Asia-Pacific region has the distinction of achieving the fastest rise in real incomes for the largest number of people over the last three decades. Today, the region is able to feed almost half of the world's human population. Successful "Green Revolution" was also witnessed in this region and the stigma of 'basket case' no longer holds. This could all be possible due to great resilience and creativity of the farmers supported most ably and effectively by the cutting edge of science. Thanks to the excellent support extended by the various Governments for both agricultural research and development programmes addressing their specific needs, coupled largely by the appropriate support extended by the international organizations and centres. Yet, the fact remains that more than 180 million impoverished people live in the Asia-Pacific region and the population is expected to reach 4.1 billion by the year 2010 needing additional 260 million tons of rice and wheat over present level of 580 million tons. Thus, the challenges for the future are enormous and would require much more concerted efforts now than before.

In order to meet the future demands successfully, it is imperative that besides strengthening of national R & D capabilities, regional linkages are established for gaining from each others' experiences, strengths and collaborative efforts. Several exciting developments in the region are already taking place and can be cited as "Success Stories". Hybrid rice in China, Palm Oil in Malaysia, Hybrid cotton in India, IPM in Indonesia, Tilapia culture in Philippines, Transplanted maize in Vietnam, and Baby corn in Thailand are a few such examples. Considerable benefits could thus be derived through scientific linkages and regional collaboration. In this context, APAARI has initiated some activities to foster the required regional linkages and wishes to act as a catalyst in future for sensitizing its partners to promote further the cause of agricultural research in the region. In this endeavour, we solicit your kind cooperation and suggestions concerning prioritization of APAARI’s future programmes.

Editors
THE EXECUTIVE COMMITTEE MEETING OF APAARI

The Executive Committee Meeting of APAARI was held on 26 November, 1993 at Yogyakarta, Central Java, Indonesia. In all, 16 members and observers attended the meeting (list given below). In the absence of Dr. Ki-Hak Han, the Chairman of APAARI, members requested the founder Chairman, Dr. Mohd. Yosuf bin Hashim, Director General, MARDI, to chair the meeting.

Representatives from China, Malaysia, Philippines, Republic of Korea, Sri Lanka and Thailand attended as members, whereas representatives from Bangladesh, Indonesia, Myanmar, Nepal and Vietnam besides ICRISAT and FAO attended as observers.

List of Participants

Members
1. China Prof. Wang Lianzheng President, CAAS
2. Malaysia Dr. Mohamad Yosuf bin Hashim Director-General, MARDI
3. Philippines Mr. Rolando V. Lablos Chief Agriculturist, BAR
4. Rep. of Korea Dr. K.Y. Park Senior Researcher, Research Bureau, RDA
5. Sri Lanka Dr. S.P.R. Weerasinghe Director of Agriculture, Dept. of Agriculture
6. Thailand Mr. Narongsak Senanarong Dy. Dir., Field Crops Research Institute

Observers
7. Bangladesh Mr. S.N.H. Aurangzeb Director General, BARI
8. Indonesia Mrs. Paransih Iskandho Secretary, AARD
9. Myanmar Ms. Daw Kyin Sein Manager, CARI
10. Nepal Mr. Dhruva Joshy Director, Planning and Coordination, NARC
11. Vietnam Dr. Ngo The Dan Vice Miniser, Min. of Agri. & Food Ind.
12. ICRISAT Dr. C.L.L. Gowda Coordinator, CLAN, ICRISAT

Food and Agriculture Organization
13. Dr. E.A. Kueneman, Senior Officer, AGPC
14. Dr. R.S. Paroda, Reg. Plant Prod. & Protection Officer
15. Dr. Narong Chomchalow, Reg. Plant Production Officer
16. Mr. Patraj Laohaphan, Reg. Administrative Officer

Dr. R.S. Paroda, Executive Secretary, briefed about the various activities initiated by APAARI during 1993 such as the establishment of APAARI office at FAO RAPA, Bangkok, appointment of Office Secretary, selection of logo, publication of Newsletters, involving the CG Centres as Associate Members, additional membership drive, efforts to publish a Directory of Agricultural Research Institutions, success stories etc.

The Executive Committee approved an allocation of US$ 20,000 for the sustainability of Food Legumes and Coarse Grains Network (FLCGNET) during 1994-1995 in view of phasing out of the on-going UNDP/FAO regional programme. These funds are to be used for support to the Coordinating Unit located in Bogor, Indonesia for selected activities including the publication of FLCG Newsletter.

It was also decided to organize a small group discussion to finalize the perspective workplan for APAARI for the next five years. Representatives from Bangladesh, Indonesia, Myanmar, Nepal and Vietnam expressed their willingness to join APAARI.

Executive Committee also placed on record its appreciation for the excellent support extended to APAARI by the FAO RAPA, Bangkok and the Research and Technology Development Division, FAO, Rome. It also noted with satisfaction that with FAO support the third General Assembly of APAARI will be held possibly in second half of 1994 in Philippines.
FAO ORGANIZES THE FIFTH SESSION OF THE COMMISSION ON PLANT GENETIC RESOURCES

The fifth Session of the Commission on Plant Genetic Resources (CPGR) was held at FAO, Rome from 19-23 April, 1993. Out of the total membership of 120 countries, 67 participated besides representatives of concerned UN Organizations, CGIAR Centres and INGOs. Also discussions centered around the International Convention on Biological Diversity, as agreed during the 'Earth Summit' held at Rio de Janeiro, Brazil from 3-14 June, 1992. The major recommendations of the Commission are summarized as under:

- The Commission had noted UNCED recommendations to strengthen the FAO Global System on Plant Genetic Resources and to realize Farmers' Rights and agreed that the proposed fourth International Technical Conference would develop relevant parts of Agenda 21;
- it adopted a resolution which recommends that negotiations be carried out among Governments in order to adapt the International Undertaking in line with the Convention on Biological Diversity, with regard to the issues of access under mutually agreed terms to plant genetic resources and for the realization of Farmer's Rights. It urged that regular and extraordinary sessions of the Commission be convened for this process, if necessary, with extra-budgetary financing;
- it recommended that FAO should collaborate with the Secretariat of the Convention on Biological Diversity and agreed that the FAO Conference could provide recommendations to the Conference of the Parties to the Convention and its financial mechanism on matters related to plant genetic resources. It also agreed that the UN Commission on Sustainable Development should be periodically informed of progress made by the CPGR in the implementation of relevant aspects of Agenda 21;
- it endorsed the aims and strategy of the fourth International Technical Programme and Conference on Plant Genetic Resources including the development of the First State of the World on plant genetic resources and costed Plan of Action, and emphasized the urgent need to initiate it as a country-driven process as soon as possible. It welcomed Germany's offer to host the Conference as well as the pledges of financial support from Germany, the Netherlands, Spain and Sweden (a total of over US$ 4 million extra-budgetary funds have already been promised for this process);
- it endorsed the Draft International Code of Conduct for Germplasm Collecting and Transfer, and requested the Director-General to submit the Draft Code and accompanying Draft Resolution to the Conference through the Council for its decision;
- it reviewed the preliminary Draft Code of Conduct on Biotechnology as it affects the conservation and utilization of plant genetic resources. Taking into account the recent developments in other fora, the Commission recommended that the element on biosafety should constitute an input from FAO to the work of the interim Inter-governmental Committee for the Convention on Biological Diversity on this matter, possibly for the development of a protocol on biosafety. It also agreed that other parts of the preliminary Draft Code should be further reviewed and revised in collaboration with other agencies; and
- it welcomed the offer of the CGIAR Centres to place their base collections and future acquisitions under the auspices of FAO. While requesting clarification on the concepts of trusteeship and ownership of the material stored as well as on the role of the Commission on policy decision, it requested the Director-General to negotiate with the Centres on the basis of the model agreement discussed. It endorsed the technical Standards for Genebanks prepared by an FAO/IBPGR Expert Group.

Accordingly, among various recommendations, it is important to note that the Commission will be revising the International Undertaking on Plant Genetic Resources in order to have it in line with the Convention on Biological Diversity signed by more than 150 nations. Also FAO plans to organize the fourth International Technical Conference on Plant Genetic Resources during 1995.
Presently, there are seven Regional Commissions that are operating from FAO Regional office for Asia and the Pacific, Bangkok. These are all founded as "inter-governmental" forums. The objectives of these Commissions are to perform the following activities on the regional basis:

i) to coordinate policies, plans and programmes,

ii) to provide machinery for the exchange of information and experience, and

iii) to promote Technical Cooperation among Developing Countries (TCDC) in corresponding technical sectors. These Commissions are:

i) Asia and Pacific Plant Protection Commission (APPPC);

ii) Regional Commission on Farm Management for Asia and the Far East (RCFMAFE);

iii) Animal Production and Health Commission for Asia and the Pacific (APHCA);

iv) Asia and Pacific Commission on Agricultural Statistics (APCAS);

v) Regional Commission on Food Security for Asia and the Pacific (APCFS);

vi) Indo-Pacific Fishery Commission (IPFC);

vii) Asia-Pacific Forestry Commission (APFC).

The country-wise membership and the year of foundation are given in Table 1, whereas a brief account of their activities is provided as under:

**Asia and Pacific Plant Protection Commission (APPPC)**

Founded in 1956, this Commission with current membership of 25 helps the member countries in their effort to prevent the introduction into, and spread within the region, of destructive plant pests and diseases. The Commission fosters regional cooperation and encourages mutual assistance in regulating importation and movement of plants, plant material and other products capable of carrying pests and diseases. In the spirit of TCDC, the Commission has arranged numerous regional meetings on such subjects as control of migratory pest, control of fruitfly infestation, and harmonization of plant quarantine procedures (inspection and treatment). Thus, the latest developments in these areas have been shared among the member countries of the region. For strengthening the plant quarantine facilities, study tours are arranged by the Commission. Through Plant Protection Quarterly Newsletter, the member countries exchange information regarding the latest outbreaks of pests and diseases in the region and of any significant control measures developed against such pests. The major events of the Commission in 1992-93 were: the 19th General Session held in Beijing, China, in August 1993, 2 Executive Meetings and one Expert Consultation. The Commission's Quarterly Newsletter is regularly brought out. The two major fields addressed during this biennium were:

i) Harmonization of plant quarantine principles and procedures, and

ii) Integrated Pest Management (IPM) in rice and vegetable crops.

**Regional Commission on Farm Management for Asia and the Far East (RCFMAFE)**

Established in 1966 and having the current membership of 32 countries, this Commission has been stimulating and coordinating farm management research and extension activities in the Region. It also serves as a clearing house of information and experience among the member nations. The Commission has been circulating Newsletters on Farm Management Notes twice a year for this purpose. Several expert consultations on farming systems development organized by the Commission provided the opportunity for the experts from the developing member countries to meet and share their knowledge on the development of farming systems in the region. The major activities of the Commission in 1992-93 were: the 12th General Session held in Dhaka, Bangladesh, in December 1993, issuing the farm management notes and facilitating information exchange on agricultural extension and farming systems approach.

**Regional Animal Production and Health Commission for Asia and the Pacific (APHCA)**

With its inception in 1975, the Commission has a current membership of 14 governments. TCDC philosophy has been the cardinal principal underlying the activities of this Commission. Its operational thrusts aim at implementing action-oriented programmes to make a breakthrough in livestock agriculture. This is the only Commission which has established the mechanism of membership contribution (a total contribution by 14 members in 1993 was US$ 51,300). Furthermore, to solve the problem of funds required for its programmes, several member countries have established a National Currency Fund (NCF) which has been used to promote TCDC activities. The Commission has arranged a large number of training courses, seminars and workshops, and exchange of scientists and small farmers among member countries. An APHCA Vaccine Bank has been established for the control of emergency outbreak of important diseases of livestock. The Information Exchange Programme of the Commission has provided a flow of information on livestock production within and outside the Region to increase effectiveness of livestock work and research. Since 1976, a Commission's monthly bulletin "Asian Livestock" is being published regularly and Directory of Veterinary/Livestock Contacts produced biennially.

The major activities of the Commission in 1992-93 were: the 17th General Session held in Manila, Philippines,
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In November 1992, and the 18th General Session held in Darwin, Australia, in August 1993, six Executive Committee Meetings, and a large number of workshops, trainings and study tours in such areas as disease diagnosis, artificial insemination, meat technology, buffalo production and dairy/meat marketing.

**Asia and Pacific Commission on Agricultural Statistics (APCAS)**

The main objectives of this Commission with membership of 23 countries are to review the state of food and agricultural statistics in the region and to advise member countries on the development and standardization of agricultural statistics within the general framework. The Commission maintains a close contact with subsidiary bodies of national experts required for this purpose. The Commission arranges training in agricultural statistics for national staff of the member countries together with participants from neighbouring non-member countries. Study tours for exchange of experiences in fisheries and agricultural census are also arranged by the Commission. Periodic reports of the Commission on agricultural surveys and censuses, and progress reports of the World Agricultural Censuses Programme are made available to member countries for their information. The major activities of the Commission in 1992-93 were: the 14th Session held in Beijing, China, in June 1992, several study tour arrangements and the periodic APCAS reports.

**Regional Commission on Food Security for Asia and the Pacific (APCFS)**

Being a young Commission established in 1983, it promotes collective self-reliance in food supplies among member countries, by encouraging the exchange of technical experiences and technologies and improving the state of preparedness against food shortages. The Commission has collected information on successful experiences for increasing access to food grain supplies by vulnerable section of the population and made it available to the member countries. As a result of meetings arranged under the auspices of the Commission, South Asian member countries have established South Food Security Reserve. This will go a long way in making this sub-region self-reliant in food. The Commission also arranged study tours, and regional training courses for the officials of food corporations and marketing officers. The major activities undertaken during 1992-93 were: the 6th Session of the Commission in Bangkok, Thailand, from 11-14 May 1993, and the continued collaborative work with AFMA (Association of Food Marketing Institutions in Asia and the Pacific) to organize six regional trainings/workshops on food marketing and publications.

**Indo-Pacific Fishery Commission (IPFC)**

The activities of the Commission, having 20 members, are carried out through the working parties set up by the Commission. The working parties generally meet biennially. Subjects of topical interest to the IPFC region and other selected areas for collaborative work during the intervening periods are usually discussed by the working parties for implementation.

The working party on Inland Fisheries promotes the collaborative work by exchanging available information such as performance of carp species vis-a-vis other fish species, existing pelagic fish species in inland water, Macrobrachium in polyculture with fish, and improvement of use of fish ladders for efficient fish catch.

The working party on fish technology and marketing coordinates a work programme of Asian Fish Technology Institutes, in which different fish technology institutes collaborate with each other. The major activities of the Commission during 1992-93 were: the 24th Session in Bangkok, Thailand, November to December 1993, three Sessions on IPFC Committees and one IPFC consultation. China resumed IPFC membership in 1993 after a gap of 40 years.

**Asia-Pacific Forestry Commission (APFC)**

This Commission with membership of 25 nations supports the member governments through the advice on the formulation of forestry policies and the assistance in their implementation on the regional basis. This Commission has been promoting closer regional ties and cooperation by serving as a forum for effective exchange of technical opinions on issues of current importance such as local community forest development, trends in exploitation of tropical timber, marketing of forest products, needs for forestry research, education/training and extension. The major activity of the Commission during 1992-93 was: the 15th General Session held in Colombo, Sri Lanka, in August 1993. Responding to the recommendations made by the previous Session, the Regional Project on Forestry Research Support Programme for Asia and the Pacific (FORSPA) was created in 1991 and has now become fully operational.
As stated in the first issue of APAARI Newsletter, details concerning activities of Asia-Pacific Agricultural Networks will be presented in the subsequent issues of APAARI Newsletter. Accordingly, relevant information on the following networks are presented in this issue:

**ASIAN NETWORK ON MEDICINAL AND AROMATIC PLANTS**

**History**

The Regional Expert Consultation on Breeding and Improvement of Medicinal and Aromatic Plants was convened at FAO RAPA in Bangkok in June, 1993. It strongly recommended the establishment of an Asian Network on Medicinal and Aromatic Plants (ANMAP), whose details are given here:

**Membership**

The membership of ANMAP shall be open to the national level MAP research and development institutes/organizations/departments from the cooperating countries in Asia. International and regional institutes/organizations as well as non-governmental organizations and associations working on or interested in MAP will be invited to join ANMAP as resource institutes. The present charter members include: China, India, Indonesia, Nepal, Pakistan, Philippines, Republic of Korea, Sri Lanka, Thailand and Vietnam.

**Overall Objectives**

Specific objectives of ANMAP include the following:

i) To collect, collate and disseminate information on MAP research, production, processing, trade and development among the cooperating countries.

ii) To document and disseminate success stories on production and post-harvest handling of MAP under varying agro-climatic conditions of Asia.

iii) To exchange expertise and to organize training courses, workshops and expert meetings to improve manpower in the individual countries through TCDC arrangements.

iv) To assist cooperating countries in bridging specific technical gaps in research and development on MAP.

v) To facilitate exchange of germplasm among cooperating countries and to monitor progress and usefulness of such exchanges.

vi) To coordinate regional yield trials of selected clones, improved varieties and hybrids developed by cooperating countries.

**Activities**

In pursuance of the above objectives, ANMAP may undertake one or more of the following activities:

i) Periodic compilation and dissemination of country-wise information regarding progress and problems of production, post-harvest handling, distribution and utilization of MAP.

ii) Prepare a directory of research and development work on MAP currently being carried out, including list of researchers and kind of available facilities, in the individual countries.

iii) Promote exchange and utilization of germplasm through preparing germplasm catalogue and monitoring of performance of clones, varieties, and hybrids to be tested over locations.

iv) Document and circulate success stories on production, processing and distribution of MAP, bring out technical bulletins, newsletters and information leaflets on selected topics.

v) Organize short-term training courses and inter-country study tours on breeding, propagation/seed production, agronomy, pest management, post-harvest handling, quality control, marketing and other areas as needed through TCDC arrangements.

vi) Organize meetings, workshops, and consultations for examining past progress and proposals for future work programmes.

vii) Undertake specific cooperative research to bridge technology gaps in areas identified by ANMAP.

viii) Maintain liaison with other regional and international organizations concerned with research, development and information on MAP, and provide advice on specific problems if needed.

ix) Prepare annually a progress report for general distribution to members and other interested organizations on the progress of joint activities.

**Operation**

ANMAP shall broadly be operated as follows:

i) The Secretariat of the Network shall be provided by the FAO Regional Office for Asia and the Pacific (RAPA), Bangkok. The Asia-Pacific Association of Agricultural Research Institutions (APAARI) will provide overall direction for linkages among various concerned national and international institutions.

ii) The Regional Plant Production Officer (Industrial Crops) of FAO RAPA shall be the Secretary of ANMAP and he shall convene all the meetings of the Network.

iii) Participation in ANMAP will not entail any fee. However, the member countries will be expected to assume the following obligations:
   - to supply requisite information and report to the Secretariat of ANMAP periodically;
   - to set apart some local currency funds for facilitating activities of ANMAP, particularly activities which are in the spirit of TCDC;
- to share germplasm, research results and technologies with interested countries; and
- wherever possible, to share the cost of attending meetings of ANMAP.

Recent Action Undertaken

Being the newest network under the umbrella of RAPA (established in June 1993), only few actions have been undertaken. These are:

1) Publication of the report of the Expert Consultation on Medicinal and Aromatic Plants in Asia (RAPA Publication: 1993/19)
2) Preparation of a Directory of Institutions and Personnel working on MAP.
3) Preparation of a publication on promising species of MAP in Asia.
4) Preparation of publication of RECBIMAP Proceedings.
6) Preparation of a publication of the Newsletter of ANMAP (six monthly, starting January 1994).

CEREALS AND LEGUMES ASIA NETWORK (CLAN)

Introduction

The Cereals and Legumes Asia Network (CLAN) was established by the International Crops Research Institute for Semi-Arid Tropics (ICRISAT), Hyderabad, India in 1992 by merging the erstwhile Asian Grain Legumes Network (AGLN) and the Asian component of Cooperative Cereals Research Network (CCRN).

CLAN is a network of scientists who work together to alleviate production constraints for increased and sustained production in sorghum, pearl millet, chickpea, pigeonpea, and groundnut (CLAN priority crops). CLAN’s ultimate objective is to help farmers in Asia increase cereals and legumes production within sustainable farming systems.

Objectives

- Strengthen linkages and enhance exchange of germplasm, breeding material, technical information, and technology options among members;
- Facilitate collaborative research among members to address and solve high priority production constraints giving attention to poverty and equity issues as per needs and priorities of member countries;
- Assist in improving the research and extension capability of member countries through human resource development;
- Enhance coordination of regional research on sorghum, millets, chickpea, pigeonpea, and groundnut; and
- Contribute to the development of stable and sustainable production systems through a responsive research capability in member countries.

Membership

CLAN activities are currently in Bangladesh, China, India, Indonesia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam, and other Asian countries depending on their need and interests. All scientists and administrators in Asia working in regional or international institutions interested in CLAN priority crops are invited to become cooperators in the network. A directory of network cooperators is being prepared and will be circulated to encourage contact among the scientists for exchange of information and research collaboration.

Structure

The network structure (Fig. 1) consists of bilateral and multilateral links between members. The memorandum of understanding (MOU) between ICRISAT and member countries serve as a broad umbrella for collaborative research and for administrative procedures that assist movement of staff, material and equipment. Collaborative work plans, which become a part of the MOU, are prepared with each country based on the needs, interests, and capabilities of the country’s program.

CLAN Coordination Unit

The Coordination Unit (CU) is based at ICRISAT Center. The CU provides logistic and administrative support to network activities. Guidelines for network activities are provided by Country Coordinators, and CLAN Advisory Committee at ICRISAT. Dr. C.L.L. Gowda, CLAN Coordinator, facilitates the implementation of planned activities.

Country Coordinator

Each member-country nominates a Country Coordinator, who is responsible for the coordination and liaison of in-country collaborative research for the network. The Country Coordinator is the main administrative link between the CLAN-CU and the national programme.

Network Activities

CLAN supports diverse activities as per needs, interests, and capabilities of member countries. Some of the activities are:

1) Exchange, testing, and use of germplasm and breeding material in national programmes (as released varieties, or as parents in breeding programmes).
2) Support specialized Working Groups (or sub-networks) to undertake research on specific, high-priority regional constraints to production. Some examples of Working Groups are on:
   - Asia-Pacific Groundnut Viruses,
   - Bacterial Wilt of Groundnut,
   - Botrytis Gray mold of Chickpea,
   - Integrated Pest Management in Legumes,
   - Drought tolerance in sorghum,
- Shoot pests of sorghum, etc.

iii) Bilateral collaborative research concerned to Asia between national programmes and ICRISAT, or between a mentor institution and ICRISAT also forms a part of CLAN's research activities.

iv) Assist in identifying training needs, organizing special training courses, in-country training programs, and organizing workshops and meetings to meet specific needs of the Asian researchers.

v) Exchange of information such as proceedings of workshops and meetings, research bulletins, information bulletins, and newsletters.

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**Fig. 1: Structure of the Cereals and Legumes Asia Network (CLAN)**

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**FAO WORLD FOOD DAY - 1993**

Her Royal Highness, in a thought provoking address, emphasized the importance of life forms as vital to human survival and expressed her concern that many species of plants and animals are being destroyed at a rapid rate.

She outlined the following action programme for conserving what remains of natural biodiversity for future generations:

i) Protection of biological genetic resources,

ii) Identification and characterization of biological resources,

iii) In situ and *ex situ* conservation of these resources,

iv) Establishment of a database,

v) Making aware the young generation through information dissemination,

vi) Coordination of efforts at national, regional and international levels, and

vii) To devise methods of funding support on long term basis to conserve biodiversity.
REGIONAL EXPERT CONSULTATIONS

REGIONAL EXPERT CONSULTATION ON THE SUSTAINABILITY OF RICE-WHEAT PRODUCTION SYSTEM IN DIFFERENT AGRO-ECOLOGICAL SETTINGS IN ASIA

An Expert Consultation on the Sustainability of Rice-Wheat Production System in Different Agro-Ecological Settings in Asia was held at FAO RAPA, Bangkok, Thailand, from 6-9 July, 1993.

A total of 26 participants attended the Consultation. Nine experts from seven major rice-wheat growing countries (China, Bhutan, India, Myanmar, Nepal, Pakistan and Thailand) participated, besides three representatives from IRRI, one from CIMMYT, one from IIMI and one from ADB. Experts from AIT, CIRAD and Cornell University also attended as observers. Six officers from FAO participated including Dr. A. Papasolomontos, Director, AGP, FAO Headquarters.

The Consultation emphasized the importance of rice-wheat production system and its future role in meeting the major demand for food in Asia-Pacific region, especially in view of the projected deficit of about 45 million tons of rice and wheat by the year 2005. Concerns were expressed about both the sustainability as well as productivity of this important production system, especially when growth rates have started stagnating and trend for factor productivity is declining. Consultation, therefore, rightly addressed all issues related with research, development and policy matters, with major focus on identification of unsustainability factors and a strategy to overcome these through regional/international collaboration.

The Consultation recognized the need for identification of agro-ecological settings for rice-wheat system and its subsequent refinement in order to facilitate inter-country technology transfer and information exchange. Various unsustainability factors were discussed and finalized for regular monitoring and required research, development and policy support.

Among several constraints identified and discussed by the Consultation, the following were considered more important for priority attention by all concerned:

- Loss of soil fertility, degradation of soil structure and increased soil salinity
- Water imbalances and inefficient water use with decline in water quality
- Lack of suitable varieties and hybrids and the varietal mis-match for varying agro-ecological settings - needing earliness, tolerance to high temperature, improved quality, improved disease and pest resistance
- Increased incidence of pests and diseases, including weeds
- Lack of understanding of biological interactions in systems approach for designing appropriate integrated programmes such as IPNS, IPM, etc.
- Poor understanding of socio-economic aspects of the rice-wheat production system, including profitability at the farm level and comparative advantage of regional/international linkages.

The Consultation noted that there are significant gaps in technology assessment and transfer, institutional support, and development as well as policy issues in the region and recommended strongly the need for a sustained international cooperative mechanism and urged FAO to take appropriate action by providing required leadership role. Consultation also suggested the need for establishing a Working Group/Network on Rice-Wheat System under the FAO International Rice Commission in order to address all the relevant issues on a continuing basis. It was recognized that for sustainability of this important production system, there was need to sensitize the national efforts for strong support to the developmental activities, besides proper R and D support, through appropriate policies and programmes. The Consultation also realized that, given required attention, the rice-wheat production system could be instrumental in achieving regional self-reliance for foodgrains in Asia-Pacific region on a sustainable basis.
The Expert Group Meeting on Sensitizing Agricultural Research to Community Development Needs was organized by the Economic and Social Commission for Asia and the Pacific (ESCAP) at Bangkok from 17 to 20 August, 1993. The experts nominated by the Governments of Bangladesh, India, Indonesia, Malaysia, Nepal, the Philippines, the Republic of Korea and Sri Lanka participated, besides a representative of FAO RAPA and the officials of ESCAP.

Some of the important recommendations are given below:

1. The meeting fully recognized the significant contribution made by agricultural research to the increased production of agricultural commodities in the region. However, in view of the changing socio-economic situation of the region, it was recommended that agricultural research and other sciences should be more responsive to the needs of the community.

2. Agricultural research programmes should be anchored to agricultural development plans and policies of the Government.

3. The slow transfer of technology from research to farmers as well as the absence of feedback from farmers about such technologies was a constraint inhibiting the development process. Positive steps should be taken by strengthening the two-way process.

4. While agricultural research scientists had been identified as a target groups for sensitization, the meeting felt that the entire system of Government needed to be sensitized to the needs of the community. There was a need for planners to appreciate the high return on investment on agricultural research. A highly systematic approach had to be adopted to expose all parties concerned in the agricultural development process to the needs of the community.

5. There was a need to strengthen the research-extension dialogue with a view to achieving the goal of sensitization of agricultural research. The dialogue should be extended to include the farmers.

6. The establishment of an apex research body with adequate powers and authority to command and coordinate agricultural research was critical factor in the process of sensitizing agricultural research to community needs. That body should have the flexibility to interact with policy-making agencies.

7. The apex research bodies, in consultation with the appropriate agencies and after analyzing the allocation of research time and funds for different programmes, could undertake a prioritization exercise of research programmes based on agreed criteria such as the relative contribution to the economy by activities related to such programmes and the Government's priorities in economic and social development.

8. Agricultural research should include programmes for the benefit of women in agriculture and may consider the establishment of special units in research organizations geared for that purpose.

9. There should be more frequent involvement of social scientists in agricultural research. Basic sciences should also be integrated into various programmes.

10. Encouragement should be offered to the private sector through incentive schemes to undertake agricultural research programmes. Co-sponsoring of agricultural research with the private sector may be considered where opportunities existed. However, the public sector should be mindful of its social responsibility to the community when such arrangements were made with the private sector.

11. There was a need to raise the level of investment in agricultural research in view of its high rate of return. The present imbalance that existed in many countries in the allocation of funds for research should be corrected gradually, taking into account its contributions to the economy.

12. The international agricultural research centres should coordinate research in partnership with national agricultural research systems for the purpose of sensitizing research systems to community development needs.

13. ESCAP and FAO could organize regional workshops and training programmes and also conduct in-depth studies to understand the relevance of agricultural research. Both agencies could synthesize the state of development of research in the region in relation to community needs.

15. ESCAP and FAO should jointly address the following:
   a) Dissemination of information concerning success stories of technology transfer in the region.
   b) Support Asia-Pacific Association for Agricultural Research Institutions (APAARI) for sensitizing agricultural research and management programmes.
   c) Establishment of a working group for preparing an action plan including the development of a conceptual model for agricultural research management in the region.
   d) Collaboration with the international agricultural research centres (IARCs), especially with the International Service for National Agricultural Research (ISNAR) for building national capabilities for efficient research management.

APAARI SUPPORT FOR RESEARCH/TRAINING PROJECTS

APAARI proposes to extend need based support for the regional research and training programmes that have major relevance to the regional needs. Also APAARI intends to bring out some "Success Stories" that may have regional impacts relating to agricultural research and development as well as research management.

Accordingly, suitable proposals are invited for consideration. For more details, please write to the Executive Secretary, APAARI.
Dr. Jacques Diouf of Senegal will take over as the new Director General of Food and Agriculture Organization (FAO) of the United Nations on 1 January, 1994. He succeeds Dr. Edouard Saouma who headed the largest specialized UN agency for the past 18 years.

Dr. Diouf had been the Ambassador of Senegal to the United Nations since May, 1991. Earlier, he worked as a former Secretary of State for Science and Technology (1978-83), a Member of Parliament (1983-84), Adviser to the President and Regional Director of the International Development Research Centre, Ottawa, Canada (1985), and the Secretary General of the Central Bank for West African States (1985-90). Born on August 1, 1938, Dr. Diouf got his B.Sc. Ag., M.Sc. and Ph.D. degrees from different institutions in France. He is married with five children and is conversant in French, English and Spanish.

APAARI welcomes the appointment of Dr. Diouf and wishes him all the success in this most challenging assignment.
AN INSTITUTE PROFILE

The Rural Development Administration (RDA) is the national organization responsible for agricultural research and extension in the Republic of Korea. The RDA's major efforts are being focused on technology development for agricultural products with higher quality and lower prices, modernization of production facilities and application of advanced technology in the agricultural sector. Also emphasis is placed on better living conditions in the rural areas as well as better facilities for farming operations.

FUNCTIONS AND POLICIES

The organized agricultural research in the Republic of Korea dates back to 1905 with the establishment of agricultural demonstration station. The station was reorganized several times in accordance with the various national demands. In 1957, the coordinated activities for research and extension were given to the Institute of Agriculture, which was strengthened later as the Office of Rural Development (ORD) in 1962. The Institute of Agriculture was renamed as the Rural Development Administration (RDA) in 1985.

The RDA is a unique national organization responsible for agricultural research, rural guidance including dissemination of advanced farming techniques, and for the training of farmers in the Republic of Korea. The RDA is under the administrative control of the Ministry of Agriculture, Forestry and Fisheries (MAFF) and enjoys considerable autonomy in planning and implementing rural development programmes. The functions are summarized as:

a. Research for the development of agricultural techniques and rural development
b. Dissemination of advanced scientific techniques for the improvement of agriculture and rural life
c. Training of farmers and rural leaders

The RDA also has four major policy directions. These are:

a. Developing superior varieties and the technical guidance for achieving the self-sufficiency in staple crops
b. Increasing farmers' income through diversified farming and technical innovations
c. Expanding dissemination of scientific techniques
d. Supporting the farmers and strengthening of rural youth programmes

Fig. 1: Organization and Major Activities of RDA
ORGANIZATIONAL SET UP

A. Central Level

The RDA is composed of three Bureaux, four officers, one center and one division at the headquarters (Fig. 1) and 15 subordinate research organizations (Fig. 2).

B. Provincial Level

At the provincial level, there are 9 Provincial Rural Development Administrations (PRDA) throughout the country. The administrator of the RDA has the authority of personnel management and directs all the technical programmes of its local organizations. Under the jurisdiction of the Administrator of the PRDA, there are two Bureaux named Research and Extension Bureau in each PRDA under the appropriate supervision and coordination of the Rural Development Administration (Fig. 3). These two Bureaux conduct research and extension activities with special reference to specific provincial/local conditions.

C. Human Resource

RDA has concentrated on manpower development through research, training and degree or non-degree programmes both at the universities and at the international organizations. Table 1 shows the personnel resources of the RDA. Among the researchers, 396 are holding Ph.D degrees.

RESEARCH AND DEVELOPMENT ACTIVITIES

The science of biotechnology, including cell fusion, tissue culture and gene manipulation, is being strengthened for the development of new crops, quality improvement of agricultural produce, improvement of livestock, protection of animals from pests, production of new agricultural products and for the pollution control.

Rice is grown over 60 percent of the total arable land and the major objective of rice breeding has been shifted from the development of high yielding varieties to the quality improvement. The techniques for transplanting 8-day old rice seedlings and direct seeding have been disseminated to minimize labour and other inputs in rice farming. About 80 percent of the rice farming is already mechanized.
Integrated mechanized farming is emphasized for the upland crops, whereas vegetable research aims at year-round production of high quality products. The vinyl-house farming has been introduced since early 1980s. The fruits and leafy vegetables, flowers, ornamental plants, mushrooms and fruits are successfully grown in the vinyl-house throughout the year, regardless of the seasons. Also hydroponics are commonly used.

Common mushrooms and other edible mushroom species have been developed and cultivated by the farmers. A spore-free oyster mushroom variety has recently been developed by the protoplast fusion technique. Also mushroom techniques for growing in the bottled media have been developed.

Continuous monitoring on pesticide residues of the major agricultural products is made to supply only the agricultural commodities which do not have any harmful pesticide residues. Also emphasis is being given on biological control measures.

In case of livestock research, the cattle breeding objectives are to improve the Korean cattle and develop hybrid stocks. Also research on feeding management of dairy cattle is actively carried out and veterinary vaccines have been developed and disseminated to the livestock farmers.

Cooperative rearing of silkworms with the artificial diet at younger growth stage is disseminated to the farmers. The labour-saving rearing techniques such as utilization of mulberry tree cultivator and cocoon harvester reduce remarkably the labour input.

Advanced farming technology is disseminated to the farmers through continuous training at the national, provincial and country levels. Specialized training courses by subject matter specialists are also offered to the farmers.

The international technical cooperation with developed countries, Eastern European countries and developing countries is being strengthened. Several training courses are offered, and some agricultural scientists are sent abroad to carry out the agreed cooperative projects.
### INFORMATION ABOUT SOME FUTURE CONFERENCES

1. **Title:** 6th International Working Conference on Stored-Product protection (IWCSPP)  
   **Venue:** The National Convention Centre, Canberra, Australia  
   **Period:** April 17-23, 1994  
   **Contact:** Ms. Gail Hawke  
   Capital Conferences Pty Ltd.  
   P.O. Box N399  
   Grosvenor Place, Sydney NSW 2000  
   **Fax:** 61 2 241 5282

2. **Title:** 5th ASEAN Food Conference  
   **Venue:** Putra World Trade Centre, Kuala Lumpur, Malaysia  
   **Period:** July 26-29, 1994  
   **Contact:** The Secretariat  
   5th ASEAN Food Conference '94  
   Food Technology Research Centre, MARDI, G.P.O. Box 12301  
   50774 Kuala Lumpur, Malaysia  
   **Fax:** 60 3 942 2906

3. **Title:** 24th International Horticultural Congress  
   **Venue:** Kyoto, Japan  
   **Period:** August 21-27, 1994  
   **Contact:** Dr. Masatoshi Iwata  
   Chairman  
   Organizing committee  
   XXIV International Horticultural Congress  
   c/o Laboratory of Horticultural Science  
   Faculty of Agriculture  
   The University of Tokyo  
   1-1-1 Yayoi, Bunkyo-ky  
   Tokyo 113, Japan

4. **Title:** Second World Cowpea Research Conference  
   **Venue:** International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria  
   **Period:** September 4-10, 1994  
   **Contact:** The Director General  
   International Institute of Tropical Agricultural (IITA)  
   Oyo Road, P.M.B. 5320  
   Ibadan, Nigeria  
   **Fax:** 874 1772276 or 229 30 1466

5. **Title:** 1994 International Planters Conference  
   **Venue:** Shangri-La Hotel, Kuala Lumpur, Malaysia  
   **Period:** October 24-25, 1994  
   **Contact:** The Conference Secretary  
   The Incorporated Society of Planters  
   P.O. Box 10282  
   50708 Kuala Lumpur, Malaysia  
   **Fax:** 603 242 6898

### RECENT RAPA PUBLICATIONS

The FAO Regional office for Asia and the Pacific (RAPA), Bangkok has published a number of useful reports and proceedings during 1993. Some of the important ones are listed below:

1. Report of Regional Expert Consultation on Forestry Policy Development and Research Implications in Asia and the Pacific (RAPA Publication: 1993/16)
2. Report of the Regional Expert Consultation on Breeding and Improvement of Medicinal and Aromatic Plants in Asia (RAPA Publication: 1993/19)
4. Food and Agriculture Organization in the Asia-Pacific Region (RAPA Publication: 1993/21)
5. Report of FAO Regional Expert Consultation on Biological Control of Plant Diseases (RAPA Publication: 1993/22)
9. Selected Indicators of Food and Agriculture Development in Asia-Pacific Region, 1982-92 (RAPA Publication: 1993/26)
11. Statistical Profile of Livestock Development in Asia-Pacific Region (RAPA Publication: 1993/28)