



# APAARI

## NEWSLETTER



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### EXECUTIVE COMMITTEE

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Executive Secretary:	Dr. R.S. Paroda

### EDITORIAL

The Earth Summit through "Agenda 21" and the International Conference on Nutrition (ICN) through Plan of Action on Nutrition have outlined vision which need to be translated into concrete action programmes. At both these important global meetings, the international community peered through harsh realities confronting sustainability of our agricultural system and the problems of hunger, unequal distribution of food and malnutrition. In order to address these problems, suitable strategies and action programmes are required to be implemented at the national, regional and international level. Obviously, therefore, task ahead appears to be gigantic and need attention at all levels.

In order to address appropriately the new challenges in future, National Agricultural Research Systems (NARS) are required to be supported fully. In the past, nations having strong research and development (R&D) infrastructure have also shown remarkable progress in agriculture. Thus, investment on R&D in agriculture has paid rich dividends and has helped improving national economy in a number of developing countries in Asia-Pacific Region. Yet, the fact remains that many of these countries spend only between 0.2-1.0 per cent of their agricultural GDP compared to 1.0-3.0 per cent in case of developed countries. Therefore, to meet the future challenges fully, increase in the investment for R&D in agricultural field is highly justified. Also greater support by the International agencies would strengthen regional cooperation for mutual benefit. Indications are that such a support is relatively declining now than before. NARS have thus to not only adjust to these changes but also make ongoing efforts more efficient and effective through appropriate prioritization and reorganization aiming at collaborative research and partnership in the Region. Nations could also gain substantially through technical cooperation among developing countries (TCDC) and through regional organizations such as Commissions, Associations, Networks etc. APAARI, the newly formed regional association, therefore, looks ahead to serve its members in meeting the newer challenges facing sustainable agriculture in the Region.

### EDITORIAL COMMITTEE

- R.S. Paroda
- C.B. Perez
- R.B. Singh
- Narong Chomchalow

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**Editors**

## THE SECOND MEETING OF THE GENERAL ASSEMBLY OF APAARI

**T**he second meeting of the General Assembly of the Asia-Pacific Association of Agricultural Research Institutions (APAARI) was held on 17 December, 1992 at Asia Pacific Development Centre (ADPC), Kuala Lumpur, Malaysia. Twenty-two experts from 13 countries, including several Heads of National Agricultural Research Organizations and International Organizations attended the meeting either as a member or an observer.

The meeting was presided over by Dr. Mohd. Yusof bin Hashim, Chairman, APAARI and the Director General, Malaysia Agricultural Research and Development Institute (MARDI). Dr. R.B. Singh, Executive Secretary presented the Action Taken Report. Dr. Muller-Haye, Chief, Agriculture Research Development Centre, FAO, Rome, who provided needed support for the establishment and subsequent meetings of APAARI, was also present. Among members, Prof. Wang Lianzheng from China, Mr. J. Kumar from Fiji, Dr. Sayed J.G. Sharif from Iran, Dr. Yong Hwa Shin from Republic of Korea, Dr. Mohd. Yusof bin Hashim from Malaysia, Mr. Ted C. Sitapai from Papua New Guinea and Dr. Vichitr Benjasil from Thailand were present. Dr. R.S. Paroda, Regional Plant Production and Protection Officer, FAO-RAPA, Bangkok also attended the meeting.

Dr. Singh briefed the members about various actions taken based on decisions of the first general assembly held in Bangkok in June, 1991. Actions included the publications of APAARI Newsletter, a regional workshop-cum-training on bioinformatics and holding of an "Expert Consultation on Technology Assessment and Transfer for SARD in Asia-Pacific Region" through the help of AGRR, FAO, Rome, establishment of APAARI Secretariat, and initiation of required efforts towards publication of a Directory of Agricultural Research Institutions in the Region as well as publication of some selected Success Stories.

### APAARI SECRETARIAT

An APAARI Secretariat has been established at the FAO Regional Office for Asia and the Pacific (RAPA), Phra Atit Road, Bangkok with effect from 1 January, 1993. It is being looked after by Dr. R.S. Paroda, Executive Secretary of APAARI. He is being assisted by Ms. Orawan Liengsermsuk as Office Secretary.



The items concerning membership of APAARI and budget for 1993-94 were discussed in detail. Delegates from Australia, Bangladesh, Nepal, Vietnam and Laos were requested to join APAARI. General Assembly approved the budget of US\$ 40,000 for 1993 and US\$ 87,000 for 1994.

As per constitution, the new Executive Committee for 1993-94 was elected unani-

mously as under:

Chairman:	Rep. of Korea:	Dr. Yong Hwa Shin
Vice-Chairman:	Papua New Guinea:	Mr. Ted C. Sitapai
Members:	1. China:	Prof. Wang Lianzheng
	2. Pakistan:	Dr. Zafar Altaf
	3. Philippines:	Dr. C.B. Perez
	4. Thailand:	Dr. Vichitr Benjasil
Executive Secretary:	FAO/RAPA:	Dr. R.S. Paroda

The General Assembly congratulated the new Executive Committee members and placed on record the appreciation for the out-going Executive Committee, especially the Chairman Dr. Yusof and Executive Secretary Dr. Singh.

Regarding future activities of APAARI, it was felt that besides publication of Newsletter, Directory and Success Stories, APAARI could provide support for collaborative research and training for which member countries may send suitable proposals in consolidated form for consideration to the APAARI Secretariat.

### LOGO OF APAARI

The Logo of APAARI has finally been selected through an open competition. Out of all the entries, following Logo has finally been selected



**Explanation:** Hands for cooperation,  
Ear head for agriculture,  
Shape of bud for future growth.

A token award of US\$ 250 goes to the winner:

Ms. Orawan Liengsermsuk  
72 Soi St. Louis 3, Sathornthai Road  
Yannawa, Bangkok 10120, Thailand

## THE INTERNATIONAL CONFERENCE ON NUTRITION (ICN)

During 1992, two significant global meetings took place having direct relevance with agriculture. In the "Earth Summit" held in Rio de Janeiro, the international community peered over the ecological cliff, whereas the International Conference on Nutrition (ICN) held in Rome charted the "black holes of hunger" that still persist in this world. Details about agricultural research implications concerning the "Earth Summit" were published in the December, 1992 issue (Vol. 1, No. 2) of APAARI Newsletter. In the present issue, an effort is being made to apprise the readers as to what happened at the International Conference on Nutrition (ICN) and what happens next.

The ICN was organized jointly by FAO and WHO at Rome in December, 1992 in which 1,300 delegates representing 159 countries and the European Economic Community participated. 137 Agriculture and Health Ministers attended the Conference including 11 intergovernmental organizations, 15 UN agencies and 144 NGOS.

While addressing the opening session of the Conference, Pope John Paul II specifically mentioned in his address "World food production, as you well know, is more than enough to meet world needs, even those of a growing population, provided the resources allowing proper nutrition are distributed according to real needs. I can but subscribe to the opening words of your draft World Declaration on Nutrition: hunger and malnutrition are unacceptable in a world that has both the knowledge and the resources to end this human catastrophe".

*"A Human's most fundamental need and right is access to sufficient supplies of nutritionally adequate food."*

— Edouard Saouma  
Director-General, FAO

The Conference concluded with approval by acclamation of a "World Declaration on Nutrition" and a "Plan of Action". Perhaps for the first time, the agriculture and health

ministries worked together to address the problems of hunger and malnutrition.

### FOCUS AT NATIONAL LEVEL

As the preparations for the Conference were at the national and regional level, the "Plan of Action" clearly specified that the follow up "must be firmly anchored in national and regional commitment". ICN stimulated encouraging signs of national commitment and brought together the interministerial people in the government. It was realized that there was the need to look at the specific constraints that are causing malnutrition, to examine who the vulnerable groups are and how and why certain policies and programmes may benefit them or actually harm their nutritional status.

It is encouraging that many national governments have already initiated specific action plans on nutrition. FAO will continue to play an important role.

### PLAN OF ACTION

The Declaration and the Plan of Action have notably avoided setting of specific targets and dates. That decision, itself the target of some criticism, contributed to the notable lack of controversy at the Conference. The burden is now on national governments to prepare their own detailed Plans of Action, including specific goals and measurable targets - and on FAO and other international community to assist in developing and implementing the Plans. Governments have been urged to prepare their national plans of action not later than the end of 1994. These plans need to be based on an analysis of the country situation and developed with the active participation of all relevant ministries, local governments and communities, non-governmental and research organizations, and the private sector. It was also emphasized that the efforts to improve nutritional well-being should be based on the recognition that improved human welfare in harmony with the environment and nature is the primary goal of social and economic development.

## ASIA-PACIFIC AGRICULTURAL NETWORKS

As stated in the first issue of APAARI Newsletter (Vol. 1, No. 1), details concerning activities of Asia-Pacific Agricultural Networks will be published in subsequent issues. The second issue (Vol. 1, No. 2) had covered information on two Networks on Sericulture and Oilseeds. In the present issue, relevant information concerning the Asia-Pacific Network on Research and Development of Rainfed Agriculture is presented below:

### I. BACKGROUND INFORMATION

1. Asia and the Pacific Region accounts for about 56% of the world's population, but possesses only 28% of the world's agricultural land. Further, the Region houses about 70% of the world's agriculture households. The ratio of agricultural population to agricultural land in the Region is six times of that in the rest of the world. Furthermore, the frontiers of arable land are almost closed in most of the countries of the Region, thus there

is negligible scope for expanding cultivated area. Therefore, future increases in agricultural production to meet a demand, expanding at a high annual rate of about 4%, must occur primarily through increases in yield per unit area.

2. Optimistic projections suggest that even after all the irrigable land in the Region is brought under irrigation, more than 50% of the arable land will still remain rainfed. It is further projected that with the intensification of agriculture under irrigation, the irrigated lands would provide about 70% of food and agricultural needs of the Region while the remaining 30% must come from rainfed areas.
3. In line with the above, the 18th FAO Regional Conference for Asia and the Pacific, held in July 1986 recommended development of rainfed and other problem areas.



4. These priority areas were endorsed by the 19th FAO Regional Conference held in 1988. Earlier, Regional Conferences also had identified development of rainfed agriculture as a priority area and urged FAO to strengthen the capabilities of member governments in this field.
5. Furthermore, several other fora, such as the FAO Regional Commission on Food Security for Asia and the Pacific, have been emphasizing on development of rainfed agriculture. For instance, the 3rd Session of this Commission held in 1987 had made following recommendations on development of rainfed agriculture:
  - i) FAO should organize regional/sub-regional training courses in the field of rainfed agriculture.
  - ii) FAO should document successful experiences of rainfed agriculture including watershed management programme and disseminate the information among member countries.
  - iii) FAO should identify matured technologies for rainfed agriculture in the Asia-Pacific Region and assist in transferring the technology to other countries.
6. The establishment of a Regional Network on Rainfed Agriculture involving leading institutions on this subject from interested countries of the Region will provide a useful forum for addressing collectively to the felt-needs of the countries as well as to the implementation of the above-mentioned recommendations of FAO conferences and commission for sustained and improved production in rainfed area.

## II. MEMBERSHIP OF THE NETWORK

7. The membership of the network shall be open to the national level research and development institutes/departments primarily concerned with rainfed agriculture from each of the countries in Asia and the Pacific Region.

## III. OBJECTIVES OF THE NETWORK

8. The overall objective of the Network is to assist the participating institutes/departments to promote voluntary exchanges of information, material, experimental data in selected subject-matter fields, and expertise.
9. The objectives of the Network are:
  - i) To collect, collate and disseminate information on research and development of rainfed agriculture among the cooperating countries.
  - ii) To document and disseminate success stories on rainfed agriculture under varying agro-climatic conditions of the Asia-Pacific Region.
  - iii) To organize training courses, workshops and expert meetings to improve manpower in the individual countries through TCDC arrangements.
  - iv) To facilitate exchange of cultivars and other technologies among cooperating countries and to monitor progress and usefulness of such exchanges.

## IV. ACTIVITIES OF THE NETWORK

10. In pursuance of the above objectives, the Network may undertake one or more of the following activities:
  - i) Periodic compilation and dissemination of the coun-

try-wise information regarding progress and problems of rainfed agriculture.

- ii) Prepare a directory of rainfed agriculture institutions and research and development programmes being carried out in the cooperating countries.
- iii) Promote exchange and evaluation of proven cultivars and other technologies and compile the performance data and share the information with the cooperators.
- iv) Identify success stories, document and circulate them among the cooperating countries. Issue technical bulletins and information leaflets on selected topics.
- v) Organize short training courses and inter-country study tours on different aspects.
- vi) Organize meetings, workshops, and consultations for examining past progress and for formulating future work programmes.
- vii) Maintain liaison with other regional and international organizations concerned with rainfed agriculture and provide specialist advice on specific problems, if needed.

## V. OPERATION OF THE NETWORK

11. The Network 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;
  - ii) Participation in the Network will not entail any fee. However, the member institutions will be expected to assume the following obligations:
    - to supply requisite information and report to the Secretariat of the Network periodically;
    - to share cultivars and technologies;
    - to set apart some local currency funds for facilitating activities of the Network, particularly activities which are in the spirit of TCDC;
    - wherever possible to share in the cost of attending meetings of the Network.

## VI. RECENT ACTION UNDERTAKEN

12. The network had its first meeting at FAO/RAPA, Bangkok from 29 November to 2 December, 1988 during the Regional Expert Consultation on Rainfed Agriculture. The second meeting was held during the FAO Regional Expert Consultation of the Network on Rainfed Agriculture at Bangkok from 10-13 September, 1991. The reports of both the expert consultations have been published by FAO/RAPA as publication nos. 1988/8 and 1991/24, respectively. Copies can be obtained from the Regional Plant Production and Protection Officer, FAO/RAPA, Bangkok.

### NEW MEMBERS OF APAARI

In addition to the existing membership of 13 national agricultural research organizations of the Region, following institutions have also become the new members of APAARI during 1992:

1. Australia: Bureau of Resource Sciences (BRS)
2. Philippines: Bureau of Agricultural Research

## EXPERT CONSULTATION ON TECHNOLOGY ASSESSMENT AND TRANSFER FOR SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT IN THE ASIA-PACIFIC REGION

FAO organized an Expert Consultation on Technology Assessment and Transfer for Sustainable Agriculture and Rural Development in the Asia-Pacific Region in Kuala Lumpur, Malaysia, on 14-18 December 1992.

Twenty-four participants from the Asia-Pacific Region and various international institutions attended the Consultation, including research managers and leaders from Australia, Bangladesh, China, Fiji, Indonesia, Iran, Laos, Malaysia, Nepal, Papua New Guinea, Republic of Korea, Thailand and Vietnam.

Major Challenges for Sustainable Agriculture in the Asia-Pacific Region were identified as: the loss of forest cover (annually - 1.4% between 1981 and 1990) followed by soil erosion due to water and wind, 16% of Asia's agricultural land are considered severely degraded, production increases during the last decade have been achieved at considerable costs to the resource base, and productivity levels have declined in the high yielding production systems.

It was the sense of the Consultation that the paramount constraint to effective technology assessment is a dearth of information. Another major handicap is the paucity of trained manpower to conceptualize the theme, develop methodologies and indicators and use them in technology assessment, development and transfer. The problem is severest in the case of remote countries (e.g. Pacific islands) and also Indo-China. Most countries in the Asia-Pacific Region do not have explicit policies in place to conduct technology assessments. This situation is aggravated by a lack of suitable holistic methodologies for monitoring and evaluating agricultural systems which results in a limited understanding of sustainability trends.

It was emphasized that technology assessment should become an important intervention for research and technology development geared to sustainable agriculture and rural development.

To close the gap of information on and to develop desired human resources and institutional systems for sustainable agriculture in the Region, it was recommended that

FAO, in close collaboration with other international and national programmes, organize training programmes, workshops and information exchange to sensitize and train extensionists, researchers and farmers to further develop and apply guidelines, methodologies and indicators leading to sustainable agricultural production. The information required from inventories should pertain to sources of technology, method(s) of application, environmental friendliness and risks, and broad terms under which technology may be acquired.

The Consultation recognized that rainfed/dryland, highlands, coastal lowlands and islands are generally endowed with fragile resource base, have low productivity and the majority of the inhabitants are resource-poor and are obliged to eke out an existence in harsh biophysical and socio-economic environments. The Consultation, therefore, recommended that risk-resilience and linkage mechanisms specifically designed for resource-poor farmers in harsh environments should be a prime consideration while developing and transferring technologies for such settings.

The Consultation noted that post-harvest technologies are priority areas for sustainable agricultural production and growth. It was further recommended by the consultation that on-farm conservation of biodiversity be addressed, including the use of indigenous knowledge.

The Consultation emphasized that the most important linkages envisaged are: research-extension-farmer, private-public, regulatory agencies-policy-R&D and agriculture-industry-environment. Further, the Consultation saw the need to re-evaluate the technology transfer approach.

The Consultation strongly supported the notion of uniqueness and timeliness of current efforts to address technological implications of sustainable agriculture. It was consensus that FAO, UNDP, other donors and the R&D institutions of Asia and the Pacific should cooperate in the endeavor to devote capacities, time and resources to the development of appropriate technologies for sustainable agriculture.



## AN INSTITUTE PROFILE

**T**he Malaysian Agricultural Research and Development Institute (MARDI) was established by an act of Parliament in 1969 to conduct research and Development (R&D) on all crops (except rubber and oil palm) and livestock (except in the area of animal health). MARDI is also entrusted to serve as a centre for specialist extension services and technical training of workers in the agricultural industry. Recently, MARDI has been mandated to undertake commercial ventures either solely or jointly with the private sector in order to promote the commercially viable technology.



MARDI Head Office in Serdang

# MALAYSIAN AGRICULTURAL RESEARCH AND DEVELOPMENT INSTITUTE

## MARDI

### R&D Focus

The major thrust areas of MARDI's R&D activities are: diversification and commercialization of the agriculture sector; development and modernization of food processing industries; management and conservation of environmental and natural agricultural resources; exploitation of innovative and frontier R&D; and strengthening and enhancing the effectiveness of technology transfer and adoption.

Briefly, the MARDI's focus is on:

- i) **Fruit Research Plan:** Attention is given to commercialize several selected fruit types

which have good market potential for both the fresh and processed local and overseas markets. The main research programmes include the production of high yielding and superior quality varieties, and the development of commercial production and post-harvest handling systems.

- ii) **Rice Research Plan:** Research on this staple food focuses more on the overall improvement of the production system through the introduction of new varieties; the development of mechanized production system especially towards solving the problem of labour shortage; and the reduction of on-farm yield losses.

- iii) **Cocoa and Coconut Research Plan:** The emphasis is on increased productivity and quality of processed beans. Research efforts are also geared towards the development of high yielding and quality clones; the

### ORGANIZATIONAL STRUCTURE

MARDI is a statutory (quasi government) body placed under the Ministry of Agriculture. It is governed by a Board that reports directly to the Minister of Agriculture. The Institute is headed by a Director General and assisted by three Deputy Director Generals. Presently, Dr. Mohd. Yusof Hashim, an eminent scientist and able administrator, is the Director General of the Institute.

The Governing Board and the Director General receive advice from the Scientific Council. As in Fig. 1, organizational structure of MARDI consists of six commodity research divisions and seven R&D support divisions. The whole system is supported by four central administrative divisions and several units. The latest inclusion is the MARDITECH Corporation, a company formed to handle all commercial venture projects based on MARDI's technologies.



Dr. Mohd. Yusof Hashim, Director General of MARDI



Food products developed by MARDI



development of effective beans fermentation and processing techniques; and the improvement of the current cropping system. Research on coconut primarily aims at maximizing farm income through an integrated system with livestock and suitable crops, mainly cocoa and coffee.

- iv) **Horticulture Crops Research Plan:** Horticulture crops cover vegetables, ornamental, field crops, beverages and spices. The vegetable research aims at commercial production of high-value vegetables for local consumption and the export markets. For ornamentals, special attention is given to orchids, roses, carnation, chrysanthemums and anthurium for the cut-flower industry. In field crops, beverages and spices, research is mainly focussed on grain and sweet maize, cassava, soyabean, pepper and coffee.

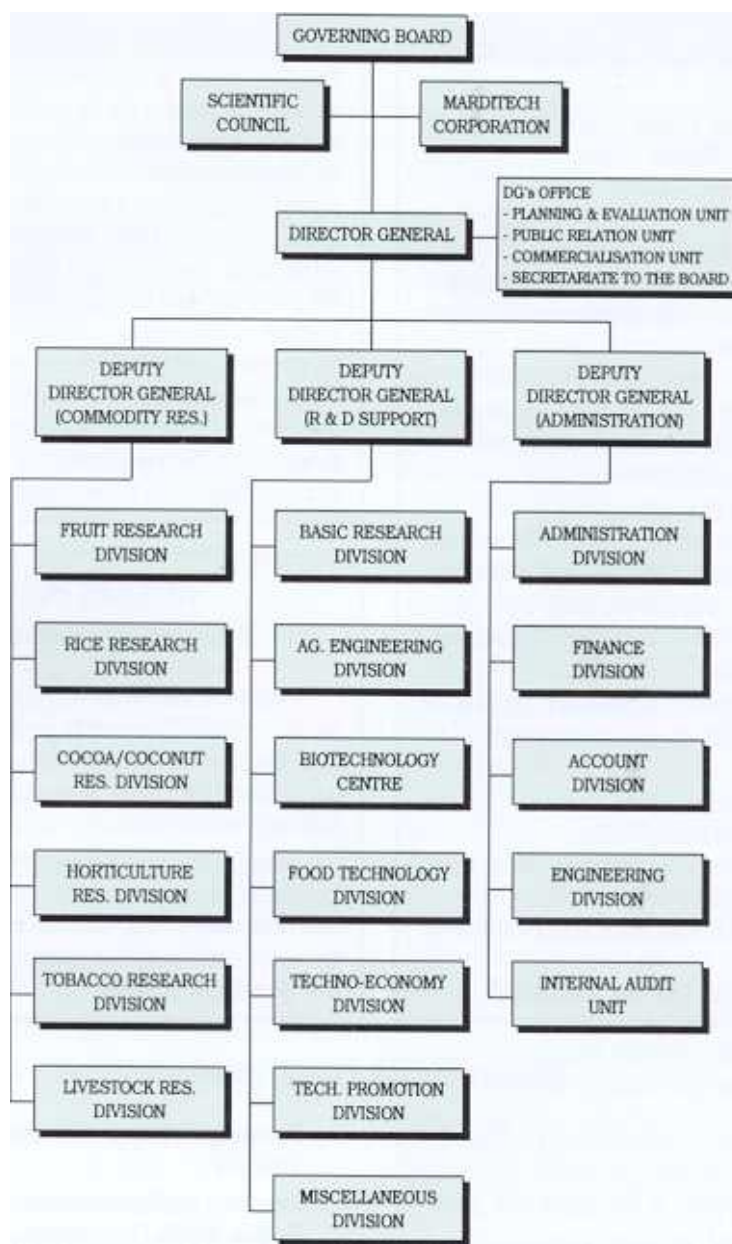
- v) **Tobacco Research Plan:** Research is essentially aimed at increasing quality and productivity of the cured leaves whilst reducing production cost. The major research activities currently conducted for tobacco are: development of new varieties; development of mechanized production system; and development of efficient and energy saving leaves curing system.

- vi) **Livestock Research Plan:** Livestock research is focussed on beef, dairy cattle, sheep, goat, buffalo, poultry and feed resources. Concentration is in the areas of genetic improvement and the development of efficient breeding technology; animal nutrition and the development of feed resources from agricultural by-products and agro-industrial wastes; and intensive and integrated livestock-tree crop production system.

- vii) **Basic Research Plan:** This R&D support programme covers research on plant science, pest and beneficial organisms, soil science and agrometeorology. The Plant

science research generates basic information on taxonomy, physiology, ecology and genetics which are needed by the applied commodity research. Pest and beneficial organisms research involves studies on identification of causal agents and pests, integrated pest management, pesticide application technology and biological control techniques. Soil science research is focussed on the development of suitable technology for agriculture development on the marginal soils; the

development of technology for soil conservation measures; and land resource studies (including the use of remote sensing). The agrometeorology studies gather information for the establishment of crop agro-ecological zones, and for the development of crop production models.



**Fig. 1: Organizational Structure of MARDI**

## BASIC RESEARCH SUPPORT

Various R&D programmes are suitably supported through basic research in important disciplines of agriculture including newly emerging areas of biotechnology, integrated pest management, environmental science, agro-technology, food processing technology and socio-economic analysis of various production systems and technologies.

## HUMAN RESOURCE AND BUDGET

MARDI's research activities are carried out at the head office in Serdang, and at 29 other out-reach research sta-

tions located throughout the country. A total of 6,248 ha of farm area is available for research activities. Currently MARDI has a total of 3,547 staff comprising of 456 research scientists, 1,191 technical support staff, 263 administrative staff and 1,637 general supporting staff. MARDI has adequate laboratory and farm facilities, supported by computer, library, publication and training facilities.

MARDI is fully supported by the government through three different fund components, namely the operating budget (about RM 80 million a year), the overall physical

development budget (RM 83 million for 1991-1995) and the R&D budget (RM 152 million for 1991-1995). Other than these, MARDI has instituted several income earning measures (30% by 1994 and 60% by 2,000) such as contract research, consultancy and expert services, MARDI's own products (eg. farm and pilot plant products, publications, etc.), and commercial joint-venture projects.

## INTERNATIONAL COLLABORATION

The Institute has established linkages and collaborative research with more than 35 international and regional research centres and agencies in 22 countries in order to benefit from research and technological advancements the world over.

### INFORMATION ABOUT SOME FUTURE CONFERENCES

1. Title: International Symposium on Tropical Tuber Crops  
Venue: Central Tuber Crops Research Institute, Trivandrum, Kerala, India.  
Period: November 13-15, 1993  
Contact: The Secretary  
Indian Society of Root Crops  
Central Tuber Crops Research Institute,  
Sreckariyam, Trivandrum 695017,  
Kerala, India  
Tel: (0471) 8431; Telex: 0435-247 ROOT IN
2. Title: World Cotton Research Conference - 1  
Venue: University of Queensland, Australia  
Period: February 13-17, 1994  
Contact: Dr. M. Rafiq Chaudhary  
International Cotton Advisory Committee,  
1901 Pennsylvania Avenue NW, Suite 201,  
Washington, DC 20006, USA  
Tel: (202) 463-6660; Telex: 701517 ICACOM  
Fax: (202) 463-6950
3. Title: The World Soybean Research Conference V  
Venue: Orchid Hotel Complex, Chiang Mai, Thailand.  
Period: February 21-27, 1994  
Contact: Dr. Aphiphan Pookpakdi  
Chairman, Program Administration Committee, The Secretariat WSRC V  
P.O. Box 1081, Kasetsart, Bangkok 10903, Thailand  
Tel: 66-2-5614877; Fax: 66-2-5796635

### WORLD FOOD DAY 1993

The theme for the World Food Day this year (16 October, 1993) is *Harvesting Nature's Diversity*. Conserving biodiversity for its sustainable use by the present and future generations is integral to UNCED's Agenda 21 and the International Convention on Biological Diversity signed by more than 150 of the nations that attended the *Earth Summit* in 1992. Since our food and environmental security depends upon the diversity of life on Earth, WFD will address the contribution of biodiversity to the welfare of our society and also its role in sustainable agriculture and rural development, food security, environmental management and international trade in commodities. *Harvesting Nature's Diversity* will also set stage for the 1995 International Technical Conference on Genetic Resources to be convened by FAO in Rome.

### APAARI SUPPORT FOR RESEARCH/TRAINING PROJECTS

APAARI has decided to provide need based support for the exciting research project proposals from the young scientists relating to important national/regional agricultural problems. Also support for regional training activities will be extended to selected institutions.

Accordingly, interested persons may submit their proposals through the Head of the Research Organization where they intend to undertake proposed programme. For more details, please send your queries to the Executive Secretary, APAARI.

## 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 the Annual Meeting of the Network for the Development of Agricultural Cooperatives in Asia and the Pacific - NEDAC (RAPA Publication: 1993/2)
2. Report of the Regional Expert Consultation on Policies and Programmes Relating to Agricultural Credit and Banking (RAPA Publication: 1993/3)
3. Increasing Livestock Production by Making Better Use of Local Feed Resources (RAPA Publication: 1993/4)
4. Challenges in Upland Conservation: Asia and the Pacific (RAPA Publication: 1993/5)
5. Report of the Regional Seminar - Workshop on the Training Needs of Agricultural Extension Workers on Farming Systems Development (RAPA Publication: 1993/8)
6. Research and Development of Fruits in the Asia-Pacific Region (RAPA Publication: 1993/9)
7. Pacific Island Farm Tools (RAPA Publication: 1993/10)
8. Report of FAO Expert Consultation on Harmonization of Plant Quarantine Procedures - Inspection and Treatment in Asia and the Pacific Region (RAPA Publication: 1993/11)
9. The Role of IPNS in Sustainable and Environmentally Sound Agricultural Development (RAPA Publication: 1993/13)
10. Report on Alliums Production and Constraints in the Asia-Pacific Region (RAPA Publication: 1993/14)
11. Oilseeds in Asia-Pacific Region (RAPA Publication: 1993/15)