



# APAARI

## NEWSLETTER



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### EDITORIAL

It is most satisfying that the "Asia Pacific Association of Agricultural Research Institutions (APAARI)" has become a reality through active membership support of a large number of countries in the Region. APAARI is expected to serve as an institution to foster collaborative research and technology development programme among member countries. Major activities of APAARI would include: (i) exchange of knowledge and technology, (ii) promotion of cooperative research, (iii) development of research organizational and management skills, and (iv) establishment of need-based regional research linkages and programmes.

Research and technology are cornerstones of sustainable agriculture and rural development. Having recognized this, the Asia-Pacific countries have been establishing or strengthening their national agricultural research systems (NARS). But there are great variations in the organizational pattern and effectiveness of the NARS, thus presenting an opportunity for sharing the successful experiences. Further, based on the premise that the problems faced by most of the countries in their agricultural production and development are fairly common, it was natural for the countries in the Region to establish a collaborative programme. This vision and commitment of the member countries is indeed laudable.

The APAARI Newsletter is an outcome of the resolution of the First Meeting of the Executive Committee of the Association. In this issue, the features and mode of operation, the constitution and relevance of APAARI have been described. It also features one of the leading agricultural research institutions of the Region. We hope to regularly bring you information on relevant important agricultural research activities, events and highlights in the Region and, of course, on our activities. Needless to assert, the quality and continuity of the Newsletter depends very much on feed-back from its readers and timely supply of information from the members. We solicit your active cooperation in this important venture.

**Editors**

### EDITORIAL COMMITTEE

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

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cause of agricultural research and development in Asia-Pacific Region.

A.Z.M. Obaidullah Khan  
Assistant Director General  
and FAO Regional Representative  
for Asia and the Pacific, Bangkok

## MESSAGE

Asia and the Pacific Region offers both challenges and opportunities for scientists and researchers in the field of agriculture. The Region has less than 30% of the global agricultural land, and sustains more than half (3 billion) of the world's population. The resilience and creativity of the farmers supported by the cutting edge of science have culminated in the Green Revolution. Over the last three decades, the Region has decisively shed the stigma of "basket case" status. The most important factor behind this achievement has been a strong Research and Development (R&D) base which helped in generating and fine tuning appropriate technologies suited to different agro-ecological settings. Countries, where required R&D infrastructure was not in place, lagged behind. Obviously, the imbalances among the various national agricultural research systems are a cause of concern, and, hence the necessity of mutual cooperation for collective self-reliance.

Linkages between NARS continue to evolve, although capabilities vary greatly. There is a need to establish a formalized relationship among different NARS in order to take advantage of one another's areas of strength and expertise. FAO-sponsored establishment of the Asia-Pacific Association of Agricultural Research Institutions (APAARI) with Headquarters at FAO Regional Office for Asia and the Pacific (RAPA), Bangkok, in 1990 is a joint endeavour in that direction. It is encouraging to note that presently 13 countries have become its members and others are expected to join soon. APAARI is expected to serve this Region by fostering collaborative research and training programmes among member countries.

An important mandate for the Association is facilitating information exchange. APAARI, therefore, has decided to launch the APAARI Newsletter, which I am sure will serve as a vibrant instrument in disseminating relevant information to all its members in the Region. I wish APAARI all the success in its efforts to promote the



## MESSAGE

It is heartening that leaders of the national agricultural research systems in the Asia-Pacific Region, aware of the challenges facing agricultural development and appreciating the role of research in meeting the challenges, have established the Asia-Pacific Association of Agricultural Research Institutions (APAARI). The aims and objectives of the Association are indeed laudable. It gives me immense pleasure in seeing an operational APAARI, as I have personally been involved in its initiation.

Information sharing is the cornerstone of any successful cooperative programme. In this context, newsletters play an important role. I must congratulate the Secretariat and the Executive Committee of APAARI for having launched this Newsletter, which I am sure will further strengthen the collaborative arrangements in the Region. I wish continued success to this endeavour.

Mohamed S. Zehni  
Director  
Research and Technology  
Development Division, FAO, Rome

## ABOUT APAARI

### • A UNIQUE RESEARCH COOPERATIVE ARRANGEMENT

Strengthening of agricultural research assumes very high priority in the Asia-Pacific Region. This Region is not just a region, it accounts for about 60% of the world's population, and almost three-fourths of the world's farming households. Also, it has access to only about 30% of the world's arable land. Further, more than 80% of the world's poor (those below poverty line) and about 75% of the world's malnourished are concentrated in the Asia-Pacific Region. In past, researches have paid handsomely to the agricultural development in the Region. Rice and wheat production in the Region has been increasing by 3.5 to 4% annually.

However, in the face of the burgeoning population, the demand for food and agricultural products is steadily increasing. In the next decade, the Region's rice and wheat production must increase by about 280.0 m tons from presently 380.0 m. tons to maintain even the present level of food consumption. This calls for maintaining the past trend of production growth, if not higher, to meet the demand.

Several countries in the Region have generally strived to establish national agricultural research systems to generate and adapt appropriate technologies. However, most developing countries have only limited R & D facilities, especially for upstream research. Further, given the explosion of knowledge and information in recent years, it is becoming difficult even for developed countries to keep pace in frontline researches. It is also estimated that the rates of return to the investment in agricultural research have generally been more than 20%, one of the highest compared to any other investment. Yet, in most developing countries, the investment in research has been far below the desired level. Studies have revealed that developing countries have generally invested about 0.2 to 0.4% of their agricultural GDPs into agricultural research, as against 1 to 2% in most developed countries.

One way to overcome some of the difficulties is to share the technologies, information and expertise among the countries and to undertake collaborative strategic research through the establishment of a cooperative regional network. In this context, the Asia-Pacific Association of Agricultural Research Institutions (APAARI) is likely to foster the development of agricultural research in the Region through a collaborative mechanism. The initiative is expected to enhance the access to and development management and transfer of appropriate technologies among developing countries and between developed and developing countries. The countries, in the Region are highly diverse in their size, composition, strategy, effectiveness, and level of advancement, thus providing an opportunity for sharing of varied experiences. The Association is truly an organization of the countries and for the countries. It is one of the rare associations whose core budget is based on membership fees paid by both the developed and developing countries in the Region. It is an "informal" association and FAO plays a

catalytic role in cementing inter-NARS collaboration, establishing and strengthening linkages among NARS, IARCs and UN agencies, and fostering its own partnership with NARS.

### • ITS FORMAL ESTABLISHMENT

The 1984 FAO Regional Conference for Asia and Pacific Region emphasized that the research priorities in the Region should be kept under continuing review, common research needs and prospects should be identified, research needs and technologies of wider application should be recognized, and an effective regional association of agricultural research institutions to share the experience and expertise and to upgrade the collective capabilities in agricultural research and technology development in the Region should be established under the auspices of FAO. All the subsequent FAO Regional Conferences in 1986, 1988 and 1990 had endorsed this recommendation.

Accordingly, the FAO Regional Office for Asia and the Pacific (RAPA) in close collaboration with the Research and Technology Development Division (AGR), FAO Headquarters organized expert consultations in 1985 and 1988 for the establishment of the Association. These consultations strongly endorsed the recommendations of the Regional Conferences and prepared APAARI's Constitution and the modality of its operation.

The 1988 Consultation had recommended that the Association may be deemed as established when a minimum of 10 national institutions in the Regional have formally agreed to become members of APAARI. As per the recommendations of the Consultations, FAO approached the Member Nations to allow their apex agricultural research institutions to become members. The draft Constitution was also circulated to them for their comments and ratification.

In December 1990 Consultation, the Constitution of APAARI was formally adopted and APAARI got established at RAPA with Regional Plant Production and Protection Officer as its Executive Secretary. So far, 13 countries have been its members and most of them have paid their membership for 1991. The objectives, functions, mode of operation, etc. are all described in APAARI's Constitution, which is published in this Newsletter.

The first Executive Committee Meeting of APAARI was held at Bangkok from 10-11 October 1991 in which following important decisions were taken:

- i) Publication of an APAARI Newsletter twice a year.
- ii) To bring out a directory of national agricultural research institutions in the Region.
- iii) To have a few case studies of success stories of research and technology with visible and creditable impacts instituted and published.
- iv) Organize a training course on research management and impact analysis.
- v) To initiate cooperative research in areas of (a) Integrated Pest Management (IPM); and (b) research on socio-economic aspects as related to productivity.

# ASIA-PACIFIC ASSOCIATION OF AGRICULTURAL RESEARCH INSTITUTIONS

## CONSTITUTION

### PREAMBLE

1. The agricultural research institutions in the Asia-Pacific Region:
  - **Aware of** the problems and challenges facing the development of agriculture in the Region,
  - **Conscious of** the responsibilities which they must assume if they are to contribute to the process of social and economic development in the Region,
  - **Convinced that** the role and impact of the respective institutions can be enhanced through effective collaboration and consultation among them,

**Have decided to** establish a regional association of agricultural research institutions in the pursuit of their common objectives under the sponsorship of FAO.

### ARTICLE I

#### Name

2. The name of this association shall be "Asia-Pacific Association of Agricultural Research Institutions" (APAARI), hereinafter referred to as the Association.

### ARTICLE II

#### Seat

3. The Association shall have its seat at Bangkok, Thailand.

### ARTICLE III

#### Objectives

4. The overall objective of the Association shall be to foster the development of agricultural research in Asia and the Pacific Region.
5. More specifically, the objectives of the Association shall be to:
  - a) promote the exchange of scientific and technical know-how and information in agriculture;
  - b) encourage the establishment of appropriate cooperative research and training programmes in accordance with identified regional, bilateral or national needs and priorities;
  - c) assist in strengthening of research organizational and management capability of member institutions; and
  - d) strengthen cross-linkages between national, regional and international research centres and organizations, including universities, through involvement in jointly-planned research and training programmes.

### ARTICLE IV

#### Functions

6. In pursuance of the above objectives, the Association may undertake one or more of the following activities:

- a) convene General Assembly to discuss the Association's administration, general programme, policies, and priorities;
- b) organize working groups, meetings and seminars to discuss specific problems or sponsor technical studies, training courses and workshops;
- c) collect, collate and disseminate research information;
- d) maintain links with agencies, institutions, or organizations and other entities undertaking similar activities within and outside the Region; and
- e) promote collaborative research among member institutions.

### ARTICLE V

#### Membership

7. Membership shall be open to national agricultural research institutions/councils/organizations/universities, etc. from countries of the Region. In countries where agricultural research is handled directly by a government department, the relevant unit/bureau will be eligible to become member of the Association. Membership in the Association may be sought by submitting an application to the Executive Secretary in consultation with the Chairman of the Association. The membership of the Association shall also be open to such other organizations or bodies as may be decided by the General Assembly of the Association.
8. Any member institution desiring to withdraw from the Association shall notify the Executive Secretary in writing, and such withdrawal shall take effect three months from the date of receipt of the notice by the Executive Secretary.

### ARTICLE VI

#### Membership Subscription

9. For the purpose of determining annual subscription by member institutions, the countries where they are located shall be deemed to be categorized as follows:

Category I:	Australia, China, India, Japan, and New Zealand
Category II:	Bangladesh, DPR Korea, Indonesia, Iran, Malaysia, Pakistan, Philippines, Rep. of Korea, and Thailand
Category III:	Bhutan, Burma, Cook islands, Kampuchea, Fiji, Laos, Maldives, Nepal, Papua New Guinea, Solomon Islands, Sri Lanka, Tonga, Vanuata, Vietnam and Western Samoa.

The annual subscription from each member institution shall be as follows:

Member institution falling in  
Category I:

US\$ 6,000

Member institution falling in Category II:	US\$ 4,000
Member institution falling in Category III:	US\$ 2,000

## **ARTICLE VII**

### **Other Sources of Funds**

10. In addition to the annual membership subscription, other sources of funds shall consist of:
  - a) Grants and donations from governments, national, regional or international organizations and development banks, and others;
  - b) Proceeds from the sale of publications issued by the Association; and
  - c) Fees, if any, collected from participants of any technical meeting organized by the Association.

## **ARTICLE VIII**

### **The General Assembly**

11. There shall be a General Assembly of the Association, in which each member institution shall be represented by one delegate.
12. The General Assembly shall meet at least once every two years.
13. Each country organization represented in the Association shall have one vote at all meetings of the General Assembly. Members from a country present in a General Assembly shall elect at the start of the meeting a member institution which should represent their country for voting at ordinary or extraordinary meetings. The member institution elected as country representative shall become leader of the delegation consisting of members from that country attending that meeting. The Chairman shall allow some time for mutual consultation among members from each country prior to voting on any issue.
14. All decision shall be taken by a simple majority vote, except for those decisions relating to amendments to the Constitution, and those related to the dissolution of the Association. In the case of equality of votes, the Chairman shall have a casting vote.

## **ARTICLE IX**

### **Duties of the General Assembly**

15. In fulfillment of its objectives, the General Assembly shall determine the policy of the Association, approve the Programme of Work and Budget formulated and put up by the Executive Committee, review progress, and shall exercise other powers conferred upon it by the Constitution.

## **ARTICLE X**

### **Executive Committee**

16. There shall be an Executive Committee of the Association composed of three officers, namely Chairman, Vice-Chairman and Executive Secretary, and four members. The Chairman, Vice-Chairman and members shall be elected by the General Assembly from among the member institutions at

the biennial meeting and shall hold office until the next biennial session and shall not be eligible for immediate re-election to the same office for more than two terms. No country will have more than one representative on the Executive Committee. The Executive Secretary, who shall be appointed according to Article XII paragraph 22, shall be an ex-officio member of the Executive Committee.

17. If any one of the offices of Chairman or Vice-Chairman becomes vacant for any reason, the remaining members of the Executive Committee shall elect one of its own members to fill the vacancy. A position of member of the Executive Committee which falls vacant shall be filled by the unsuccessful candidate who has the highest number of votes in the election of the Executive Committee at the preceding General Assembly. Persons who become members of the Executive Committee under this provision will remain in office until the next Session of the General Assembly.

## **ARTICLE XI**

### **Duties of the Executive Committee**

18. The Executive Committee shall manage the affairs of the Association in accordance with this Constitution and the policies and directives adopted by the General Assembly.
19. The Executive Committee shall report to the Assembly on the implementation of the approved programme of work and the progress made in fulfilling the objectives of Association.
20. The Executive Committee shall meet at least once every year and shall be convened by the Executive Secretary.

## **ARTICLE XII**

### **Executive Secretary and Secretariat**

21. Secretariat of the Association shall be headed by the Executive Secretary.
22. During the initial years, FAO RAPA may permit the officer who deals with agricultural research to serve as Executive Secretary of the Association. After the initial period, the Executive Committee shall appoint the regular Executive Secretary with suitable experience in agricultural research.

## **ARTICLE XIII**

### **Duties of Officers**

23. The Chairman shall preside at all meetings of General Assembly and the Executive Committee.
24. The Vice-Chairman shall perform all duties of the Chairman in the absence of the latter, and such other duties as may be assigned to him by the Chairman.
25. Executive Secretary shall be the chief of the Secretariat of the Association. He shall be responsible for the affairs of the Association and execution of all activities approved by General Assembly, including preparation of programme of work and budget, monitoring of progress, and

arrangements for meetings of the General Assembly and Executive Committee meetings, and arrange for the publication, distribution and preservation of the reports and proceedings of all meetings of the Association. He shall receive annual subscriptions and any other financial contributions to the Association, account for all money received and make payments in accordance with policies established by the Assembly and the Executive Committee, and he shall submit audited accounts to the biennial General Assembly.

#### ARTICLE XIV

##### Rules and Regulations

26. The General Rules of Procedure and Financial Regulations shall be prepared by the Executive Committee and approved by the General Assembly of the Association. Amendments to the Rules and Regulations may be adopted by a simple majority vote at any session of the General Assembly.
27. The Executive Secretary shall be responsible for utilization of the approved budget of the Association and shall maintain full accounts, records and documents. Duly audited accounts shall be presented at the General Assembly.

#### ARTICLE XV

##### Quorum

28. The quorum at all meetings shall be 33% of the membership.

#### ARTICLE XVI

##### Amendment of the Constitution

29. Amendment of the Constitution shall be considered only at a meeting of the General Assembly.
30. The Association may amend this Constitution by a two-thirds majority of the votes cast, provided that such majority is more than half of the countries from which the membership of the Association is drawn.
31. No proposal for the amendment of the Constitution shall be included in the agenda of any meeting of the General Assembly unless notice thereof has been dispatched by the Executive Secretary to members at least 120 days before the opening of the meeting.

#### ARTICLE XVII

##### Dissolution

32. The Association can only be dissolved by a resolution approved at a General Assembly. The procedure to be followed for the dissolution of the Association shall be the same as detailed in paragraphs 30 and 31 under Article XVI.

### ASIA-PACIFIC AGRICULTURAL NETWORKS

A network is a group of individuals or institutions linked together with a commitment to collaborate in solving common agricultural problems. The networks among developing countries are the means of achieving inter-country collaboration through sharing of existing resources and to have effective communication and exchange of information as well as materials, sharing of knowledge and technology, participation in meetings and workshops, training of manpower, and the involvement in collaborative research programmes. In order to foster mutual cooperation, the FAO Regional Office for Asia and the Pacific (RAPA), Bangkok is presently operating 23 such networks in the field of agriculture. These are:

1. Regional Organic Recycling Institutional Network
2. Asian Network on Problem Soils
3. Asian Network on Bio and Organic Fertilizers
4. Fertilizer Advisory Development and Information Network for Asia and the Pacific (FADINAP) - (with ESCAP/UNIDO)
5. Asian Soil Conservation Network for the Humid Tropics (ASOCON)
6. Asian Network on Waterlifting Devices
7. Regional Network for Agricultural Machinery (RNAM) - (with ESCAP/UNIDO)
8. Asia-Pacific Network on Research and Development of Cotton
9. Asia-Pacific Network on Vegetable Research and Development

10. Asian Network on Oilseed Crops
11. Asia-Pacific Network on Research and Development of Rainfed Agriculture
12. Asian Network on Research and Development of Sericulture
13. Asian Network on Rice Husk Gasification
14. Regional Network on Buffalo Development in Asia
15. Asian Network on Biotechnology Applicable to Animal Production and Health
16. Asia-Pacific Network on Animal Health Information Exchange
17. Asian Network of Agricultural Cooperatives
18. Asian Network on Development Communication by Agricultural Universities
19. Asian Network for Food and Nutrition
20. Regional Network Inter-Country Cooperation on Post-harvest Technology and Quality Control of Foodgrains (REGNET)
21. Asian Network on Forestry Education
22. Asia-Pacific Agro-Forestry Network (APAN)
23. Asian Network on Forestry Research (Forestry Research Support Programme for Asia and the Pacific - FORSPA)

For details concerning activities of these networks, please address your queries to the concerned Regional Officer at RAPA, Bangkok. Further information on these networks will be presented in subsequent issues of APAARI newsletter.

# AN INSTITUTE PROFILE

## INDIAN AGRICULTURAL RESEARCH INSTITUTE (IARI)

The Indian Agricultural Research Institute (IARI), popularly known as '**Pusa Institute**', is one of the premier agricultural research and educational institutions in the Asia-Pacific Region. With the generous help of an American philanthropist, Mr. Henry Phipps, it was established at Pusa - a village in Bihar State and first named as Agricultural Research Institute (ARI). It was renamed as the Imperial Institute of Agricultural Research in 1911 and as the Imperial Agricultural Research Institute in 1919. In 1934, due to a devastating earthquake, the majestic building of the Institute got severely damaged. At this stage, the Government decided to shift the institute from Pusa to New Delhi and the then Viceroy of India, Marquis of Linlithgo declared the Institute open on November 7, 1936. The Institute was later renamed as Indian Agricultural Research Institute (IARI) after independence in 1947. Since 1966, the Institute is under the administrative control of the Indian Council of Agricultural Research (ICAR) and it enjoys the status of a National Institute. In 1958, the University Grants Commission under the U.G.C. Act of 1956 gave the status of a deemed University and empowered it to award its own degrees.



*IARI Library*

The Institute has a long record as a centre of higher education and training in all the major disciplines of agricultural sciences. In 1923, a two-year post-graduate diploma course leading to Associateship of IARI was started. This course was recognized as equivalent to M.Sc. degree of universities in 1949. So far, the Institute has awarded a total of 2424 Ph.D. degrees and 2012 M.Sc. degrees to students from all over India, including a sizeable number from foreign countries as well.

IARI has the excellent physical facilities in the heart of New Delhi, Capital of India, on an area of approximately 500 hectares. More than 1000 scientists are engaged in research and teaching programmes carried out through a network of 20 divisions/centres, namely, Genetics, Vegetable Crops, Fruits and Horticultural Technology, Floriculture and Landscaping, Seed Science and Technology, Central Seed Testing Laboratory, Agronomy, Soil Science and Agricultural Chemistry, Microbiology,

Agricultural Physics, Agricultural Engineering, Mycology and Plant Pathology, Entomology, Nematology, Agricultural Chemicals, Plant Physiology, Biochemistry, Agricultural Economics, Agricultural Extension, and Bioinformatics; four multi-disciplinary laboratories, namely, Biotechnology Centre, Nuclear Research Laboratory, Water Technology Center, and National Facility for Blue Green Algal Collections; and eight Regional Stations located at Karnal, Indore, Pusa (Bihar), Katrain, Tutikandi (Shimla), Amartara Cottage (Shimla), Pune, and Kalimpong; and two off-season nurseries, one at Dharwad (Karnataka) and the other at Aduthurai (Tamil Nadu).

The mandate of the Institute is (i) to conduct basic and applied research in different branches of agricultural sciences and to provide national leadership; (ii) to build trained manpower resource at the national level; and (iii) to develop and extend on-farm technologies for integrated rural development.

The Institute is headed by the Director, who is assisted by a Joint Director (Research), a Dean and Joint Director (Education), a Joint Director (Extension) and Joint Director (Administration). Presently, Prof. S.K. Sinha, an eminent plant physiologist, is the Director of the Institute.

Among research achievements, Institute has made very valuable contributions in crop science research. The IARI wheat varieties account for more than 50% of the varieties released at the national level. Institute has established national leadership in the field of cereal crop research, pulses, forages and oilseed crops, vegetable crops, mango, and ornamental plants. It has centres of excellence in plant biotechnology, plant virology, water technology, nuclear research, and an algal genebank. Also researches in the field of plant protection, crop production technology, integrated nutrient management and agricultural chemicals are well-recognized. In hybrid technology, Institute is well known for its pioneering work in crops, such as sorghum, pearl millet, maize, tomato, mango, etc.

For further details, please address your queries to the Director, IARI, Pusa Campus, New Delhi 110 012, India.



*Water Technology Centre*

## REGIONAL BIOINFORMATICS WORKSHOP-CUM-TRAINING

Pursuant to the recommendations of the first meeting of APAARI's Executive Committee, through the generous offer of the Department of Biotechnology and the Indian Council of Agricultural Research (ICAR), the Research and Technology Development Division (AGR) of FAO sponsored a workshop-cum-training under the auspices of APAARI.

The Workshop-cum-training was held at the Bioinformatics Centre of the Indian Agricultural Research Institute (IARI), New Delhi from April 7-17, 1992. The activity was organized in the spirit of technical cooperation among developing countries (TCDC). The Government of India (GOI) provided all the local costs.

Twenty-one participants from ten countries, namely, Bangladesh, China, India, Indonesia, Malaysia, Philippines, Pakistan, Republic of Korea, Sri Lanka and Thailand participated. A few local observers also attended. A good number of qualified and experienced biotechnologists and bioinformatics experts from the host country delivered invited lectures and conducted practical exercises.

A comprehensive programme was prepared a brief account of the latest developments in biotechnology, overall developments in biotechnology information management and various database in this field. Corresponding to the various topics, there were elaborate practicals. A set of all the softwares (floppy disks) demonstrated were provided to each participant for their

further practice and use on return to their respective countries.

The participants also presented succinct accounts of biotechnology informatics in their respective countries. The country presentations revealed that there is a wide variation in the capabilities, several countries having constraints of infrastructure and manpower. Nonetheless, the countries evinced interest for inter-country cooperation through TCDC arrangements. The workshop developed a framework and structure of a regional cooperative network on bioinformatics. In doing so, the workshop took note of the existing UNESCO-sponsored Regional Informatics Network for Asia and the Pacific (RINAP), and recommended that the FAO-APAARI sponsored biotechnology information network should complement RINAP. Based on the status and future needs of bioinformatics in the cooperating countries, the workshop identified country-specific and regional level activities to be undertaken under the bioinformatics network (as a component of the proposed FAO/UNDP project on Asian Plant Biotechnology Network).

The workshop also developed two proformae for retrieving information. One was exclusively on biotechnology. The information thus retrieved would be organized in a machine readable form and the directory along with floppy disks will be provided to all the cooperators. The Department of Biotechnology (GOI), in close cooperation with FAO will publish the directory.



### ANNOUNCEMENT

#### Logo of APAARI

The Logo of APAARI is proposed to be selected through an open competition. APAARI would pay a token award of US\$ 250 to the winner. You are requested to bring it to the notice of all those who may like to enter in this competition. Logo must reflect the philosophy of Regional cooperation for agricultural research. The last date for sending the entry to the Executive Secretary is 28 February, 1993

### MEMBERSHIP OF APAARI

Presently, following 13 countries have become members of APAARI since 1991, whereas others in the Region are likely to join soon.

*China, Fiji, India, Iran, Malaysia, New Zealand, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Sri Lanka, Thailand, Western Samoa*

Since APAARI is an association of agricultural research institutions, its membership is not restricted to only one institution in a country. Hence, leading research institutions, councils, organization, and universities in the Region are welcome to become its members.