects perform well. The assessment pattern for these projects was similar to that for the 437 projects (see Table 6). However, performance rating was much better across the board, with the proportion of good rating much higher (50-60% for most components) than poor rating. In particular, this group of projects performed significantly better in such important components as policy/planning advice and national staff training (on the job).

20. A similar comparative analysis was made for the group of 47 projects with good results (i.e. outputs and effects) which can be considered as the most successful projects. The assessment pattern shows some significant contrasts to the above two groups (see also Table 6). Firstly, two-thirds or more of these projects were rated good in all components, except for generating results with investment potential. Secondly, these projects were assessed more favourably in such components as technical recommendations, extension and demonstration of technologies, physical infrastructure and all forms of training, especially training of farmers/producers. Clearly, these are components particularly important to ensuring satisfactory project effects through reaching the producers and bringing about tangible changes at the field level. Thirdly, this group of projects had a much better rating on components important to institution-building and technology transfer, such as policy/planning advice, management advice, technical recommendations and research/pilot activities.

21. The sustainability of project results is a complex subject, an analysis of which is beyond the scope of this review based on aggregate data (this topic was examined in the Review of Field Programmes 1990-91, see Chapter Three). It is significant, however, that evaluation missions' assessment on this aspect was closely correlated to their assessment on the projects' performance on results achieved. While only 18% of the 437 projects were assessed favourably regarding their prospects on sustainability of project results, this rating increased to 62% for 73 projects with good rating on output performance.

### (iii) Main Weaknesses in Project Design and Implementation

22. Despite overall improvements summarized in the foregoing sections, there persist a number of weaknesses in both project design and implementation, which impede the effectiveness of projects executed by FAO (see Section 3 below on this aspect). This section summarizes the main elements of project design and implementation which were identified by evaluation missions as areas of weakness, i.e. those elements on which 20% or more of the projects were rated poor: in many cases, especially for project design, poor rating exceeded good rating for these elements.

23. Table 7 gives a list of the main weaknesses in project design. These could be grouped into several clusters. One of the most serious areas is the weakness in means-ends link (objectives-outputs-activities), including scheduling of activities. There is a particular problem in the implementation plan (activity scheduling and project workplan), with 40-45%

**Table 7: Weaknesses in Project Design**  
(for 437 projects during 1985-91)

Design Elements	Percentage of Projects assessed	
	Poor	Good
Overall	27	15
Immediate objectives (clarity)	22	38
Identification of beneficiaries (clarity)	21	42
Link between output/objectives (consistency)	29	25
Link between inputs/outputs (consistency)	28	27
Activity scheduling (realism)	45	21
Activity scheduling (logic)	30	23
Identification of Government staff inputs (adequacy)	22	29
Identification of Government physical inputs (adequacy)	20	31
Identification of assumptions/risks	39	19
Institutional framework (adequacy)	30	30
Project management structure (adequacy)	30	25
Project workplan (realism)	40	19



rated poor, and with identifying adequately the counterpart inputs by the Government, especially on counterpart staff. Another cluster relates to institutional and management aspects, such as the project's institutional framework (location of the project and its institutional setting), internal project management arrangement, and identification of important assumptions and risks underlying overall project success. While definition of immediate project objectives and beneficiaries continues to be a weakness, its seriousness is somewhat mitigated by a relatively high proportion (some 40%) of projects rated good on these elements.

24. A list of key weaknesses on implementation is shown in Table 8. The element most frequently rated poor is the projects' integration and coordination with other related institutions and projects in the country. This is an important factor in ensuring the projects' progress in generating development effects. This weakness is probably related to similar ones identified in the project design, such as institutional framework, project management structure and identification of important assumptions and risks for project success. Similarly, the weakness in effectively using the workplan is also highlighted in implementation as was done for project design. In practice, this is likely to mean significant delays in implementation.

25. In terms of FAO's input delivery, the main weaknesses include effectiveness of technical backstopping (its quantity was rated poor for 23% of projects and quality for 20% of projects), timeliness of FAO project staff recruitment and effectiveness of fellowship/study-tour training. It is noteworthy that FAO staff inputs were generally rated favourably in quality and effectiveness, with the major problem being timeliness. The problem of effectiveness in training abroad appears to refer mainly to the doubt as to whether trainees selected for fellowship/study-tours were the most suitable persons in terms of their prospects for making subsequent contributions (timeliness, quantity and quality of such training were all rated more favourably). The other areas of weaknesses related to the counterpart inputs and support of the Government, both at policy and counterpart agency levels.

26. Two broad points are noteworthy. First, the weaknesses identified for implementation appear not as serious as for project design, although there are areas where improvements are needed. This is reflected in two aspects: the proportion of poor rating was generally lower in comparison with project design; and poor rating was less frequent than good rating for most elements in implementation. The second point is that in relation to the assessment on individual elements, rating on implementation as a whole was rather unfavourable. One explanation for this may be that this overall rating reflected the mission's judgement on the delays and shortfalls vis-a-vis the implementation schedule and targets, as suggested by poor rating on effectiveness in adhering to the project workplans.

27. These weaknesses in project design and implementation suggest some general observations. An unrealistic timeframe and scheduling for project execution, both in design and actual implementation emerges as a major problem. While this is partly due to the inadequacies in means-end analysis and in the analysis of local constraints and capacity, this is also due to the negotiation process of programming and preparation of projects by FAO and donors, which often results in a shorter timeframe and in a lower project budget than originally planned, but without corresponding adjustments in the project objective and design

**Table 8: Weaknesses in Project Implementation**  
(for 437 projects during 1985-91)

<u>Implementation Elements</u>	Percentage of projects assessed:	
	Poor	Good
Overall	26	22
Effectiveness of FAO Inputs		
- personnel (timeliness)	23	41
- fellowship/study tours	20	33
- technical backstopping	26	34
Effectiveness of Government Inputs		
- national director	23	36
- other staff	24	21
- administrative support staff	24	24
- physical infrastructure	20	30
Extent of Government Support		
- at policy level	20	36
- with host institutions	22	30
Link with Related Institutions/Projects	33	22
Effectiveness of Workplans	27	24
Effectiveness of Project Management	19	38

elements. Similarly, throughout the project design and implementation process, there appear to be important weaknesses in non-technical aspects, especially institutional and management aspects. Improvements in these aspects as well as stronger multi-disciplinary inputs of expertise would be important, particularly in reflecting more realistically the actual constraints and difficulties at the local level.

### SECTION 3 THE RELATIVE ROLE OF PROJECT DESIGN AND IMPLEMENTATION VIS-A-VIS PROJECT RESULTS

28. This section examines the relative weight of salient elements of project design and implementation in terms of their influence on project results being attained. It is intended to gain a clearer insight into the key elements that appear to influence the project outcome so that future efforts for improvement may be more selectively focussed on critical aspects. The analysis is centred on experience of 437 projects, for which evaluation reports were found to be of satisfactory or good quality.



(i) **The elements affecting project success**

29. While the main weaknesses among the various elements of project design and implementation were identified in Section 2 above, an attempt is made here to gauge the relative weight of these elements in terms of their respective influence on the projects' output performance. For this purpose, the output performance (both in terms of quality and quantity) was scored on a five point scale, and the relation between this performance and some 30 individual elements of project design and implementation was analyzed through the Chi Square statistical test, yielding the measure of relative strength of association (Pearson Values) between the individual elements and project performance on outputs.

30. Table 9 summarizes the results of this analysis. Two broad observations can be made. The result is generally sensible, consistent with what one might expect, although the ranking order of some individual elements are less obvious and have interesting implications. In addition, the six highest ranking elements are all those related to project implementation, and the top 12 ranking implementation elements have higher value as a group in relation to their counterparts under project design. It indicates clearly that project implementation, especially such factors as project management, FAO project personnel and technical backstopping, have a much more direct link with the projects' performance on outputs. Thus, overall assessment of project implementation is a more meaningful indicator on output performance than that on project design.

31. In terms of project design elements, the analysis confirms the importance of basic aspects of good design. These include: (a) mean-ends analysis on objective-outputs-activities; (b) realistic scheduling of workplans and activities; (c) validity and coherence of project concept (objectives, targets and assumptions) and (d) institutional and management arrangements. It is noteworthy that the higher ranking elements are those related to clusters (a) and (b). It was somewhat surprising that the identification of beneficiaries (not shown among the top twelve in the Table, with a Pearson Chi Square value of 20.5), did not receive a higher profile in the list. However, this element as well as the institutional and management aspects are likely to have greater implications on project effects and sustainability rather than on project outputs.

32. For project implementation, the ranking pattern indicates the preponderant role of FAO inputs in this process. Among the six leading elements (excepting the overall assessment on implementation), four are those directly linked with FAO (project management, FAO project staff, workplanning and technical backstopping): it should be noted that apart from their effectiveness, timely recruitment and fielding of FAO project staff are also important. The important role of the host government is also reflected, including policy support, effectiveness of the counterpart institution, quality of counterpart project staff, integration/link of the project to related projects and institutions, and provision of the necessary infrastructure inputs. As a whole, this also underlines the importance of the quality of project management, both within the project (workplans and collaboration of the host institutions) and outside (policy support and coordination at the country level). The relative importance of the quality of national directors did not feature in this statistical analysis, although that of counterpart staff did. This is probably because most projects

**Table 9: Selected Elements of Project Design and Implementation with Significant Link with Project Output Performance<sup>1</sup>**  
(based on 437 projects evaluated during 1985-91)

Rank Order	Design Elements	Pearson <sup>2</sup> Chi Square Value	Rank Order	Implementation Elements	Pearson <sup>2</sup> Chi Square Value
1.	Consistency between inputs/outputs	57.6	1.	Overall assessment of implementation	141.6
2.	Consistency between outputs/objectives	56.8	2.	Effectiveness of project management	119.5
3.	Overall assessment on project design	55.4	3.	Effectiveness of FAO personnel	92.0
4.	Relevance of outputs/targets	49.9	4.	Degree of adherence to workplans	84.6
5.	Validity of key assumptions	46.8	5.	Quality of technical backstopping	74.7
6.	Realism of project workplan	45.0	6.	Government support at policy level	59.9
7.	Specification of activities	37.7	7.	Government support at host institutions	49.1
8.	Definition of development objectives	35.5	8.	Effective use of equipment	47.4
9.	Definition of immediate objectives	33.5	9.	Timeliness of FAO personnel deployment	40.5
10.	Adequacy of project management structure	29.7	10.	Quality of counterpart staff	38.4
11.	Specification of FAO personnel inputs	25.8	11.	Linkage with other projects/institutions	37.3
12.	Adequacy of institutional framework	22.6	12.	Timely availability of infrastructure inputs	34.1

<sup>1</sup> Output performance (both quality and quantity) defined on a five-point scale, depending on the qualitative and quantitative mix

<sup>2</sup> The values are valid for ordinal comparison only



included here were FAO executed, thus reducing the relative weight of the national directors' role. However, the potential importance of this element is underlined by the very strong weight of project management (effectiveness).

**(ii) Implementation versus Design: which is the most important?**

33. The findings presented in the preceding section indicated that implementation elements appear to be relatively more strongly associated with the projects' output performance. In fact, among the 73 projects assessed good on output performance, there was not a single case of a project with poor rating on implementation, regardless of overall quality of project design. In many cases the missions found that good output (both quality and quantity) were achieved notwithstanding serious flaws in the initial design of the project. In particular, key elements of project implementation such as: project management and personnel, workplans and Government support, seem to be determining project success. The following examples highlight these aspects.

34. A project (IRA/86/004) providing institutional support to training in watershed management had serious errors in its initial design which could have gravely compromised both the quality of its training activities and the long-term training capability of the counterpart agency. The problems were explained by the mid-term evaluation mission:

"Due to the absence of a definition of the 'immediate beneficiaries' of the project, potential trainees have been selected from various field offices of the host agency in various locations in the country, resulting in a wide dispersion of the newly acquired knowledge... No provision was made in the project document to guarantee the continuous transfer of knowledge i.e. the training of trainers...

The immediate objectives of the project, and the related activities and outputs, showed a marked bias towards mechanical restorative measures against erosion on lands already badly degraded, instead of placing the emphasis on the protection of productive agricultural and rangelands through bioengineering (afforestation, reseeding etc) and changes in agricultural practices and land use management. As could be expected, the project workplan, as presented in the project document and its updates, is logically based on the immediate objectives, and shows the same limitations."

35. The project management team introduced, at an early stage, major modifications to the initial project design. The focus of the project was reoriented to training on the creation of a "core group" or "a stable nucleus of experts and technicians in order to establish a long term training capability" within the host agency. The training programme for national staff was re-designed to emphasize watershed planning and management techniques, erosion evaluation and control, land rehabilitation and conservation and bioengineering.

36. At the time of the project evaluation, the mission noted that:

"the project was now running according to the schedule set up in the work plan" and that "the training provided by the project was efficient and project and (host agency) employees have really benefited from it." Considerable training had been provided and was judged to be "efficient" and beneficial to the trainees. Consultancies had been "provided on a timely basis with very good results". Despite difficult "organizational and logistic problems encountered in launching a project in (post-war) conditions ..... all activities that were programmed in the project document have been implemented with few minor exceptions and the mission feels that the project team, both CTA and national personnel, have done unusually efficient work. The full cooperation noted between national and international personnel has certainly been a very positive factor in that achievement".

37. However, the mission emphasized the need to involve the population directly in project activities and to provide for the required continuous training of national experts and technicians. "The importance of involving the local communities in the early stages of project implementation was understated in the project document, and has only been recently understood by the project team ... Present moves towards a more integrated approach are a step in the right direction." However, "the rapid movement of project personnel endangers the sustainability" of results achieved, including the development of "a strategy inserting local communities in the process of watershed management planning".

38. In another project (ANG/88/010) which also provided assistance to a national training centre, the evaluation mission found that in spite of a sound and appropriate technical approach, the original project design suffered from a number of errors, chief among them:

- (a) underestimation of the staff required to run the training centre on a sustainable basis;
- (b) lack of specification of the beneficiaries' qualifications leading to an ad-hoc approach to identification of candidates and training needs;
- (c) absence of project workplans;
- (d) lack of "pre and post-test evaluation" mechanism to facilitate re-adjusting training activities to real and/or expressed needs;
- (e) non identification of "most of the external (risk) factors which might inhibit achievement of project outputs.

39. In fact, project implementation was hindered by the limited number and high turnover of staff, due to the lack of funds within the host agency and the "low levels of remuneration which in turn threatened further staff losses". This impeded the development of long-term training capability of the Centre. Moreover, the lack of legal statute of the centre, and of administrative staff in general, placed additional constraints to project management "overburdened with administrative tasks" to the detriment of training activities to be provided.

40. The mission, however, found that the CTA had succeeded in overcoming these design weaknesses. A highly diversified and attractive work programme was developed, including "plans for in-service and induction courses, seminars, forums, on-the-job training and study tours". The beneficiaries were identified for various training activities, elaborated through workplans which "included details of participants, the trainers/ animators, objectives, subjects and dates as well as terms of reference for international consultants". The mission emphasized the effectiveness of the project management team, which battled successfully with delays in approving the Centre's statutes, set up a system for nominating trainees and overcame logistical difficulties.

41. These examples show the importance of good project management. However, it is important to remember a point made by one of the evaluation missions (MLW/86/020) which, noting the project document "a very defective instrument", stated that "the salvaging



of projects through the happenstance of the appointment of an excellent CTA should not be relied upon". A good project document was consistently seen by the evaluation missions as crucial to the adequate setting of the project within the national context as well as to orderly project implementation. A good project design is also useful for identifying the expected long-term project effects and the necessary follow-up measures of the project.

### (iii) Remaining Constraints

42. Evaluation findings point out cases where projects encounter difficulties in ensuring lasting project results despite good project design and implementation. Of the group of 73 projects "successful" with respect to outputs, four were found to have benefitted from both good project design and implementation with all of the key elements given good ratings. These projects have been examined to explore what are the remaining constraints to project sustainability when "all else has been brought under control". Successful achievement of objectives, good project design and implementation and adequate host agency funding and structure were not sufficient to allow an effective use of project results in the following cases.

43. **Adequate use of outputs: marketing and distribution problems.** In a project (CUB/86/005) covering pastures and forage development, the mission found that the project had benefitted from an adequate institutional framework and an adequate planning and provision for its activities. Project execution had encountered few difficulties and results were judged innovative and good. The Research Institute had in fact promoted the diversification and improvement of natural pastures through the selection of appropriate management practises adapted to the various ecosystems found in areas where livestock activities were prominent. The mission concluded that the project had fully achieved its immediate objectives of creating a solid research base in the country with well prepared and skilled personnel. However, the sustainability of results (i.e. diffusion of research results) was found to be strictly dependent on the institute's collaboration with other related services. In fact at the time of project formulation, it was assumed that the national system for the production, certification and distribution of improved seeds would be able to take over the responsibility of multiplying and distributing the improved seeds to the various livestock enterprises and cooperatives.

44. In short, the complexity of "marketing" problems emerged with the large-scale introduction of new improved seeds, highlighting the constraints arising from a limited distribution system. The likelihood of this outcome had been underestimated and could seriously compromise the achievement of the project's development objectives. The mission noted that national training and enhanced distribution structures needed to be established to guarantee the proper and extensive use of outputs achieved.

45. In another project (IRQ/87/004) aimed at improving the system of seed quality control and certification, the effects of good project results, i.e. good quality seeds, were also seen to be limited as "there is at present no seed legislation (in the country) which would compel seed producers and traders to submit to the discipline of quality control. Nor as yet is there more than one seed company, so that there is not the spur of competition to make quality a selling point." This is why the mission recommended, *inter alia*, that the Government

"consider legislation to control the quality of seed during production, and when it is available on the market, particularly as involvement of the private sector increases".

46. The ability to control seed quality was seen as a major drawback to the immediate use and expansion of project results. However, the mission noted that this obstacle, recognized only during the project implementation, was out of the control of the project as it could be overcome only through a Government policy decision relating to the marketing/distribution end of seed enterprises.

47. **The uncertain sustainability of training activities.** The group of 73 projects successful in terms of outputs tends to consistently show success in meeting training objectives. However, their sustainability remained doubtful as the host agencies often suffered from inadequate budget and/or legal status and generally lacked a solid core of permanent and adequately trained staff. This is well illustrated in the following example, which in every respect except sustainability, appears to have been a particularly successful training project.

48. In a project aimed at establishing a sub-regional training centre for middle-level tse tse control personnel (RAF/85/015), the evaluation mission was able to observe an exceptionally satisfactory result of the training provided:

- (a) none of the trainees had left their job upon returning from training;
- (b) a considerable multiplier effect had been obtained: the trainees trained other personnel; the mission interviewed 7 trainees, 4 of which had conducted formal training courses for about 200 technicians of various disciplines (veterinary assistants, laboratory assistants, other tse tse control personnel);
- (c) users/employers of trainees were fully satisfied and, as reported by the mission "stressed the usefulness and the imperative need for more middle level technical tse tse control personnel". Among the users interviewed were expatriate technical personnel on the Belgian Animal Disease Control Project in Chipata, Zambia and on the EEC Regional project.

49. Nevertheless, in spite of overall success in training, difficulties remained:

- (a) the sustainability of the training Centre was judged to be poor: throughout the project life, counterpart teaching staff was never provided in sufficient number nor was it permanent (salaries were either not paid or there were delays in payment); moreover the institutional status of the Centre within the host regional institution (SADCC) was never confirmed;



- (b) the mission noted a strong desire to institutionalize the degree provided; in its view, to do so would amount to providing a diploma at a higher level than what was really needed. The mission confirmed that the project's present focus is the right one, i.e. it should continue to provide middle level training. Consequently, it recommended that any move to integrate the training as a full course in the local University faculty's curriculum should be resisted. This tendency to a "slippage" from lower or middle-level to higher-level training is a fairly common problem when the training provided is both successful and appreciated.

50. Although these findings highlight the importance of good project implementation, they also leave little doubt that poor design impedes project implementation and the production of both timely and quality outputs. In particular, some of the project design elements, such as the identification of assumptions and risks for project success as well as the institutional framework of projects, have an important influence on ensuring the effectiveness in project results and the prospects for their sustainability. Furthermore, projects' effectiveness and their sustainability depend, to a large extent, on broader factors beyond the projects' immediate control. This has been illustrated above by the experience of those successful projects which, despite their good rating with respect to key element in both design and implementation, experienced difficulties in terms of sustainability.

#### SECTION 4 CONCLUDING REMARKS

51. Looking over the period 1985-91, there has been much important progress both in the quality and coverage of project evaluation. In particular, the quality of the terms of reference for evaluation missions and the evaluation expertise among mission members have improved, resulting in more focussed and rigorous evaluation reports. Similarly, evaluation assessment shows that over the period improvement has been made in project implementation with a decline in the number of poorly designed projects, while maintaining the momentum for better project results. Overall, the projects' effectiveness in producing the desired results appears satisfactory (with nearly 30% rated good on outputs and over 20% rated good on effects), although the situation is less satisfactory regarding implementation efficiency (some 25% rated good but nearly 20% rated poor), and disappointing with respect to project design (less than 20% rated good). This mixed pattern of assessment leaves considerable room for further improvements on all aspects.

52. A closer examination of the main weaknesses in individual elements in project design and implementation, together with their respective role in contributing to project results (outputs), points to several conclusions. Firstly, many of the important elements, particularly those requiring further attention, are of a non-technical nature, relating to project management, institutional aspects, and basic principles of project design. The importance of realistic planning is also highlighted, both in project design and implementation. The analysis underscores the critical role of FAO support, both in technical and managerial inputs to project implementation, including technical backstopping by HQ staff. At the same time, the host Government has clearly a fundamental role in terms of overall policy and coordination support and facilitating effective participation of counterpart institutions in the

project, including the provision of appropriate staff and facilities. Finally, while the implementation elements have critical influence on the projects' output performance, many elements of the project design are important, not only for smooth implementation, but also and particularly for ensuring the longer-term project results and their sustainability.

53. These findings and lessons are not new - many have been pointed out in earlier syntheses of evaluations, including some published in the Reviews of Field Programmes. They are also broadly recognized in the FAO Secretariat, and various measures have been under way to correct them. These include training of FAO staff on project formulation, that of National Project Directors and other senior staff on project management, continuing attention to technical and operational backstopping of projects through field visits, preparation of project formulation guidelines, as well as more systematic feedback from evaluation to project formulation and implementation.

54. Clearly, these efforts need to be further reinforced, and the present synthesis suggests that the focus of future attention should include the following areas:

- (a) a more multi-disciplinary approach to project planning, design and implementation so that projects represent a coherent and cost-effective response to complex development problems and issues;
- (b) upgrading the skills of FAO staff and consultants, both at HQ and in the field, in selected subjects of project analysis and design, project management and planning, monitoring and evaluation;
- (c) further improvement in the procedures and process for programming, project formulation, appraisal, implementation and monitoring/backstopping in order to underpin the cost-effectiveness of FAO operations;
- (d) greater selectivity in identifying, formulating and implementing projects in line with FAO's comparative advantage in field operations and with the existing technical and operational capacity in the Organization.



### Issues Arising from Evaluation of Projects in Selected Sub-Sectors (1990)

1. This Annex presents a summary of issues emerging from project evaluations completed in 1990 (it is a reproduction of part of the Annual Synthesis of Project Evaluations - 1990). It covers projects in four selected sub-sectors, extension, animal production and health, natural resource conservation and development, and statistical development, a total of 60 projects.

#### EXTENSION

2. A total of 18 projects dealt with extension activities, 8 in agriculture, 4 in fisheries and 6 in forestry.<sup>1</sup> The majority (15) of these were in Africa. Most project evaluations were found to shed light on three sets of issues which normally face extension activities, whether in agriculture, fisheries or forestry: (a) the "message", i.e. the innovations, technological packages or production systems to be extended or transferred; (b) the "receptivity" or acceptance of the "message" by the project target group, i.e. the ultimate beneficiaries, the farmers, the fishermen, the forest-dwellers; and (c) the "outreach mechanisms" used to communicate the "message" to the target group, i.e. the national extension services, the demonstration areas, the production, marketing and credit centres.
3. Those projects which attempted to address all three aspects were found to encounter difficulties in achieving the overall results within the limited time-frame of the projects while those which focused on only one appeared more likely to succeed. The latter, however, had generally benefited from the fact that the other two aspects were reasonably well developed in the country or were being addressed by complementary project(s).
4. In relation to the "message", in some cases the evaluation missions noted that appropriate technological packages were either not developed or insufficiently developed during the course of the project(s).
5. In relation to target group "receptivity", it was noted in several projects that the participatory approach was either weak, or not adequately understood by project staff.
6. With respect to "outreach mechanisms", difficulties encountered were largely related to weak extension institutions (lack of funds, staff and physical means) and in one case, a weak feedback system which did not properly link the identification of needs at beneficiary level with the development and research of an appropriate package ("message"). Training needs were not always adequately assessed, and in a few cases, management needs tended to be overlooked.

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<sup>1</sup> Agriculture: ANG/88/010; BEN/84/006; GCP/GHA/021/NET; KEN/84/007; KEN/86/029; MAG/86/004; MOZ/86/008; URT/87/002; Fisheries: GHA/88/004; GUI/87/025; INS/86/021; NIR/87/010; Forestry: ELS/86/005; GCP/KEN/051/AUL; NEP/85/017; PHI/87/005; SIL/88/008; UGA/86/012.

7. On the positive side, the approach based on community centres combining a variety of services ranging from extension advice to credit and marketing was found particularly promising.

#### ANIMAL PRODUCTION AND HEALTH (including Aquaculture)

8. The sub-sector was found to include 11 animal production and health projects, to which were added 3 aquaculture projects, since fish farming is very similar to the raising of small livestock in terms of either production constraints, beneficiary involvement (often women) or its place in the overall economy of the farming unit.<sup>2</sup>
9. A number of common issues or problems were identified in this area by the missions. They concern:
  - . planning of research, including estimation of the availability and appropriateness of available technical solutions and technological packages;
  - . livestock information systems and investigation and control programmes; difficult or partial monitoring of vaccinated animals belonging to smallholders;
  - . the distribution of genetic material, vaccines and other inputs to the poorest groups; reliance on people's participation approaches and involvement of women; and cost recovery schemes;
  - . attention to economic viability of the production modes proposed and the need for more socio-economic surveys in several projects.
10. Evaluation missions also made an effort to identify the factors which had facilitated the achievement of project objectives, thereby providing some explanation for the success of certain projects. By way of example, two evaluations stand out in this respect.
11. The first, an aquaculture project, while not being able to produce all planned outputs as a result of Government budgetary constraints, had nevertheless achieved most objectives concerned with institution-building for technology transfer. In particular, the promotion of an economically viable fish farming model was considered to be its "most concrete result". In short, the project had succeeded in going beyond the level of Government services and in reaching the ultimate beneficiaries with an economically attractive production model.

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<sup>2</sup> Animal Production: BGD/85/124/; LES/84/002; STP/87/001; UGA/84/023; VIE/86/006; Animal Health: MOZ/86/028; PAK/84/008; GCP/RAF/247/NET; GCP/RAF/218/JPN; UGA/86/001; URT/86/022; Aquaculture: BGD/87/045; IVC/87/001; MLI/86/001.



12. The second, a veterinary training and extension project, not only had developed an appropriate training curriculum and successfully trained over 220 field staff, but had also succeeded in ensuring sustainability for the ambulatory clinical services and artificial insemination provided by the project's host institution. Farmers paid the cost of the services provided, thus permitting purchase of the needed inputs (drugs and semen). It was thus found that a working cost recovery scheme underpinned the sustainability of services by the project's host institution.

### NATURAL RESOURCE CONSERVATION AND DEVELOPMENT

13. The group comprised 24 projects<sup>3</sup> for land/water development and conservation (including fertilizer projects), reforestation and watershed management. Most projects came under the technical fields of AGL and FOR. Thirteen were in the field of forestry. With the exception of one, they were all country projects, mostly in Africa and Asia. In terms of the main objectives, the majority (15 projects) was aimed at strengthening national institutions concerned with sector/sub-sectoral mandates through the introduction of improved approaches/methods, staff training and improved facilities. Six were specifically focused on particular areas (watershed management, anti-desertification, irrigated rice development, training in water management and soil conservation).
14. The evaluation highlighted several constraints, many related to project design. Almost half of projects were found to be ambitious in the scope of project design with regard to either the technical areas/components covered or the geographical area to be covered.
15. Time constraints due to the ambitious scope of projects were a key issue in 16 cases. The limited duration of the projects was seen as the main cause for:
  - difficulties in completion of field tests and/or the development of the proposed technical package;
  - the level of training provided to extension personnel; or
  - the extension of tested technology to farmers and/or end-users.
16. Weaknesses in the host institutions and/or government support were considered to have been a major drawback in project implementation in over half of the cases, either because of their limited institutional capacity in terms of personnel or legal status to cover all the components included in the project or due to difficulties in policy and/or financial support by the government.

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<sup>3</sup> Forestry: ANG/85/007; BEN/85/006; BHU/85/016; GCP/CVI/015/BEL; IRA/86/004; MYA/81/003; GCP/NEP/041/NOR; GCP/RAF/234/FRA; TOG/87/001; UGA/86/010; VIE/86/026; VIE/86/027; VIE/86/028; Fertilizer: GCPF/GAM/014/DEN; GCPF/GBS/009/DEN; GCPF/NEP/030/NET; Land and Water: MLW/85/011; SOM/86/023; Irrigation: BEN/84/012; GCP/INS/059/NET; GCP/LES/034/NET; SYR/86/015; URT/86/009; URT/86/012.

17. The technical substance of the sector (natural resources and environment) is heavily multi-disciplinary, and one particular feature of this group of projects is the multi-disciplinary, and often multi-sectoral, scope of technical work, both at the national and field levels. Thus, for most projects (22 out of 24), evaluations stressed the need for strengthening collaboration with other institutions through:
  - better coordination with other departments/agents and institutions working in related technical fields, especially for projects supporting the development and/or testing of improved approaches/technologies;
  - closer links with other field agents like extensions and village/community leaders, especially in projects engaged in pilot activities and direct support to local communities (i.e. soil conservation, watershed management and social forestry);
  - improved monitoring of project activities as a basis for better coordination of activities among several units involved.
18. With regard to the achievements of projects, evaluations found that four of the projects performed well, while most of the others performed satisfactorily in producing most of the planned outputs. In the majority of cases, the evaluations provided a better rating on the quality of outputs rather than on their coverage and/or quantity with respect to planned outputs. In particular, the following achievements are noteworthy:
  - successful training of national staff in institution-building, in almost half of the cases;
  - improved availability of reliable technical data/information, including the establishment of systematic data banks;
  - development of innovative technologies and approaches/policies; and
  - extending effectively national extension's field activities to the village level.
19. In terms of successful institution-building in this sub-sector, some aspects of project BOT/85/011, one of the successful projects noted above, highlight some interesting lessons. The project was aimed at providing support to the Soil Survey Section of the MOA through the establishment of a fully-equipped cartographic service and in-service training of national staff. As a result of the project, one of the first computerised national soil data bases was established, the national soil map was completed by technical staff within the unit and detailed maps covering areas of the country which have agricultural potential were produced. Although the project was not intended to focus on land appraisal and land-use planning, specific training sessions were held at various levels for staff involved in agricultural planning and extension on the potential uses of soils and land-use data. Further work in these areas was recommended in order to strengthen the links between the unit and the services



it can provide to national and local level planning and expand its present land capability studies to include socio-economic and environmental factors.

### STATISTICAL DEVELOPMENT

20. Seven projects dealing with statistical development, five in agriculture and two in fisheries, were evaluated in 1990.<sup>4</sup> The majority (6) were in Africa.
21. Evaluation missions found in this sub-sector a general tendency towards over-ambitiousness in project objectives. Project assistance to national statistics agencies often included: (a) the provision of essential computer hardware and software; (b) the establishment of databanks for the storage and retrieval of statistical data; (c) training of nationals on methods of data collection, processing and analysis and on the use of modern computing equipment; and (d) the dissemination of data through regular bulletins and other types of publications.
22. Project design often over-estimated the initial institutional strength of host organizations, thereby under-estimating the amount of project inputs and the timeframe required to build up the proposed programme for agricultural statistics. Implementation delays only exacerbated the already tight project schedule.
23. Potential benefits of the projects to sectoral planning activities of the host country were sometimes hampered by difficulties in delivering the statistical information either at the desired time or with the required level of coverage and detail. Limited geographic coverage of data collection and/or lack of timely processing and analysis of the data were typically at the root of this problem.
24. Evaluation missions generally expressed overall satisfaction with project training activities. Several missions highlighted the need to emphasise computer training. In almost half of the cases, project computer training was found to fall short of the extent needed to enable national staff to undertake computer programming and data analysis after termination of project assistance.
25. The sustainability of project benefits after their termination was often found to be a problem because of the difficulties of host governments in meeting the operating and recurrent costs of the statistics units. Less frequently stated, but equally important with respect to project sustainability, were the problems of providing national staff with sufficient incentives and retaining the trained manpower in the statistics units.

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<sup>4</sup> Agriculture: ANG/87/005, CAF/86/017, GCP/CPR/006/ITA, MAU/87/006, UGA/88/002; Fisheries: MAG/85/014, UGA/87/007.

## **PART THREE**

### **In-depth Review of Thematic Topics**



## CHAPTER FIVE

### FAO ACTIVITIES IN SUPPORT OF THE DEVELOPMENT OF INTERNATIONAL TRADE

*The Chapter contains the following sections: I Background; II Organizational Arrangements for Work on Trade; III Budget, Human Resources and Expenditure; IV Activities and Results (including coverage of FAO's work on commodities, publications and information on commodity trade, non-tariff technical barriers to trade, inter-governmental discussion and technical assistance); and V Summary of Issues and Conclusions. An overview is provided of FAO's activities most concerned with promoting international trade. The Chapter does not cover activities more indirectly related to trade, such as crop production and internal market development.*

#### I Background

##### A. Context

1. From its inception, FAO has given substantial attention prominent place to the development of trade in agricultural products, including forestry and fishery products. At present, they account for over 10% of world trade and about 18% of developing countries' exports. Agricultural products are frequently the major exports of the least developed countries. However, the terms of trade for agricultural products in general, and traditional tropical export crops in particular, have seriously deteriorated. Reasons include slow growth in demand, rising production with technical advances, heavy protection of agriculture in the industrialised countries, and the rise of synthetic substitutes. Environmental concerns as well as declining supplies are beginning to affect the markets for tropical timber. At the same time, intermediate processing by developing countries meets higher tariff barriers than those for unprocessed products. The more valuable commodities with the greatest potential for export growth by the developing countries, such as horticultural products and fish, meet steadily more stringent quality requirements from importers.

2. During the last thirty years, there have been a number of significant shifts in approaches to trade between developed and developing countries. Several developed countries initially gave preferential market access to former colonies, but over the years these arrangements have been largely replaced through preferential imports by the EC and for some commodities, by the United States and under Generalised System of Preferences (GSP) schemes by many developed countries. For a long period, barter arrangements with the former USSR were important for some developing countries.

3. There was an emphasis on commodity agreements designed to stabilise markets, through management of prices or quantities entering international trade. This occurred during a period of generally declining prices for most primary products, and there was a fundamental difference of interest between importers (with a desire for low prices) and exporters (which saw commodity agreements as a way of holding prices up). This emphasis on commodity agreements, also evident in the FAO Constitution, was reflected in the founding of UNCTAD in 1964 and in calls for a New International Economic Order. It continued to receive some stress in the early 1980s and this was partly reflected in the Guidelines and Targets for International Agricultural Adjustment updated by the FAO Conference in 1983.

4. More recently, emphasis moved to trade liberalization and the lowering of domestic support to agriculture in the developed countries. This was strongly reflected in Guideline 7 of the 1983 Guidelines for International Agricultural Adjustment. Since then, reduction in support to agriculture in the industrialised countries became the make or break issue for the Uruguay Round of Multilateral Trade Negotiations, which at the time of finalisation of this Chapter had not been resolved. In developing countries, liberalization of internal markets also grew in importance with increased involvement of the private sector in international trade, reductions in export taxes and levies and the realigning of exchange rates with consequent improvement in the internal terms of trade for primary producers. Internally within the developing countries the World Bank became, and has remained, the major external body with an influence on national sectoral policies.

5. Over the past decades, there has been a growth in inter-governmental organizations concerned with trade in general and with specific commodities. The developed countries can address trade issues also through the OECD. With the establishment of the first FAO Intergovernmental Commodity Groups (IGGs) in the 1950s and early 1960s, several specialist commodity organizations were also established,<sup>1</sup> with FAO providing the catalyst in some cases. UNCTAD provided the venue for the negotiation of agreements which established organizations for sugar, tropical timber, natural rubber and jute. UNCTAD's mandate is becoming more restricted as regards the negotiation of agreements, but the focus of international attention is now on GATT.

6. In another development of major significance for international trade, the inter-linked electronic and communications revolutions meant that data could be much more quickly and meaningfully analyzed and disseminated. This provided a basis for the closer integration of markets in different parts of the world and informed strategic decision-making.

7. The 1990s may witness a reduction of protection in agriculture. Eastern Europe and the former USSR has ceased to be a trading bloc. At the same time there will almost certainly be an increase in other trading blocs beginning with the North American Free Trade Area and further widening of the European market. The system of trade preferences with

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<sup>1</sup> e.g. with dates of establishment in parenthesis, International Wheat Council (1949), International Olive Oil Organization (1959), International Coffee Organization (1963), International Cocoa Organization (1972), International Sugar Organization (1968), International Natural Rubber Organization (1980), International Tea Promotion Association (1980), International Jute Organization (1984), and International Tropical Timber Organization (1985).



major trading blocs could thus increase in importance. In the event of failure in the Uruguay Round a likely development would be an increase in agreements between developing countries individually or as groups and the major trading blocs.

8. Within the UN system, the forum for trade negotiations *per se* is not FAO but rather GATT and, to some extent, UNCTAD. Although the arrangements in the UN system for dealing with trade issues are in a state of transition, the existing secretariat capacities of UNCTAD and GATT to deal with agricultural trade at the detailed level are limited. The international commodity organizations have not all stressed the trade aspect of the commodity. For some, the emphasis has been more on research and development. This is particularly the case with the International Jute Organization and the International Tropical Timber Organization, which have been concerned primarily to promote development projects. FAO thus continues to have an important role to play in detailed trade analysis for agricultural commodities. The draft agreement being considered for the Uruguay Round of Multilateral Trade Talks foresees a critical role for FAO, through the Codex Alimentarius and International Plant Protection Convention in agreeing on internationally acceptable standards for trade in foodstuffs and plant materials.

## **B. FAO's Mandate**

9. GATT, UNCTAD and ITC have mandates focused on trade, with an appropriate representation in their Governing Bodies. While trade *per se* is carried out by commercial entities. Within the context of FAO's broad mandate for the improvement of agriculture, the Constitution recognises a role for FAO in the strengthening of trade in agricultural products. FAO's work is thus at the more detailed level and lies in the integration of trade development with that of agriculture as a whole. The most important thrust is in the promotion of the policy and institutional framework, as well as technical considerations at the international and national levels to facilitate agricultural trade.

10. Important guidance for FAO's work in agricultural trade development is provided by Conference Resolution 2/79 "Commodity Trade, Protectionism and Agricultural Adjustment and the Guidelines and Targets for International Agricultural Adjustment", which were adopted by the FAO Conference in 1975 and revised and updated in 1983. Resolution 2/79 specifically requests the Committee on Commodity Problems (CCP), with the assistance of its Intergovernmental Commodity Groups (IGGs) to assess the impact of the results of the Multilateral Trade Negotiations and developments in protectionism for trade in the main agricultural commodities with special regard to the exports of the developing countries; and to examine the scope for trade between the developing countries. At the same time, it underlines that FAO activities should complement the work in other international organizations, and particularly in UNCTAD and GATT.

11. Three of the twelve Guidelines for International Agricultural Adjustment address trade related matters and also provide some guidance to the Secretariat on the direction of development the Organization is striving to support:

Guideline 7 emphasises the importance of trade liberalization especially in the interests of developing countries, including the diminution of tariff and non-tariff barriers to trade and the avoidance of export subsidies;

Guideline 8 stresses the importance of world market stability at prices remunerative to producers and fair to consumers, where appropriate, through the use of international commodity agreements. Access to food on reasonable terms, particularly for low-income countries, is also emphasized;

Guideline 9 urges developing countries to expand trade in food and agricultural commodities as well as other forms of economic and technical cooperation amongst themselves.

12. Similarly, in 1987 the Conference in its discussion of the State of Food and Agriculture called for greater liberalization of trade through the Uruguay Round of Multilateral Trade Negotiations. It urged that every opportunity be taken to involve FAO in support of these negotiations. The Conference stressed the need for favourable treatment for the agricultural products of the developing countries and urged that in the Uruguay Round the special interests of the major importing developing countries should be taken into account.<sup>1</sup> The Twenty-fifth session of the FAO Conference in 1989 in its Resolution 10/89 (on the Review of Certain Aspects of FAO's Goals and Operations) reiterated that an integral part of the goals and priorities of the Organization must be increased concern of Member Nations with trade barriers and protectionism affecting world trade in food and agricultural products. This priority was reflected in the 1992-97 Medium Term Plan which also highlighted the importance of ECDC.

13. The FAO World Conference on Fisheries Management and Development in 1984 adopted Programme of Action No. IV on International Trade in Fish and Fishery Products which emphasised the importance of establishing regional fish market information services and the provision of a multi-lateral framework for consultation on international trade in fisheries. The International Code of Conduct on the Distribution and Use of Pesticides is important for responsible trade in this major agricultural input. The scope of the Code, which was unanimously adopted by the FAO Conference in 1985, was expanded to incorporate the Prior Informed Consent clause (PIC) in 1989. The PIC clause commits countries not to export pesticides which are not approved for use in the exporting country to another country without the importing country's explicit agreement.

## C. Priorities

14. The majority of FAO's work in trade is carried out through the structure of commodity and Codex committees which have at their apex the Council and Conference. The work of the secretariat feeds into the committee structure, both providing basic information and facilitating discussion of issues at all levels. The discussion of trade related issues is always a significant topic for the Council and Conference and this discussion builds on the work of the committees. Within this context and in cooperation with other international

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<sup>1</sup> C 87/REP para. 39



organizations, FAO currently gives priority to support of the development of agricultural trade through:

- . fostering international dialogue and guidelines among the member countries on trade policy and the inter-relationship between trade and other policies, particularly those for food security, the environment and consumer protection. This is achieved particularly through the Conference and Council, the Committee on Commodity Problems and its dependent Inter-governmental Commodity Groups. This structure of committees is the single most important focus in FAO's work on trade and the servicing of those committees is a major secretariat function;
- . reducing technical non-tariff barriers to trade, especially by promoting agreement on internationally acceptable trade standards for protection of consumer health and for phytosanitary practices and regulations. The emphasis is on improving the adequacy of Codex standards as a point of reference in international trade. This is achieved through the structure of Codex committees. Attention is also being given to responsible trade in pesticides and the introduction of more transparent and common phyto-sanitary regulations;
- . provision of information, analysis and policy advice on all aspects of commodity trade, especially trade analysis and advice related to the short-, medium- and longer-term outlook and basic trade statistics. This is designed to serve the committees and international, national and commercial policy and market decision-making. A comprehensive data base is maintained on world trade in agricultural products, including fisheries and forestry. While main publications cover situation and outlook information, current market information is also provided for selected commodities, in particular fish;
- . provision of technical assistance to countries for trade development, including the import/export quality control measures for increasing value-added in exports (especially for fish), and to a lesser extent, development of commodity and trade policies and programmes.

15. In addition, attention continues to be given to fostering economic and technical cooperation on trade matters between developing countries (ECDC/TCDC) and the identification of crops with export potential. An emerging area of concern is the interaction between trade in agricultural products and the environment.

16. In a broader sense, however, much of FAO's main work is directly or indirectly related to trade. For example, efforts to develop a particular crop or to improve land resource allocation may eventually contribute to an improvement in export performance. This is particularly true for some sub-sectors, where a major part of the commodity output is exported, such as in fisheries. The Organization thus sees the support it provides as an integrated continuum.

## II Organizational Arrangements for Work on Trade

### A. The Governing Bodies and their Committees

#### (1) Overall Policy and Supervision

17. **The Conference and Council:** Trade matters form a regular subject of discussion on the agenda of the FAO Conference and Council. In addition to the standard agenda items on the State of Food and Agriculture and International Agricultural Adjustment, the Council and through it the Conference, receive the report of the Committee on Commodity Problems (CCP) and the Committees on Fisheries (COFI), Forestry (COFO) and Food Security (CFS) which also address trade related matters.

18. **Committee on Commodity Problems (CCP):** Most of FAO's work in agricultural trade is organized through the structure of subsidiary bodies which report to the CCP. It provides the centre point within the Organization for discussions of trade and commodities. The CCP was established in 1950 as a Committee of the Council and has a membership of 78 countries. In recent years the CCP has met biennially in the summer of the Conference year.

#### (2) Specialist Commodity Groups

19. **Intergovernmental Commodity Groups (IGGs)** are established for consideration of economic and related technical aspects of national and international policy on one commodity or a closely inter-related group of commodities. The commodities should either be important in world trade or particularly important to a group of countries.<sup>1</sup> The IGGs provide a forum for information and discussion and report to the CCP (See Table 1). A subsidiary group was established in 1985 for hides and skins under the IGG for meat and is expected to now become a full IGG. Sub-groups of exporters and importers exist more or less formally for the IGGs concerned with tropical products, including sisal and henequen. Also sub-committees may be set up to deal with projects submitted to the Second Account of the Common Fund for Commodities. Sub-committees/groups have normally held their sessions immediately before or during the full meeting of the IGG.

20. The IGGs normally meet once or twice in a biennium (for four to five days per session).<sup>2</sup> Meetings are generally in Rome, but a growing number are held elsewhere.<sup>3</sup> A

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<sup>1</sup> Report of the Thirty-Third Session of the CCP 1960

<sup>2</sup> In recent periods of financial crisis, a few sessions have been allowed to slip into the third year and the Group on wine and vineproducts met for the first time since 1983, in 1992.

<sup>3</sup> The Group on bananas with three of its last five meetings in banana exporting countries, the Group on citrus which held two of its last three meetings in exporting countries and the Group on jute, kenaf and allied fibres which held two of its last six meetings in a producing country. The group on wine and vine products also held its one recent meeting in Siena, Italy and the 1993 session of the Group on tea was scheduled to be held in Morocco.



large proportion of the time in the IGGs is devoted to discussion of the current situation and outlook for the commodity and short-term prospects. Policies and practices of member countries also take a large proportion of the time in the Groups. Using documentation prepared by FAO, and sometimes other organisations, all IGGs carry out the following activities with different degrees of emphasis:

- review of the short- and medium-term trade situation, mainly to assist countries in formulating immediate policies and making trading decisions;
- review of significant developments, policies and longer- term trade prospects with a view to assisting countries in basic policy formulation, increasing international market transparency and contributing to international consensus building. Such information may include information on tariff and non-tariff barriers to trade as well as national policies of major importers and exporters for production and trade. Several IGGs have trade policy guidelines which are used as a bench-mark to examine trends in export and import practices:
- formulation of projects for the Second Account of the Common Fund For Commodities ( Most IGGs are recognised International Commodity Bodies by the Common Fund).<sup>1</sup>

**Table 1: Inter-Governmental Commodity Groups**

Group	Year of Establishment	Frequency of Meetings 1986 to present
Rice	1955	Annual
Cocoa	1956	Discontinued since 1975*
Grains	1957	Biennial
Citrus Fruit	1959	Biennial
Jute, Kenaf and Allied Fibres	1963	Annual
Oilseeds, Oils and Fats	1965	Annual
Bananas	1965	Approximately biennial
Hard Fibres	1966	Annual
Wine and Vine Products	1968	One meeting only
Tea	1969	Now annual
Meat	1970	Biennial
Meat Sub-Group on Hides and Skins	1985	Biennial
Sub-Committee on Fish Trade	1985	Biennial
*Discontinued on formation of International Cocoa Organisation		

<sup>1</sup> Exceptions are the Groups for grains, jute kenaf and allied fibres (which is covered by the IJO rather than the IGG) and wine and vine products.

21. In addition, some IGGs are engaged in:
- fixing indicative target prices for trade and monitoring conformity with those prices;
  - providing a network for the collection and circulation of current market information;
  - reviewing environmental issues affecting trade.
22. **The Sub-Committee on Fish Trade** was established in 1986. Although it reports to the Committee on Fisheries (COFI), in other respects it functions in a similar way to the IGGs.
23. **Other committees where trade matters** are regularly discussed include the Commission on Fertilizers (which generally meets biennially), the ECE European Timber Committee, the Committee on Wood Based Panel Products, the Advisory Committee of Experts on Pulp and Paper and depending upon regional priorities the FAO Regional Conferences.

### (3) Work on Non-Tariff Technical Barriers to Trade

24. **The Codex Alimentarius Commission (Codex)** is a joint Commission of FAO and WHO with the secretariat in FAO. The Commission recommends standards and codes of practice for the quality and safety of foodstuffs. These issues are expected to continue to have a significant impact on world trade in food. The Commission meets biennially and an Executive Committee appointed by the Commission meets each year. The Commission's work is carried out by specialist committees of three types (see Table 2), of which 13 (not including regional committees) are currently operational. Firstly, there are the commodity committees, of which seven are currently active, including the FAO/WHO Committee on Milk and Milk Products. The commodity committees generally meet once in a biennium, although some meet less often. These are adjourned *sine die* when they have largely completed their work in producing draft standards for the commodity. Secondly, there are seven general committees which cover various cross commodity problems, such as food hygiene and labelling. Many of these meet once each year and all meet at least once each biennium. Thirdly, there are five regional committees<sup>1</sup> and a Committee on General Principles (not included in the Table).

25. The Codex general committees with the exception of that on Food Hygiene have *ad hoc* standing working groups. Efforts are underway to reduce these. These vary in number from four in the case of the Committee on Pesticide Residues to one in the case of the Committees on Methods of Analysis and Sampling and on Nutrition and Foods for Special Dietary Uses. They frequently meet one day before the main meeting and make recommendations to the committee. Whereas Codex regional committees consider general questions of food quality control, including the improvement of systems in the member countries, the Codex specialist committees devote their sessions almost entirely to the development of standards.

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<sup>1</sup> Africa, Asia and the Pacific (which between them cover the Near East and North Africa), Latin America and the Caribbean, Europe and North America and the South West Pacific (This latter was not convened until 1990). These meet once each biennium.



**Table 2: Summary of Specialist Codex Committees**

Subject-Matter of Committee	Year began	Year adjourned	No. of meetings		Host Country/Organi- zation
			Total	1986-91	
Commodity Committees					
Cocoa products & chocolate	1963	1983	15	0	Switzerland
Sugars	1964	1978	6	0	UK
Processed fruit & vegetables	1964	1991	18	1	USA
Fats & oils	1964	1987	13	1	UK
Meat	1965	1973	7	0	Germany
Foods for special dietary uses & other nutritional aspects of Codex work	1966	cont.	18	4	Germany
Processed and un-processed fish & crustacean products	1966	cont.	20	4	Norway
Processed meat and poultry products	1966	1991	15	2	Denmark
Mineral water (Europe)	1966	1978	4	0	Switzerland
Meat Hygiene (excl. poultry)	1972	reac.	6	1	New Zealand
Edible ices	1974	1978	3	0	Sweden
Soups and broths	1975	1978	2	0	Switzerland
Vegetable proteins	1980	1989	5	2	Canada
Cereals, pulses & legumes	1980	cont.	8	4	USA
Tropical fresh fruits & vegetables	1988	cont.	4	4	Mexico
Other Inter-Governmental Commodity Committees Reporting to Codex					
FAO/WHO Milk & milk products	1958	cont.	22	2	FAO/WHO
FAO/WHO/UNECE Fruit juices	1964	1991	19	3	FAO/WHO/UN ECE
FAO/WHO/UNECE Frozen foods	1965	1981	13	0	FAO/WHO/UN ECE
General Cross Commodity Committees					
Food additives & contaminants excluding pesticides & veterinary drugs	1964	cont.	24	6	Netherlands
Food hygiene	1964	cont.	25	4	USA
Food labelling	1965	cont.	21	3	Canada
Methods of analysis & sampling	1965	cont.	18	4	Hungary
Pesticides & other chemically similar contaminants	1966	cont.	24	7	Netherlands
Residues of veterinary drugs in foods	1986	cont.	7	7	USA
Food import/export inspection & and certification systems	1992	cont.	1	1	Australia

26. **Expert Committees:** A large technical input to the work of the Codex inter-governmental committees comes through the FAO/WHO expert committees on Food Additives Contaminants and Pesticides. These cover food additives and contaminants (JECFA)<sup>1</sup> and pesticide residues (JMPR).<sup>2</sup> JECFA is in fact two separate groups of

<sup>1</sup> Joint FAO/WHO Expert Committee on Food Additives

<sup>2</sup> Joint FAO/WHO Meeting on Pesticide Residues

experts, one on additives and contaminants and the other on veterinary residues, which meet with varying frequency (on average respectively twice and once per biennium). The 10-12 experts per group participate as individuals appointed in their personal capacity, without honoraria and are supplemented by consultants, especially from WHO. JECFA is funded and organised by Sub-programme 2.1.6.3 (Food Control and Consumer Protection), while JMPR is organized and funded under Sub-programme 2.1.2.4 (Crop Protection). The latter meets once a year with 6 panel members each respectively, from FAO and WHO, supplemented, as with JECFA, by consultants.

27. The Joint FAO/UNEP Expert Panel on Prior Informed Consent Clause (PIC) of the International Code of Conduct on the Distribution and Use of Pesticides has met once a year since its establishment in 1990, to monitor application of the PIC and discuss modalities for its implementation.

#### (4) Other Meetings on Selected Topics

28. In addition to the meetings of the IGGs and Codex Committees, FAO organizes meetings selectively on topics central to trade (see Table 3). Certain of these supplement the work of the IGGs and Codex. For example, a number of special meetings were organised to draw up project proposals for the Common Fund for Commodities. One meeting dealt with possible measures to improve the world banana economy and was held in a year in which there was no meeting of the IGG. Some of these meetings also covered issues related to ECDC and horticulture (which is not covered by an IGG). A series of fisheries trade conferences were attended by over 100 participants, each from about 30 countries. In the area of non-tariff technical barriers to trade, most meetings have been of the expert type to clarify practices and procedures or to support the work of Codex, including some on regional problems. A major conference in 1991 considered the workings of Codex<sup>1</sup> in detail and made proposals for streamlining of procedures and future work with priority on simplifying and updating standards and on cross commodity problems.

29. **The Consultative Sub-Committee on Surplus Disposal (CSD)** was established in 1954 to monitor food aid and other agricultural commodity assistance programmes, carried out by its members. This was to help ensure that donations and concessional shipments would not interfere with commercial trade or act as a deterrent to agricultural production in the recipient country. It is, however, accepted that commercial imports may be to some extent displaced in poor countries with severe balance of payment problems. A code of conduct has been drawn up and modified over the years and is currently summarised in a handbook entitled "Principles of Surplus Disposal and Consultative Obligations of Member Nations". The main tool for calculating how much food aid a recipient country should receive is the Usual Market Requirement (UMR), which is based on the recipients' commercial imports over the last five years. The Committee currently has 46 members, including the EC, of which 28 are developing countries (average attendance 19 members). It meets in Washington on the first Wednesday of every month with a break in August. The most active members of the CSD are the major cereal exporters, which are also in general the major food aid donors, but several developing countries also participate.

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<sup>1</sup> FAO/WHO Conference on Food Standards, Chemicals in Food and Food Trade.



**Table 3: Meetings on Selected Topics (1986-92)**

Type of Meeting	Description
Preparation of projects for the Common fund for Commodities	Expert groups & inter-governmental technical consultations were held to discuss projects for submission to the Common fund for Commodities. These covered hard fibres (2 meetings), coconuts, bananas, groundnuts & tea. There was an average of 14 participants & a duration of 4 days
IGG sub-groups	Sub-groups of tea exporters met for 4 day sessions in 3 years prior to recommencing meetings of the full IGG with an average of 37 participants from 14 countries.
Particular commodities	2 ECDC seminars on tropical horticultural products in Latin America & Caribbean & in Asia & Pacific & sub-region seminar on hides and skins in Southern Africa, 1 meeting on improving the world banana economy
Food quality control expert consultations	An average of 2 meetings are held each biennium on specific aspects of food control such as labelling or protein quality evaluation.
Food quality control regional and sub-regional consultations	An average of 2 meetings is held each biennium, but 5 were held in the 1991-92 biennium and deal with local problems such as cholera in food trade in the Americas, or harmonization of practices e.g. those for regulation of food irradiation.
Joint FAO/WHO Conference on food standards, chemical in food & food trade	A major international meeting for 5 days designed to undertake an overall examination of food control and the role of Codex
Plant quarantine	Two regional expert consultations on plant quarantine principles were held in Asia and the Pacific and Latin America and the Caribbean. Following these a 5 day global expert consultation was convened in May 1991 with 10 participants
Prior informed consent for pesticide exports	Expert consultation prior to finalization of the prior informed consent clause
Fish quality	FAO/DANIDA expert consultation on quality assurance in fisheries products
Fish trade	4 five-day trade conferences organized jointly with regional fisheries marketing services on squid (2), seafood, tuna and small pelagics were attended by over 100 participants each from over 30 countries

## B. The FAO Secretariat

30. Matters related to trade are handled by a number of units within the Secretariat. The Commodities and Trade Division (ESC) provides the focal point for trade matters. It services trade discussions in the Conference and Council and provides the secretariat for the Committee on Commodity Problems (CCP) and its subsidiary bodies.<sup>1</sup> The Forestry and Fisheries Departments handle commodity trade in their respective areas of expertise. Work on certain trade standards and non-tariff barriers to trade are handled primarily by the Divisions for Food Policy and Nutrition (ESN) and for Plant Production and Protection (AGP). The Statistics Division maintains basic import and export statistics. Some other units are involved in various aspects of trade development, including trade in fertilizers (the Fertilizer and Plant Nutrition Service), the development of economic policies by the Policy Analysis Division and the promotion of non-traditional export crops by the Crop and Grassland Service. Table 4 summarises the Programme and administrative structure and functions with respect to the main inputs into international trade development.

<sup>1</sup> With the exception of the Sub-Committee on Surplus Disposal which is serviced by the FAO Liaison Office for North America (LNOR).

## C. Coordination and Planning

31. Coordination with other international commodity bodies and agencies has been effective and several examples of joint activity are mentioned below.<sup>1</sup> Codex is of course a joint programme with WHO, as are the expert bodies on pesticide residues, additives and contaminants. Related organizations are almost always represented at the meetings of IGGs and the Codex Committees. The CCP and the IGG meetings regularly consider the activities of other organizations. Particularly with regard to medium-term analysis for agricultural commodities, FAO has the broadest coverage and strongest capability among all agencies and the World Bank consults FAO on commodity projections. UNCTAD and GATT do not have the resources to carry out detailed work in all areas and they make use of FAO analysis in servicing trade discussions. Where other inter-governmental organizations exist for commodities covered by IGGs, there has been a division of work, with FAO handling commodity and trade analysis aspects and the commodity organization dealing with product development (jute, tropical timber, tea, and wine and vine products) and carrying out some joint activities. In several of the other international commodity organizations, capacity for medium-term (as distinct from current) market analysis remains weak, and this is a potential area in which FAO could expand its collaboration as has been done for sugar and some other commodities.

32. Sessions of the committees and the supporting secretariat work are subject to FAO's normal planning procedures, and approval by the Conference, for the Programme of Work and Budget. Both the Codex Alimentarius Commission and the CCP give consideration to the reports of their subsidiary bodies and their priorities for work. Nevertheless, these subsidiary bodies do tend to acquire individual momentum and set their own priorities. The Codex Alimentarius Commission considered a medium term plan at its 1993 session and it would also be useful to review more systematically from time to time medium-term priorities for overall trade work in the CCP. The role of the CCP on overall trade could usefully encompass fisheries and forestry while specific forestry and fisheries issues continue to be covered in the respective committees. ESC also possesses expertise in modelling and projections which could strengthen work in fisheries and forestry trade.

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<sup>1</sup> Other recent examples of collaboration include the production of the joint study of "The World Sugar Market" with the International Sugar Organization. In 1991 a detailed study of prospects for alternative sweeteners was also presented jointly by FAO and ISO specialists to the ISO Market Evaluation, Consumption and Statistics Committee. In 1992/93 cotton projections were prepared jointly with the International Cotton Advisory Committee (ICAC). A joint meeting and trade exhibition was organized with IJO for jute. Papers have been provided for the UNDP/UNCTAD Commodity Diversification Project. Cooperation has taken place with the ITC and UNIDO in workshops on hides and skins in Africa, with ITC on introduction of a vegetable oil traders' guide and with the World Bank on the development of projects (most recently for jute) and with ITTO in the production of the Timber Bulletin. The framework for agreement of plant quarantine standards is being developed jointly with the regional plant protection organizations. Meetings of the Codex Committee on Methods of Analysis and Sampling are always preceded by a meeting with representatives of the International Standards Organization (ISO) and the Association of Official Analytical Chemists. Codex standards are listed in the ISO directory of international standards.



**Table 4: FAO Internal Arrangements for Support to International Trade Development**

Functions	Programmes	Organizational Units
Basic Statistics on import and export of agricultural commodities (Trade Yearbook)	Food & Agricultural Information & Analysis 2.1.7.1 Statistical Processing & Analysis	Statistics Division (ESS) Basic Data Unit (ESSB)
Basic fisheries trade statistics	Fisheries Information 2.2.1.2 Fisheries Data & Statistics	Fisheries Information Data & Statistics Service (FIDI)
Basic forestry products trade statistics	Forest Investment & Institutions 2.3.3.2 Investment Planning & Statistics	Forestry Policy & Planning Division (FON) - Planning & Statistics Branch (FONS)
Outlook for agricultural trade - Commodity Review and Outlook  Servicing Committee on Commodity Problems & Inter-governmental Commodity Groups, detailed agricultural commodity information, technical assistance  National commodity policy advice	Food and Agricultural Information and Analysis 2.1.7.2 Situation and Outlook  Food & Agricultural Policy 2.1.8.3 Commodity Policies & Trade	Commodities and Trade Division (ESC)  Basic Foodstuffs (ESCB) covering oilseeds, meat, dairy products, grains (including rice), pulses, root crops  Raw materials, Tropical & Horticultural Products (ESCR) covering tropical beverage crops, cotton & hard & soft fibres, horticultural crops including bananas & citrus, spices, sugar & hides & skins  Commodity Policy & Projections (ESCP) covering overall analysis of commodity policy, projections & coordination of technical assistance
Servicing the Sub-Committee on Fish Trade & Development of Fisheries Information Marketing Services	Fisheries Exploitation & Utilization 2.2.2.4 Fisheries Utilization & Marketing	Fishery Industries Division (FI) - Fish Utilization & Marketing Service (FIU)
Information on forest products trade & assistance to trade development	Forest Products 2.3.2.2 Trade & Marketing  Forest Investment & Institutions 2.3.3.2 Investment Planning & Statistics	Forest Products Division (FOP)  Forestry Policy & Planning Division (FON) - Planning & Statistics Branch (FONS)
Fertilizer trade statistics & development of fertilizer market information	Natural Resources 2.1.1.3 Soil Management & Fertilizers	Land & Water Development Division (AGL) - Fertilizer and Plant Nutrition Service (AGLF)
Development of food Standards for trade and assistance to countries in their application	Nutrition 2.1.6.3 Food Control & Consumer Protection  2.1.6.5 Codex Alimentarius	Food Policy & Nutrition Division (ESN) - Food Quality & Standards Service (ESNS)
Ethical Trade in pesticides & import regulation  Administration of the International Plant Protection Convention which covers criteria for vegetable matter trade restrictions  Standards for pesticide residues in traded food products	Crops 2.1.2.4 Crop Protection	Plant Production & Protection Division (AGP) - Plant Protection Service (AGPP)
Inputs by regional offices, joint divisions etc. The regional office for Latin America and the Caribbean (RLAC) has two commodities specialists. The FAO Liaison Office in Geneva (LGEN), has been particularly involved with support to the Uruguay Round discussions. The ECE/FAO Agriculture and Timber Division services the ECE Timber Committee (2 officers). One ECE/FAO officer is also concerned with food standards & others with agricultural statistics. The Liaison Office for North America (LNOR) services the Consultative Sub-committee on Surplus Disposal (CSD).		

33. Worthwhile initiatives to increase the cost efficiency of IGG meetings have included holding them in conjunction with meetings of the corresponding international commodity organization and sharing work between committees. Most meetings of IGGs and Codex committees last four or five days, which does not allow a weekend for report preparation and for some IGGs there is a short meeting of a sub-group before the main group. There is thus little room for cutting the duration of meetings. Agenda are very crowded, especially in the case of Codex general committees (covering such aspects as pesticide residue levels). There may be some opportunity to reduce the frequency of meetings for IGGs which meet annually, while continuing to produce some documentation in the non-meeting year, although savings from this would be relatively small.

### III Budget, Human Resources & Expenditure

#### A. Regular Programme Budget, Expenditures & Staffing

34. **Budget and Expenditure:** Approximately US\$ 28 million per biennium is now programmed for activities directly related to trade (see Table 5). The Commodities and Trade Division (ESC) sub-programmes 2.1.7.2 and 2.1.8.3 make up half the programmed resources, with a further quarter being accounted for by work on food quality control and Codex. Within the latter, some 60% of resources are programmed for the activities of Codex and the CCP and the IGGs directly absorb over 40% of the budget for trade in the ESC programme. There has been very little change in the overall resources budgeted in real terms (6% increase over 8 years). In real terms the ESC component remained approximately constant, while most other areas saw slight increases, especially food quality control activities and statistical processing - where work was linked to the development of the World Agricultural Information Centre (WAICENT). Overall expenditures were very slightly below budget in the 1986-87 and 1988-89 biennia and slightly exceeded budget in the 1990-91 biennium. In 1990-91, this was largely due to extra work within the framework of the IGGs. Throughout the three biennia there were small additional expenditures for work in food control.

35. In terms of expenditure components (on a weighted average of overall work in trade), 62% was for continuing staff; 19% for publications; 9% for consultants and other temporary staff and 7% for duty travel.<sup>1</sup> FAO's costs in servicing IGGs are less than those of the

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<sup>1</sup> In the key Commodities and Trade Division the respective figures were 68% for permanent staff, 14% for publications, 10% for consultants and other temporary staff and 4% for duty travel. For the work in food standards and Codex the figures were 42% for permanent staff, 33% for publications, 11% for consultants and other temporary staff and 8% for duty travel. As costs for meetings are covered under other expenditure heads they do not normally appear separately as a major cost item, but in the food standards activities they account for 4% of expenditure. Similarly where extensive use is made of main frame computer facilities these appear as a significant cost, typically around 10% in the programmes analyzing basic trade data, but in other work mini and micro computers are used which do not appear as a separate cost.



**Table 5: Estimated Regular Programme Budget and Expenditure for Trade Activities**  
**(US\$ 000) Figures refer to Trade Components Only**

Programme	Programme of Work & Budget				Expenditure		
	1986-87	1988-89	1990-91	1992-93	1986-87	1988-89	1990-91
2.1.6.3 & 2.1.6.5 Food Control & Codex	3,825	4,575	5,556	6,997	3,863	4,932	5,734
2.1.7.1 Statistical Processing & Analysis	492	607	827	1,014	491	579	829
2.1.7.2 & 2.1.8.3 Situation & Outlook (ESC component) & Commodity Policies & Trade	8,696	9,874	11,617	14,270	7,976	9,476	12,174
Fishery Trade Components in 2.2.1.2 & 2.2.2.4	1,306	1,683	1,918	2,324	1,440	1,844	1,814
Forestry trade components in 2.3.2.2 & 2.3.3.2	617	768	1,033	1,759	701	731	1,058
Other including 2.1.1.3 Fertilizers & 2.1.2.4 Crop Protection	742	870	1,041	1,500	685	803	961
<b>Grand Total</b>	<b>15,678</b>	<b>18,377</b>	<b>21,992</b>	<b>27,864</b>	<b>15,156</b>	<b>18,365</b>	<b>22,570</b>
<b>Total at PWB 1992 Constant Prices</b>	<b>26,196</b>	<b>26,379</b>	<b>26,907</b>	<b>27,864</b>	<b>25,308</b>	<b>26,343</b>	<b>27,617</b>

international commodity organizations. An estimated average of US\$ 3-400,000 per year is spent on each FAO IGG.<sup>1</sup> The corresponding figures for the annual administrative and technical budgets of a sample of international commodity organizations vary from a high of US\$ 6 million to a low of US\$ 1.2 million.<sup>2</sup> The latter figures of course include costs of accommodation, while the FAO figures refer only to programme expenditures and administrative overheads. They also tend to hold more meetings and in some cases provide more current information on the commodity, although less medium- and long-term analysis may be undertaken.

36. Table 6 summarises the professional posts programmed and staff actually in post. Some 99 professional person years were programmed for work on trade in the 1990-91 biennium, as compared with 79 person years of staff actually available. More than half this total was in the Commodities and Trade Division (ESC) and just over a quarter in the Food

<sup>1</sup> Including staff time, consultants, publications, computer charges, meeting costs and administrative overheads

<sup>2</sup> International Coffee Organization (US\$ 6 million), International Wheat Council (US\$ 2.3 million), for the International Cocoa and Sugar Organizations (US\$ 1.7 million), and International Cotton Advisory Committee (US\$ 1.2 million).

Quality and Standards Service (ESNS). There have been shortfalls in the staffing of most units, but the most serious have been in the Commodities and Trade Division where a steadily declining situation resulted in a 30% shortage in professional personnel resources by 1990-91, including several senior posts. The post of the officer responsible for trade matters was also vacant in the Forest Products Division during the 1988-89 biennium, and the post of the officer to deal with the International Plant Protection Convention was unfilled during the same period.

**Table 6: Professional Staff working primarily on Activities directly related to Trade  
Planned and Actual Person Months**

Programme and Organizational	1986-87		1988-89		1990-91		1992-93
	Programmed	Actual	Programmed	Actual	Programmed	Actual	Programmed
2.1.6 Food Quality & Standards Service (ESNS)*	264	248	264	238	264	241	288
2.1.7 Statistics Division Basic Data Unit (ESSB)	24	24	24	24	24	24	24
2.1.7/2.1.8 Commodities and Trade Division (ESC)**	708	605	708	560	708	503	708
2.2.2 Fish Utilization & Marketing Service (FIU)/2.2.1 Fishery Information, Data & Statistics Service(FIDI)	72	72	72	72	72	72	96
2.3.2 Forest Products Division/2.3.3 Planning & Statistics Branch (FONS)***	36	12	36	18	36	36	36
Joint ECE/FAO Agriculture & timber Division (JEUR)****	42	39	42	36	42	34	42
2.1.1 Fertilizer & Plant Nutrition Service (AGLF)***** & 2.1.2 Plant Protection Service (AGPP)	36	32	36	29	36	34	50
<b>Total</b>	<b>1182</b>	<b>1032</b>	<b>1182</b>	<b>977</b>	<b>1182</b>	<b>944</b>	<b>1244</b>

\* The equivalent of one post in the Food Quality & Consumer Protection Group is not directly concerned with import/export; \*\* Approximately half the time of the staff in the grains & Rice Group is devoted to 2.1.7.3 Food Information and Early Warning System and the equivalent of one post in the Trade and Commodity Policy Group is taken up with non trade related technical assistance;\*\*\* The equivalent of half an economist/statistician post in FONS is devoted to trade activities \*\*\*\* Half the posts in the JEUR are funded by FAO and approximately half the resources of the Division are related to trade; \*\*\*\*\* The equivalent of one of the two economist posts is devoted to trade.

## B. Member Contributions and Extra-budgetary Resources

37. It is estimated that some US\$ 9 million per biennium of extra-budgetary resources is being mobilised for work on international trade (Table 7). Of this total, over US\$ 7 million is accounted for by field projects in food quality standards, pesticide regulation and fisheries. FAO-TCP expenditures have been mainly for food quality standards, with also a significant proportion devoted to pesticide regulation. There is a gearing ratio of extra-budgetary to Regular Programme resources for work on trade of 0.3 :1. This compares with current gearing ratios of slightly over 5:1 for the Natural Resources, Crops and Livestock Programmes.



**Table 7: Estimated Average Extra-budgetary and FAO-TCP Expenditures per Biennium 1986-91**  
(US\$000)

	Extra-budgetary	TCP	Total
Codex WHO Contribution	637		637
Contributions to Globefish Data Base	272		272
<b>Field Projects (Trade Component only)</b>			
Agricultural Crops-commodity policy		68	68
Food Quality Standards	2,809	2,516	5,325
Pesticide regulation	2,007	851	2,858
Fisheries	2,712*		2,712*
Forestry	940		940
<b>Total</b>	<b>9,377</b>	<b>3,435</b>	<b>12,812</b>
* Does not include member contributions to fisheries market information services			

38. Apart from contributions by trust fund donors and participation in meetings, member countries also contribute to work of agricultural trade through the hosting of Codex committees. The specialist committees are each hosted by a country which covers the costs of meetings.<sup>1</sup> The host country also normally provides the technical leadership for the committee in drafting standards. In the case of IGGs, there is less similar input from members, but eight meetings have been hosted by member countries outside FAO Headquarters in recent years and in these cases, the country covered the main meeting costs. Finance for the GLOBEFISH on-line data base is also provided through contributions by the main users.

## IV Activities and Results

### A. The Coverage of FAO's Work on Commodities

39. FAO's main activities with respect to the various commodities are summarised in Table 8. The most substantial volume of work has gone into fish and fisheries products, one group of commodities of major importance for developing country and world trade, for which no other international organization plays a significant role in trade development. After fisheries, the greatest attention has gone to grains, which in addition to their importance in world trade, are fundamental to food security and make up the great bulk of food aid. A very considerable volume of trade statistical information and some outlook information is also produced for timber and timber products which is the largest single commodity group (in

<sup>1</sup> Cost of a third language is occasionally covered by the Codex Budget

**Table 8: The Major Commodities and Coverage by FAO and Other International Organizations**

Commodities in order of importance for world trade	Approximate Proportion of Developing Country Agricultural Exports	FAO Activity in addition to Trade Information and quality standards	Codex Coverage	Output of Trade Documentation by FAO ***	Non FAO Inter-regional Organizations Bringing Together Producers and Consumers
Commodities accounting for 10% or more of world agricultural exports by value					
Wood and wood products including pulp (excluding manufactures)	11.6%	UN-ECE Timber Committee	n.a.	very high	International Tropical Timber Organization (concentrates on technical and development support)
Fruit and vegetables	17.8%	**	partial	medium	
Meat and live animals	4.3%	IGG	comprehensive	low	GATT - International Meat Council, heavily focused on Bovine Meat
Commodities accounting for 5-9.99% of world agricultural exports by value					
Grains including rice	3.8%	IGGs on grains & rice	partial	very high	International Wheat Council
Fish and shell fish etc.	10.1%	IGG, Regional marketing services & training	comprehensive	very high	
Oilseeds and vegetable oil	6.5%	IGG	comprehensive	medium	
Milk & dairy products	n.a.		comprehensive	very low	GATT - International Dairy Products Council
Commodities accounting for 2-4.99% of world agricultural exports by value					
Animal feeds	4.9%	Coverage of grains & oilseeds in IGGs	n.a.	low	
Alcoholic beverages, mineral waters etc.	n.a.	IGG for wine	none except mineral water	low	International Wine and Vine Office (mainly technical)
Hides, skins & leather	3.1%	IGG	n.a.	high	
Coffee	11.1%		none	very low	International Coffee Organization
Sugar & honey	7.6%	Special study 1992	partial	very low	International Sugar Organization
Cotton	2.9%	*	n.a.	very low	International Cotton Advisory Committee and International Institute for Cotton
Wool	0.8%	*	n.a.	very low	International Wool Secretariat
Natural rubber	5.7%		n.a.	very low	International Natural Rubber Organization
Cocoa	3.9%		comprehensive	very low	International Cocoa Organization
Tobacco	1.9%	Special Studies 1989 & 90	n.a.	low	
Commodities accounting for 0.5-1.99% of world agricultural exports by value					
Tea	1.7%	IGG	none	medium	International Tea Promotion Association and International Tea Committee
Commodities accounting for less than 0.5% of world agricultural exports by value					
Spices	1.4%		none	very low	
Jute, kenaf & allied fibres	0.7%	IGG	n.a.	high	International Jute Organization (currently not concerned with trade statistics)
Hard fibres	0.2%	IGG	n.a.	medium	
* World Apparel Fibre Consumption Survey, ** There are IGGs for citrus and bananas which account respectively for 19% and 6% of the total trade in fruit and vegetables. FAO also supports a network for Latin America & the Caribbean and has held two meetings on horticultural products since 1986. *** Very high = more than 1000 pages per biennium; High = 300 to 1000 pages per biennium; Medium = 100 to 300 pages per biennium; Low = 30-100 pages per biennium and Very low less than 30 pages per biennium (Figures exclude Codex and are averages over the years 1986-92).					



value) in world agricultural trade with major importance to developing countries. Jute, kenaf and allied fibres and hard fibres have also received considerable attention in terms of both regular annual meetings of the IGGs and documentation.

40. Nearly all the main commodities of importance in agricultural trade are comprehensively covered for purposes of international discussion and documentation by either FAO IGGs or international commodity organizations. The only significant products in agricultural trade for which this is not the case are the rather heterogeneous groups of horticultural crops (horticultural products covered by the IGGs on citrus, bananas and wine and vine products together account for about 25% of the total horticultural trade value). As regards another heterogeneous group, animal feeds, the main ones (cereals and oilmeals) are covered by the respective IGGs, while others especially cassava and pulses, are the subject of analytical work by FAO. However some non-traditional feedstuffs are not covered. Coverage of timber has been partial. The UN-ECE Timber Committee is supported by the ECE/FAO Joint Division and discusses trade issues in Europe and North America, while for tropical timber FAO cooperates with the International Tropical Timber Organization (ITTO). Codex coverage is discussed below, but it may be noted that also for Codex, achieving full coverage of horticultural products is an important priority.

41. Hard fibres, jute and kenaf, are significant for a few of the world's poorest countries. The crops are of critical importance to generally poor farmers in several countries and in some cases there appears to be little alternative land use. Their global significance is, however, comparatively small and has been declining, with limited prospects, barring development of new uses or changes in demand, for example for fibre for pulping. Only in the case of jute in Bangladesh do they make up an important part of an individual country's exports. They are also steadily declining in significance as a proportion of the exports of the major producing countries and in absolute value. Although the IGGs for these crops have unique functions, consideration could thus be given to some shift in FAO resources towards commodities which have greater importance for the world at large. Increased attention has been given to horticultural crops, which together with essential oils and spices, have considerable scope for expansion in trade, particularly by the developing countries with comparative advantages with respect to costs of production and climate.

## **B. Publications and Information on Commodity Trade**

42. FAO is the only source of basic comprehensive world agricultural trade statistics and of much commodity information. Most of this information is presented in a number of major publications intended for a wide audience. The ongoing development of WAICENT will make the information more freely available and easily utilisable. In addition, the discussions and conclusions of the Conference, Council and various committees are largely based on supporting documentation provided by the secretariat. Continuous methodological and information improvements have been made, and the depth of analysis and completeness of FAO information on trade is internationally respected. There are many examples of national specialist journals making use of FAO information. The FAO information is also made heavy use of by academic researchers and analysts, by international organizations, such as GATT and the World Bank, and by the private sector.

43. Excluding the Codex and other food quality standards documentation (which is for the greater part drafts of texts for standards), FAO produces an average of 14,000 pages<sup>1</sup> (in English) of documentation per biennium, providing statistics and analysis on various aspects of trade. The greatest proportion of the information generated is current market information, with two thirds of the total accounted for by information produced for fish. For the crops, the largest amount of information relates to statistics and reviews of the situation and outlook and this accounts for the greatest work input. Documentation also covers medium- and long-term projections and policy reviews, including the policies of importers and exporters. Although the volume of this type of documentation is much less, it involves a considerable work input. For crops, the second largest category of information is current market information, which is largely generated as a useful by-product of the work on situation and outlook.

#### (1) Major Publications

44. **The Commodity Review and Outlook** appears as a priced publication once each year. The Review is about 100 pages long and consists of a general overview (about 20 pages), including a summary of discussions in international fora and progress on trade agreements. A synoptic presentation is made of the findings and recommendations of FAO Intergovernmental Commodity Groups (IGGs). The main part of the review presents a summary of recent developments commodity by commodity in an easily readable style with tables and graphs. All major agricultural commodities are covered by the Review, including fisheries and timber products.

45. **Trade Statistics:** The FAO Trade Year Book is a publication with nearly 200 tables, covering for all the main crop and livestock commodities, imports and exports by country and by value. Information is also provided on fertilizers, pesticides and tractors. Similar information for fish and fish products and for wood and wood products, and in more detail for fertilizers, is provided in the respective Year Books for those commodities. Export matrices (directions of trade) are published regularly for cereals, including rice, and these were also issued for wood and wood products in 1987 and in 1991. The first comprehensive basic trade data, including prices, was published for hides and skins.

46. **The Food Outlook** is issued 10 or 11 times per year. The purpose of the Food Outlook is two-fold, firstly to inform the world of the state of harvests and food availability in countries, including countries at risk from food insecurity, and secondly to provide an overview of the world food demand and supply situation and main trends in trade. The situation for cereals, including rice, is covered in each issue (over 30 pages), containing information also on trade, including tables. Other commodities are also covered, but on a less

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<sup>1</sup> The percentage breakdown of different types of documentation by volume is approximately as follows: Current market information 49%; Statistics and overview of trends in trade, prices etc. 37%; policies of importers and exporters 3%; Medium and long term projections 1%; ECDC 1%; Other 9%.



frequent basis.<sup>1</sup> The Food Outlook receives very wide circulation to official and private organizations and to the press. It is made available in summary form on the United Nations International Emergency Network (UNIENET), an electronic information network which is intended for use by the international disaster relief community.

47. **Other major regular publications** dealing with trade include the Cereal Policies Review (about 50 pages) which appeared as a new annual publication in 1991. Around half the document was devoted to an overall review of policies with regard to production, marketing and stocks and consumption and trade. The remainder dealt with significant policy and economic changes in major producing and consuming areas. The first two issues have addressed changes in Eastern Europe, recent farm legislation in the USA and implications of the single European Market and the rice policy of China. The World Apparel Fibre Consumption Survey is completed once every two or three years. The last survey published in 1989 covered the period 1984-86 for all countries and 1987 for the developed countries. The Survey provided detailed information on the volume of the consumption, production, imports and exports for major fibres. The balance of imports and exports was shown in fibre equivalent and the availability of fibres for domestic consumption per caput.

## (2) Trade Overview and Analysis

48. The greatest single contribution by the FAO secretariat towards the development of agricultural trade is in the analysis of the overall market situation and market prospects. For the commodities handled through IGGs including fisheries, and for timber and timber products, the Organization provides the most complete international source of information. National agencies also provide a reasonably comprehensive picture for some commodities, but from a national standpoint. Among the more valuable features of the FAO information, in addition to its comprehensiveness, is the treatment of markets as a whole (for example, the inclusion of major manufactures for industrial fibres and the use of oil equivalents for the oilseeds market). Summary information presented to the IGGs integrates prices (at point of export, import and in some cases to the consumer), volumes traded and in stock, with where relevant, information on production by major importers and exporters. Projections and forecasts are also presented.

49. Overall projections are prepared every 5-7 years. The most recent were published in 1986, covering production, demand and trade to 1990. A study to the year 2000 will be completed in 1993. The projections incorporated major methodological improvements. For the main food crops (cereals/feed, oilseeds and livestock products), they were not based on individual commodity projections, but on a world food model. This treats supply, demand and trade as an integrated whole and allows for the flexible examination of scenarios and commodity-country linkages. In addition, the publication included roots and tubers and pulses, which are of especial interest to developing countries. Although these commodities did not form a part of the world food model, they were treated using the same overall macro-

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<sup>1</sup> Thus, fish and fish products have been covered once per year; meat once or twice per year; edible fats, oils and oilmeals; pulses; cassava; and milk and dairy products in general twice per year; and sugar three or four times per year. Fertilizer was covered three times in 1991, but not in 1992. In addition there are occasional more in depth notes on the cereals and in 1992 there was a note on the trend in world maize supply.

economic and demographic assumptions as were tropical beverages, the major fruits in world trade and agricultural raw materials. The major exclusions were tobacco and sugar (for which separate reports have been prepared) and the vegetable crops. The projections for individual commodities were reviewed by the concerned IGGs and the overall trade and food security implications, respectively by the CCP and the Committee on World Food Security.

50. Special studies have been prepared for discussion in the CCP and for more general release. Most of these studies have dealt with specific commodities not handled by the IGGs (tobacco, sweet potatoes, tropical horticultural crops, nuts). In addition, papers on a particular topic, originally prepared for other bodies, particularly the CCP and IGGs but with a wider policy interest, were sometimes grouped together for publication. During the period under review two documents of this type were released in the series of FAO Economic and Social Development Papers, covering respectively protectionism and trade and the markets for natural industrial fibres.<sup>1</sup> Papers on IGG commodities have been prepared, not specifically for the IGGs for example on citrus juices and demand for food-grains in Asia. The ECE/FAO joint division regularly produces trade statistics and market reviews for timber and forest products in Europe and North America.

### (3) Current Market Information

51. FAO's work in immediate market news or intelligence has largely supplemented commodity exchange prices and the existing work of ITC and commercial newsletters. Beginning in 1978, the ITC has operated a Market News Service (MNS) largely financed by donors, but many agricultural commodities are not covered and the services are variable.<sup>2</sup> Independent current market information services have been developed for fisheries and in Asia for fertilizers and other agro-chemicals (see box).

52. Market information on other commodities is given less priority, and with the exception of the monthly fax service on rice, is generally produced at 3-6 month intervals. In addition to rice, current information covers bananas, jute, kenaf and allied fibres, sisal and

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<sup>1</sup> Agricultural Policies Protectionism and Trade: Selected Working Papers, 1985-1987, Social And Economic Development Paper 75 (1988); Impact of Changing Technological and Economic Factors on Markets for Natural Industrial Fibres, Social And Economic Development Paper 77 (1989).

<sup>2</sup> The MNS covers the major markets for fresh fruit, vegetables and bulk packed fruit juices, cut flowers and tropical ornamental plants, common spices, herbs and essential oils, hides and skins, tropical timber and rice. The information is collected by MNS product specialists from about 250 traders and some government market reporting offices. It is in general disseminated once a week by fax, telex and airmail to approximately 400 recipients in over 90 developing countries.



henequen, tea and timber.<sup>1</sup> The monthly Food Outlook contains information on cereals, including rice, and sometimes on other food commodities. It serves *inter-alia* as a source of general information on market trends for developing country importers and occasional exporters.

#### *Fisheries and Fertilizer Market Information*

Four regional fisheries marketing services have been set up. They cover Africa (INFOPECHE), Asia and the Pacific (INFOFISH), Latin America and the Caribbean (INFOPECSA) and the Arab Countries (INFOSAMAK), backed up by an FAO central data base and service known as GLOBEFISH. The regional services are intended to become independent organizations. Although INFOPECSA was the first of the regional services to be set up in 1977, the best developed is INFOFISH which became independent in 1985. It has also been intended to establish regional fertilizer and other agro-chemical marketing networks. Only one such network has currently been set-up, FADINAP (The Fertilizer Advisory, Development and Information Network for Asia and the Pacific). This is a joint ESCAP/UNIDO/FAO activity, supported by a number of donors and located at ESCAP Headquarters in Thailand. FADINAP produces the Fertilizer Trade Information Monthly Bulletin and also has a fax service.

The FAO GLOBEFISH database is maintained on a commercial mainframe computer and includes landings, production, export/import, consumption, price information, catch quotas as well as trade regulations, investments and development assistance. Databank information is updated every month with information collected by the four regional services and a network of correspondents, industry associations and government institutions covering markets in the developed countries. On-line access to the database is available via satellite both to the regional services and to government fishery and trade offices which contribute financially. From the databank information, FAO publishes a monthly fish price report covering the European countries; and the quarterly GLOBEFISH Highlights which summarizes recent market events and provides medium-term forecasts. These are distributed by the regional services. Each regional marketing service publishes a fortnightly trade news bulletin, giving information on their market. These provide information on wholesale, export and import prices of all types of fishery products. Together with FAO the four information services also co-publish a quarterly magazine, INFOFISH International with a circulation of over 8000. The direct costs of the magazine and the proceeds of its sale go to INFOFISH (the Asia & Pacific Service). In addition to strictly market information, this general interest magazine for the fish trade, covers production and processing. INFOFISH Trade News bulletin for Asia and the Pacific had a circulation of 505 paying subscribers in December 1992 of which 26% were from member countries, 28% from other developing countries, and 46% from industrialized countries. The total circulation including official and complementary distribution was about 960.

<sup>1</sup> A recent monthly fax service has been initiated for Rice. An enquiry fax is sent every month to some 20 brokers and exporters to obtain information and in return they receive the information fax providing consolidated data. Quarterly statistics are produced for jute, kenaf and allied fibres. Data is received by fax or telex from the main producing countries. Beginning in 1989 a two page inter-sessional note has been released on sisal and henequen, giving current prices compared with those at the beginning of the season and those one year ago. The note, as with other information on sisal, gives information on the main manufactured product harvest twine and its competitor polypropylene. A semi-annual bulletin is also issued on the current tea situation. For bananas a note is now being released two to three times per year, depending on whether or not there is a session of the IGG. Recent historical data on quantities and prices is provided as well as any major policy developments. Since 1977 for tropical timber and wood products a bulletin was issued 10 times per year. In 1988 the frequency was changed to six-monthly and the bulletin is now published in cooperation with the International Tropical Timber Organization. It provides monthly data on volumes and values in international trade.



53. With the major exception of the fisheries information services, FAO has not been able to mobilise resources to expand the provision of very current market information. The expenditure necessary to provide a comprehensive market information service is evident from the example of the INFOFISH regional service, which has a budget of about US\$ 200,000 per annum. Fisheries information on markets, quality standards, etc., may be used as much or more, than the information on prices. Price information can never be current enough to make individual sales decisions, but it may assist buyers and sellers in seeing if they are obtaining reasonable prices for their products. The use of official as well as market sources, has meant that FAO information is less impressionistic than that contained in typical trade journals, but may also be less timely. It could, however, be used to strengthen ITC-MNS newsletters.

54. The fisheries information services were established drawing on donor funds. All the services now receive some contribution from their members and INFOFISH serving Asia and the Pacific has become an independent inter-governmental organization. The long-term viability of the other three fisheries information services which continue to be supported by FAO needs now to be established. In these regions, the relatively small fisheries resource base in the countries they serve and the necessity to work in several languages pose particular difficulties. More modest services linked to existing regional organizations and a strong centre in FAO with greater access to commercial resources may be an eventual outcome.

#### (4) Document Distribution

55. All types of FAO trade information were extensively reported in the press. A recent survey which was not exhaustive for the world as a whole, found for a period of approximately one year, 616 press clippings on FAO commodities and trade information (excluding food security). This made up nearly 8% of the total press clippings on FAO information and activities. A large amount of this material had its source in the Food Outlook. FAO information is also reproduced in trade journals and systematic expansion of this coverage could be pursued. In addition to WAICENT for basic data, consideration could be given to increasing the availability of FAO historical and outlook information through commercial computer networks and the provision of a computer diskette service. This could increase its usefulness to government, commercial and academic users. It would also generate limited revenue which could be used to improve information services, particularly for the poorer developing countries. Similarly, FAOR offices could be further developed as a reference point for commodity information in those countries and some expansion of the already substantial role of the Food Outlook could be considered.

56. Documents for IGGs are distributed through the regular FAO official distribution lists for the members and observers in the Group and other countries which have asked to receive information. In addition, the secretaries of the IGGs maintain unofficial lists designed to ensure that important organizations which might be missed by the official distribution receive copies. The proportion of documentation mailed through the official lists makes up about 85% of the whole. For Codex committees, distribution is more limited with the working papers for meetings being distributed only to the Codex contact points and recent individual participants in the work of the committees. Fisheries market information passes through the regional services. This gives rise to a broader question for FAO - whether the official lists, drawn up primarily for Conference and Council documentation, are equally appropriate for



very detailed technical outputs and whether this procedure permits the most effective utilization of FAO documents. It is also clear that whether the documentation reaches all concerned parties, depends very much on the efficiency of Governments' own distribution systems.

## C. Non-Tariff Technical Barriers to Trade

### (1) Codex

57. The direct outputs of Codex are standards, codes of practice, maximum residue limits, and guidelines. These provide a basis for national regulations. Up until 1976, methods of analysis were also produced, but this is now done through reference to methods verified by other bodies, for example the International Organization for Standardization (ISO). All forms of Codex output follow a similar approval procedure within Codex, but only standards and maximum residue levels are officially transmitted to Governments for acceptance.

58. Standards refer for the most part to the state in which food is traded and are produced following a common format.<sup>1</sup> Nearly all standards refer to individual commodities or groups of commodities, but there are exceptions such as standards for labelling and for irradiated foods. Codes of Practice deal with the processing and handling of particular commodities. There are general codes of practice for such aspects as food hygiene and quick frozen foods as well as a Code of Ethics for International Trade in Food. Maximum Residue Limits have been produced for pesticides and limits for veterinary drugs are under preparation. Maximum levels for other contaminants and additives are included in the individual commodity standards, and there is a separate listing extracted from the standards. Guidelines usually deal with levels of additives and contaminants, microbiological contamination, etc. Ten of the 15 Guidelines currently in existence were approved at the last session of the Commission.

59. The procedures for development of Standards, Codes of Practice and Guidelines are identical. When the Commission decides that a standard should be developed, the work is assigned to a specialist committee. The secretariat bears the responsibility for the preparation of a draft, but in practice this work is almost invariably undertaken by the host country for the committee on a voluntary basis. The draft is then sent to members of the Commission and to interested international organizations for comment. Once the specialist committee approves the draft, the proposal is then submitted to the Commission for adoption as a draft standard. A standard may be approved at this stage with a two-thirds majority, otherwise it is circulated once more for comments and consideration by the specialist committee. The final adoption by the Commission comes at the end of this process, by simple majority vote. Once a standard is adopted by the Commission, it is transmitted to Codex member countries for acceptance. Codes of Practice and Guidelines are provided to the membership for guidance, but their acceptance is not sought. Proposed amendments to existing standards are considered in a similar way, except that if the committee has been adjourned *sine die*, amendments are discussed with the host country for the committee and then circulated to

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<sup>1</sup> The standards follow the common headings: Scope (what the standard applies to), Description (of the product), Essential Composition and Quality Factors, Contaminants, Hygiene, Packaging (for transport, storage and retail), Labelling and Methods of Analysis and Sampling.

members. The representatives at the Codex meetings and the Codex Commission itself have no authority to bind countries in any way. Despite the thorough elaboration procedure, the Codex standard thus comes to countries as a recommendation.

60. The Codex procedure for development of standards and guidelines capitalises very considerably on national resources, and its efficiency has been increased by recent decisions of the Commission to streamline the approval procedures for standards. If standards are to be updated and coverage extended adequately on cross commodity problems to serve as an overall bench-mark for work on trade, further streamlining of procedures will be needed, relying more on correspondence. If the lead (host) country for a commodity committee is prepared to undertake revision through correspondence, this should be encouraged, but if this is likely to be very slow or result in a product of inadequate quality, a consultant could be used.

61. **Coverage.** There are now 181 Codex standards (*stricto sensu*), plus 35 standards on milk and milk products. Most standards relate to individual commodities (see Table 9). A very few standards (7) are only regional, although these standards are currently being converted for application on a worldwide basis. Individual Codex standards are generally 3-10 pages long, with the norm being 4-5. All Codex standards were brought together in an abridged, loose-leaf single volume issued in 1990. In this version, each standard is 1-2 pages in length, and they have been cross-referenced to reduce duplication. In addition to reproducing the commodity and residue level standards, the maximum levels for contaminants have been brought together from the various standards in one section.

62. With the increased coverage of commodities, Codex has been concentrating more on general standards. Most of the commodity committees have been adjourned. The Commission has decided that more emphasis should go into the production of codes of practice, which would reflect current emphases on good food handling, but this decision has not yet been reflected in output. Codes of practice tend to have been produced for fresh and frozen meat (for which there are no standards) and for fish where the emphasis is on methods of handling. Few other processed products as yet have codes of practice, however.

63. It was envisaged that Codex standards would be formally accepted by countries and then incorporated in their national food control regulations. This has happened directly only to a very limited extent, and by the period under review the emphasis had switched to acceptance for free entry into the country (i.e. goods which meet Codex standards would enter freely, but national regulations for domestic production could be different). To date, however, free entry has not gained wide formal acceptance, although several developing countries state that they apply it in practice. While formal acceptance levels are poor in all geographical regions, they have been highest in Africa where countries have been less able to independently develop their own central systems. Many other countries and the EC have officially stated that the Codex standards are a major source of reference in formulating national standards. The formal acceptances of Maximum Residue Levels for Pesticides (MRLs) are less encouraging than for commodity standards in numeric terms. However, a



Table 9: Coverage of Codex Standards

Commodity Standards	
Cereals and processed high starch products	Covered with the significant exceptions of whole wheat and rice and more minor exclusions of malting barley, oat meal processed pasta, tapioca, semolina & couscous.
Pulses	Covered at the general level for most types of beans, peas, lentils, chick peas and cow peas. The most significant omission is soya, but there is a standard for Soy Protein Products.
Fats and oils	Covered by standards and there is a general standard for those not included in individual commodity standards (of which there are 22).
Groundnuts	Covered by a code of practice, and standards are now being developed.
Meat	Comprehensively covered by codes of practice. Standards for processed meat are rather restrictive and do not cover the many traditional dried, salted, smoked and pickled meats, sausages, etc;
Fish & fishery products	Comprehensively covered, but do not yet include cephalopods, molluscs and some commonly traded fresh water fish such as trout
Milk & milk products	comprehensively covered by general or specific standards
Fruits & vegetables	Covered in many cases for canned, frozen or dried products. The absence of general standards means that if a product is not specifically included, it is excluded. Thus, tree nuts are covered by a code of hygienic practice, but not a standard, and a product like canned lychees falls outside any standard. fruit juices are covered by standards and there are general standards for juices and nectars. With the establishment of a committee on tropical fresh fruits and vegetables, the first standards were due for consideration by the Codex Alimentarius Commission in July 1993. Temperate fruits, which do feature significantly in exports from the Near East to Europe and from Latin America to North America, are not covered. The biggest single problem with fresh fruits is pesticide residues and this is covered by the provision of maximum residue levels. In addition, the UNECE Working Party on Standardization of Perishable Produce and Quality Development drafts European standards for fresh fruit and vegetables. (It is estimated that overall some 40% of world trade in fruits and vegetables by value is not covered by Codex standards, but in the case of developing country exports this figure rises to over 60%);
Sugars & honeys	Covered with the exception of raw cane and beet sugar and molasses. Development of a standard for cane sugar is now under discussion (currently over 80% of developing country sugar exports are not covered by standards)
Cocoa products and chocolate	Covered
Beverages and drinks	Fruit juices are covered by Codex standards and there is a European standard for mineral waters. Wine standards are set by the International Wine & Vine Office. Other alcoholic and non alcoholic beverages and the essences for their local manufacture are not covered.
Tea	Not covered but, there are no significant problems and there are well established standards for the tea trade, including some ISO standards
Coffee	Not covered but covered by trade standards. There are however problems of microbiological contamination and pesticide residues. ISO standards are being circulated through the Codex Secretariat to Codex members for comment.
Herbs and spices	Not covered but there are trade and ISO standards.
Foods for special dietary and medical uses	Now being covered by an increasing number of standards. This group includes infant formula, canned baby foods, etc.
Cross Commodity & General Standards	
Pesticides & veterinary residues	Standards for pesticide residue limits are extensive, but tend to lag behind widespread use of the pesticide. Standards for veterinary residues are starting to be released.
Additives & contaminants other than pesticides	Not at present covered by separate standards, but guideline maximum levels are agreed for inclusion in the commodity standards & a general standard is being developed.
Food hygiene	A range of guidelines are under development.
Labelling	A comprehensive set of guidelines is available

few major countries have accepted MRLs as a basis for free entry of produce<sup>1</sup> and there are indications that the United States and the EC will accept MRLs which are below national levels and that they will consider adjusting national levels if the Codex limit is only slightly higher than their own.

64. The reasons as to why countries may fail to formally accept Codex standards are complex. These include national legal systems which preclude formal acceptance. Developed countries do not always have uniform national regulations, and food control may be under local level authorities and several national agencies. The Codex standards are agreed only after many countries have already developed their own regulations. Furthermore, JMPR recommendations for residue limits tend to be at higher levels than those set by many Western countries. Developing countries may not have adequate institutional structures to examine the standards and implement them. This does not detract from the desirability of countries moving in the overall direction of meeting the standards, and, in the interests of national consumers, imports, larger national processors and middle-income countries should meet Codex standards.

65. The length and complexity of the Codex standards and the extent of their sub-division by products have all tended to work against their wide formal acceptance. Some standards and many of the codes of practice also refer to specific technologies, rather than the end result to be achieved, for example in cleanliness. This can lead to standards becoming rapidly out of date as new technologies are developed. It also means that developing countries accepting the standard might have to apply a costly technology to achieve an end which could be achieved by other means, including more labour intensive methods. Several countries have moved away from the concept of individual commodity standards to that of horizontal standards covering contaminants, etc. However, the biggest single reason for failure to formally accept Codex standards, as distinct from making use of them in national regulation, appears to have been the lack of any clear economic advantage to a country in doing so. In the absence of a global consensus on the removal of technical barriers to trade, the country has little reason to anticipate that acceptance will be reciprocated by other countries. Codex standards have been accepted in the draft agreements for the Uruguay Round of Multilateral Trade Talks and for the North American Free Trade Area as a point of reference in harmonising non-tariff barriers to trade in food stuffs. The implementation of these agreements would thus provide the incentive which has been lacking for countries to apply the standards.

66. Rationalisation of the Codex standards is now underway and the production of an abridged Codex Alimentarius was a major step forward in this, although the abridged version has no formal status. If Codex standards are to serve as effective reference point in world trade, they will need to be updated and simplified. Standards are now in some cases more than 20 years old. Wherever possible, more general standards are required with reference to specific differences for individual commodities rather than one standard for each individual closely related commodity. Products of growing importance for developing country exports, especially fruits and vegetables would need to be covered through general standards.

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<sup>1</sup> Egypt has accepted nearly all MRLs for the purpose of free entry of produce, as has New Zealand. India and Mozambique have accepted most MRLs as a basis for national limits and Bulgaria has also accepted 45% for MRLs.



especially fruits and vegetables would need to be covered through general standards. Increased stress can be given to the present policy of giving priority to the products of greatest importance for world trade and those which are suffering the greatest number of retentions (i.e. non-acceptance on quality grounds by importing countries). In this context, up-to-date and comprehensive maximum residue limits are important.

## (2) Plant Quarantine

67. National plant quarantine regulations form a trade barrier and no internationally accepted plant quarantine standards currently exist. FAO established the Secretariat for the International Plant Protection Convention in 1992. Prior to this FAO has taken initial steps to develop information exchange on phytosanitary regulations and establish internationally recognized standards and guidelines which could be used as a point of reference in trade disputes. A coordinated framework for action with regional plant protection organizations existed, whereby the North American Plant Protection Organization prepared an initial text on pest risk assessment and the European and Mediterranean Plant Protection Organization and the Comité Régional de Sanidad Vegetal para el Cono Sur have been addressing harmonization of specific plant quarantine procedures. FAO has undertaken overall coordination and the harmonization of plant quarantine principles. Following a series of expert meetings, a draft text of principles was agreed and a procedure for international approval of standards and guidelines was developed for submission to the 1993 session of the FAO Conference.

## (3) Trade in Pesticides

68. Chapter One of the Programme Evaluation Report covers Sub-Programme 2.1.2.4, providing a discussion of the International Code of Conduct on the Distribution and Use of Pesticides and the Prior Informed Consent (PIC) clause. FAO and UNEP operate a joint programme to implement the PIC. There has been an extensive programme to inform developing member countries of the importance of the PIC clause and to encourage them to develop national pesticide registration schemes for safety of imports. FAO and UNEP now organise regular expert meetings to guide and monitor implementation. By the end of 1992, 155 countries were participating in the procedure for import and export of pesticides. Fifty-two importing countries had indicated their decisions regarding import of six pesticides banned for use in the countries of origin. In particular, the PIC had become binding for EC exports.

# D. Intergovernmental Discussion

## (1) Participation in Meetings

69. Both the CCP and the Codex Alimentarius Commission meetings are attended by representatives of the major agricultural trading nations. During the last three biennia, an average of 63 member countries have attended the sessions of both the CCP and the Codex Alimentarius Commission (in which 22 and 25 were developed countries respectively). As the CCP is concerned primarily with policy and not detailed aspects of trade in individual commodities, the commercial sector had limited representation in national delegations. The

participation from ministries other than agriculture, concerned with trade was also relatively low, with 12 delegates on average. Delegations from both the developed and developing countries had an average of two participants.

70. The picture in the Codex Alimentarius Commission, which is concerned with food standards of direct importance to the commercial conduct of trade, was somewhat different. Forty percent of participation was from the private sector and NGOs. Many of the NGOs were concerned with health and environmental aspects of food. There was also a greater tendency for countries to send specialists to the meetings of the Codex Alimentarius Commission from their capitals and nearly 90% of delegates fell into this category. Due to the strong participation of standards organizations, Ministries of Health, etc., 70% of government delegates were staff not directly employed by the Ministry of Agriculture or the Representations to FAO.

71. FAO's broad membership and the presence in Rome of specialist representatives, has had advantages for participation in IGG meetings. The average attendance at IGG meetings well exceeded the corresponding averages for international agricultural commodity organizations. Meetings of the IGGs on grains and rice were attended by more than twice the number of countries generally participating in meetings of the International Wheat Council. Similarly, more countries have attended meetings of the IGG on jute, kenaf and allied fibres, than the International Jute Organization. The largest numbers of countries (around 60 on average) participated in the work of the Groups on grains, rice, oilseeds and meat. Levels of participation in these Groups were thus similar to that in the CCP itself. The groups on tea, bananas, jute, citrus and wine and vine products all had an average attendance of 32 or less.

72. Attendance at IGG meetings by developed countries was stronger than by developing countries. Among the developed countries, the lowest average attendances were for citrus, hard fibres and tea with 12, bananas and wine with 13 and jute, kenaf and allied fibres with 14 countries represented. While the average size of delegation was two persons for both developed and developing countries, some 64% of delegations from developed countries included participants from the home country (i.e. specialists); for the developing countries, this figure was 30%. In all cases, the international governmental and non-governmental organizations directly concerned have usually been present.

73. For Codex, the general committees tended to have a higher attendance than the commodity committees with an average attendance by over 30 countries, with the exception of the Committee on Methods of Analysis and Sampling which had an average attendance of 26. The highest attendance was that for the Committee on Pesticide Residues, with an average participation of 44 countries. Attendance at commodity committees averaged between 20 and 30 countries, except for the Committee on Fish and Fisheries Products with a high of 31 and the Committee on Tropical Fresh Fruits and Vegetables with a low of 16. Developed countries formed the majority of participants in all committees, except the one hosted by a developing country, Mexico.

74. As might be expected, the attendance of countries of the developing regions at the Codex regional coordinating committees is better than at the Commission and the other



committees. The average attendance of FAO/WHO member nations between 1987 and 1991 rose markedly to 40% or over for all regions, except for Africa where it has been about 30%.

75. The total attendance gives a picture of the importance which the FAO membership attaches to the work of individual IGGs and Codex Committees. Also significant is the attendance by the key countries concerned with a commodity. Almost universally the main exporters and producers were well represented at IGG meetings and in most cases the major importers. For example, for the Group on hard fibres, the countries responsible for over 90% of exports were generally present; for jute, the figure was 100%, for oils and oilseeds, about 90%. The last meeting of the IGG on wine and vine products was attended by countries responsible for over 90% of exports. Given that some of the exporters are among the poorest countries, it is noteworthy that many of them have been represented with persons from capitals. Attendance by importers was also encouraging with major industrial countries normally present. Total numbers of countries participating in the meetings of Codex Committees tended to be lower, but here also the main importers and exporters were normally represented.

## (2) Discussion of Trade Issues

76. The discussion of trade matters has focused on the overall situation and outlook, resulting in a greater awareness of the constraints, opportunities and policy considerations affecting the international markets. In addition, the presence of FAO fora allows members to express their concerns for agricultural trade in a way which may not be possible elsewhere. The flexible environment of FAO bodies has been conducive to early identification of issues and comment on domestic policy proposals of individual countries and economic groupings before these become formalised. By contrast, in GATT discussion is limited to policies already in place, and in the Multilateral Trade Negotiations, participants present formal negotiating positions. The developing countries are also better represented in FAO fora than in most commodity organizations and can thus make their concerns more adequately known.

77. **Discussion in the Conference and Council:** The Conference and the November Session of the Council in non-Conference years examine the State of Food and Agriculture (SOFA). The SOFA document for both bodies presents a factual overview of world agriculture, including trade, stocks, prices and terms of trade. Recent documents have included an update on the status of the Uruguay Round and the positions adopted by the various parties. Immediately before the Session, a supplement is presented which includes a trade update. The Conference deals with trade policy issues in the discussion of Guidelines on International Agricultural Adjustment, where three of the 12 Guidelines relate directly to Agricultural Trade. In this document, the policies of countries are to some extent assessed in terms of their conformity with the Guidelines.

78. Several countries in the Conference have queried whether there was some need for revision of the Guidelines and whether they could not be better discussed in combination with SOFA. The emphasis in Guideline 8 on commodity agreements was particularly questioned. The view has also been expressed that the Guidelines should take better account of environmental concerns. There is room to consolidate the more general discussion of

situation and outlook including SOFA, with the discussion of guidelines. Nevertheless, regular systematic review of guidelines and of national policies has proved a useful way of raising and discussing policy issues and should not be absent from IGG or Conference and Council agendas.

79. As early as 1979 the FAO Conference adopted Resolution 2/79 on Commodity Trade, Protectionism and Agricultural Adjustment, and again in 1981, five years before the Ministerial declaration of Punta del Este which opened the Uruguay Round of Multilateral Trade Negotiations, the FAO Conference expressed concern at the increasing prevalence of protectionist policies. The possibility of a system of trade preferences between the developing countries was also raised. Since then, the Conference and Council have, steadily and more strongly, called on all countries to refrain from applying protectionist measures, noting also that trade improvements could generate more income in developing countries than aid flows. Since the opening of the Uruguay Round in 1987, the Conference has emphasised the importance of a successful outcome to the negotiations and the implementation of the roll-back agreement made in the Ministerial Declaration of Punta del Este. It has been stressed that domestic policy measures which impinge on trade should be reformed as well as specific trade barriers and there has been negative comment on protectionism in the industrialised countries.

80. The Conference and the Council have continued to emphasise that more favourable treatment should be given to the agricultural products of the developing countries and that the special interests of the major food importing developing countries should be taken into account. The role of trade in securing food security has been emphasised and it was noted that food security should not necessarily be equated with self sufficiency in food. At the same time, some developing countries have expressed the view that food self-sufficiency can be an important goal. Both the Chairman of the Council and the Director-General were asked on separate occasions to convey members' concerns to the negotiators in the Uruguay Round. The support given by FAO bodies may have contributed to the inclusion in the Uruguay Round draft texts of provisions for food security stocks to be exempt from commitments to reduce holdings of stored crops for export, and also to the acceptance of the need to provide safeguards for the food importing developing countries against increases in world food prices resulting from trade liberalisation.

81. However, partly because the report of the CCP is received by the Council at its session immediately before the Conference, discussion of trade matters by the Council has tended to flow more from the discussion of SOFA than the CCP report. The importance attached to follow-up to the Uruguay Round could provide an opportunity to review the timing and the agenda of the CCP at the Council and Conference, including the possibility of introducing more issue oriented discussion in the CCP (which could also further augment member interest).

82. **Regional Conferences:** Trade is not generally a major item for discussion at regional conferences. However, agricultural developments in the region are reviewed, and attention may thus be given to trade related matters. This was the case, for example, with the last session of the Regional Conference for Latin America and the Caribbean, which gave particular attention to the trade problems of bananas and sugar.



83. **The Committee on World Food Security (CFS):** The Committee on World Food Security is not primarily concerned with trade, which is the function of the CCP. Nevertheless, issues like food stocks, food self-sufficiency and production incentives, naturally have considerable implications for trade and trading conditions influence food imports. The Committee has emphasised that the protectionist policies of many developed countries prevented the export of products by developing countries which would enable them to import food on commercial terms, and also depressed world market prices. In addition, the export subsidy policies of developed country, surplus producers had the effect of depressing producer prices in many developing countries. It was noted that while trade liberalization should lead to a rise in the overall export earnings of many developing countries, there could be negative results for some food importing countries. The CFS has also continued to emphasise the role of triangular transactions<sup>1</sup> in using developing country food surpluses for the economic benefit of the seller and to meet the food needs of the recipient.

84. **The Committee on Commodity Problems (CCP):** A standard item on the agenda at each session has been a review of the world commodity situation and outlook. Developments in protectionism are examined at each session within the context of follow-up action to Conference Resolution 2/79 - Commodity Trade, Protectionism and Agricultural Adjustment. This is based on a secretariat paper reviewing the policies of major importers and exporters and developments with respect to individual commodities. The CCP also covers one or two selected special topics at each session. Discussion in recent years has proceeded against the background of the ongoing Uruguay Round of the GATT Multilateral Trade Negotiations. Conclusions on protectionism have provided a basis for those of the Conference and Council discussed above. The Committee has emphasised the importance of trade liberalization with due regard to the legitimate concerns of the developing countries. In 1989 a discussion on issues in agricultural policy reform gave attention to the merits of tariffs in comparison with other types of trade barrier and the role of direct income support to farmers, as distinct from price support.

### (3) Discussion in the IGGs

85. The groups on rice, oilseeds, bananas, and meat currently operate guidelines against which international trends and the policies of individual importers and exporters can be assessed. Periodic revision of guidelines and resolutions can serve not only to keep them relevant, but also to clarify conceptual issues. The guidelines of all the groups except those on bananas, which were approved in 1989, are now long-standing.<sup>2</sup> Guidelines generally refer to the importance of dialogue and:

- . expanding production and consumption of the product;
- . reducing barriers to trade;

<sup>1</sup> Triangular transactions are where a donor buys a commodity (usually food) from one country (usually developing) to give to a developing country.

<sup>2</sup> Rice guidelines 1971, revised 1979, Meat guidelines 1976, Oilseeds guidelines 1980.

- stability in supplies and prices;
- the particular needs of developing countries;
- taking account of the needs of both producers and consumers with prices which are fair to both;
- policies to avoid surpluses without dumping on the export market;
- the potential role of longer term export/import supply contracts to reduce market and price instability;
- the importance of observing the FAO Principles of Surplus Disposal.

86. The guidelines on meat and on oilseeds place emphasis on: the needs of developing countries, including their greater participation in the international market; avoiding the impact of market instability on incomes and export earnings; protection of their export markets; and the need for external development assistance. Guidelines on rice recognise that national self-sufficiency in rice is often a fundamental aim for developing countries and urge the use of international assistance to build up reserve stocks. Guidelines on rice, oilseeds and meat also address concessional sales, food aid and triangular transactions. The guidelines for oilseeds specifically refer to the context of a New International Economic Order and to ECDC.

87. The IGGs also discuss trade issues in the context of other agenda items. For example, tariff and non-tariff barriers to trade were reviewed for hides and skins and their derived products in 1989 and again in 1992. IGGs sometimes examine policy developments in particular countries or groups of countries. Detailed discussion of countries' policies has usually included their implications for trade. Discussions have served to draw continued attention to the high levels of subsidy and protection in the EC, Japan and USA. With regard to the EC policies on oilseeds, following discussion in the IGG, the CCP has expressed its very strong concern to the EC and this concern was reiterated by the Council. Discussion on the implications of the EC common internal market for bananas has also received considerable recent attention.

88. Informal price arrangements are maintained for sisal, henequen, abaca, jute and kenaf by the IGGs for hard fibres and jute, kenaf and allied fibres. Essentially, the IGGs set a target range taking account of demand and supply conditions and any intervention prices set by countries, such as India in the case of jute. The process of setting the indicative prices consumes relatively few resources and is appreciated by developing countries and by some commercial importers, who find the prices provide a useful working guideline. A few developed countries record reservations both as an issue of principle and on the practicalities of the arrangements, but commercial importers from those countries participate in the discussion on the level of prices.

89. The adjustment of supply to demand is a matter of regular concern to other IGGs for example, the IGG on tea has encouraged producers to not offer very poor quality tea for sale,



thus reducing somewhat the total supply on the world market.<sup>1</sup> The difficulties of going beyond informal arrangements and guidelines are illustrated for bananas. In 1984, following some eight years of discussion in an attempt to define the elements of an international banana agreement, a working party concluded that the gap between producers and consumers was too wide to arrive at a conclusion. At the subsequent meeting of the IGG, the secretariat presented a paper which spelled out various options including a formal or informal supply management agreement. Following considerable discussion in the IGG and with the participation of private sector representatives in an expert group meeting, the IGG was forced to conclude that the basis for agreement was not present and at the 1989 session the IGG accepted broad principles of cooperation known as the Declaration of Guayaquil<sup>2</sup> and agreed on the need to improve market intelligence. The Declaration is voluntary but it gives some thrust towards trade liberalization.

#### (4) Trade and the Environment

90. The environmental implications of trade policies were a topic for consideration by the 1993 session of the CCP. The work on food quality standards and the responsible import and export of pesticides was especially important to the environment. In fisheries, environmental issues have been closely related to trade; for example, the fisheries trade conferences considered fisheries resource management issues. In the SOFA document for the 1991 Session of the FAO Conference, a discussion was introduced of the environmental implications of trade in forest products. The Conference concluded that restrictions on trade were not likely to have the desired impact in reducing deforestation and some delegates noted that forests would only be sustainably managed if they were valued as an economic resource. FAO is now collaborating with the International Tropical Timber Organization (ITTO) in a study of the linkages between trade and sustainable forest development.

91. The sub-group on hides and skins of the IGG on meat has touched on the environmental problems of tannery waste. The IGGs on hard fibres and on jute, kenaf and allied fibres have taken a particular interest in environmental aspects, and since 1990, they have continued to examine the environmental implications of the natural fibres and the synthetic fibres which compete with them. There has been an examination of the use of sisal for matting to control erosion on steep slopes while vegetation is being established. These discussions have served to emphasise that one selling point for natural fibres is their environmental friendliness. They have also drawn attention to the need to adopt the most environmentally friendly methods of production. Resources have now been mobilised from the Rockefeller Foundation and the EC for further work on jute and the environment.

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<sup>1</sup> i.e. Tea which did not meet the ISO 3720 standard.

<sup>2</sup> To recognize the benefit of maintaining equilibrium between supply and demand for bananas; - to aim for prices which are remunerative for producers and reasonable for consumers; to offer importing countries a regular supply of good quality bananas; - to encourage consumption of bananas both in existing and in new markets; - to take into account the special characteristics of bananas and the banana market; - to promote a gradual liberalization of world trade in bananas while recognizing existing commitments to producing territories and preferential suppliers to safeguard their interests on their traditional markets.

(5) Economic and Technical Cooperation Among Developing Countries  
(ECDC/TCDC)

92. ECDC is a priority for follow-up under Resolution 2/79 and the Guidelines on International Agricultural Adjustment, and its importance has subsequently been emphasised by the Conference, the Council and the CFS. The subject was specifically discussed by the CCP in 1987, with a background paper drawing on a major study published in 1987.<sup>1</sup> Many of the problems developing countries face in expanding trade between themselves were found to be generic to their efforts to expand their exports to both developed and developing countries. Among the barriers, more specific to intra-developing country trade, were the lack of shipping connections, trade channels, market information and the relatively high import tariffs imposed by developing countries on agricultural products. In addition there were relatively few agreements for freer trade between developing countries and those arrangements which did exist tended to emphasise manufactures.

93. In its discussion of this topic, the CCP emphasised that there was considerable potential for trade between developing countries, but the problem had to be seen in the overall context of increasing developing country agricultural exports. It was also noted that the subsidy policies of developed countries which could not be matched by developing countries rendered their exports relatively less competitive. Measures to promote trade between developing countries should include progressive removal of tariff and non-tariff barriers and the encouragement of bilateral agreements and long term contracts. Supportive measures were also important in dissemination of trade information.

94. ECDC has occurred where countries cooperated within IGGs to maintain price levels or manage supplies and some of the IGGs discussed markets in developing countries.<sup>2</sup> Similarly, two Codex regional standards have been developed by African countries.<sup>3</sup> The regional fisheries market information services are clear examples of ECDC/TCDC and the members of the various services have contributed to a greater or lesser extent to their funding and to the determination of work programmes. It was noticeable, however, that ECDC was difficult to consider in isolation from overall trade development. Commodity meetings and workshops gave limited attention to the promotion of trade, specifically between developing countries, devoting relatively more attention to the measures necessary at national level for product development, and then for overall trade. All these meetings combined technical and

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<sup>1</sup> Economic cooperation among developing countries in agricultural trade, FAO economic and Social Development Paper 70, FAO, Rome 1987 which provided a detailed picture of existing trade between developing countries, provided case studies on various commodities and an analysis of approaches for the promotion of trade between developing countries in agricultural products.

<sup>2</sup> e.g. the Near East market for tea and the Sub-committee on Fish Trade discussed trade in fisheries products between developing countries. A round-table meeting was convened in 1991 to set up a citrus network for Latin America and the Caribbean. This resulted largely from discussion in the IGG for citrus. Also the sub-group of sisal and henequen producing countries was established specifically to promote ECDC among its members.

<sup>3</sup> Millet & millet flour; Gari.



trade aspects and were carried out in cooperation between several units of FAO and with the involvement of other international agencies.<sup>1</sup>

## E. Technical Assistance

### (1) Development of Projects for the Common Fund for Commodities

95. Most of the IGGs are recognised as International Commodity Bodies by the Common Fund for Commodities<sup>2</sup> and in the last three - four years, *ad hoc* groups and expert consultations have developed project ideas for the Common Fund. FAO is uniquely qualified to develop projects on all aspects of commodities and in most cases the emphasis of proposals has not been on marketing aspects, but on improving productivity and/or the quality of the export product. It is understood that the Common Fund itself places priority in these areas, although there has been a lack of clarity as to the type of projects which are likely to receive funding. In many cases, other agencies than FAO have been involved in drawing up the proposals, in particular the International Trade Centre (tea, hides and skins and hard fibres). FAO has circulated proposals widely for comment by other organizations such as the International Agricultural Research Centres, and within FAO there has been substantial input by crops and livestock technical staff. Work on projects have thus been pursued within overall strategies to address the problems of the commodities in question but this has involved a considerable investment of resources. For example, in the case of hard fibres, an ad-hoc technical consultation was convened on sisal and henequen projects in 1990. The IGG itself discussed the findings of this consultation and also profiles for coir and abaca. The project profiles were then discussed again in 1992, following referral back by the Common Fund.

96. By early 1993, the Second Account of the Common Fund had only received US\$ 59 million of the US\$ 230 million pledged and the demands on the Fund together with the very low receipts have led to requests that co-financing be located for projects and that projects should be small. At the end of 1992, no projects prepared by IGGs had received final approval for Common Fund financing. The limited resources available to the Common Fund for Commodities and the difficulties in obtaining approval of projects, suggest that this should not be a primary area of attention in the IGGs. The IGGs could thus usefully consider giving more emphasis to the development of projects in their own more immediate areas of concern, which would extend the work of the IGG itself rather than constituting new areas of activity. Such logical expansions of activity beyond the priorities of the Common Fund could, for example, include improved short-term market information and analysis of markets for semi-processed products.

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<sup>1</sup> In the case of the meeting on hides and skins, UNIDO, the ITC and the International Council of Tanners (an NGO) were also involved. ITC also attended the horticulture meetings as did commercial interests, including selected shipping lines.

<sup>2</sup> The exceptions to this are the IGGs for grains (which has a very wide ranging mandate), that for jute (where the International Jute Organization is a more appropriate forum) and the IGG for wine and vine products (which is not a priority area for the Common Fund).

## (2) Project Assistance

97. In the 1986-92 period, 156 FAO trade related projects were operational with total expenditures during the period of US\$ 43 million. As can be seen from Table 10, the distribution of projects by value was relatively evenly spread, between Africa, Asia and the Pacific and the Near East and North Africa with concentration on Africa. By number, projects were concentrated in Africa and Asia and the Pacific. This pattern did not vary greatly between types of project, except that the small number of projects dealing with commodity analysis tended to emphasise Asia and the Pacific.

**FAO-TCP Assistance to Overcome Trade Problems from Cholera in the Americas**  
The cholera epidemic in Latin America beginning in 1991 posed dangers for contamination of sea food and to a lesser extent fruits and vegetables. Many importing countries imposed extra controls on imports from the affected region. FAO provided advice and training with FAO-TCP funding. FAO's input contributed to improved safety and certification in the exporting countries. Restrictions by importers were eased in several cases and economic losses were significantly reduced.

98. The largest number of projects directly concerned with trade have been projects to strengthen the food quality control capabilities of developing countries for import and export. In the period 1986-92, 91 projects were operational, with total expenditures of US\$ 22.1 million, including regional projects in Africa and in Asia and the Pacific. Of these, 18 were funded by UNDP with total expenditures of US\$ 9.8 million. The remainder were funded from FAO-TCP, with a DANIDA trust fund input for a global programme on quality control in fishery products. Also important have been projects where a main thrust was to strengthen capacity to regulate pesticide imports. Some 52 projects were involved with total expenditures of US\$ 10 million, including two global projects. For these projects, there was a greater spread of funding sources, but TCP remained important. The nine projects for commodity policy were all financed by FAO-TCP, with the exception of one regional project dealing with trade in plantation timber in Africa supported by UNDP. The mobilization of extra-budgetary resources has thus not moved in line with the emphasis of the Governing Bodies of FAO on the provision of policy advice and the establishment of national institutional capability.

Table 10: Number & Expenditures\* of Projects concerned with Trade 1986-92 (Budget US\$ million)

Region		Commodity & Trade Policy	Food Control including fisheries	Pesticide Registration	Fisheries/ Fertilizer Market Services	Total			
						UNDP	Trust Fund	TCP	Total
Africa	Total expenditure	3.3	4.1	4.0	3.1	6.9	3.9	3.7	14.4
Asia & Pacific	Total expenditure	0.1	5.3	2.3	1.3	4.3	2.4	2.4	9.1
Near East & North Africa	Total expenditure		5.1	1.3	2.8	5.9	0.6	5.3	9.3
Latin America & Caribbean	Total expenditure	0.1	3.5	1.2	0.1		0.3	4.7	5.0
Europe	Total expenditure		0.6					0.6	0.6
Global	Total expenditure		3.4	1.2			4.7		4.7
Total	Number of projects	9	91	52	4	17	16	123	156
	Total expenditure	3.5	22.1	10.0	7.4	17.0	14.1	11.9	43.0

\* Budgets for portions of projects related directly to trade



99. Many FAO projects concerned with economic policy and planning give some attention to trade implications, including food security projects. Trade policy is in general however, a minor component. Projects for commodity and trade policy at country level, for the most part, have consisted of multi-disciplinary consultancy missions. The main concentration was not solely on trade, but rather on sub-sector development. In a number of commodity studies for example, on oilseeds in India, an overall review was taken of the commodity, including institutional arrangements, research and extension and trade implications. The assistance to Trinidad and Tobago took an overall look at the agricultural sector and examined among other aspects the costs of self reliance in food production. The resources have been minimal for technical assistance through projects to develop national institutional capability for trade strategy definition and analysis. FAO does have an unparalleled experience in commodity market analysis, which could receive more emphasis in FAO's assistance to developing countries.

100. The food quality control projects have emphasised building up institutional capacity for food inspection, including laboratory facilities. This is essential if countries are to reap the benefits from Codex and other work on non-tariff barriers to trade, control imports and satisfy import requirements of the developed countries. Some projects have also given attention to policy for food quality control and to the drafting of legislation and regulations.

#### *Improving the Quality of Exports in Thailand*

*Following numerous cases of rejection of Thai food products by importing countries, in 1986 UNDP/FAO commenced three years of training and advice to Thailand for the establishment of a Centre for Export Inspection and Certification of Agricultural Products. An Approved for Export Quality Mark has been introduced, which has become an authoritative reference for Thai food exports.*

101. The fisheries regional information services and FADINAP have been set up with the intention that they should provide technical advice to their members as well as market information. The fisheries services respond to about 500 queries per month, an aspect of their work which tends to be more reliant on external funding. It is intended to have information and access to consultancy advice for fish processing, equipment, quality control, training, investment opportunities, etc. Reference information and data bases have been established for these purposes including: a worldwide register of fish importers and registers of fish exporters in the regions; compendia of import regulations including health and quality regulations; a register of equipment manufacturers; and a register of fish processing and marketing expertise.

### (3) Technical Advisory Services

102. **Support to Uruguay Round Negotiations:** FAO was the only agency admitted as an observer in the Negotiating Group on Agriculture of the Uruguay Round of Multilateral Trade Negotiations and has attended all formal sessions. Extensive background information has been provided to the GATT Secretariat. The Organization has been well informed of developments and in a position to assess points of importance for, and provide requested advice to member countries, especially developing countries. ESC has devoted several months of senior staff time over the years for this type of assistance.

103. The most intensive and continuing technical assistance was provided to the Net Food Importing Developing Countries which have continued to request FAO technical advice in arriving at their positions, especially with respect to compensation for possible losses from higher prices for food imports. Assistance was also provided in the Negotiating Group on Tropical Products, particularly in the early stages, in providing information on trade and protection to the GATT Secretariat and to member countries, especially in Latin America. Only those groups of countries which presented an initial position document were subsequently included in closed discussions and the initial FAO advice assisted in this respect. The net food-importing developing countries have now succeeded in gaining recognition of their problems in the Draft Final Act as prepared by the Chairman at the official level of the Trade Negotiations Committee of the Uruguay Round. In November 1989 the FAO Council confirmed its appreciation of the assistance FAO had provided to members in preparing themselves for the Uruguay Round and a number of countries have also expressed their appreciation in GATT Governing Body meetings.

104. **Trade Promotion Services:** The fishery marketing information services support the development of trade contacts through a series of registers including a world register of importers and regional registers of importers and exporters. Data bases are also maintained on import regulations. Between 1989 and 1992 FAO has conducted 20 studies of major fish markets, which have been distributed through the regional services. The information services respond to an average of more than 500 enquiries every month. As summarised in Table 3, five trade conferences on specific fisheries products with 100 - 200 participants each, have been organized in major centres by FAO in collaboration with the regional services. Papers presented included the industry situation and outlook as well as quality standards, including new developments in health and sanitary regulations in major markets. FADINAP also offers market advisory services for fertilizers. For other commodities, directories were issued of organizations in producing countries involved in production and trade in sisal and henequen and of rice state-trading agencies. Although direct trade promotion does not usually form a major aspect of FAO's work with respect to commodities other than fish, an exhibition of jute export products was organised on the occasion of an IGG meeting with the collaboration of the International Jute Organization. Similarly an exhibition of rice was organized for the 1991 session of the IGG on rice.

105. **Regular Programme technical advice** is offered through missions and through ad-hoc advice given by staff from Headquarters visiting countries for meetings, etc. Papers and analysis are also prepared for other organizations and for meetings organized by those organizations and by networks. FAO staff have frequently participated in meetings organized in developing countries on aspects of trade.

#### (4) Training & Manuals

106. There have been substantial amounts of training in various aspects of food quality and standardisation. Workshops were generally regional or sub-regional and covered such aspects as general import and export quality control and more specialist areas for example mycotoxin and radio-nuclide analysis. The global UNDP/FAO project for training in fish quality and standards has also carried out a considerable quantity of training. In one case of on-the-job training for two officials at FAO, a practical exercise was included where they analyzed a commodity market for themselves. FAO staff have also participated in courses organized on



broader themes such as policy analysis and courses organized by other organizations, such as the International Trade Centre and the International Tropical Timber Organization.

107. For food quality analysis, a comprehensive and clear set of 12 manuals have been prepared. These are supplemented by listings of additives and contaminants and may be used in conjunction with the abridged version of the Codex Alimentarius. An easy to use computerised personal computer data base has been developed for maximum residue limits for pesticides in foods. For fish quality control 7 training kits have been developed, of which two were updates of existing INFOFISH manuals. These cover such aspects as application of the critical control point approach and quality control in canning. In commodity and trade analysis, training has been more modest.

108. Training can be an important area for future emphasis, including training in commodity and trade analysis and the development of manuals and training materials for use by national institutions.

**Table 11: Summary of Training Activities related to Trade 1986-92**

Commodity analysis	Two groups of 2 from China & Somalia provided on-the-job training for 2 weeks
Food quality standards	46 courses training courses & workshops and 2 national courses covering an average of over 20 participants each. By region the distribution of courses was Africa 39%; Asia & Pacific 21%; Near East & North Africa 7% & Latin America & Caribbean 32%
Pesticide registration	Some 40 registrars for pesticides have been trained through the field programme in Latin America and the Caribbean and Asia and the Pacific
Fisheries quality control	With extra-budgetary resources since 1991, 2 inter-regional courses, 2 regional courses & 7 national courses have been organised for approximately 10 days each. The normal participation was just over 20 participants, but courses in Vietnam & Thailand were attended by 70 & 40 participants respectively. In addition in cooperation with INFOFISH in Asia 5 national 1 day seminars were organized for an average of over 100 participants each
Fisheries export marketing	In 1992 four 3 day national workshops were organized for Eastern Europe covering a total of almost 1000 participants
Forestry trade	Regional courses in Africa and Asia & the Pacific on forestry statistics dealt also with trade statistics

## V Summary of Issues & Conclusions

109. Within the context of FAO's broad mandate for the improvement of agriculture, the Constitution of the Organization recognises a role for FAO in the strengthening of trade in agricultural products; a role which continues to be emphasised by the Governing Bodies. The Uruguay Round is the first of the Rounds of Multilateral Trade Negotiations to give comprehensive attention to trade in agricultural products and this has also been a period when international thinking has tended to view managed trade with disfavour. FAO's support to the development of agricultural trade during the period under review must be viewed in this context. FAO is not the forum for the negotiation of international trade agreements *per se*. Thus, the Organization's contribution can only be indirect, drawing on its wide-ranging technical competence in related subjects, as well as in commodities, and in cooperation with other concerned international organizations.

trade, especially trade analysis for the short- and longer-term outlook and basic trade statistics; reducing non-tariff-technical barriers to trade, especially by promoting agreement on internationally acceptable food quality and phytosanitary standards for trade; fostering international dialogue among the member countries on trade policies and practices; and the provision of technical assistance for trade development, particularly in relation to non-tariff-technical barriers to trade for food quality control and pesticides. In addition, attention continues to be given to fostering economic and technical cooperation on trade matters between developing countries (ECDC/TCDC). An emerging area of concern is the interactions between trade in agricultural products and the environment.

111. Nearly all the main agricultural commodities entering international trade are covered by international commodity organizations, or FAO - IGGs. The main exception to this is the horticultural crops (excluding bananas, citrus and grapes) and some non-traditional animal feeds. Hard fibres, jute and kenaf, are significant for a few of the world's poorest countries. However, their global significance is small, with their relative importance declining even for the major producing countries. Consideration could thus be given to reducing the intensity of work in the IGGs for these commodities, complemented by some expansion of cooperative activities, including with the International Jute Organization. This could facilitate increased attention to horticultural crops, which, among others have considerable potential for growing export by developing countries.

112. All types of FAO trade information receive extensive circulation and coverage in the press, and are used by policy makers, in trade and in academic research. Whereas IGGs utilise official FAO mailing lists as well as individual unofficial lists, both Codex and fisheries market information is more precisely targeted. This raises a broader question for FAO, as to whether the official lists, drawn up primarily for Conference and Council documentation, are equally appropriate for very detailed technical material and whether the procedure permits documents' most effective utilization. It is also clear that whether or not the documentation reaches all concerned parties in a country, depends very much on the efficiency of the Governments' own distribution system. Further enhancement in the dissemination of the considerable amount of valuable information could be considered, including for example, through commercial computer networks, the introduction of a computer diskette service and systematic targeting of the trade press. Similarly, FAOR offices could be further developed as reference points for commodity information, and a still greater role for the Food Outlook in information dissemination could be explored.

113. FAO has a particular strength in the medium- and long-term analysis of commodity markets, and its information and experience in this area is made wide use of by international commodity organizations and international agencies as well as member countries. In this area where the Organization enjoys comparative advantage vis-à-vis other organizations, work could be further expanded. FAO's outlook information could also be effectively used to increase the depth of current market information services, including those operated by the International Trade Centre.

114. During the period covered by this review, there has been a growing recognition of the potential importance of FAO's long-standing work on non-tariff barriers to trade. The significance of the International Plant Protection Convention (IPPC) has been highlighted in the context of international agricultural trade and FAO is now working to harmonize plant



quarantine practices. With respect to trade in pesticides, there is growing acceptance of the Prior Informed Consent (PIC) clause of the International Code of Conduct on the Distribution and Use of Pesticides. Under the PIC, countries accept not to permit export of pesticides banned for use in their own territory, without the explicit agreement of the importer. The EC has accepted the PIC, and 51 importing countries have indicated their decisions regarding six pesticides banned in the country of origin.

115. The Joint FAO/WHO Codex Alimentarius Commission has played the lead role in developing standards, which now cover all the main foods entering international trade. Efforts have been continued to streamline and shorten Codex standards and to make them fully appropriate for application by both developed and developing countries. Standards are also being updated and efforts are being reinforced to make coverage fully comprehensive, particularly as regards residues and additives. Codex standards, while being used by countries in setting their own standards, have not yet found wide acceptance as the common basis for establishing individual, national import regulations. Although the outcome of the Uruguay Round remained unclear at the time of completion of this Chapter, Codex standards have been accepted as a point of reference in examining non-tariff barriers to trade in the draft agreements under discussion for the Uruguay Round of Multilateral Trade Talks and for the North American Free Trade Area. Successful conclusions of these discussions would provide the basis for their widespread application. It would also add priority to the development of plant quarantine standards.

116. Much of the work on agricultural trade in FAO has centred on dialogue among the member countries through the existing structure of committees, culminating in the Conference and Council. Attendance at FAO-IGG meetings has tended to be higher than that of the corresponding international commodity organizations, and the main exporters and importers have always been well-represented in both IGG and Codex meetings. The costs to FAO in operating the IGGs have been substantially less than the costs to international commodity organizations of similar activities and these, together with the CCP, have provided member countries with a valuable forum for the discussion of trade both at the detailed level and broad policy issues. The periodic updating of guidelines for trade and their systematic review in the Conference, CCP and IGGs have proved to be a valuable way of raising issues and focusing attention on the implications of individual policy instruments. In this way, the member countries have united their voices in FAO bodies to add impetus for the liberalization of trade and the successful conclusion of the Uruguay Round, at the same time highlighting the legitimate concerns of the developing countries.

117. In 1991 the Conference urged that FAO, following the completion of the Uruguay Round, should prepare an assessment of the implications for the world agricultural economy. Regardless of the results of the Multilateral Trade Talks, the CCP and the IGGs can have a key role to play in follow-up and FAO can continue to provide flexible fora for countries to voice their concerns on trading partners' import and export practices. For the successful implementation of the Uruguay Round agreements for agriculture, there may be areas where further clarification and agreement need to be sought. The ways in which the net food-importing developing countries can be realistically compensated for rising food prices is likely to remain an important area of concern. It may also be useful to clarify protection practices with respect to semi-processed commodities. Environmental issues involved in trade for agricultural commodities have already been identified as an area for attention. Without

any agreement under the Uruguay Round, there would be a need to examine how the gains realised so far in the negotiations, especially on technical non-tariff barriers to trade, could be built on to realise continuing benefits to trade and to maintain pressure for the reduction of protectionism in agriculture.

118. Looking to the future, some important policy questions for FAO's work on trade could include the scope and modalities of relations with other international organizations, the emphasis of commodity coverage, and the extent and relative importance of work in methodology development and technical assistance. Policy directions and alternatives will need to be identified for discussion in the CCP. The CCP's pivotal role vis-à-vis the Council and Conference and in-depth consideration of its report, could be strengthened by the rescheduling of sessions to the non-FAO Conference year. Follow-up could also require rearrangement of the CCP agenda to allow less time to general overall review and greater attention to clearly identified policy issues. The CCP should provide an integrated framework for all FAO discussion of trade issues including forestry, fisheries and agricultural inputs, especially where issues cut across commodity lines, for example with the environment.

119. The Organization has an unparalleled experience in agricultural commodity market and trade policy analysis, for which it provides information and services to the world at large and in which many developing countries have little or no capability. Similarly, FAO's capacity to assist developing countries in the development of national food quality control has no equal elsewhere. FAO's technical assistance to developing countries for the advancement of trade should be expanded, and training and the development of training materials and manuals can play a major role in this, as well as advice on institutional arrangements and regulations for food quality, phytosanitary inspection and pesticide import. However, lessons can be drawn from experience with the Common Fund for Commodities which has not, hitherto, made adequate use of the knowledge of the IGGs. Thus, focusing attention on the very limited resources of the Fund has not so far proved to be an effective way of extending the IGGs' potential.

120. The mobilization of much greater resources in addition to the Regular Programme will be important for expanded work in these areas. Unfortunately Member States' priorities for FAO's increased support to countries in policy advice, including trade policy and the development of institutional capability, have not been well reflected in extra-budgetary support. Although, member countries do make substantial in-kind contributions to the operations of the Codex Alimentarius committees, extra-budgetary support for trade development has stood at an average of US\$ 9.3 million per biennium, a ratio for extra-budgetary to Regular Programme resources of 0.3:1, as compared with ratios of the order of 5:1 for the main technical programmes.



## ABBREVIATIONS

ACC	Administrative Committee on Coordination
AGROSTAT	FAO Information System for Agricultural Statistics
AGROTEL	Agrostat on Telecommunications
ASEAN	Association for South-East Asian Nations
BOBP	Bay of Bengal Programme
CCP	Committee on Commodity Problems
CEGA	Conference of Governmental Statisticians of the Americas
CES	Conference of European Statisticians
CFS	FAO Committee on World Food Security
COAG	FAO Committee on Agriculture
COFI	Committee on Fisheries
COFO	Committee on Forestry
DANIDA	Danish International Development Agency
DLCC	Desert Locust Control Committee
EC	European Communities
ECDC	Economic Cooperation among Developing Countries
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean
ECLO	Emergency Centre for Locust Operations
EEC	European Economic Community
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
EUROSTAT	Statistical Office of the European Communities
FADINAP	Fertilizer Advisory, Development and Information Network for Asia and the Pacific
FAOINFO	FAO Information Database
FAOSTAT	Corporate Database for Substantive Statistical Data
FASC	Food and Agricultural Statistics Centre, China
FIAC	Fertilizer Industry Advisory Committee
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GIFAP	International Group of National Associations of Agrochemical Manufacturers
IASI	Inter-American Statistical Institute
ICN	International Conference on Nutrition
IDAF	Integrated Development of Artisanal Fisheries for West Africa
IFAD	International Fund for Agricultural Development

IGG	Intergovernmental Commodity Group
IIA	International Institute of Agriculture
ILO	International Labour Organization
IMF	International Monetary Fund
IPC	Integrated Pest Control
IPM	Integrated Pest Management
IPPC	International Plant Protection Convention
ISO	International Organization for Standardization
ITC	International Trade Centre UNCTAD/GATT
ITTO	International Tropical Timber Organization
JECFA	Joint FAO/WHO Expert Committee on Food Additives
JMPR	Joint FAO/WHO Meeting on Pesticide Residues
MNS	Market News Service
MRL	Maximum Residue Levels
NGO	Non-Governmental Organization
NSS	National Statistical System
OAU	Organization of African Unity
OECD	Organisation for Economic Co-operation and Development
PASCON	Pan Africa Striga Control Network
PC	Personal Computers
PIC	Prior Informed Consent
RP	Regular Programme
SADCC	Southern African Development Coordination Conference
SOFA	State of Food and Agriculture
SSF	Small-Scale Fisheries
TCDC	Technical Cooperation among Developing Countries
TCP	FAO Technical Cooperation Programme
TF	Trust Fund
UNCDF	United Nations Capital Development Fund
UNCED	United Nations Conference on Environment and Development
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFPA	United Nations Population Fund
UNIDO	United Nations Industrial Development Organization
UNSD	United Nations Statistical Division
USAID	United States Agency for International Development
USDA	United States Department of Agriculture



WAICENT	World Agricultural Information Centre
WCA	World Census of Agriculture
WCARRD	World Conference on Agrarian Reform and Rural Development
WFP	World Food Programme
WHO	World Health Organization
WRI	World Resources Institute