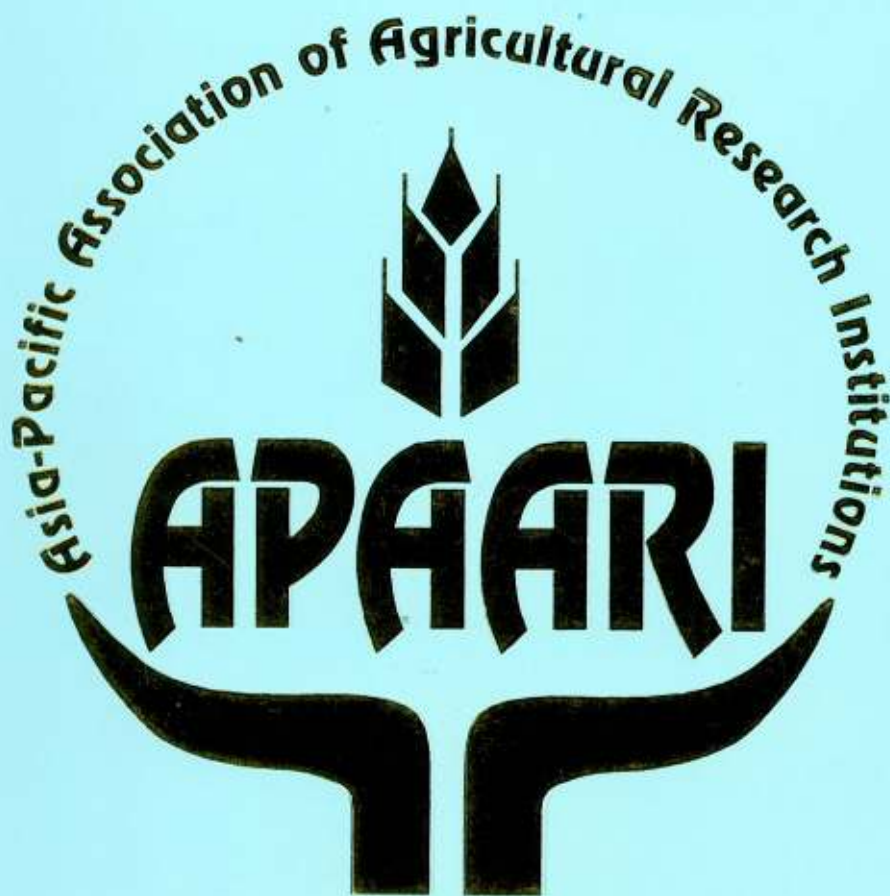


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PERSPECTIVE PLAN



FAO REGIONAL OFFICE FOR ASIA & THE PACIFIC
BANGKOK - 1995

The APAARI Perspective Plan

This Perspective Plan was discussed first in a brain storming session and later developed and presented to the Third General Assembly Meeting of APAARI held at Los Baños, Philippines on 25 November 1994. This plan was accordingly approved for its implementation by APAARI.

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BANGKOK - 1995**

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ASIA-PACIFIC ASSOCIATION OF AGRICULTURAL RESEARCH INSTITUTIONS



The APAARI Perspective Plan

EXECUTIVE SUMMARY

As its first move towards the 21st century, APAARI through the Perspective Plan embodies the vision of a region empowered, its resources stretched and sustained to optimal capacity and its products and services of world-class standard. It seeks to take part in nursing the Asia-Pacific Region to a sustained growth.

Five strategies will be pursued over the plan period. The perspective plan spells out the guidelines for intensifying cooperation in science and technology, human resource development, technology transfer, information networking, policy advocacy, and enhancing publications.

With the pursuit of the perspective plan, it is expected that there will be:

- ◆ high level of cooperation among Asia-Pacific countries that is synergetic and self-sustaining with active participation of the industry and private sector;
- ◆ a regional network of information;

- ◆ an enhanced state of policy advocacy; and
- ◆ a comprehensive cross-linkage among agencies through joint programmes, human resource development and resource generation.

The perspective plan is the strategic blueprint for the implementation of the Asia-Pacific regional program in science and technology particularly.

INTRODUCTION

In 1991, APAARI considered the following features of the Asia-Pacific Region in the formulation of APAARI's policies, plans, strategies, and programmes. These are:

- ◆ The region accounted for 56% of the world's population, more than 70% of the world's farming households, but only 30% of the world's arable land;
- ◆ More than 40% of the region's population is below poverty line while about 75% (300 m) of the world's malnourished people live in this region;
- ◆ Majority of the farmers are small holders and their access to production inputs are poor;
- ◆ Agricultural production is low and is highly unstable; and
- ◆ Higher demand for food and other agricultural products because of high population.

Against this backdrop, the 17th FAO Regional Conference held in Islamabad, Pakistan in 1984 recommended that an Asia-Pacific Association of Agricultural Research Institutions (APAARI) must be established. Further to this, recommendation was for FAO to sponsor the association to strengthen the

national agricultural research capabilities of the region and to enable the sharing of experiences among national partners. In pursuance of this recommendation, the FAO Regional Office for Asia and the Pacific (RAPA) organized an experts consultation in October 1985, which was attended by senior officials of several countries in the region. The consultation strongly recommended the establishment of the Association.

In December 1990, the constitution of APAARI was adopted by the General Assembly in its second meeting held at the FAO Regional Office for Asia and the Pacific, Bangkok, Thailand.

Since its establishment, APAARI has slowly emerged as an institution that fosters closer linkages among apex agricultural research management organizations in the region. As of 1994, 17 national agricultural councils/apex institutions have joined APAARI while 7 more have become associate members. These are IRRI, ICRISAT, CIMMYT, IIMI, IPGRI, AIT, and AVRDC.

Three latest developments have prompted APAARI to pursue the Perspective Plan. These are the Asian Free Trade Agreement (AFTA), the Uruguay Round of the General Agreement on Tariff and Trade (GATT) and the increasing number of members and associate members of APAARI. Keeping APAARI attuned with these developments, the APAARI Perspective Plan was formulated. The plan provides the outline and general direction that the Association will pursue towards achieving its mission. The plan is aimed at enhancing the development of agricultural research in the region.

MISSION STATEMENT

APAARI will promote the development of national agricultural research systems (NARS) in the Asia-Pacific region through intra-regional and inter-institutional cooperation.

OBJECTIVES

APAARI will continue to foster the development of agricultural research in the Asia-Pacific Region and be in the forefront of information, knowledge and technology exchange for agriculture and natural resources. Specifically, the objectives of the association are to:

- ◆ promote the exchange of scientific and technical know-how and information in agriculture;
- ◆ encourage the establishment of appropriate cooperative research and training programme in accordance with identified regional, bilateral, or national needs and priorities;
- ◆ assist in strengthening research organization and management capability of member institutions; and
- ◆ strengthen cross-linkage among national, regional and international research centers and organizations, including universities, through involvement in jointly planned research and training programmes.

The attainment of these objectives shall be enhanced through an effective system of planning, coordination, strengthening linkages and networks and establishing a dynamic system for information exchange and dissemination.

APAARI FUNCTIONS

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

- ◆ convene general assembly to discuss the Association's administration, general programme, policies and priorities;

- ◆ organize working groups, meetings, and seminars to discuss scientific problems or sponsor technical studies, training courses, and workshops;
- ◆ collect, collate, and disseminate research information;
- ◆ maintain links with agencies, institutions, or organizations and other entities undertaking similar activities within and outside the region; and
- ◆ promote collaborative research among member institutions.

THE PLAN

The Perspective Plan envisions a significant role in the expansion of activities in agriculture and natural resources in the region. The plan is seen to reinforce collaborative relationships among institutions, multiply its effectiveness by pooling efforts with other agencies in networking activities to avoid duplication and waste of scarce resources.

The plan is designed to support and complement national efforts in improving agriculture and natural resources in the region. It is hoped that APAARI shall take the lead in developing the region particularly in response to the implications of GATT and AFTA. APAARI shall take initiatives to address relevant issues through networking, policy advocacy, technology exchange, and human resource development. The plan will provide the blueprint for APAARI's development in the medium-term.

In packaging the Perspective Plan, consultation with member institutions was made. The summary of the plan was presented to the APAARI's Third General Assembly last November 25, 1994 and was approved. From this framework, APAARI has drawn up strategies to ensure that the plan will not only provide the direction but present information on how the goal will be reached. The strategies will also ensure that the

plan is supportive and complementary to the national programmes. Such strategies are:

- ◆ Regional collaboration/networks on priority programmes;
- ◆ Developing human resources;
- ◆ Policy advocacy;
- ◆ Resource generation; and
- ◆ Publications enhancement.

STRATEGIES AND ACTION PLAN

STRATEGY 1

REGIONAL COLLABORATION/NETWORK ON PRIORITY PROGRAMMES

Partnership has always been a key word for APAARI. Working with relevant partners have brought synergistic benefits. More specifically, this mechanism has enabled scientific collaboration across political borders and economic barriers. The effectiveness of partnership is reflected in the ease and extent with which knowledge and technology are shared between partners.

In pursuing collaborative research and development activities, it is imperative that regional programmes under its provision are in consonance with national initiatives being pursued by member countries. It is, therefore, timely for APAARI to develop appropriate strategies to support national and regional efforts by considering existing capabilities and providing synergistic support crucial to the speedy accomplishment of the goals. Toward this end, APAARI hopes to tap individual national agricultural research systems or the NARS in each member countries to form the regional net-

work. The uniqueness of each NARS will allow flexibility and eventually improve the regional network to attain the regional goals set hereforth. NARS should exert more effort to collaborate in the research programmes to their mutual benefit while overall coordination will be done by APAARI.

In supporting the regional network, new research tools should be utilized as they become available. The advent of information technology particularly tools for decision making should be appropriately used and enhanced. If these tools are available in some NARS, the networking arrangement should be at work. The other NARS could link up with those who are fortunate enough to have the tools and try to assist those NARS who do not have access to the tools for some reasons or another.

Other considerations in the regional networking arrangement is to include relevant aspects such as economic integration under GATT, sustainable development, and provision of basic domestic needs.

The following action plan could be implemented:

11 Select and support priority programme areas through networking arrangements that offer the greatest impact and most benefit to the Asia-Pacific Region

In the First General Assembly of APAARI, it was recognized that priority needs, strategies, and areas of research and technology development differ from country to country and from location to location within a country. It was, however, accepted that certain general priorities should be considered in most developing countries. These include research on increased productivity, maintenance research on crops which have attained high productivity, and increased productivity of small animals and aquaculture. Research for increased agricultural sustainability which includes integrated pest management, integrated nutrient management, and integrated irrigation and water management should receive high priority. Farming systems approach, particularly for small farmers and rainfed areas, is another priority. Generally, it was noted that socio-economic aspects have not been given due attention in the

process of technology development. Hence, this perspective plan would enhance the socio-economic aspect and would form the integral part of the programmes.

Biotechnology has far reaching opportunities as well as challenges. Most developed countries perceive biotechnology as providing the next basis for international commercial competitiveness and have already taken action to strengthen their competitive position. Hence, biotechnology would be considered a high priority.

The objective is to come up with regional focus as well as global perspective. The projects should have the greatest technological impact and economic significance to the Asia-Pacific region. For projects to qualify, the APAARI must adopt a definition that reflects the Asia-Pacific effort in promoting the GATT and a situation under which dialogue among partners will regard regional programme funding.

APAARI must devise a workable procedure for qualifying regional programmes/projects for support and prioritization. In addition, the interest of the private sector must be taken into account particularly if technology transfer/commercialization activities will be undertaken. Preferably, industry involvement should start at the earliest stage of proposal formulation/project design. To ensure effective implementation, APAARI will set up a Programme Review Committee (PRC). The PRC will be an inter-disciplinary, inter-agency group to review the proposals forwarded to APAARI for support.

1.2 Establish criteria for prioritizing programme areas

To ensure that the programme areas embrace the regionality of the Asia-Pacific region, APAARI shall be guided by the following:

- ◆ support and response to sustainable development;
- ◆ global competitiveness and provision of basic domestic needs;
- ◆ regional industry application and economic relevance;

- ◆ ability to leverage on strengths of existing centers of excellence;
- ◆ no duplication of nationally supported programme;
- ◆ application of commercialization; and
- ◆ risks and benefits.

The aforementioned should form part of the overall assessment and qualification. As to the percentages, these will be assigned, based on technical and economic considerations by the PRC.

1.3 Information Networking of Centers of Excellence

APAARI's mission is based on mutually reinforcing and collaborative relationships among a wide range of institutions. It intends to multiply its effectiveness by pooling efforts with other countries under networking arrangement which exploit synergy of resources and capabilities and avoid duplication of efforts.

To meet the demands of today's fast-moving R&D technology intensive business environs, information-based technologies such as crop and land-use modelling, geographic information systems (GIS) and remote sensing are among the tools that NARS will be expected to use. The major challenges to NARS is the collection of data, hand in hand is its accuracy. This would depend on the extent to which NARS can access information management systems. Likewise, NARS will have to encourage linkage and partnership with innovative institutions to enrich the activities of the agricultural research systems. NARS should develop stronger participatory mechanisms between Universities, Private Sector, Non-Government Organizations, Extension Service, Farmers' Organizations, and centers of excellence.

Much of the information in agricultural environments has been collected and organized by international and regional research organization or national agencies. Examples of which are: UNEP, FAO, ORSTORM, British NRI and the DUTCH KIT. The role therefore of APAARI would be to

bring together the needs of the developing countries and matching these with the expertise of the advanced institutes.

There is also a growing need to come up with the guidelines on information requirements including the setting of standard procedures for collecting data. In doing so, APAARI should build up the skills of the NARS to maintain local databases on research and the state of natural resources and the other is to use and apply wherever possible, the information available in global databases. Collaborative mechanisms is a must for NARS to access sources of information held by others and for the NARS to be open to others for the use of its databases.

The databases should form part of a reference facility that will make planning and evaluation documents readily available to those concerned. Setting up of an MIS in the NARS can be a powerful management tool to assist in reviewing and assessing research priorities and in allocation of scarce resources.

The need for an electronic-based technology information network is a priority in a competitive environment that Asia-Pacific is entering. It is envisioned that the Asia-Pacific network will be an effective link among countries and centers of excellence and also a gateway to international S&T and industrial databases.

1.4 Promoting Technology Transfer

At the turn of this century, technology development is deemed as the foundation of agricultural transformation. Because of the demand for economic growth, food security, and poverty alleviation, technologies have been applied/ utilized to increase and intensify agricultural production. However, in the process of intensifying agricultural production, trade-offs include soil erosion, pollution, deforestation, among others.

The challenge to Asia-Pacific people is to sustain increased production while improving and restoring the environment. Hence, there is a need for a new system of technology development and transfer. APAARI IS envisioned to serve as an agent of the new system approach

to technology transfer as proposed by Eponou (1993). There are six interactive elements which are the basic components of the system approach to technology transfer. These are:

- ◆ **Shared strategic goals** - all partners in the system must have the same goals. This will promote unity and commonality of approaches;
- ◆ **Synergy** - result in outputs which will be more than the sum of the output of individual components. It demands high level managerial skill and dynamism to capture changes;
- ◆ **Strong leadership** - motivating, inspiring and verifying leadership capable of judicious and rational allocation of resources is essential. Priority setting, fixing of responsibilities and accountabilities of all partners would be the task of the leader;
- ◆ **Decision** - making by consensus - to avoid conflict and poor implementation, it is advantageous to take decision through consultation among all partners and by keeping the process transparent;
- ◆ **Accountability to clients and policymakers** - along with responsibility, each partner should be held accountable to policy-makers as well as to the clients for the agreed-upon task that it has to perform. Such a system, of necessity, should possess suitable evaluation and monitoring device and capability; and
- ◆ **Ultimate user of technology as equal partners** - users should be equal partners in the process and be involved in all the important steps such as problem identification, planning, impact assessment and in the decision making process.

The technology would take various forms, according to the nature of the activities and linkages necessary for its successful promotion, transfer and utilization. Thus, it may either be a product of research; a process for improved production, post production or processing; a service to complement or enhance existing programmes and policies of the government; or information that can be used as databases for policy formulation.

Publicity and other appropriate communication strategies will be used to promote these technologies. Promotion will be supported by an aggressive information dissemination campaign through multi-media approach, training and linkage.

Training moduels will be produced and distributed to sustain technology intervention. These will likewise be assessed as to their impact on the clientele. Continuing enhancement of the experts' pool for productivity and improvement services and intellectual property protection will ensure success of transfer.

STRATEGY 2

DEVELOPING HUMAN RESOURCES

As the Asia-Pacific region pushes for its economic take off and transformation, there is a need to invest more on its people, strengthen its institutions, and improve its capacity for technology adaptation and mastery.

One of the foundations of sustained economic success is a high investment rate in human capital formation. APAARI would have to rely increasingly on the people and their skills to propel the Asia-Pacific region towards sustained economic growth. Hence, as a major strategy, APAARI will strengthen the development of strategic human resource development to include nurturing of promising researchers, scientists and research managers, among others.

2.1 Sensitize NARS to strengthen their efforts towards better human resources development

Agricultural universities and other institutions play an important role in research and technology generation. Generally, there is an existing dearth of reliable studies, models and approaches on specific issues/concerns, most of which have not been optimally utilized due to lack of trained manpower. Hence, in APAARI's first General Assembly Meeting, it was recommended that training courses should be organized to increase competence of member countries. Some areas recommended for training are on impact analysis; country-level and regional-level training courses on research management; planning, monitoring and evaluation of research and technology development, among others.

2.2 Establish an APAARI fellowship programme

Utilizing the existing facilities and equipment at the universities and centers of excellence of consular countries, APAARI will establish a fellowship programme. The fellow will have an on-the-job training to the host member country. The fellow will be provided the opportunity to learn advances in R & D of the member country and appreciate the host country's culture as well. Sponsorship could be sourced out from donor agencies with the assistance of APAARI. If this would not be feasible, the Technical Cooperation Among Developing Countries (TCDC) modality could be used wherein the sending party will shoulder airfare and salary of participant while receiving party shall shoulder in-country expenses like board and lodging.

STRATEGY 3

POLICY ADVOCACY

Mechanisms have to be developed to communicate issues related to the advancement of agriculture and natural resources sectors. In this way, the involvement of APAARI in development could be enhanced not only through direct linkage with the "downstream" clientele-farmers, but also

with the mainstream - the policy makers, to enhance policy improvement.

The aim is to make policy advocacy in agriculture and natural resources a continuing concern. In general, this strategy should analyze policies/issues affecting agriculture and natural resources. Specifically, it aims to:

- ◆ gather, review, and synthesize information on major policy issues;
- ◆ develop APAARI's position papers on these issues; and
- ◆ facilitate the dissemination of position papers developed in order to increase awareness.

3.1 Preparation of Policy Papers

Preparation of policy papers is the core activity of the program. These policy papers will serve as the basis for the stand which APAARI will take on specific issues. The policy papers prepared will have to be presented to APAARI during the general assembly. However, if the policy issue is controversial and needs immediate action, a referendum will have to be drawn from the members of APAARI.

A group shall be formed to do the policy analysis and prepare the policy papers.

STRATEGY 4

RESOURCE GENERATION

In most developing countries of the Asia-Pacific region, about 0.2% to 0.4% of agricultural GOP is invested in agricultural research, against 1% to 2% in most developed countries. Although in recent years, a con-

siderable increase in investment in agricultural research was noted, a wide gap between the present level and the desired level still exists.

R&D efforts require substantial amount of both financial and technical resources which usually compete with other priorities or equally important activities and functions.

Thus, efficiency in resource allocation and utilization has become a critical activity. Questions as to whom, when and how resources are to be allocated became vital considerations.

This strategy must be guided by the priority setting mechanisms stated in strategy 1. APAARI shall then embark on an aggressive resource generation strategy.

4.1 Sourcing of funds

To attain the desired physical and financial requirements of the R&D sector, APAARI shall assist on the aggressive resource generation premised on the following:

- ◆ Continuous upgrading of capability in conducting quality research and maintaining excellence in R&D;
- ◆ Flexibility and responsiveness of R&D to the needs of the people to trigger socio-economic transformation in the region; and
- ◆ Effective and strong linkage mechanisms for sharing of resources and cooperation among R&D institutions.

APAARI shall continue to tap various traditional sources of funds such as UNDP, USAID, WB, IDRC, EEC, among others. At the same time that as APAARI shall pursue resource generation from traditional donors, it shall also attempt to vigorously establish and maintain institutional tie-ups with nontraditional donors.

- ◆ APAARI shall continue encouraging the sharing of resources among R&D agencies by matching needs with resources available;
- ◆ APAARI shall allocate fund on programme basis and be proportional to the level of participation agreed for the different actors; and
- ◆ APAARI shall encourage private sector participation through appropriate cost-sharing arrangements in R&D funding.

STRATEGY 5

PUBLICATION ENHANCEMENT

APAARI shall pursue an aggressive publications programme. The aim is to document important events and research findings for wider readership.

Technical literatures as well as popular information materials, i.e., success stories, newsletters, research management studies shall be published. It is expected that production and distribution of publications will increase dramatically.

During the plan period, APAARI will pay increasing attention to reach more policymakers to inform them on the need for policies relating to particular agricultural commodities; potential investor to make them aware of available technologies that merit investment; and the general public, for them to officiate the value and benefit of scientific inquiry. These will be possible by enhancing APAARI's publications.

☆☆☆☆

*Designed by
Ms. Jiraporn Kruaval*