APAARI Newsletter

Asia-Pacific Association of Agricultural Research Institutions

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Editorial

The last few years have witnessed a wide range of concerns on climate change and the challenges associated with it, particularly as highlighted in the IPCC reports. Several thematic conferences, symposia, workshops have been organized globally and the topic well-discussed. Emerging challenges are still being debated for an action-oriented approach impacting climate change. Overall, such global climate changes are affecting agriculture through their direct and indirect effects on crops, soils, livestock, pests and diseases, and hence global food security. And this challenge is more pertinent to Asia which is the home for more than half of the world population. Alleviating poverty and attaining food security are the major concerns to most countries within Asia-Pacific region. Reorientation of agricultural research is thus considered imminent and is a global priority in the context of climate change.

APAARI through its expert consultations has been debating on emerging issues *vis-a-vis* ARD concerns in the Asia-Pacific region. Accordingly, adaptation to, and mitigation of climate change, was identified as an important subject by its members during an earlier Expert Consultation on "Research Need Assessment" organized in 2006. The issues of climate change and food crisis were also the major themes of the G8 Summit hosted by Japan in July 2008. All these events necessitated further debate on this topic with regional focus in view. Accordingly, APAARI and JIRCAS had jointly organized a "Symposium on Global Climate Change: Imperatives for Agricultural Research in Asia-Pacific" from 21-22 October 2008 at the International Congress Center, Tsukuba, Japan. This event was also co-sponsored by GFAR, CIMMYT, ICARDA, ICRISAT and AVRDC.

The Symposium was attended by 158 participants from 30 countries representing APAARI member NARS, CGIAR, IARCs, GFAR, ACIAR, JIRCAS, ARIs, universities, regional fora, NGOs, FOs, private sector and the donor organizations. The deliberations were conducted in four technical sessions that dealt with research strategies in national and international context, panel discussion on adaptation and mitigation options, followed by plenary session-emerging with specific recommendations. The landmark of the symposium was the "Tsukuba Declaration on Adapting Agriculture to Climate Change", adopted unanimously by the participants (see details on page 4).

APAARI has been instrumental in promoting regional cooperation for agricultural research in the Asia-Pacific region. In this context, it was agreed that APAARI, in collaboration with its stakeholders, especially CGIAR centers, ARIs, GFAR, regional fora, and its members, should continue facilitating regional collaboration on adaptation and mitigation to climate change in a consortium mode and also take advantage of new initiatives such as Challenge Program on Climate Change for future sustainability of all concerned in the region. Accordingly, APAARI looks forward to catalyse the process towards effective implementation of "Tsukuba Declaration".

Editors

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The Tenth General Assembly of APAARI

Participants of the Tenth General Assembly

The 10th biennial General Assembly Meeting (GAM) of APAARI was held on 20 October 2008, at the International Congress Center, Tsukuba, Japan. It was hosted by Japan International Research Center of Agriculture (JIRCAS). The meeting was attended by 42 members. In welcoming the participants, Dr. Raghunath Ghodake, Chairman, expressed his thanks to all the members for their excellent cooperation. He also expressed sincere gratitude to Dr. Kenji Iiyama, President, JIRCAS, for hosting the meeting. Dr. Ghodake acclaimed that APAARI is now recognized as one of the vibrant organizations, which provides neutral platform to all key stakeholders, engaged in the field of agricultural research for development (ARD). During the recent past, APAARI has also broadened its Executive Committee by having additional representation of CGIAR, GFAR, NGO and the Farmers Organization.

Dr. Ghodake specifically mentioned that the developing countries of the Asia-Pacific region have greatly benefited through their association with APAARI. In his concluding remarks, Dr. Ghodake mentioned that APAARI has now become self-sustainable regional organization, mainly due to the regular membership contribution of its members.

Some recent publications of APAARI/APCoAB released were: (i) A Success Story on Cotton-Wheat Production System in South Asia, (ii) Biosafety Regulations of Asia-Pacific Countries, (iii) Production and Cultivation of Virus-free Citrus Saplings for Citrus Rehabilitation in Taiwan, (iv) Proceedings of Asia-Pacific Regional Workshop on Agricultural Research for Development in Cooperation with ANGOC, (v) Revised APAARI Flyer and (vi) APAARI on CD 2008.

Dr. Raj Paroda, Executive Secretary highlighted the progress made by APAARI relating to: (i) the establishment of NGO Consortium for Asia-Pacific called NAARAP, (ii) efforts on de-centralized management of ARD information system and development of APAARI website, (iii) review of the progress on agricultural biotechnology related activities undertaken by the Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB), (iv) amendment in APAARI Constitution concerning expansion of Executive Committee, (v) continued emphasis on APAARI publications, etc.

The Executive Secretary was pleased to inform the GAM that APAARI has been consistently striving to enhance its membership and to this effect has approached several NARS, IARCs, CG Centres, Regional Fora, etc. to enroll as new APAARI members. The participants noted with satisfaction that during the biennium 2007-2008, four institutions namely: ICRAF, IFAP, NTU, and SAARC have become associate members. CIAT also confirmed its decision to join as associate member w.e.f. 2009. Recently, Malaysian Agricultural Research and Development Institute (MARDI) has confirmed to upgrade its membership contribution from category II to category I with effect from January, 2009. Similarly, NARI of PNG has also conveyed its decision to move its membership from category III to category II effective January, 2009.

Dr. Paroda further informed that APAARI Secretariat has been making constant efforts to approach the new potential NARS in the region such as Afghanistan, Bhutan, Cambodia, Indonesia, Laos, Mongolia, Myanmar, and some Pacific countries to become members of APAARI. Also the South Pacific Commission (SPC), Central Asia and the Caucasus Association of Agricultural Research Institutions (CACAARI) and the Forum for Agricultural Research in Africa (FARA) have been approached to become reciprocal members. A few agricultural universities in the region have also expressed their desire to join APAARI but find it difficult to pay the prescribed membership fee. In this context, the members agreed to have a nominal fee in their case so as to enable them to participate in various APAARI activities. Accordingly, GAM decided to create a new category VI as APAARI Affiliates with non-voting rights, having annual membership fee of US$ 1,500.

Audited financial statement of APAARI for the years 2007–2008 (January–September) were also presented. The members expressed their satisfaction on APAARI Secretariat functioning and its accounting practices in line with other international/regional organizations. The GAM also approved the proposed extension of the services of current Audit Company upto 31 December, 2010.

The work plan of APAARI for the year 2009, and its proposed budget line including the regular office expenditure for the biennium 2009–2010 were unanimously approved.

The election of the 10th Executive Committee of APAARI also took place during the GAM. The Assembly unanimously elected the following members of the Tenth Executive Committee. The GAM also concurred for an additional seat for the NGO representative in the Executive Committee :

New Executive Committee of APAARI (2009-2010)

Chairman	:	Dr. Abdul Shukor Abd Rahman
Vice-Chairman	:	Dr. Mangala Rai
Members	:	Dr. Raghunath Ghodake
		Dr. Richard Beyer
		Mr. Somchai Charnnarongkul
		Mr. Harun-ur-Rashid
		Mr. Raul Montemayor
		Dr. Robert S. Zeigler
		Fr. Antonio Francisco Lucas
		Dr. Mark Holderness
Executive Secretary	:	Dr. Raj Paroda

In response to a request from the Chair, the Rural Development Authority (RDA), Republic of Korea offered to host the 11th General Assembly Meeting (GAM) during the last quarter of 2010. As per practice, APAARI would also take this opportunity to organize an Expert Consultation on a priority topic to be identified in due course.

Brief presentations were made by NAARAP, YPARD, GFAR (on CGIAR change management process) and AARINENA representatives.

During the closing session, APAARI presented plaques of appreciation to eight outgoing senior members of APAARI for their valuable services.

On behalf of APAARI, Dr. Raj Paroda, proposed a vote of thanks and expressed his gratitude to Dr. Kenji Iimaya, President JIRCAS, the outgoing members of the Executive Committee and to all others for their excellent support to various activities of APAARI. He particularly thanked Dr. Ghodake and Dr. Abd Shukor for this constant advise as Chairman and Co-Chairman, respectively.

Opening of ICARDA's South Asia Regional Office

The International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria has recently opened its South Asia Regional Office in New Delhi, India. With its expanded mission and mandate, ICARDA now works in non-tropical dry areas on the globe. Many of the researchable issues pertinent to the South Asia region fit well with the ICARDA's research agenda.

Located in the NASC Complex (Pusa), New Delhi, the South Asia Office of ICARDA was jointly inaugurated on 4 November 2008 by Dr. Mangala Rai and Dr. Mahmoud Solh, in the presence of Prof. M.S. Swaminathan, Dr. R.S. Paroda and other dignitaries representing various institutions located on the campus. In his remarks, Dr. Mangala Rai said, “ICAR and ICARDA are joining hands to work together on important crops like chickpea, lentil, other legumes, barley and on rangeland, crop-livestock systems. This fruitful partnership will not only benefit India and ICARDA but the whole region”. Dr. Mahmoud Solh, Director General of ICARDA welcomed Dr. Mangala Rai, Dr. M.S. Swaminathan, Dr. Raj Paroda, Dr. Sanjaya Rajaram, Dr. Surendra Beniwal and other distinguished scientists and guests. He expressed his gratitude towards the Government of India for recognizing the value of ICAR-ICARDA alliance; and for facilitating the establishment of ICARDA’s South Asian Program in New Delhi. He specifically recognized valuable contributions of Dr. M.C. Saxena, Dr. Raj Paroda, Dr. Sanjaya Rajaram, Dr. Beniwal in shaping up ICARDA’s agenda and ensuring that the benefits of research towards increasing food security and reduction in poverty. Dr. Solh briefly shared his vision on how South Asian Program of ICARDA would closely work with Indian scientists to help the farmers of the region.

Dr. Ashutosh Sarker, Regional Coordinator of ICARDA for South Asia & Food Legume Breeder shared his thoughts on translating the outcomes of valuable collaboration between ICAR, ICARDA, and other CG centers. The invitees were pleased to see impressive office facilities created at the NASC Complex, New Delhi, India.

Inauguration of ICARDA Regional Office at NASC Complex

[Source: Dr. Ashutosh Sarker, Regional-Coordinator, ICARDA South Asia Office]

New APAARI Members

ICRAF, IFAP, NTU, SAARC and Sugar Research Institute of Fiji (SRIF) became members of APAARI in 2008. Also, CIAT, CACAARI, FARA, and YPARD are likely to become new members in near future.

Symposium on Global Climate Change: Imperatives for Agricultural Research in Asia-Pacific, 21-22 October 2008, Tsukuba, Japan

Participants of Symposium on Global Climate Change

Global climatic changes are affecting agriculture through their direct and indirect effects on crops, soils, livestock and pests, and hence the global food security. IPCC report has particularly indicated vulnerability of developing countries of the Asian region, especially its megadeltas to increasing climate change and variability due to its large population, predominance of agriculture, large climatic variability, and limited resources to adapt. Asia is the home for more than one half of the world population. The rapid and continuing increase in population and economy implies increased demand for food. It is estimated that by 2020, food grain requirement in Asia would be almost 30-50% more than the current demand. This will have to be produced from same or even shrinking land resource due to increasing competition for land and other resources by non-agricultural sector. Accordingly, the world food situation will be strongly dominated by the changes that would occur in Asia because of its huge population, changes in diet pattern and associated increased demand for food and feed.

Alleviating poverty and attaining food security would be the major challenges to most countries in the Asia-Pacific region in the 21st century. Producing enough food with reduced resources in adverse environmental scenario would be a major challenging task before most of the Asian nations. Concerted efforts would be needed to maximize food production, minimize environmental degradation and attain socio-economic development through reorientation of agricultural research that would comprehensively address all urgent concerns including adaptation to and mitigation of climatic change. Accordingly, APAARI and JIRCAS jointly decided to organize a Symposium to develop required framework for reorientation of agricultural research to address specifically issues related to the climate change adaptation and mitigation in crops, livestock, fisheries and agro-forestry. The symposium had plenary sessions and panel discussions to debate the key issues and to develop appropriate recommendations for research to enhance adaptive capacity and mitigation potential of agriculture in Asia-Pacific region while ensuring continued agricultural growth and development. This meeting was held in International Congress Center, Tsukuba, Japan on 21-22 October 2008 and was co-sponsored by GFAR, CIMMYT, ICARDA, ICRISAT, and AVRDC. The Symposium was attended by 158 participants from 30 countries representing APAARI member NARS, CGIAR, IARCs, GFAR, ACIAR, JIRCAS, ARIs, universities, regional fora, NGOs, FOs, private sector and the donor organizations. The deliberations were conducted in four technical sessions that dealt with research strategies in national and international context, panel discussion on adaptation and mitigation options, followed by plenary session. The specific objectives of this meeting were:

1. To review the current state of understanding of the climate change and to assess its impacts on agriculture in Asia-Pacific region.
2. To understand and analyze the available scientific, technological, and policy options in the region for adaptation and mitigation to climatic change and their possible implications in agriculture.
3. To identify short-, medium-, and long-term research priorities that would ensure enhanced adaptation and mitigation in agriculture

The landmark of the symposium was the "Tsukuba Declaration on Adapting Agriculture to Climate Change", adopted unanimously by the participants. Same is given below:

Tsukuba Declaration on Adapting Agriculture to Climate Change

An International Symposium on 'Global Climate Change-Imperatives for Agricultural Research and Development' was held at Tsukuba, Japan from 21-22 October, 2008, organized jointly by Asia-Pacific Association of Agricultural Research Institutions (APAARI) and Japan International Research Centre for Agricultural Sciences (JIRCAS). In all, 158 participants from 30 countries, representing national agricultural research systems, regional and sub-regional

organizations, universities, advanced research institutions, non-governmental organizations, the private sector, farmers' organizations, young professionals, multilateral and donor agencies, and International Agricultural Research Centers of the Asia-Pacific region attended. The following '*Tsukuba Declaration on Adapting Agriculture to Climate Change'* was unanimously adopted.

Dr. Martin Parry answering a question from the audience

- We recognize that the Asia-Pacific region sustains almost half of the global people, with high rates of population growth and poverty. Agriculture continues to play a critical role in terms of employment and livelihood security in all countries of the region. At the same time, this region has the largest concentration of hungry and malnourished people in the world. Droughts, floods, heat waves and cyclones occur regularly. Climate change is likely to raise regional temperatures and lead to decline in fresh water availability, sea level rise, and glacial melting in the Himalayas. We recognize that the IPCC has considered the developing countries of the Asia-Pacific region, especially the megadeltas of Asia as very vulnerable to climate change.
- Attainment of Millennium Development Goals (MDGs), particularly alleviating poverty, assuring food security and environmental sustainability against the background of declining natural resources, together with a changing climate scenario, presents a major challenge to most of the countries in the Asia-Pacific region during the 21st century.
- Water is a key constraint in the region for attaining food production targets and will remain so in future as well. Steps are, therefore, needed by all the stakeholders to prioritize enhancing water use efficiency. In addition, measures for water storage using proven approaches such as small on–farm ponds, large reservoirs, groundwater recharge and storage, and watershed approach managed by the farming communities require attention.
- We fully recognize that increasing food production locally will be the best option to reduce poor people's vulnerability to climate change variations. Available agricultural technologies can help increase the yield potential of crops that has not yet been tapped in many countries of the Asia-Pacific region. Hence, a concerted effort, backed by policy makers at the national level would be the key to enhance food security as well as ensuring agricultural sustainability.
- New genotypes tolerant to multiple stresses: drought, floods, heat, salinity, pests and diseases, will help further increase food production. This would require substantial breeding and biotechnology (including genetically modified varieties) related efforts based on collection, characterization, conservation and utilization of new genetic resources that have not been studied and used. CGIAR Centers, Advance Research Institutes (ARIs) and the National Agricultural Research Systems (NARS) of the region have a major role to play in this context. This will require substantial support in terms of institutional infrastructure, human resource capacity and the required political will to take up associated agricultural reforms. We, therefore, fervently call upon the national policy makers, overseas development agencies (ODA), other donor communities as well as the Private Sector to increase their funding support for agricultural research for development in the Asia-Pacific region.
- We also recognize that a reliable and timely early warning system of impending climatic risks could help determination of the potential food insecure areas and communities. Such a system could be based on using modern tools of information and space technologies and is especially critical for monitoring cyclones, floods, drought and the movements of insects and pathogens. Advanced Research Institution, such as JIRCAS, could take the lead is establishing an 'Advance Center for Agricultural Research and Information on Global Climate Change' for serving the Asia-Pacific region.
- The increasing probability of floods and droughts and other climatic uncertainties may seriously increase the vulnerability of resource-poor farmers of the Asia-Pacific region to global climate change. Policies and institutions are needed that assist in spreading the risk and to provide protection against natural calamities, especially for the small farmers. Weather-crop/livestock insurance, coupled with standardized weather data collection, can greatly help in providing alternative options for adapting agriculture to increased climatic risks.
- Governments of the region should collaborate on priorities to secure effective adaptation and mitigation strategies and their effective implementation through creation of a regional fund for improving climatic services and for effective implementation of weather related risk management programs. Active participation of young professionals is also called for.
- We do recognize that there are several possible approaches to enhance carbon sequestration in the soils

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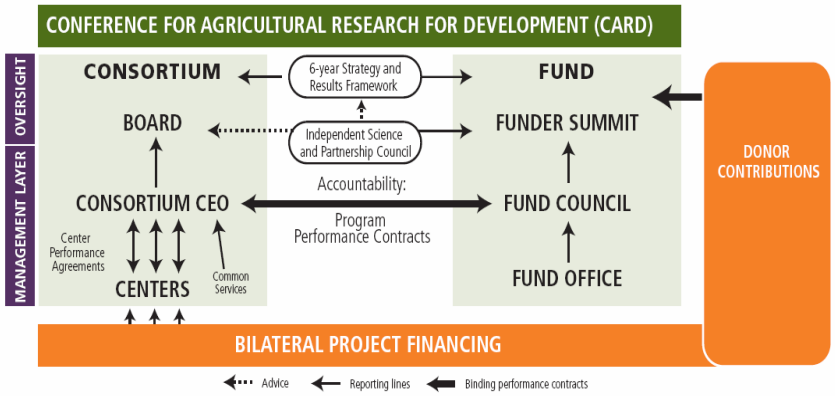
Revitalized CGIAR– A New Way Forward – Response of APAARI

During the General Assembly Meeting of APAARI, held recently in Tsukuba, Japan the strategy to revitalized CGIAR (see figure) was discussed in detail in order to understand its implications for the ARD in the Asia-Pacific. Dr. Mark Holderness, Executive Secretary, GFAR made a brief presentation on the subject, which evinced great interest and lead to an interesting discussion. The APAARI General Assembly came up with the following unified response for the consideration of CGIAR:



The proposed new structure for a revitalized CGIAR
[Source: CGIAR Secretariat, cgiar@cgiar.org]

1. APAARI fully supports the on-going CGIAR reform process and would like to have the important recommendations of the Review Panel speedily implemented. In this context, role of Change Steering Team (CST) is seen to be more important at this juncture. However, we will appreciate if the NARS leaders from the South are also inducted in the Team for a balanced representation.
2. As a Regional Forum, it is our expectation that in future all research prioritization and the impact assessment related activities will be carried out (by the Science Council/ CGIAR) in close collaboration/partnership with concerned Regional Fora and the GFAR.
3. It is also expected that the change process will not lead to yet another bureaucratic layer, but will be seen to facilitate an enabling environment for the efficient and smooth functioning of the Centers.
4. Beside Challenge Programs, APAARI strongly recommends that the System-wide or the Eco-regional programs, being an inter-institutional collaborative approach, be given high priority in addressing location specific problems, especially in South Asia where maximum poverty still resides. In this context, some Centers henceforth could perform the role of Eco-Regional Centers through reorientation of their new mandate and goals.
5. APAARI members, especially from the developing NARS, were of the view that the role/contribution of their research scientists need to be fully recognized and due credit given, being equal research partners, by the Future Alliance Centers. Also the capacity building process of NARS be given, once more, high priority to ensure quick adoption of technologies for their immediate impact.
6. APAARI also endorses the important role of GFAR towards involvement and partnership of various stakeholders and to organize in future the biennial Conference on Agricultural Research for Development (CARD). We believe that this would ensure true ownership as well as engagement of key ARD players. Nonetheless, GFAR would require both institutional and funding support to perform this new role through its own revitalization.
7. APAARI places on record its appreciation for the important contributions made by the CGIAR towards food security, poverty reduction, environmental sustainability, beside developing both the institutions and human resource capacity. APAARI shall look forward to continue working as a trusted partner, especially towards meeting the new challenges concerning agricultural research for development.

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of the Asia-Pacific region such as greater adoption of scientific soil and crop management practices, improving degraded lands, enhanced fertilizer use efficiency, and large scale adoption of conservation agriculture. To be effective, these would require simultaneously improved use of inputs such as fertilizers, crop residues, labour and time. This soil carbon sequestration has the added potential advantage of advancing food security at the national/regional level. We do urge the global community to ensure appropriate pricing of soil carbon and related ecosystem/environmental services in order to motivate the small farmers to adopt new management practices that are linked to proper incentives and rewards.

- APAARI has been instrumental in stimulating regional cooperation for agricultural research in the Asia-Pacific. Global climate change and its implications for agriculture underline the need for such an organization to become even more active at this juncture. APAARI, in collaboration with its stakeholders, especially CGIAR Centers, ARIs, GFAR and other regional fora, should continue facilitating regional collaboration in a Consortium mode and take advantage of new initiatives such as Challenge Program on Climate Change for building required capability to adapt and mitigate the effects of climate change and ensure future sustainability of all concerned in the region.

Fiji Agriculture

Agriculture remains a major sector of the economy, accounting for 43 per cent of Fiji's foreign exchange earnings. It provides 50 per cent of the country's total employment and contributes 19 per cent to Fiji's Gross Domestic Product (GDP). The research programs in agriculture always attempt to find solutions to physical, biological, technical and socio-economic problems that affect crop production.

Research Division, Department of Agriculture

• Mandate and Mission

The Research Division is a lead government agency/division devoted to crop research excluding sugarcane in Fiji. It is a vital part of the Department of Agriculture of the Ministry of Primary Industries, and mandated to complement and support through innovation of appropriate technologies and quality services through applied and adaptive research and its transfer to suit the needs of the farmers, clients and the stakeholders for the enhancement of the agricultural sector. It provides the necessary scientific, technical and professional support services that are an integral part of the Division. Research Division envisions that appropriate technologies are available to facilitate agricultural production and trade requirements. Overall focus is on agricultural research and innovation technology, adoption that will continue to provide economic and social well-being for the people of Fiji.

Research and Development Thrust

The activities of the Division are focused through four major disciplines including Agronomy, Horticulture, Crop Protection, and Analytical Chemistry. The Agronomy and the Horticulture Sections form the core units to devise and develop technologies while the Chemistry and the Plant Protection Section provide technical, scientific support and regulatory mechanism of the Division. In addition, the Administration and Management section provide internal support and governance for the smooth deliverables. The Division comprises of 94 technical and administrative staff together with 157 government wage earners and operates with an annual operating budget of about F$ 4 m.

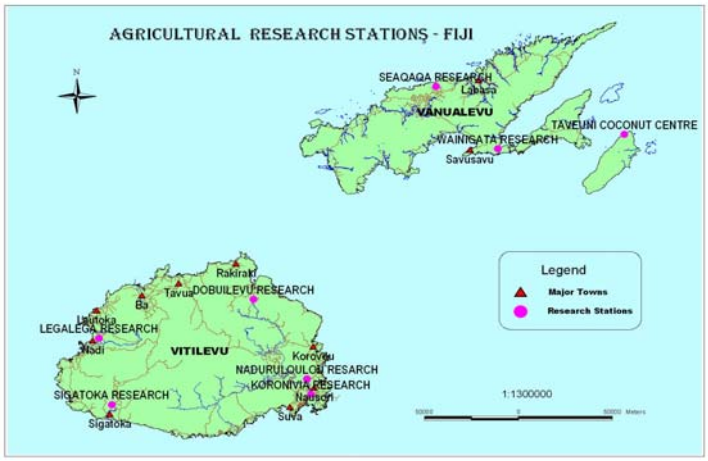
The main thrust of research is on agronomy of crop development and on providing services to the agricultural sector. The development of new crop varieties from exotic lines, improving productivity of the underutilized indigenous crops to optimize yields, conservation and management of plant genetic resources, optimizing crop production efficiency through utilization of appropriate farming practices including agricultural mechanization, generate and disseminate information to create awareness and education for sustainable agricultural development to stakeholders are of paramount importance and forms the core functions of the Division. Apart from this, production of foundation, farmer seeds and planting materials of various commodities and seeds of pawpaw, chillies and eggplant, specified under Bilateral Quarantine Agreement (BQA) with New Zealand and other trading partners, is also undertaken. The crops include cereals (rice and maize), root crops (taro, cassava, yams, and kumala), tree crops (coconut and cocoa), tropical fruits (mango, citrus, pineapple, banana, pawpaw, and indigenous fruits), assorted vegetables and pulses.

The services provided by the Division includes Crop Protection (Plant Pathology, Nematology, Entomology and Weed Science) to develop/recommend pest management systems and standards for increased food security and trade; Agricultural engineering; Chemical Analytical (Soil, Plant, Feed, Food including product development and Forensic) diagnostic and regulatory services (Seed genebank and testing); Pesticide registration to regulate, enforce and advice on the sale and usage of pesticides in compliance to Pesticide Act and regulations and production and supply of certified seeds and plant materials to the farmers.

• Agricultural Research Stations

Agricultural research is carried out at eight research stations distributed in the two main islands to give a maximum coverage of the agro-ecological conditions representing the major soil types prevalent in Fiji.

Five research stations are located in Viti Levu, two in Vanua Levu and one in Taveuni Island. In Viti Levu, the wet zone research stations are at Koronivia (KRS) and Naduruloulou (NRS); the intermediate zone at Dobuilevu (DRS), Sigatoka (SRS) and for the dry zone at Legalega (LRS). In Vanua Levu the wet zone research station is located at Wainigata (WRS) and for the dry zone at Seaqaqa (SQRS), with a Coconut Center in Taveuni Island as Taveuni Coconut Center (TCC).



The location of the eight stations is given in above figure and map, and brief information on each station is as follows:

Koronivia Research Station was established in 1948 as the "central", later "Principal Agricultural Station" of Department of Agriculture for banana, rice, cocoa, root crops, pasture crops and animal husbandry. At Koronivia, various other research sections, notably Entomology, Plant Pathology, Land Use and Soil & Plant Chemical Analysis Laboratory were housed, but

operated independently until 1967 when the creation of the "Research Division" the Department of Agriculture brought all these sections together. KRS is now the headquarters for the entire Crop Research Division where all the administrative functions of the Division is controlled. The current crop activities are concentrated on rice, root crops (taro, kava (*Piper methysticum*), ginger, yams, cassava, and sweet potato), vegetables, banana, and kura (*Morinda citrifolia*).

Naduruloulou Research Station was opened as a model farm in 1933 and in 1936 became the "Plant Introduction Garden" where plant quarantine facilities were provided. In 1942, this turned into an agricultural research station and the plant biodiversity collection built up from 1930's are still maintained. Also, activities on crops such as cocoa, coffee, fruits, nuts, spices, daruka (*Saccharum edule*) and kava were undertaken. The current crop activities are concentrated on kava, vanilla, floriculture, spices, exotic and indigenous fruits and nuts.

Dobuilevu Research Station was established in 1936 for research on crops such as pulses, rice, banana, root crops, daruka, coffee, citrus, macadamia and cocoa. The current crop activities are concentrated on root crops including dalo, yams, kawai, kumala and dalo ni tana (*Xanthosoma saggitifolium*).

Sigatoka Research Station was established in 1927 on a small area of the present farm as a cotton experimental station, but has subsequently had a varied history. When cotton growing declined in importance, this became the central experimental and teaching centre until 1942 when wartime conditions forced the abandonment of all plans. During the period 1942- 45 the station was used principally for production of fruits and vegetables for the army. In the postwar reorganization, it was decided that it should become an intermediate zone station and center of animal husbandry experimental work in Fiji. Later, emphasis was changed from dairy cattle to beef and pastures and horticultural crops. Currently, horticultural research is carried out on a wide variety of field crops such as vegetables, fruits, and nuts.

Legalega Research Station was established in 1971 for research on dry-zone crops such as pulses, rice, sorghum, pineapple, peanut, vegetable and tropical fruits. The current crop activities are concentrated on Tropical fruits (mango, breadfruit (*Artocarpus altilis*) and other indigenous fruits and nuts.

Seaqaqa Research Station started in 1956 with research on different crops. This included oil palm, coconuts, cocoa, cashew nut, coffee, mango, citrus, pineapple, rice, maize, pulses and root crops. Animal research on goat and sheep and for beef are also conducted at the station. The current crop activities are concentrated on tropical fruits (citrus, pineapple, mango, pawpaw, passion fruit and other indigenous fruits and nuts) and root crops (yam, dalo and ginger).

Wainigata Research Station was established in 1960 by Department of Agriculture which later in 1969 was taken over by Research Division to conduct research on coconut, cocoa and tropical fruits. The current crop activities are concentrated on coconut and root crops.

Taveuni Coconut Center was established in 1986 after Fiji Government decided to rehabilitate part of the existing coconut areas using high yielding hybrids. For this purpose, the former Burns Philip Mua Estate located in Taveuni was purchased and since developed and renamed Taveuni Coconut Center with funding from European Community Cooperation. The activities focus on identifying high yielding coconut cultivars and mass multiplication to replant unproductive groves. Currently, the center has coconut seed garden for mass hybrid seed nut production, varietal evaluation experiment, Fiji Tall progeny trial, germplasm and multiplication block.

Current R&D Programs/Ongoing Activities

Basic research is implemented by Research Division through various research stations to address emerging issues on agricultural sector in Fiji. The major focus are on crops such as root crops (taro, cassava, yam, kawai (*Dioscorea esculenta*), ginger and kava (*Piper methysticum*), rice, maize, sorghum, pulses, assorted vegetables (cabbage, tomato, eggplant, okra, chillies, lettuce, carrot, long beans, french beans, capsicum, and indigenous vegetables) and tropical fruits (pawpaw, mango, citrus, pineapple, breadfruit (*Artocarpus altilis*), banana and indigenous fruits).

Technical Programs with Taiwan

- Taiwan Technical Mission (TTM) has been deployed to Fiji since 1978 to develop vegetable production in Fiji. The activities are focused to introduce new varieties of vegetables from Taiwan and to select the best adapted varieties for farmers, develop practical farming techniques for farmers and to demonstrate and train farmers in the technique of planting vegetables in the main and off-seasons.

Young Farmers being trained on Vegetable Seedling Production at TTM

[Source: Kamlesh Puran, MPI, Research Division, The Republic of Fiji Islands, www.agriculture.org.fj]

Lifetime Achievement Award for Dr. Raj Paroda

Dr. R.S. Paroda, Executive Secretary, APAARI and the Chairman, Trust for Advancement of Agricultural Sciences (TAAS), was given a Lifetime Achievement Award for his valuable contributions towards growth and development of agriculture in India.

The award, sponsored by "Agriculture Today", was presented to him by Dr. Somnath Chatterjee, Honorable Speaker of the Indian Parliament, on 19 September 2008. The Function, held in Taj Palace Hotel, New Delhi, was attended by a galaxy of eminent people including Dr. M.S. Swaminathan.

In the award citation, Dr. Paroda has been described as an accomplished plant breeder, a geneticist by profession and an able research administrator, who has made significant contributions to crop improvement and worked towards strengthening the national agricultural research system in India as well as in Central Asian countries and the Caucasus.

Dr. Paroda receiving Lifetime Achievement Award

NGO Association for Agricultural Research in the Asia-Pacific (NAARAP)- An Update

The establishment of NAARAP was proposed and agreed in 'Asia-Pacific Regional Workshop on Agricultural Research for Development' organized jointly by APAARI-GFAR-ANGOC in Bangkok from 17-18 April 2008.

The major activities of NAARAP include setting up of the initial foundation of the network. There had been an active exchange among the APAARI-NAARAP members towards the finalization and published of the proceedings. The Secretariat also met with the NGO Representative to the GFAR Steering Committee to update the latter on the outputs of the Bangkok workshop and agreed to continue the process of exchanging updates and initiatives in relation to ARD in the Asia-Pacific region.

A concept note for NAARAP activities has been drafted by ANGOC Regional Secretariat. Same in the process of refinement and submission to potential donor institutions.

The Secretariat representatives also participated in a number of regional events to introduce NAARAP and share its advocacy in relation to sustainable agriculture and food security. Among these events were:

(a) Asia-Pacific Regional Consultation on IFAD Rural Poverty Report (July 2008; Manila, Philippines);

(b) ESCAP-ADB-UN Sub-regional Seminar on Food Price Inflation (October 2008; Manila, Philippines);

(c) 10th APAARI General Assembly Meeting (October 2008; Tsukuba, Japan);

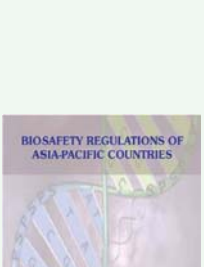
(d) Symposium on Global Climate Change (October 2008; Tsukuba, Japan); and

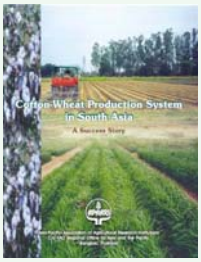
(e) ANGOC, on behalf of the NAARAP secretariat, attended the Fifth National Organic Agriculture Conference (NOAC) in Davao City, Philippines during October 14-16, 2008, in time for the celebration of World Food Day. The Conference's theme, "Sustaining the Gains of Organic Agriculture: Enhancing Biodiversity, Providing Safe and Adequate Food", was timely with the food and fuel crises made more turbulent by the collapse of the financial markets.

[Source: Nathaniel Don Marquez, Executive Director, ANGOC, Philippines, nathanieldon@ yahoo.com]

Latest Publications

1. Biosafety Regulations of Asia-Pacific Countries
2. Production and Cultivation of Virus-free Citrus Samplings for Citrus Rehabilitation in Taiwan
3. Cotton-Wheat Production System in South Asia
4. APAARI on CD 2008
5. APAARI & APCoAB Flyers and Posters





I. Steering Committee Meeting

The IX Steering Committee Meeting of Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB) was held on 19 August 2008 at Mines Beach Resort, Salengor Darul Ehsan, Malaysia. It was chaired by Dr. Raghunath Ghodake, Chairman, APAARI and attended by six Steering Committee Members/representatives and special invitees. The meeting began with welcome address by the Chairman followed by adoption of proceedings of the VIII SC. Presentations were made by the Executive Secretary, APAARI and Coordinator, APCoAB on Action Taken Report, progress made during the period under report (March–August 2008) and budget for 2008.

Members of APCoAB Steering Committee

The participants commended the overall achievements and progress of APCoAB made during the period under report. It was felt that the new publication "Biosafety Regulations in the Asia-Pacific Countries" brought out by APCoAB would be very helpful in comprehending the biosafety regulatory systems prevailing in the AP region and in forging regional partnerships for biotechnology and biosafety adoption. The initiative taken towards organization of training programs on genetic resources conservation, marker-aided-selection and bioinformatics was appreciated. It was recommended to organize public forum meetings in collaboration with ISAAA, CG centres and NARS to create awareness about biotechnology in agriculture and related issues. Suggestions were made on enhancing the partnership of national systems for building regional information base on agriculture biotechnology and on strengthening the APCoAB website. Efforts of APCoAB towards building regional and interregional partnerships were appreciated and recommended to be carried forward. The SC approved the revised work plan and budget for 2008.

II. Expert Consultation on Agricultural Biotechnology for Promoting Food Security in Developing Countries

APAARI in collaboration with Malaysian Agricultural Research Institute (MARDI) and with partial funding support of GFAR, organized an Expert Consultation entitled "Agricultural Biotechnology for Promoting Food Security in Developing Countries" at Mines Beach Resort, Selangor Darul Ehsan, Malaysia from 20-22 August 2008. Seventy participants, comprising experts on agricultural policy and planning, biotechnology and other academic institutions; civil society and farmer organizations; private sector; and other stakeholder groups attended the Consultation. The participants represented, besides international organizations, several developing countries of South and Southeast Asia, Near East, Africa and the Pacific.

Participants of Expert Consultation

The Expert Consultation expressed consensus that biotechnology provides powerful tools to increase and diversify agricultural production. However, there is a need to make wide-ranging reforms in the agricultural production systems to fully address the issues of food security in developing countries. Recommendations on: (i) the role of biotechnology in ensuring food security in the context of its definition as given by FAOs; (ii) regulatory management; (iii) public perception and awareness; and (iv) partnership building, were presented in the Plenary Session. Besides, several General Recommendations were made which are summarized below:

- Countries need to adopt appropriate policies and strategies to encourage adoption of biotechnology in agriculture. The objective should be to increase productivity in conventional crops as also help in crop diversification.
- Non-food crops like cellulosic grasses and microalgae need biotechnological interventions to render their use for biofuel production economically viable.
- Facilitating regulatory management would help in rapid dissemination of useful products to meet agriculture and food security needs across countries. This can be done by simplifying regulatory norms for GM food crops and traits of apparently limited environmental and human risk; and facilitating transboundary movement of GM food crops through bilateral or regional agreements on biosafety information requirement and acceptance.
- South-South, South-North and Public-Private linkages will help in promoting agricultural biotechnology R&D among developing countries and bridge regional and interregional gaps.
- Improve communication with stakeholders by training

young scientists as communicators, Developing farmer-scientist linkages and cooperation through field visits and seminars, and develop educational tools including websites.

- Strengthen capacity in developing countries especially in the area of scientific risk assessment and management and on IP issues.

III. Training Programs

In Vitro and Cryopreservation Techniques for Conservation of Plant Genetic Resources, National Bureau of Plant Genetic Resources, New Delhi

Laboratory exercise in progress

This International training program was conducted from 17–29 November 2008 in collaboration with Indian Council of Agricultural Research and Bioversity International. Sixteen trainees from 13 countries, including three sponsored by APAARI (CARP, Sri Lanka; Secretariat of Pacific Community, Fiji Islands; Council of Agriculture, Chinese Taipei), participated in the training. The program comprised lectures and on-hand laboratory exercises on: 1. Importance of *in vitro* conservation and cryopreservation techniques, 2. Methods of *in vitro* clonal propagation, 3. Methods of *in vitro* conservation, 4. Cryopreservation principles and prospects, 5. Techniques of cryopreservation, 6. Applications of cryopreservation, 7. Cryobanking of plant germplasm, and 8. Molecular marker techniques for PGR management. The trainees were also introduced to international issues on plant genetic resources during an interactive session with Dr. Raj Paroda, Executive Secretary, APAARI.

Technology for Production and Indexing of Pathogen-Free Citrus Seedlings, National Taiwan University, Taipei

The program organized in collaboration with Council of Agriculture, Chinese Taipei and conducted at National Taiwan University from 18–29 November 2008 was conducted exclusively for APAARI sponsored trainees. Six APAARI NARS members were invited to send nominations of whom four (DoA, Thailand; PARC, Pakistan; BARI, Bangladesh; and MARDI, Malaysia) responded with nominations. The training comprised

Participants of the training program

lectures, practical demonstrations and field trips on: 1. Citrus greening and virus diseases, 2. Detection and indexing through bioassay, 3. Biochemical and molecular methods, 4. Shoot-tip Micrografting, and 5. Plantation and health management of pathogen-free seedlings in orchard. The participants along with coordinator APCoAB also paid a courtesy call on Director General, Department of International Affairs, CoA. The DG expressed satisfaction at the progress of the APAARI-CoA collaborative program and suggested some new activities for the year 2009.

Molecular Methodologies for Assessing and Applying Genetic Diversity in Crop Plants ICRISAT, Hyderabad

The training course organized by ICRISAT, Hyderabad from 17-28 November 2008 accommodated two APAARI nominated trainees (PARC, Pakistan; MARDI, Malaysia). The topics comprised: 1. Introduction to laboratory techniques, 2. Molecular markers (SSRs, SNPs, DArTs), 3. Diversity Array Technology (DArT): Development and applications, 5. Experimental Design: Concepts and Applications, 6. Decision Support System-iMA, iMAS practicals, 6. Molecular diversity: Diversity analysis in populations, Power Marker, Darwin, Introduction to structure analysis, 7. Phenotyping, 8. Molecular breeding, 9. Application of molecular markers in public sector, and 10. LD mapping and TASSEL software for association mapping.

Introductory Course in Bioinformatics, Agricultural Genetic Engineering Research Institute, Egypt

The training program was organized by Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA) with funding support of GFAR and held at AGERI, Egypt from 23 November–2 December 2008. Of the 14 selected trainees from the developing countries of Asia, 4 were APAARI nominees from Nepal, Pakistan, Sri Lanka and Iran. The topics of training comprised: 1. Information databases, 2. Sequence alignment, 3. Sequence similarity search, 4. Multiple sequence alignment, 5. Structural bioinformatics, and 6. Functional genomics.

[Source: Dr. J.L. Karihaloo, Coordinator, APCoAB, www.apcoab.org]

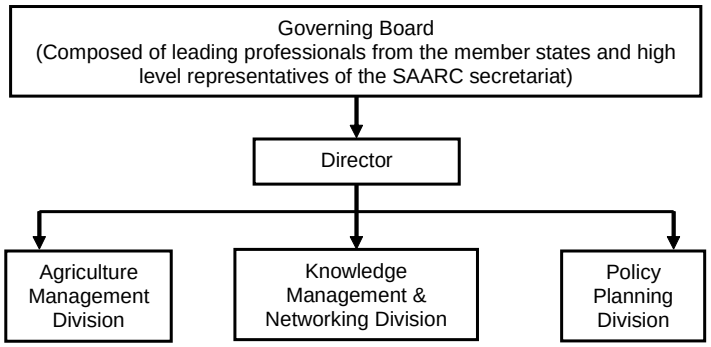
SAARC Agriculture Centre

Genesis

The Heads of States established the South Asian Association for Regional Cooperation (SAARC), on 8th December, 1985. Seven South Asian Nations, namely, Bangladesh, Bhutan, India, The Maldives, Nepal, Pakistan and Sri Lanka are the founder members of this Regional Association. Later, Afghanistan became the eighth member in 2006.

SAARC Agriculture Centre (renamed in April 2007 from SAARC Agricultural Information Centre, SAIC) is the first regional centre established by the SAARC. The Centre started functioning in 1989 with a mandate for information management, primarily in the field of agriculture. Subsequently, to meet the emergency challenges to make regional cooperation more responsive to the needs of the various stakeholders and farming communities. The Centre was given an enhanced mandate for agricultural research and development, policy planning, and knowledge management. The organogram below provides information on its structural setup. It is located within the premises of Bangladesh Agricultural Research Council (BARC), Dhaka, Bangladesh.

Organogram



Goal

Promotion of agricultural research and development (ARD) as well as technology dissemination initiatives for sustainable agricultural development and poverty alleviation in the region

Objectives

- To strengthen agricultural research and accelerate technology transfer through establishing regional networks in agricultural and allied disciplines, particularly among agricultural research and extension centres, professionals, policy advisers and stakeholders.
- To provide inputs for developing regional policies, strategies, programs, primarily through developing networks in crops, livestock and fisheries sectors; and for efficient utilization/management of soil, water and other resources.
- To promote new and innovative techniques and systems in agriculture including production, post-harvest and food processing.
- To facilitate collaborative studies, *inter alia*, on agricultural marketing and distribution systems, harmonization of agriculture related standards, promotion of agricultural trade, food security, risks and disaster management in agriculture.
- To facilitate and undertake collaborative capacity building programs in agriculture and allied sectors with focus on skill development and research on frontier areas.
- To collate and disseminate information for agricultural advancement in the region.

Program Development

The Centre institutionalizes "Participatory need-based program building through consultations in member countries". The process involves participation of stakeholders at country levels and synthesis at the centre level for program development. The SAARC Technical Committee on Agriculture and Rural Development (TCARD) also provides broad guidelines for program development. The proposals are reviewed during the Governing Board (GB) meeting for further direction.

The annual program proposals recommended by the Governing Board are further reviewed by the SAARC Programing Committee and subsequently approved by the Standing Committee. The Council of Ministers of the member states gives concurrence to the decisions reached by the Standing Committee prior to the convening of the SAARC Summit.

Major Activities

- Providing policy inputs to the SAARC higher authorities for consideration particularly at the ministerial meeting on agriculture.
- Promoting outreach programs through its website (www.saarcagri.net) to provide timely and relevant universal access to information and knowledge resources to all agricultural practitioners of member states.
- Hosting of workshops, seminars, symposium and human resources development programs and carrying out in-house research and publications on thrust areas of agriculture.
- Establishing institutional linkages with relevant institutions.
- Undertaking activities leading to exchange of the best practices for adaptation and/or absorption; time-bound short and medium terms projects and programs; and enhancing capacities of the agricultural communities.
- Production of regular publications (newsletters, bulletins, journal, etc.) and technical publications (directories, statistical bulletins, bibliographies, databases, union catalogue, workshop proceedings, etc.)
- Providing automated library services and on-line services, literature services through CD-ROM databases and audio-visual media production and reproduction.

Services

The Centre's services and products are aimed to enhance the performances of scientists, extensionists, technologists, etc. through support in research and development in agriculture and provide inputs for developing regional policies, strategies and programs.

SAARC Agriculture Centre is currently a new member of APAARI and looks forward to have more effective collaboration in future.

(Source: SAARC Agriculture Centre, saic@bdonline.com, www.saic-dhaka.org; saarcagri.net)

VACANCY ANNOUNCEMENT : ASIA-PACIFIC AGRICULTURAL RESEARCH INFORMATION SYSTEM (APARIS) COORDINATOR

APAARI is seeking a well-qualified and experienced person for the position of APARIS Coordinator. All interested should send the applications along with their CV with names of two referees/contacts at the earliest at the following address:

Dr. Raj Paroda
Executive Secretary
Asia-Pacific Association of Agricultural Research Institutions (APAARI)
C/o FAO Regional Office for Asia and the Pacific
Maliwan Mansion, 39 Phra Atit Road
Bangkok 10200
THAILAND

Tel: +662-697-4371, Fax: +662-697-4408
e-mail: raj.paroda@yahoo.com
http://www.apaari.org

Young Professionals' Platform on Agricultural Research for Development (YPARD)

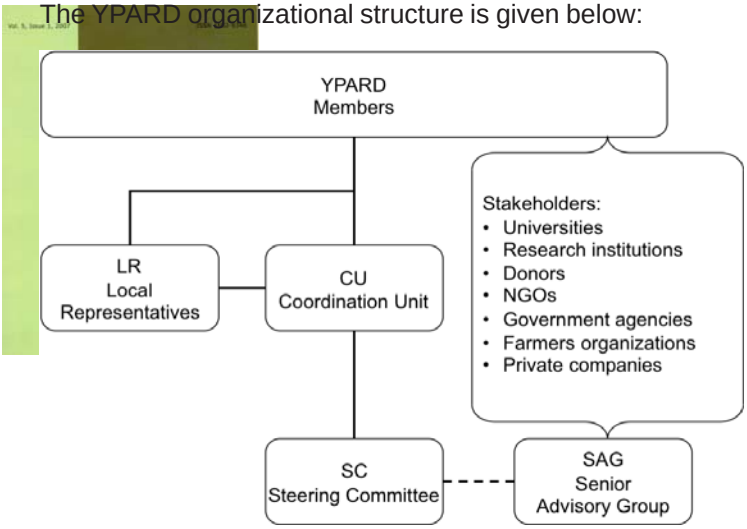
Since its foundation at the Global Forum 2006, held in New Delhi, the Young Professionals' in Agricultural Research for Development (YPARD) follows its mission to provide a global communication and discussion platform. This platform is a movement for (1) exchanging information/knowledge, (2) sharing access to resources that leads to capacity building and (3) contributing to strategic ARD policy debates, to promote agriculture as education and career among young professionals (YPs).

The pillar of YPARD success is its members and their active participation in various activities. Up to now, 1545 YPs - from 115 countries and about 60% representing developing countries-have registered as members. In addition, YPs participated actively in various meetings including thematic, strategic and policy debates. Moreover, YPARD has been successful in establishing regional chapters in East Africa (Rwanda), South Asia (India), Latin America & Caribbean (Peru) and Europe (Germany).

So far, 3 proposals have been selected for funding for local and regional initiatives in India, Kenya and Latin America & Caribbean region. It would encourage individuals joining forces with others in a country/region to bring together young professionals to discuss, debate and act on key issues revolving around Agricultural Research for Development (ARD).

Right now, YPARD is actively involved in the 'Agricultural knowledge sharing, management, education and learning' and together with the Global Forum on Agricultural Research (GFAR), Commonwealth of Learning (COL), and the CGIAR.

The YPARD organizational structure is given below:



YPARD is currently supported - among other donors - by the Swiss Agency for Development and Cooperation (SDC), the Leibniz University Hannover (LUH) and Global Forum on Agricultural Research (GFAR).

YPARD looks forward to be a reciprocal member of APAARI in the near future.

[Source: Dr. Balasubramanian Ramani, Coordinator, coordinationunit@ypard.org, www.ypard.org]

AVRDC- The World Vegetable Center's Network Strategies for Asia-Pacific

Introduction

AVRDC– The World Vegetable Center is a leading not-for-profit international center aimed at working towards reducing malnutrition and alleviating poverty in developing countries through improved production and consumption of safe vegetables worldwide. Founded in 1971 as the Asian Vegetable Research and Development Center (AVRDC)- The World Vegetable Center has taken up a global role in promoting and supporting vegetable R&D in Africa, Asia, and other regions of the world.

Regional/Sub-Regional Networks

For Asia-Pacific, the Centre has been instrumental in strengthening such activities with national programs in networking mode.

The vegetable networks in the Asia-Pacific region facilitated by AVRDC- the World Vegetable Center include AVNET, SAVERNET, CLVNET, and AARNET. In addition to multi-crop, multi-theme networks, there are crop-based networks, like the mungbean sub-network for multi-location testing, bacterial wilt network, integrated pest management network, tomato yellow leaf curl virus network, biotechnology network, indigenous vegetable development network etc. A brief report on achievements is given.

1. Collaborative Vegetable Research in Southeast Asia (Asian Vegetable Network /AVNET): In 1988, interest of the Southeast Asian NARS came up in a workshop to establish a collaborative Asian Vegetable Network (AVNET). AVNET formally came into being in May 1989, with the signing of the three-year Technical Assistance Agreement between AVRDC and ADB. The network included Indonesia, Malaysia, the Philippines and Thailand under coordination of AVRDC. The two sub-networks under AVNET addressed the production challenges of eight regionally important crops, namely yard-long bean, cucumber, tomato, chili pepper, shallot, bulb onion, garlic and crucifers. The national research capacity of the four NARS was strengthened, new varieties developed and their adoption increased production and improved farmers' income as well as helped solve hunger and malnutrition, especially among children. A significant outcome of the final workshop of AVNET, held in Lembang, Indonesia, in 1992 was the consent for the second phase. AVNET-II was approved for funding by ADB in 1993. Further impetus to ongoing program was provided in developing disease resistant varieties. Also IPM Program was developed for the region. Final AVNET workshop, held at Bangkok in 1996, emphasized to bring the private sector in the limelight with their highly placed breeding programs and marketing arm to help the researchers in the development of market-oriented technologies for farmer's welfare. The success of this first NARS initiated network highlighted the importance of having a mechanism for effectively sharing improved crop varieties, resources, and technologies among the NARS, regional, and international organizations.

2. South Asian Vegetable Research Network (SAVERNET): Following the success of AVNET, the South Asian NARS, through an ADB sponsored consultation in 1990 initiated the framework for the South Asian Vegetable Research Network (SAVERNET) and a proposal was funded by ADB in 1991. SAVERNET was a sub-regional framework for cooperation composed of Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka. Since 1992, program started implementing its activity with a joint planning workshop in Bangladesh, where a detailed program of research and training was drawn up in cooperation with national scientists. Two sub-networks namely Evaluation and exchange of elite varieties and management of pests and diseases were organized. This enabled the NARS to develop suitable cultivars which were released to their farmers. SAVERNET helped in strengthening the applied research capability of NARS to generate appropriate technologies by effective use of existing R&D facilities. These successes resulted in ADB approving SAVERNET-II in January, 1997, with the goal to bring the research results to the end users. The network facilitated a substantial exchange of germplasm among the participating countries and 157 varieties of 22 different vegetable species were shared. Training courses both in-country and at AVRDC were organized and field schools established for technology dissemination. In the final SAVERNET workshop in June, 2000 in Bangkok, it was decided that AVRDC should continue helping in resource generation and backstopping for the network. A study undertaken by ADB in December 2002 to make an assessment of the impact of ADB support to agriculture research noted that the network had generated very positive outcomes, high internal rates of return (over 90%) and high levels of economic surplus (over $500 million), which had accrued more to producers than the consumers.

Ramifications from SAVERNET: AVRDC's SAVERNET program also initiated excellent mungbean network with the support from USAID and DFID, tomato research network supported by DFID and GTZ/BMZ, IPM of eggplant fruit and shoot borer funded by DFID, chili research network supported by GTZ/BMZ and indigenous vegetable network supported by ADB.

Mungbean sub-network: In South Asia, the major constraints for mungbean production are Mungbean yellow mosaic virus (MYMV), powdery mildew and bruchids, particularly MYMV. To evaluate the best MYMV-resistant varieties available from, Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka, a mungbean network was organized with the AVRDC- the World Vegetable Center as the executive agency and support from DFID. A three year project "Promotion of mungbean research outputs for farmer adoption in South Asia" for six South Asian countries enabled the researchers to identify promising cultivars from both on-station and in farmers' fields. Bangladesh, India and Pakistan were able to release improved cultivars with high yield (1.5 t/ha), short maturity duration (60-65 days), bold seeded (5 to 6 gm for 100 grains), resistant/tolerant to MYMV, and uniform maturity. Bhutan and Sri Lanka

identified cultivars with the yield potential of more than 2 t/ha. These achievements helped in promoting activities further.

DFID recognized the potential and approved a two year project on "Improving Income and Nutrition by Incorporating Mungbean in Cereal Fallows in the Indo-Gangetic Plains of South Asia" to extend the collaboration and improved mungbean varieties to the millions of farmers in the Indo-Gangetic Plains of Bangladesh, India, and Nepal. With strong support from Punjab Agricultural University (PAU), India, Bangladesh Agricultural Research Institute (BARI), and Bangabhandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), including the CIMMYT project, and FORWARD and LIBIRD NGOs in Nepal-AVRDC started seed multiplication and distribution for the summer and (autumn) *Kharif* seasons. The "seed village" program was highly successful in Punjab, India and the model was later transferred to Bangladeshi farmers. At the end, India and Bangladesh were able to produce 45,000 tons of seeds sufficient to cover nearly 1.5 million hectares. The new varieties are being promoted in a project cum network of seven Indian Universities since 2005.

Cereals and Legumes Asia Network (CLAN): The Asia Pacific Association of Agricultural Research Institutions (APAARI) in its general assembly meeting held at Penang, Malaysia during December 2002, recommended that lentil (under ICARDA) and mungbean (under AVRDC) should be included in CLAN. CLAN was expanded in 2003 to include mungbean and lentil. CLAN is now co-facilitated by ICRISAT, ICARDA and AVRDC with support from APAARI. A joint project on diversification through legumes in South Asia has been submitted by ICRISAT to IFAD through APAARI under CLAN.

3. Collaborative Vegetable Research Network for Cambodia, Lao PDR and Vietnam (Cambodia, Laos, and Vietnam Network/CLVNET): The CLV countries with assistance from AVRDC and ADB established a regional Network- CLVNET in 1994 which was funded from 1996 and implemented the activities on: (1) germplasm collection, conservation, characterization, and exchange; (2) testing of improved varieties, segregating lines, and other relevant materials; (3) conduct seminars, conferences, workshops, and trainings; (4) organization of information exchange, (5) assist in the collection and establishment of baseline data on vegetables. CLVNET-II helped in disseminating sustainable IPM technologies and improved vegetable seeds, build capacity among researchers, extension agents and farmers and also promoted public-private partnership in vegetable R&D.

4. The ASEAN-AVRDC Regional Network for Vegetable R&D (AARNET): Established in 1998, AARNET works to foster partnerships among the ten ASEAN member countries *viz.,* Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam to narrow the gap in vegetable R&D capacity; develop collaborative research on common problems through a more efficient use of available expertise and resources within ASEAN. The Center's work in ASEAN countries emphasizes on crop management, good agricultural practices, use of biotechnological tools especially for crop improvement, pest and disease management, natural resource management, value chain, seed production, post harvest technologies and food safety. AARNET works towards achieving the ASEAN Vision 2020 for food, Agriculture and Forestry "to enhance food security and international competitiveness of food, agriculture and forestry products to make ASEAN a leading producer of these products and to promote the forestry sector as a model in forest management, conservation and sustainable development".

5. Networking activities at the Regional Center for South Asia (RCSA): In April 2006, the Center established its Regional Center for South Asia (RCSA) with the aim to address the vegetable production constraints and to improve health, nutrition and economic well-being of the population through the collaboration of eight NARS partners *viz.,* Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. The strategy of the Center in South Asia is to strengthen and promote sustainable improved production of quality and safe vegetables, and to enhance vegetable R&D cooperation in the region. The specific R&D objectives are to: foster partnerships to improve the vegetable research and development capacity in the region; develop collaborative research on common problems and information exchange through a more efficient use of available expertise and resources to facilitate the generation and adoption of improved materials and technologies. In the regional planning meeting organized by RCSA in December, 2006, the NARS partners identified strategies for vegetable R&D and subsequently prepared a blueprint for collaborative activities in the region. Participants also unanimously agreed to establish a network for South Asia under AVRDC-The World Vegetable Center leadership. A total of 21 priority crops, including IVs were identified for research and development in South Asia.

RCSA is working on priority R&D strategies and directions for vegetable improvement program through improved breeding materials, production technologies, promoting high value legume and indigenous vegetables to NARS, NGOs, private sector and the farmers for enhancing productivity, consumption of safe healthy nutritious vegetables, health, and income in the region. As per the regional priority RCSA has conducted learning programs on safe vegetable production and germplasm management and utilization of vegetables and legumes during 2007 and 2008 respectively, for the South Asian NARS. RCSA plans to implement various specialized and need-based training courses in future for both private and public sectors to reinforce their staff capacity. RCSA also organized an International Conference on Indigenous Vegetables and Legumes which was an important step in narrowing the technology and IVs knowledge gap between nations by sharing information as well as links with scientists, private sector, policy makers and regional leaders' to make future plans and strategies for implementation. The conference proceedings has been published. 271 participants representing 42 countries attended the conference out of which, 199 participants were from the Asia-Pacific countries.

(Source: Dr. M.L. Chadha, Director, AVRDC-RCSA, mchadha@cgiar.org)

APAARI News

- Dr. Raghunath Ghodake attended the GFAR Steering Committee Meeting in Montvedio, Uruguay on 31 July 2008. He also attended the FORAGRO General Assembly Meeting and made an impressive presentation on APAARI activities, especially focusing on agricultural innovations.
- Both Dr. Raghunath Ghodake, Chairman and Dr. Raj Paroda, Executive Secretary, APAARI participated in the Stakeholders Consultation organized by CGIAR at IRRI, Los Banos, Philippines from 7-9 September 2008 to discuss the reports of CGIAR External Review Panel and the Change Management Steering Team. Their interventions were well received.
- Dr. Raj Paroda was honored for his valuable contributions to the CGIAR program for CAC in an impressive gathering of all eight NARS partners, 10 International Centers and various invitees (around 200) attending the 10th Anniversary Celebrations organized by ICARDA in Tashkent on 16th October, 2008. Dr. Mahmoud Solh, Director General, ICARDA presented a silver plaque and the citation appreciating the dynamic leadership provided by him during the period 2001-2007. This Program for Sustainable Agriculture in Central Asia and the Caucasus (CAC), also received the CGIAR "King Baudouin Science Award for Outstanding Partnership 2008" during the AGM in Maputo.
- Dr. Raghunath Ghodake recently represented APAARI in the GFAR Steering Committee Meeting held in Maputo on 27-29th November 2008, whereas Dr. Paroda also chaired the GFAR Program Committee Meeting.

Upcoming Events/Meetings

The next **APAARI Executive Committee Meeting** will be held on 29th January 2009 at Rama Gardens Hotel, Bangkok.

The **APCoAB Steering Committee Meeting** is proposed to be held on 30th January 2009 at Rama Gardens Hotel, Bangkok.

The 4th World Congress on Conservation Agriculture, 4-7 February 2009, New Delhi, India

The 4th World Congress on Conservation Agriculture will be jointly organized by the Indian Council of Agricultural Research (ICAR) and the National Academy of Agricultural Sciences (NAAS) from 4-7 February 2009 in New Delhi, India. The co-sponsors of the Congress are the International Center for Agricultural Research in Dry Areas (ICARDA), the Rice-Wheat Consortia (TWC), the Food and Agriculture Organization (FAO), the Indian Society of Soil Science (ISSS), and the Indian Society of Agricultural Economics (ISAE). For more information, contact wccagri@gmail.com or aksingh@icar.org.in

World Potato Congress, 22-25 March 2009, New Zealand

The 7th World Potato Congress will be held in Christchurch, New Zealand from 22-25 March 2009, and will be hosted by the Potato Product Group of Horticulture New Zealand. The theme of the Congress is "Nourishing Our Future" with the tagline "Potatoes: sustainable, nutritious, delicious". WPC 2009 will bring together representatives of the potato industry from around the world to share information, research and knowledge on all aspects of the potato industry. For complete details and to register for the Congress and Partners Program, visit http://www.wpcnz.org.nz/

Innovation Asia-Pacific Symposium, 4-7 May 2009, Kathmandu, Nepal

An international Symposium on agricultural innovation systems in Asia and the Pacific, focusing particularly on southern and eastern Asia, will be held from 4-7 May 2009 in Kathmandu, Nepal. It is being jointly organized by CIAT (International Centre for Tropical Agriculture)-Asia, ICIMOD (International Centre for integrated Mountain Development) and PROLINNOVA in collaboration with the PROLINNOVA-Nepal partners LI-BIRD (Local Initiatives for Biodiversity Research and Development) and Practical Action-Nepal. For more information, visit www.innovation-asia-pacific.net

International Conference on Climate Change and Global Warming

The International Conference on Climate Change and Global Warming (CCGW 2009) will be held from 23-25 September 2009 in Amsterdam, The Netherlands. The conference will be organized by the World Academy of Science, Engineering and Technology. This event aims to bring together researchers, scientists, engineers, and scholar students to exchange and share their experiences, new ideas, and research results about all aspects of climate change and global warming, and discuss the practical challenges encountered and the solutions adopted. For more information, visit http://www.waset.org/wcset09/toronto/ccgw/

All queries relating to APAARI Newsletter be addressed to:

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