



# APAARI

## Newsletter

Asia-Pacific Association of Agricultural Research Institutions

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### Editorial

The past few decades have witnessed tremendous agricultural development and economic growth through the spread of high yielding crop varieties and hybrids. While the gains have been very impressive particularly in addressing food security in the developing countries, the input intensive agriculture, much dependent on greater use of chemical fertilizers, pesticides etc. has resulted in some undesirable/adverse effects on the environment and the overall sustainability of the farming systems. Accordingly, to address this global concern, the wider use of biopesticides and biofertilizers is gaining importance. Thus, the demand for technologies and products based on biological processes has been increasing steadily. Worldwide data for biofertilizer market are not available though the sale volume is estimated to be US\$ 3 billion. This is likely to increase further, as more area comes under organic farming. Currently, nearly 22 million hectares of land is cultivated organically.

While some Asian countries like Japan, India, Chinese Taipei and Korea have made significant advances in the development and use of biopesticides and biofertilizers, their potential remains largely underutilized due to several reasons. Compared to chemical agents, bioagents are perceived to have low efficacy. There is limited information on how best to use them in particular agro-ecosystems and as components of integrated pest and nutrient management strategies. Long-term impact assessment studies of biopesticides and biofertilizers including ecological impacts are lacking. Regulatory and registration systems specifically suited to the potential advantages and limitations of bioagents are still evolving. Public awareness and stewardship programs need to be undertaken along with promotion and marketing. Also, several technological and policy issues have been identified which need to be addressed on priority.

Keeping in view the potential of biopesticides and biofertilizers as an important component of sustainable agriculture, particularly on small-farmer holdings, the Asia-Pacific Association of Agricultural Research Institutions (APAARI) has decided to organize an Expert Consultation on "Biopesticides and Biofertilizers for Sustainable Agriculture" in 2009. As a follow-up, the Steering Committee of Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB), a program of APAARI, in its meeting held on 30<sup>th</sup> January 2009 decided to hold the Expert Consultation in Taiwan, as a part of the APAARI-CoA Taiwan collaborative program. The Council of Agriculture (CoA), Taipei, being an active member of APAARI, has offered to host the meeting at Taiwan Agricultural Research Institute, Taichung from 27-29 October, 2009.

The main objective of the meeting will be to: (i) Review the current status of research, development and use of biopesticides and biofertilizers in agriculture at the regional level; (ii) Develop consensus on issues of quality control, regulatory management, commercialization and marketing; (iii) Identify the role of public and private sector organizations and public-private participation in promoting use of bioagents in agriculture; (iv) Promote stewardship, public awareness and stakeholders' participation; and (v) Highlight technological and policy issues and areas of regional cooperation.

It is expected that with diverse expertise/participation of NARS, CG Centers, Regional Fora, GFAR and other international organizations, NGOs and FOs; several emerging issues will be addressed to find a way forward towards promoting the use of biopesticides and biofertilizers for sustainable agriculture in the Asia-Pacific.

**Editors**

## APAARI Executive Committee Meeting

The first meeting of the new APAARI Executive Committee for 2009-2010, was held on 29<sup>th</sup> January 2009 in Bangkok, under the Chairmanship of Dr. Abd. Shukor Abd Rahman, Director General, MARDI, Malaysia. The progress of work was reviewed and the important decisions taken were:

- The work plan for 2009 was reviewed and approved. Also discussions were held on required paradigm shift in APAARI program activities. It was decided to have a relook at the earlier research prioritization and need assessment exercises as well as the Vision 2025 document. A strategy for “Way Forward” was also discussed. It was agreed to develop a policy paper to define renewed role of APAARI so as to continue as a more vibrant organization.
- Discussions were held on “Tsukuba Declaration on Climate Change” and its possible follow up. It was decided that this document be widely circulated and national systems be catalyzed to reorient their research agenda around adaptation and mitigation strategies.
- Executive Committee members were pleased to review the progress relating to the following new publications:
  - (i) APAARI Bi-annual Newsletter (December 2008 and June 2009 Issues)
  - (ii) Proceedings of Symposium on Global Climate Change: Imperatives for Agricultural Research in Asia-Pacific
  - (iii) Proceedings of the Tenth General Assembly Meeting
  - (iv) Flyer on Tsukuba Declaration
  - (v) Proceedings of the Expert Consultation on Agricultural Biotechnology for promoting Food Security in Developing Countries
  - (vi) New flyers of APAARI and APCoAB
- In view of earlier GAM decision to have one additional seat for NGO, it was agreed to have the Chairman, NGO Association for Agricultural Research in the Asia-Pacific (NAARAP), to be a member of the Executive Committee.
- The composition of the new Steering Committees of both APCoAB and APARIS were finalized as under:

### APCoAB Steering Committee

1. Dr. Abd Shukor Abd. Rahman (Chairman)
2. Dr. William D. Dar
3. Mr. Thierry Mennesson
4. Mr. Malcolm Hazelman
5. Dr. Randy A. Hautea
6. Dr. Wais Kabir
7. Dr. Mark Holderness
8. Dr. R.S. Paroda
9. Mr. Raju Barwale (Pvt. Sector Representative)
10. Mr. Raul Montemayor (CSO Representative)
11. Dr. J.L. Karihaloo (Member Secretary)

### APARIS Steering Committee

1. Dr. Simon Hearn (Chairman)
2. Dr. Abd Shukor Abd. Rahman
3. Dr. Patricio Faylon
4. Dr. Bhartendu Mishra
5. Dr. Ajit Maru
6. Dr. Malcolm Hazelman
7. Dr. Raj Paroda
8. APARIS Coordinator
9. (Member Secretary)



*Members of the APAARI Executive Committee*

- The meeting noted with satisfaction that the five new members have joined APAARI and the payment of membership fee has by and large been regular. Referring to the revision for increasing the membership fee by NARS earlier, Dr. Robert Zeigler, Director General, IRRI, representing CGIAR in APAARI Executive Committee, suggested to increase the fee of associate members from current US\$ 3,000 to US\$ 5,000. Accordingly, an appeal be made to the Directors General of CGIAR institutes and other international centers to consider the increase favourably.
- Audited accounts for the year 2008 were presented, reviewed and approved unanimously.
- In order to fill the position of APARIS Coordinator in Bangkok Office, which stands advertized, a selection committee was constituted under the Chairmanship of Dr. Simon Hearn, Senior Advisor, ACIAR.
- It was decided to strengthen inter-regional collaboration with AARINENA and CACAARI, in areas of mutual interest.
- Members expressed concern over the lack of clarity concerning priorities, understanding and directions in which the change management process in the CGIAR was heading. They felt that there was a need to have greater involvement of all Regional Fora. Also there is need to understand regarding possible implications of these changes on APAARI, especially in view of the new role of GFAR through its revitalization.
- Involvement of APAARI in the proposed GPP on Conservation Agriculture and LFM was appreciated.
- The next Executive Committee Meeting of APAARI be held in Taipei on 26 October, 2009.



## Meeting with Deputy Minister of Agriculture, COA, Taipei

Dr. Raj Paroda, Executive Secretary, APAARI and Dr. J.L. Karihaloo, Coordinator, APCoAB called on Dr. Yu-Tsai Huang, Deputy Minister of Agriculture and Director General, Council of Agriculture (CoA), Taipei on 22<sup>nd</sup> May 2009. Dr. Su-San Chang, DG, Department of International Affairs, Dr. Dah-Jiang Liu, DG, Taiwan Agricultural Research Institute (TARI) and other officials were present.



*Meeting with Dr. Yu-Tsai Huang, Deputy Minister of Agriculture*

Dr. Paroda apprised Dr. Huang about the mission and activities of APAARI, especially its efforts towards fostering regional cooperation in agricultural research, policy advocacy, capacity building and information sharing. Dr. Huang evinced keen interest in APAARI programs including the publication of success stories on experiences of Asia-Pacific countries. According to him, CoA places great emphasis on bridging the gaps between



*Meeting with Dr. Su-San Chang, Director General, Department of International Affairs*

researchers, farmers and the markets so that the benefits from productivity gains, quality improvement and better market access reach both the farmers and consumers. Dr. Huang promised his support to APAARI activities.

During the meeting, it was decided to hold the next Expert Consultation from 27-29 October, 2009 at Taiwan Agricultural Research Institute (TARI), Taichung to be preceded by APAARI Executive Committee and APCoAB Steering Committee meetings on 26<sup>th</sup> October. Organizational matters regarding the two events were also discussed during the meeting. Dr. Paroda also presented a set of APAARI publications to the Hon. Deputy Minister, which he appreciated very much.



## AARINENA Executive Committee Meeting

The Executive Committee meeting of AARINENA was held at the ICARDA Headquarters, Aleppo, Syria on 3<sup>rd</sup> May, 2009, immediately after the ICARDA Presentation Day. Beside Executive Committee members, Dr. Mahmoud Solh, Director General, ICARDA, Dr. Mark Holderness, Executive Secretary, GFAR and Dr. Raj Paroda, Executive Secretary, APAARI were special invitees. Dr. Ahmed Al Bakri, President, AARINENA welcomed the participants and emphasized the importance of various networks and inter-regional partnership for ARD especially in the context of emerging challenges such as biotechnology, climate change, biofuels etc. Dr. Ibrahim Hamdan, Executive Secretary, AARINENA presented a brief report of activities and emphasized mainly on strengthening of regional research networks on datepalm, olives, medicinal plants etc. For inter-regional collaboration with APAARI, Dr. Paroda briefed on activities relating to Inter-regional Cotton Network (INCANA) and Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB). Much discussion centred around the role of Regional Fora in the Global Conference on ARD (GCARD), being proposed to be held early next year in France, for which major responsibilities now rest with GFAR, and support



*Participants of the AARINENA Executive Committee Meeting*

to regional and inter-regional activities in areas of mutual interest. A concept note for Regional Network on Plant Genetic Resources was discussed and approved in principle since earlier network facilitated by Bioversity International is no more operative in WANA region, which otherwise is so rich in crop diversity. Both AARINENA and APAARI agreed to co-sponsor the proposed International Symposium on Food Security and Climate Change in Dry Areas to be held in Amman, Jordan in October, 2009.



## Recent Activities of APCoAB

### I. Steering Committee Meeting

The X Steering Committee (SC) Meeting of Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB) was held on 30 January 2009 at Rama Gardens Hotel, Bangkok under the chairmanship of Dr. Abd. Shukor, Chairman, APAARI. The meeting was attended by SC members and special invitees. The Chairman highlighted the recent thrust of APCoAB on capacity building and felt that the training courses organized on *in vitro* conservation, molecular breeding, bioinformatics and production of disease-free planting material would help the regional NARS in developing much needed expertise in biotechnology. Presentations on Action Taken Report, progress made during the period under report, audited accounts and budget 2009 were made by the Executive Secretary, APAARI, and Coordinator, APCoAB.



APCoAB Steering Committee Members

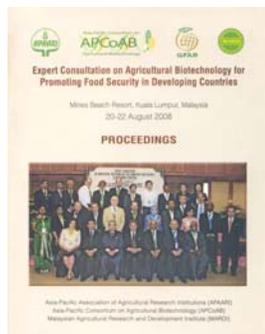
The SC expressed satisfaction at the very good progress made during the period under report, appreciating particularly the efforts made towards organizing expert consultation and training programs. It was agreed to organize the next expert consultation on the topic "Biopesticides and Biofertilizers for Sustainable Agriculture" in Taipei from 26-29 October, 2009 back to back with XI APCoAB SC meeting. The initiative of APCoAB to develop a regional project on Tissue Culture Business Platform with FAO funding was welcomed.

The Executive Secretary, APAARI informed about the decision of APAARI to raise annual core funding to APCoAB from US\$ 18,000 to US\$ 28,000.

### II. Publications

#### **Proceedings of the Expert Consultation on Agricultural Biotechnology for promoting Food Security in Developing Countries**

This publication covers the proceedings of an expert consultation held by APCoAB/APAARI in collaboration with the Malaysian Agricultural Research and Development Institute (MARDI) in Malaysia from 20-22 August, 2008.



### III. Mahyco Increases Funding Support

It is encouraging that Mahyco, India has raised its contribution to APCoAB from US\$ 5,000 to US\$ 10,000 per year, which is gratefully acknowledged.

### IV. Training Course on Rapid Bioassay of Pesticide Residues (RBPR) on Fruits and Vegetables for Market Inspection and Farm Education

Above training course was organized at The Taiwan Agricultural Research Institute (TARI), Taichung from 17 - 23 May, 2009 under APAARI-Council of Agriculture (COA), Taipei collaborative program. Twenty five trainees from 13 Asia-Pacific countries participated, of which 10 were sponsored by APCoAB, representing India, Iran, Malaysia, Nepal, New Caledonia, Philippines, Sri Lanka, Thailand and World Vegetable Center.



Group Photograph with the Participants

The training comprised lectures on Rapid Monitoring and Control of Pesticides Residues; Toxicology Principles, Advantage and Limitations of RBPR, and Qualitative and Quantitative RBPR Analysis of Insecticide Residues by the AChE Test. Practical demonstration and hands on training was provided on AChE Test, TLC analysis and Bt test. Field visits to farm cooperative RBPR stations were arranged to observe post harvest handling of fruits and vegetables and pesticide residue testing.



#### **APAARI Forthcoming Publications**

Following publications are expected to be printed soon by APAARI/APCoAB for wider distribution among members and all stakeholders.

1. Taro Improvement and Development in Papua New Guinea- A Success Story
3. Bt Cotton in India- A Success Story (Revised Edition)
4. Success Story on Banana Tissue Culture in the Philippines

## ICRISAT Genebank- Conserving Biodiversity for Food Security

The Rajendra S. Paroda Genebank at ICRISAT, Patancheru, India serves as a world repository for the *ex situ* collections of five mandate crops: sorghum, pearl millet, chickpea, pigeonpea and groundnut, beside six small millets (finger millet, foxtail millet, little millet, kodo millet, proso millet, and barnyard millet). With 119,074 accessions assembled from 144 countries, the collection is currently the largest among the genebanks for these crops. The collection includes 116,349 cultivated accessions and 2,725 accessions of wild non-domesticated species. These provide insurance against genetic erosion and good source of tolerance to diseases and pests, beside improved grain quality and yield. Several landraces conserved in the ICRISAT genebank have already disappeared from their natural habitats both in Africa and Asia.



Dr. Raj Paroda with Dr. Hari Upadhyaya, Head, ICRISAT Genebank

Also, many national program scientists have been trained in plant characterization. Regeneration is one of the most important processes at the genebank. Germplasm samples for conservation are multiplied mainly during the post-rainy season (October-April) to get better quality seed. Genetic integrity is maintained by pollination control while regenerating cross-pollinating crops such as sorghum, pearl millet, and pigeonpea.

### Germplasm Conservation

The active collections are stored in standard aluminum cans for all crops and in plastic cans for groundnut at 4°C and 30% relative humidity. These active collections (kept for medium-term storage) are available for multiplication and distribution to research collaborators. Base collections are kept for long-term,



Range of Variation in Chickpea Germplasm

### Germplasm Collections in-trust

A majority of the collections (96%) has been placed in-trust with the Food and Agriculture Organization (FAO) of the United Nations on behalf of the Governing Body of International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), under the multilateral system and is available to the world community using Standard Material Transfer Agreement (SMTA).

### Germplasm Characterization, Evaluation and Regeneration

Majority (96%) of the collection in the genebank has been characterized for important morpho-agronomic traits. After several years of detailed evaluation and screening for biotic, abiotic stresses and for quality characteristics (by multidisciplinary teams of ICRISAT and national program scientists), new genetic stocks have been identified for use in crop improvement. Germplasm has also been evaluated for agronomic traits over locations jointly with NARS scientists in Burkina Faso, Canada, China, Ethiopia, India, Indonesia, Japan, Kenya, Namibia, Nepal, Thailand, Ukraine, USA and Vietnam. The results have led to better understanding of the germplasm conserved. Hundreds of such genetic stocks have already been identified and are being used by NARS scientists throughout the world.



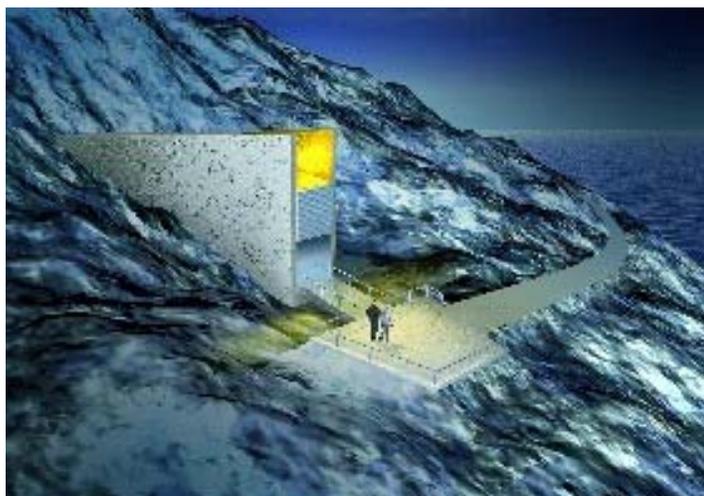
Regeneration of Pearl Millet Germplasm

solely for 'posterity', and are not drawn upon except for viability testing and subsequent regeneration, if needed. These collections are maintained at -20°C in vacuum packed standard aluminum foil pouches at 3-7% seed moisture content, depending on crop species and with initial seed viability above

85%. Base collections ensure long-term viability of material (more than 50 years) as a backup to the active collection. Germplasm accessions that do not produce adequate seed for conservation (such as wild species of groundnut and pearl millet), are maintained as live plants in a botanical garden and in green houses.

### Ensuring Germplasm Safety

ICRISAT Genebank is designed to withstand natural disasters. For further safety, the base collection is duplicated in other genebanks. Duplicates of a large portion of chickpea germplasm are conserved at the International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria; and pearl millet, groundnut and small millets at the ICRISAT Regional Genebank, Niamey, Niger. The Nordic Gene Bank has invited ICRISAT to deposit its in-trust seed collections at the Svalbard Global Seed Vault (SGSV), Norway. ICRISAT proposed a 5 year schedule to deposit about 111,000 germplasm seed samples of its five mandate crops and six small millets. During 2008, ICRISAT genebank has deposited 20,000 accessions of various crops at SGSV. Dr. William D. Dar, Director General, ICRISAT was part of the delegation that participated in the opening of this global initiative.



*The Svalbard Global Seed Vault*



*Directors General of ICRISAT and IRRI during the Inauguration*

### Making a Long-Term Impact

Rajendra S. Paroda Genebank has been highly successful in assembling and conserving germplasm as part of the global effort for the conservation of biodiversity for food security. The greatest impact is in conserving the germplasm and making diverse material readily available for use in crop improvement globally, including the semi-arid tropics. ICRISAT's Genetic Resources Unit continues to assemble germplasm from unexplored areas of diversity, and make it freely available for use in crop improvement for the benefit of humankind. Also, for overall sustainability of its program, ICRISAT has trained a large number of scientists and technicians from developing countries in Asia and Africa on germplasm collection, conservation, characterization, evaluation and documentation. These trained scientists are now helping their countries in conserving and utilizing the genetic resources.

*(Source: Hari D. Upadhyaya, C.L.L. Gowda and D.V.S.S.R. Sastry, ICRISAT, Patancheru, India, h.upadhyaya@cgiar.org)*

## Dr. William Dar Honoured

Dr. William D. Dar, Director General, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Ex-Chairman, APAARI, was honored with the Father Jose Burgos Award on February 4, 2009, the highest recognition given by the provincial government of Ilocos Sur, Philippines, to national or international achievers who have rendered outstanding service to the Filipinos. The award was given to him for his outstanding contribution to the field of agriculture.

Dr. Dar strives to help alleviate the conditions of the poor people living in the drylands of Asia and sub-Saharan Africa. Egged on by the Ilocos Surian spirit, Dr. Dar has learnt to tackle each contentious issue, understand it and then bring about a transformation in the lives of the poor through innovations and

partnerships in ICRISAT's R&D work.

Accepting the award through his representative, Dr. Dar said, "This award in a way is a validation of all I struggled for during my childhood. I believe that individuals have in them the tenacity and will to create the energy and momentum to mobilize change, to be the yeast that enables growth". APAARI family congratulates Dr. Dar for this well deserved recognition.



## Activities of the International Center for Tropical Agriculture (CIAT) in Asia-Pacific

The Centro Internacional de Agricultura Tropical (CIAT, International Center for Tropical Agriculture) is one of the 15 not-for-profit centers that form the Consultative Group on International Agricultural Research (CGIAR). CIAT was established in 1967, with its headquarters outside Cali, Colombia with a focus on the agroecosystems of Latin America, but gradually developed its program/activities to include Africa and Asia. It also developed a particular focus on genetic improvement of four crops: *Phaseolus* beans, cassava, tropical forages, and rice for Latin America. In addition, CIAT has developed strong programs in genetic resource conservation, integrated soil fertility management and natural resource management, tropical fruits, spatial analysis, participatory approaches, and linking farmers to markets, all with strong partnerships with NARES and with advanced research organizations. The mission of CIAT is to reduce hunger and poverty and improve human health in the tropics through research aimed at increasing the eco-efficiency of agriculture. By focusing on eco-efficient agriculture, it aims to satisfy environmental, social, and economic aspects of rural life in being resilient and sustainable, fair and equitable, and competitive and profitable.

### CIAT Activities in Asia

#### ● Cassava Improvement

The focus of CIAT in Thailand from early 80's, and later in other countries of Southeast Asia, was to develop well-adapted and stable varieties of cassava that are high yielding and with high starch content, combined with improved agronomic management. In 2007, it was estimated that of nearly 4 million ha of cassava grown in the 12 main cassava producing countries of Asia, by more than 7 million farmers, about 50% is planted to varieties derived from the world collection of cassava germplasm at CIAT and bred in partnership with cassava breeders in Asia. In Thailand, this figure is closer to 100%. The combination of improved genetics and agronomy has increased average yields in Asia by more than 50% and yields in some countries by more than 100%. Cassava has become a major traded commodity in



*New Uses for Cassava: Cassava Production in the Foreground and a Bioethanol Fuel Processing Plant that Uses Cassava as Feedstock in the Background (Thailand)*

Asia, with resulting impacts on the incomes and livelihoods of small farmers. Currently, nearly 90% of international exports of cassava come from two countries, Thailand and Vietnam. The importation of cassava has switched from a dominance of Europe for animal feed, to the current situation in which China accounts for about 75% of world imports of cassava for use in a range of food, feed, and industrial processes.

Cassava breeding by CIAT and partners in Asia now aims to maintain and increase yield gains, as well as greater focus on cassava quality, to ensure that it is well-suited to the range of uses, has improved pest and disease resistance, and is adapted to a wider range of environments. At the same time, agronomic developments will aim to make cassava production even more sustainable and eco-efficient. As a water-efficient and nutrient-efficient crop, especially with improved agronomic practices and soil management, cassava has a great future as a smallholder crop that provides livelihood benefits as food, feed, fuel, and other industrial uses.

#### ● Forage Species Improvement vis-à-vis Livestock Production

At the same time that CIAT became involved in cassava research and production in Asia, tropical forages scientists from CIAT started to explore ways to improve smallholder livestock production in Southeast Asia through improved management of forages. Forage species and varieties/accessions were selected from the tropical forages collection at CIAT and evaluated for suitability in Southeast Asia. Initial assessment was on suitability in terms of climate, soils, and pests and diseases, but more advanced selection was based on usefulness and management by smallholder farmers.

Improved forages have provided an entry point for improvements in livestock production. Through collaborative work by CIAT and partners in Southeast and East Asia, extension officers have learnt how to use these entry points to address specific issues faced by farmers, such as feed shortages at critical times, labour shortages, etc., as well as address issues of low productivity. As an example, through collaborative work with farmers, extension staff, and research staff of the National Agriculture



*Village Fattening of Pigs Using *Stylosanthes guianensis**

and Forestry Research Institute (NAFRI) in the Lao PDR, innovations in pig feeding systems have been developed which much more than double growth rates of pigs and at least quadruple labour productivity. As a result, many smallholders, particularly women, are developing effective businesses based on pig fattening. Similar experiences have been found with other livestock species in different farming systems in Laos and in other countries of Southeast Asia, with direct livelihood impacts on farmers.

### ● **Further Thrust to R&D Initiatives**

These two CIAT programs worked fairly independently in Southeast and East Asia for nearly 20 years, but from 2001 they began to work together and with other CIAT programs as they were established in the region. These changes came with the establishment of the Regional Office for Asia, based at NAFRI headquarters outside Vientiane, Lao PDR, and with additional programs, especially in linking farmers to markets and developing more formal linkages between research and development activities through direct linkages and support to IFAD investment projects. Further links to CIAT programs in spatial analysis, climate change, impact assessment, and soils are being developed, and will perhaps be expanded to *Phaseolus* beans in the future.

**Linking Farmers to Market:** As has been found with both cassava and livestock, linking production to markets creates major drivers for change, as well as providing important transition pathways out of poverty, as long as improvements in production can be taken up by the marginalized poor farmers, which has been the case in many instances. Improvements in linking smallholder farmers to markets and to agribusiness can take many forms and follow many pathways. In many cases, simply increasing the awareness of all the stakeholders in a value chain can lead to many simple but important improvements that are adopted easily as they are win-win solutions that have become apparent once these linkages have been made. The interventions that result in improvements in value chains are many and varied. They include production improvement issues; collective action by farmers in production (e.g. new varieties, integrated pest control, etc.); collective action on marketing; development of new or improved contracts, where appropriate; and matching farmers' production to industry requirements (e.g. use of processing wastes by farmers, provision of processing feedstocks when required by industry).

### ● **Overall Concerns and Development Impact**

Whether livelihood improvements are resulting from direct production experience for cassava and livestock, or improvements in marketing of these and other produce, the aim of all CIAT work in Asia is to have direct links with farmers, at the same time as developing proven Regional and International Public Goods (IPGs) that may lead to greater impacts in other countries in Asia, as well as in the Pacific, Africa, and Latin America.

As well as working on the development of IPGs in major areas of work for CIAT, the institution continues to work closely with other CGIAR Centers through joint projects such as with CIP, ICRISAT, IWMI, IRRI and ILRI. Most recently, IWMI and ILRI have based staff in the CIAT office in Laos, as also the Japan International Research Center for Agricultural Sciences

(JIRCAS), and such developments will gradually make the CIAT regional office in Laos more effective for other CG Centers interested to work in Laos and in the region.

It is very important for CIAT to maintain active linkages with a wide range of partners involved in development. We strive to maintain excellent linkages to NARES partners in the region, especially, although not exclusively, in Cambodia, China, East Timor, Indonesia, Laos, Myanmar, Philippines, Thailand, and Vietnam, with many development agencies and NGOs, and with a range of donors. Recent and current funding of CIAT's Asia activities comes from ACIAR, ADB, AusAID, Austria, IFAD, Nippon Foundation, and SDC. Establishing and maintaining active interaction and collaboration with the members of APAARI is of great importance to CIAT so as to continue to develop and maintain a strategy for greater impact of research for development in the region.

*(Source: Dr. Rod Lefroy, CIAT, r.lefroy@cgiar.org)*

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## **Twenty Ninth FAO Regional Conference for Asia and the Pacific**

The 29<sup>th</sup> FAO Biennial Regional Conference for Asia and the Pacific was held at the United Nations Conference Center (UNCC), Bangkok, Thailand, from 26-31 March 2009. Representatives from 33 FAO member countries, delegated by 15 ministers and 12 vice-ministers responsible for agriculture, and 6 other UN organizations participated. One non-member state, 5 inter-governmental organizations, and 16 international non-governmental organizations (NGOs) including the Asia-Pacific Association of Agricultural Research Institutions (APAARI) were also invited to participate as observers. Mr. P.K. Saha, Liaison Officer represented APAARI in this meeting.

The Conference was held in two parts– (A) Senior Officers Meeting, held from 26-28 March 2009, which was opened with addresses by Dr. He Changchui, Assistant Director General and Regional Representative of FAO for Asia and the Pacific; and His Excellency Theera Wongsamut, Minister of Agriculture and Cooperatives, Royal Government of Thailand. (B) The Ministerial Meeting, held from 29-31 March 2009, was opened with addresses by Dr. Jacques Diouf, Director General of FAO, Rome, and His Excellency Mr. Abhisit Vejjajiva, Prime Minister of the Kingdom of Thailand.

In their opening addresses, Dr. He Changchui informed the Conference that Asia and the Pacific was moving relatively slowly towards ensuring food security for all in the region. So he urged the concerned delegates for speeding up their development support programs aiming to meet the World Food Summit target of halving the number of undernourished by 2015. Taking this opportunity, Dr. He informed the Conference of the priority themes identified, in line with the current emerging issues, for FAO Regional Office for Asia and the Pacific (FAO RAP): (i) Strengthening food and nutrition security; (ii) Foster the agriculture sector's optimum contribution to growth and equity; (iii) Promote equitable, productive and sustainable natural resource management and utilization; (iv) Improve the

*Continued on Page 11.....*

## Activities of the Land Resources Division, SPC, Fiji

The Secretariat of the Pacific Community (SPC) is an international organization that provides technical assistance, policy advice, training and research services to 22 Pacific Island countries and territories in areas such as health, human development, agriculture, forestry and fisheries. All of these areas are critical to the eight million people of the Pacific, who continue to face challenges from their remote locations and scarce resources, as well as new challenges from growing populations, decreasing food security and the effects of climate change.

### Land Resources Division

The Land Resources Division (LRD), located in Suva, Fiji is a division of SPC which brings together two previously separate programs, agriculture and forestry. LRD's goal is derived from SPC's corporate vision: to improve food security, increase trade and assist the Pacific Community to be more prosperous and healthy and manage their agricultural and forest resources in a sustainable way. LRD places particular emphasis on an integrated and participatory approach, listening to all stakeholders to increase their ownership of solutions developed to problems related to land-based resources.

The Land Resources Division (LRD) through its integrated structure which is comprised of seven thematic area teams and three support teams, aims to work with Pacific Island Countries and Territories (PICTs), to address their needs and challenges and ensure food and nutritional security and sustainable economic development. Research is one way in which LRD responds to the needs of SPC member countries, and various teams within LRD are very active in research.

### Major Activities

● **Plant Health: Biological Control of *Mikania micrantha* (mile-a-minute weed):** The Land Resources Division is collaborating with research agencies in Papua New Guinea (PNG), the Queensland Department of Primary Industries and the Fiji Ministry of Agriculture, to implement a classical biological control project against one of the region's most troublesome weeds, *Mikania micrantha* commonly referred to as mile-a-minute weed or simply mikania. Mikania is a major problem throughout the Pacific but is particularly severe in Cook Islands, Samoa, Vanuatu, Solomon Islands, PNG and Fiji. In PNG and Fiji, where a 3-year biological control project supported by the Australian Center for International Agricultural Research (ACIAR) is being implemented, mikania is an important weed of plantation crops such as sugarcane and coffee, and food gardens. It can form a dense ground cover, out-competing other ground species such as sweet potato and yams, or can grow up and over garden crops, such as taro, papaya and lowland coffee completely smothering vegetation, causing loss of production and localised death of these crops. Three prospective biocontrol agents for the control of *M. micrantha*, the butterflies *Actinote antea*s and *A. thyla pyrrrha*, and a rust fungus, *Puccinia spegazzinii* are being planned for use against Mikania after appropriate host range studies.

● **Animal Health and Production: Animal Genetic Resources (AnGR) and Laboratory Capacity Building in the Pacific:** Animal genetic resources (AnGR) are essential for food and

agriculture, contributing to food security for present and future generations. As part of the Southwest Pacific regional effort to the Global Plan of Action for Animal Genetic Resources, the Animal Health Program of the Land Resources Division was requested by FAO to design and implement sustainable management of AnGR. One component of the SW Pacific Animal Genetic Resources Pilot Project was inventory and characterization, but limited to four countries namely Fiji, Niue, Samoa and Tonga. Blood samples were collected from pigs and chickens on FTA cards and sent to the International Livestock Research Institute (ILRI) in Beijing for DNA analysis. The results from the DNA extraction and analysis will assist in the identification of different breeds and the extent of genetic erosion. With this information, the region will be able to promote the sustainable use, development and conservation of animal genetic resources for food security, sustainable agriculture and human well-being in all countries.

Animal disease diagnostic capacity is limited in most countries in the Pacific. The initiative under the Pacific Regional Influenza Preparedness Project (PRIPPP) will strengthen animal health laboratory capacity, and at the same time support, animal genetic resources research. Funded by Australia (AusAID) and New Zealand (NZAID), the PRIPPP is a 4-year project (2006-2010) designed to assist the different Pacific island countries to deal with the potential threat of emerging infectious diseases such as avian and pandemic influenza. Assistance to improve laboratory facilities has already been provided to Papua New Guinea and Palau to support animal disease diagnosis, surveillance and research activities in the region, with similar activities anticipated for Fiji and Guam. The improved laboratory network in the animal health sector will also be significant in supporting other agricultural programs in animal feed research and trials, pest diagnosis and identification.

● **Plant Health: Development of Effective Crop Pest Management and Delivery Packages for the Pacific Countries: A Case Study in Fiji and Solomon Islands Using Cocoa:** Cocoa has been the selected crop for evaluating the concept of Integrated Pest Management in Fiji and the Solomon Islands using the Participatory Action Research (PAR) approach. Cocoa is a crop of high cash potential but as yet is under developed with very little investment by the farmers in these countries. The project aims at improving cocoa production using sound farm management implemented by participating farming families. It is very apparent that farmers invest very little or no resources in their cocoa farms, and average yields have been stagnant for decades in both project countries. The management package is designed with active participation by the farmers so that they are fully involved in its development. This approach engages farmers as both researchers and participants in the research.

● **Genetic Resources: The Center for Pacific Crops and Trees (CePaCT) Research:** The CePaCT is a regional genebank located within the Land Resources Division, with the mandate for conserving the Pacific region's crop and tree genetic diversity. The crop collections comprise of all the main staples of the region, such as taro, sweet potato, yam and banana. The taro collection is globally unique comprising of

850 accessions from the Pacific and Southeast Asia. The Center is not only responsible for conservation of important diversity but also for the distribution of that diversity so that it reaches the farmers' fields.

The Center is also involved in research and in the past has worked and supported postgraduate students in taro cryopreservation, taro somatic embryogenesis and transformation, and micropropagation of *Piper methysticum* (kava). More recently, research activities have also embraced tree species, notably breadfruit and sandalwood and protocols have been developed and are being evaluated. In breadfruit, the protocol has been used to transfer breadfruit germplasm from CePaCT to other countries in the Pacific region. Sandalwood research is focusing on developing an effective micropropagation protocol in an attempt to address the shortage of planting material in several countries in the Pacific. Three species are under investigation, *Santalum album*, *S. yasi* and *S. yasi* x *S. album* hybrid.

● **Crop Production: Soil Infertility—An Increasing Problem in the Pacific Islands:** In the atolls, sustainable agriculture faces large constraints due to very poor soils. Soil organic matter (SOM) is of particular importance for sustainable agriculture in these small islands. SOM contributes significantly to nutrient supply, cation exchange capacity (CEC), water retention, and to favorable soil structure. A loss of SOM in the soils of the atolls renders the soils very unproductive. Application of mineral

fertilizers and compost is often unaffordable or remains ineffective due to low CEC of calcareous sands. On the other hand, charcoal is a more persistent organic carbon which not only supplies some nutrients but increases CEC more than compost, and is also a good absorbent reducing nutrient leaching especially ammonium. Because of this, pot experiments were initiated in the Cook Islands to explore the potential of charcoal as a soil ameliorant. Pot experiments with sandy soil from Rarotonga, Cook Islands, were set up to test the potential of charcoal alone and in combination with inorganic and organic fertilizers with respect to growth of sweet corn. Some success has been achieved and more studies are in progress.

### Conclusion

The Land Resources Division sees agricultural research as key to ensuring food and nutritional security, and economic growth in the Pacific. To achieve progress in research in the relevant areas, as described above, on-farm, on-station and laboratory research and other collaborative activities as implemented have gone a long way in delivering desired results for the benefit of the farmers. However, collaboration with other agencies is needed to strengthen research capacity and to ensure that SPC/LRS is up-to-date with new technology. Support for young researchers' involvement is vital recognizing the importance of agricultural research to the sustainable development of the Pacific.

(Source: Dr. Mary Taylor, SPC, [maryt@spc.int](mailto:maryt@spc.int))

## New UNEP GEF Regional Project on Cultivated and Wild Tropical Fruit Diversity

The newly sanctioned UNEP GEF project "Conservation and Sustainable Use of Cultivated and Wild Tropical Fruit Diversity: Promoting Sustainable Livelihood, Food Security and Ecosystem Services" in South Asia and South East Asia will focus on four commercially important tropical fruit species with high diversity levels in the region, both at the intraspecific as well as at species level, all of which lack a system of environmental certification linked to markets: citrus (*Citrus* spp.), mango (*Mangifera indica*), mangosteen (*Garcinia mangostana*), and rambutan (*Nephelium lappaceum*) as well as their wild relatives. The four countries participating in this project—India, Indonesia, Malaysia and Thailand—are located in the centers of diversity of these species.

The project will contribute to the improvement of livelihoods and food security of target beneficiaries through the conservation and use of tropical fruit tree genetic resources. The objective of this project is to promote the conservation *in situ* and on farm, of tropical fruit tree genetic resources through strengthened capacity of farmers, user groups, local communities, and institutions to sustainably apply good practices and secure benefits.

### Anticipated outcomes:

**Outcome 1:** Diversity of tropical fruit tree genetic resources is conserved *in situ* and on-farm through improved knowledge of its value, use and sustainable management practices.



Citrus



Rambutan



Mangosteen



Mango

**Outcome 2:** Rural communities benefit by using methodologies and good practices for the management and conservation of tropical fruit tree species and intra-specific diversity.

**Outcome 3:** Stakeholders have the capacity and leadership skills to apply good practices for managing tropical fruit tree diversity for sustainable livelihoods, food security and ecosystem health.

The Project was officially signed between The United Nations

Environment Program (UNEP) and Bioversity International (BI) in January, 2009. Recently, the four countries have completed the pre-project launching meetings in their respective countries and the last meeting was held in CISH, Lucknow from 1-2 May 2009 with the Indian partners. The project was launched at Malaysian Agricultural Research and Development Institute (MARDI) on 14 May 2009 where concerned DGs and national agencies participated in a week long event.

Bioversity International will execute the project through the Regional Project Management Unit (PMU) based at the Bioversity International, Sub-regional Office for South Asia in New Delhi, India. The nodal executing institutions in four countries are:

**India:** Indian Council of Agricultural Research (ICAR), New Delhi

**Indonesia:** Indonesian Center for Horticulture Research and Development (ICHORD), Jakarta

**Malaysia:** Malaysian Agricultural Research and Development Institute (MARDI), Kuala Lumpur

*From Page 8.....*

capacity to respond to threats and disasters; (v) Promote the development and implementation of sound policy and regulatory frameworks for agriculture, forestry and fisheries; and (vi) Provide information and analysis on all aspects of food and agriculture. His Excellency Theera Wongsamut in his address highlighted the capacity of Thailand to provide effective water management and the country's efforts to supply water to all farmers and reduce on-farm water loss. Referring to the "New Theory of Agriculture and Self sufficiency Philosophy" of His Majesty the King of Thailand, the Minister urged increased cooperation among countries in the region to achieve the common goals in agricultural development.

The FAO Director General Mr. Jacques Diouf reflected in his address that as part of its "Initiative on Soaring Food Prices", FAO had provided technical expertise and support to 11 countries in Asia and 7 in the South Pacific. In his concluding remarks, he assured that FAO will continue to support the region's Governments and partners in the design and implementation of effective programs for sustainable agriculture and rural development. His Excellency Mr. Abhisit Vejjajiva, Prime Minister of the Government of the Kingdom of Thailand, commended that the agenda of the Conference covered a wide range of related subjects in the field of agriculture. His Excellency stressed that agriculture remained the most important pillar of development in most of the countries of Asia-Pacific region. However, he pointed out that the global drive towards food security was hampered by protectionist trade policy, and urged to eliminate the barrier facilitating to boosting food-security oriented development. The Independent Chairperson of the FAO Council, Mr. Noori Naeini, in his address pointed out the combined effects of the global financial crisis, volatile food prices, climate change, bio-energy development and a decline in the pace of agricultural productivity gains.

The agenda of the conference covered the following items: (i) Emerging issues and priorities on food and agricultural development in the region; (ii) Global and regional emergency issues: Trans-boundary animal diseases in the region and looking at the environmental factors affecting its occurrence;

**Thailand:** Department of Agriculture (DOA), Horticultural Research Institute (HRI), Bangkok

The project is an expansion of a previous tropical fruit project funded by the Asian Development Bank. The project budget is US\$ 10.3 million, with US\$ 2.4 million coming from Bioversity, US\$ 1.9 m from India, US\$ 0.78 m from Indonesia, US\$ 0.84 m from Malaysia and US\$ 0.79 m from Thailand. The GEF is funding US\$ 3.66 m for a period of five years starting from 2009. The project will develop and implement appropriate conservation procedures for the target fruit species and focus on the management and sustainable use of diversity by user groups. Ultimately, the aim is to establish a landscape-level community-based management model for safeguarding tropical fruit tree genetic resources, biological wealth and vital ecological functions over the long-term.

*(Dr. Bhuwon Sthapit, Bioversity International, Office for South Asia, New Delhi, India, b.sthapit@cgiar.org)*

(iii) Round table on the bio-energy rush: Opportunities and risks for food security, the environment and rural development; (iv) Policies, strategies and technical options for coping with water scarcity; (v) Agribusiness and competitive agro-industries in the context of globalization and free trade; (vi) Aid-for-trade initiative and the role of FAO; (vii) Regional state of food and agriculture; (viii) Recommendations and activities of the FAO Regional Commissions on (a) Agricultural Statistics, (b) Animal Health, (c) Fisheries, (d) Forestry, and (e) Plant Protection; (ix) Food safety and trade in Asia-Pacific.

The Government of the Republic of Korea graciously reconfirmed to the Conference its offer to host the Thirtieth Regional Conference in 2010.



### VACANCY ANNOUNCEMENT

#### THE ASIA & PACIFIC SEED ASSOCIATION (APSA) EXECUTIVE DIRECTOR

APSA is seeking a well-qualified and experienced person for the position of EXECUTIVE DIRECTOR. All interested should send detailed Curriculum Vitae with a passport-size photograph, ensuring the following personal details: family name and first name(s), date of birth, citizenship at birth, present citizenship, marital status, list of dependents, present place and country of residence, mailing address, telephone numbers; University degrees obtained indicating subjects of specialization, year of award and name and location of academic institution; experience starting with most recent position, name and address of employer (please include contact phone details of former employers), dates of employment, concise description of work carried out.

A one-page written essay how you may contribute to the achievement of the goals and mission of APSA will be helpful.

**Dr. Jai Singh, President, The Asia & Pacific Seed Association (APSA), PB 1030 (Kasetsart), Bangkok 10903, THAILAND**  
e-mail: [j.singh@sakata.co.in](mailto:j.singh@sakata.co.in), [www.apsaseed.org](http://www.apsaseed.org)

## An Update on CGIAR Reform Process

During December, 2008 at the Annual General Meeting of the CGIAR in Mozambique, the CGIAR members unanimously endorsed the design of a new CGIAR System. The transition is coordinated by the Transition Management Team (TMT). They have organized the reform into 7 “work streams”:

1. Legal Establishment of the Consortium (Alliance)
2. Legal Establishment of the Fund (CGIAR Secretariat)
3. Strategy and Results Framework, and Mega Programs (Alliance)
4. Global Conference for Agricultural Research for Development (GFAR)
5. Accountability in the new System (CGIAR members)
6. Monitoring and Evaluation in the new System (CGIAR members)
7. Systemwide issues (CG Secretariat)

There are different Transition Management Team members on the work streams that they are responsible for. As indicated above, the CGIAR Alliance of Centers is responsible for work streams 1 and 3. To help manage and advance on work streams, the Alliance has formed a Consortium Planning Team (CPT). The CPT’s communication focuses on the work on CGIAR Reform transition.

Building the new Consortium including the consortium architecture, the establishment of shared services platforms, development of a Strategy Results Framework and the conceptualization of the Consortium Programs (currently called the Mega Programs) will require participation and input from a broad array of shareholders and stakeholders.

### Progress to Date

□ **Consortium Design:** Following a thorough and transparent search and selection process, the Alliance engaged the Boston Consulting Group (BCG) to work on the architecture of the Consortium. BCG will prepare a draft Consortium Constitution and draft terms of reference of its Board and CEO (or Executive Director). They started this work by interviewing Center leadership and ‘benchmarking’ with some relatively similar organizations. A series of new consultations with the Alliance just finished. The consultants will use the results of these consultations and its ‘benchmarking’ to draft the Consortium constitution and Terms of Reference for the Consortium Board and CEO. The resulting document will be presented as work in progress to the June CGIAR Executive Council meeting.

□ **Strategy and Results Framework and Mega Programs:** In February 2009, a workshop was organized to clarify concepts (such as ‘what is a Mega Program and a portfolio of Mega Programs’) and better delineate the scope of the Strategy and Results Framework. The results from this workshop helped design terms of reference for two teams to work on the Strategy and Results Framework and on Mega Program ‘mock ups’ respectively. The Alliance has now approved these terms of reference and the composition of each team. Joachim von Braun is the Chair of the ‘strategy’ team and John McDermott is the Chair of the ‘mock up’ team. The Terms of Reference for both

teams can be found on the Alliance online document repository (<http://sites.google.com/a/cgxchange.org/alliance/welcome>).

### Implementation of CGIAR Reforms

The strategic results framework and mega program are being developed. Dr. Joachim von Braun, Director General of the International Food Policy Research Institute (IFPRI), is leading a team of six people from the Centers Science Council and external organizations to prepare a draft of the Strategic Results Framework. Dr. John McDermott, Deputy Director General for Research at the International Livestock Research Institute (ILRI), is leading a team composed of Center staff to create three examples or “mock ups” of Mega Programs. The Alliance will present the draft Strategic Results Framework and Mega Program mock ups at ExCo-16. From May to December, the Alliance will carry out consultations with Members, Center management and staff, partners and stakeholders to seek input for further development of these elements. The final draft of the Strategic Results Framework, a description of the portfolio of Mega Programs, and a sketch of the substance proposed for Mega Programs will be presented to the CGIAR at its December 2009 Business Meeting.

The roadmap to the March 2010 Global Consultation on Agricultural Research for Development (GCARD) is being developed by a task force with partner, member and center representation to ensure that regional consultations will lead up to the GCARD, a bottom-up input to the reform implementation and that the GCARD process is linked to the CGIAR Strategic Results Framework and Mega Program efforts.

[For more information/update from the Alliance of CGIAR Centers- contact on behalf of the Alliance: Pamela Anderson ([cip-dg@cgiar.org](mailto:cip-dg@cgiar.org)), Anne-Marie Izac ([a.izac@cgiar.org](mailto:a.izac@cgiar.org)) and Fiona Chandler ([f.chandler@cgiar.org](mailto:f.chandler@cgiar.org)), For details also see “CGIAR Change Update”, [changeupdate@cgiar.org](mailto:changeupdate@cgiar.org), and The Change Blog: The Change Blog is a forum for views and news on the CGIAR Change: <http://cgiarchangemanagement.wordpress.com>]



### New APAARI Members

Allahabad Agricultural Institute (AAI), India; Agriculture Research Institute of Afghanistan (ARIA), Afghanistan; Birsa Agricultural University (BAU), India; Central Asia and the Caucasus Association of Agricultural Research Institutions (CACAARI), Uzbekistan; Internacional Center for Tropical Agriculture (CIAT), Colombia; Indian Agricultural Universities Association (IAUA), India; Sugar Research Institute of Fiji (SRIF), Fiji; and Secretariat of the Pacific Community (SPC), Fiji have become new members of APAARI. APAARI family welcomes them.

## World Congress on Conservation Agriculture: A Brief Report

The Congress was jointly organized by the Indian Council of Agricultural Research (ICAR) and the National Academy of Agricultural Sciences (NAAS). The sponsors of the congress were the International Fund for Agricultural Development (IFAD), Food and Agriculture Organization of the United Nations (FAO), Indian Society of Soil Science (ISSS), Indian Society of Agricultural Economics (ISAE), and some of the Centers of the Consultative Group on International Agricultural Research (CGIAR). The congress was attended by about 1000 delegates representing 60 countries. There were 109 lead and keynote papers on different themes of the Congress.



### Summary Findings

Globally, about 120 million hectare area is practising the concepts and technologies of conservation agriculture (CA). These technologies were applied on 45 million hectare in 1999 and expanded to 95 million hectare in 2005. Over 90% of the conservation agriculture based technologies are practiced in just five countries, namely United States of America (25 million hectare), Brazil (24 million hectare), Argentina (18 million hectare), Canada (13 million hectare) and Australia (9 million hectare). Among the developing countries in Asia, China and India are the leading countries. In India, more than 2 million hectare area under rice-wheat cropping system is under resource conservation technologies.

There are a number of benefits of adopting conservation agriculture practices. Farmers who adopt these technologies can save labour, water and energy cost, attain higher yields, and get more returns. Conservation agriculture practices also help in carbon sequestration; act as a sink for carbon dioxide and alleviate the problem of global warming. Large scale trials and farmers' experiences show that the available technologies can be adopted in a wide range of rainfed and irrigated environments. Most of the presentations revealed the ability of conservation agriculture practices in enhancing grain yields in providing better economic performance and in reducing production risks to improve energy use efficiency. Role of policies and institutions was highlighted in accelerating adoption of conservation agriculture practices. A number of treaties and partnerships were initiated in the past to promote conservation agriculture practices.

### Recommendations

1. A Delhi Declaration was released to strengthen conservation agriculture (CA) at the global level (see Box)
2. Conservation agriculture must not be considered as an alternative development pathway, as it represents the best option for a sustainable future of agriculture in developed and developing countries.
3. Conservation agriculture must be brought into the mainstream of crop management research and be closely linked with breeders and other agricultural disciplines.
4. More research needs to be done on:
  - (a) different aspects of soil health, nutrient and residue management for various production systems under different CA practices across different agro-ecologies;
  - (b) options to most efficient and cost-effective weed management strategies for different production systems;
  - (c) water balance models for adjusting irrigation scheduling to CA conditions and improving water use efficiency and soil protection for different production systems;
  - (d) identify multi-purpose cover crops, which can protect and/or provide nutrients to the soils as well as contribute in overcoming food and nutritional security;
  - (e) more energy saving options in different soils and agro-ecologies;
  - (f) monitor impact of CA practices on GHG emissions under different production systems and agro-ecologies;
  - (g) more systematic adoption and impact assessment studies on different socio-economic groups.
5. A cafeteria of farm implements is to be developed for different soil types and rainfall regimes for better seed and fertilizer placement simultaneously for ensuring maximum biomass production.
6. Tailoring efficient genotypes for CA and tillage x genotypes interaction studies in cropping systems perspective needs special attention. Long-term effects on soils, biodiversity and climate in various agro-ecologies should be monitored.
7. Poverty alleviation programs would get a big boost, if carbon saved by CA adoption could be traded at fair

## The New Delhi Declaration on Conservation Agriculture

About 1,000 delegates, gathered in the 4<sup>th</sup> World Congress on Conservation Agriculture, held from 4 - 7 February, 2009 in New Delhi, India, among them farmers, private sector enterprises, scientists, development organizations, donor organizations and policy makers from all the continents, recognizing the urgent need:

- ◆ to double agricultural production over the next few decades,
- ◆ to reverse the trend of degradation of natural resources, in particular soil, water and biodiversity,
- ◆ to improve the efficiency of the use of ever scarce production resources,
- ◆ to address the fact that agriculture and agriculturally induced deforestation cause 30% of the actual green house gas emissions,
- ◆ to answer the increasing threats of a changing climate to agricultural production,

Agreed that Conservation Agriculture based on the three principles of:

- ◆ minimum mechanical disturbance of the soil
- ◆ permanent organic cover of the soil surface, and
- ◆ a diversified sequence or association of crops

is the foundation of a sustainable intensification of crop production, being as such the necessary condition to achieve, along with other complementary technologies, a sustained

increase of world agricultural production and at the same time a recovery of the natural resource base and environmental services.

The delegates, therefore, urge all stakeholders involved at international, regional and national level in agricultural production, research and policy making to mainstream Conservation Agriculture as the base concept for agricultural production.

Governments of the world are requested to:

- ◆ harmonize their policies in support for the adoption of Conservation Agriculture
- ◆ introduce mechanisms which provide incentives for farmers to change their production system to Conservation Agriculture
- ◆ pursue the case of Conservation Agriculture as the central mechanism for agricultural sector-climate change mitigation in the international negotiations for a post Kyoto climate change agreement
- ◆ include Conservation Agriculture as base concept for the adaptation of agriculture to the challenges of climate change in the National Action Plans for Adaptation
- ◆ support the UN Food and Agriculture Organization in the endeavour to establish a special program on Conservation Agriculture to facilitate this process in its member countries.

Released in New Delhi on 6 February, 2009

prices. In this context, methodological perfections are to be researched to overcome uncertainties in estimating carbon sequestered/mitigation of GHG emissions.

8. There is a need to have politically acceptable level of support (such as credit, insurance, tax relief, R&D) for conservation agriculture, including technologies, so that CA practices are profitable to farmers. CA policies should be compatible and form part of a coherent national policy on agricultural development.
9. Conservation agriculture programs at national, regional and global levels are to be developed in a partnership mode by involving relevant stakeholders. The programs should be designed to cover: capacity building, and sensitization of policy makers. Donor organizations such as the World Bank, IFAD, ADB, FAO, African Development Bank, need to support such programs.
10. A global network of interconnected communities of practices has been initiated to accelerate the mainstreaming of conservation agriculture, which needs to be strengthened.

(Source: Dr. P.K. Joshi, National Centre for Agricultural Economics & Policy Research (NCAP), New Delhi, India, [pkjoshi@ncap.res.in](mailto:pkjoshi@ncap.res.in))



## Latest APAARI Publications

1. Proceedings of Symposium on Global Climate Change
2. Proceedings of 10<sup>th</sup> General Assembly Meeting
3. Tsukuba Declaration on Adapting Agriculture to Climate Change
4. CD of 10<sup>th</sup> General Assembly Meeting



## IFAP Asia Committee Focuses on Extension Services and Information Exchange

The International Federation of Agricultural Producers (IFAP) Asia Committee held its meeting on June 1, 2008 during the 38<sup>th</sup> IFAP World Farmers' Congress in Warsaw, Poland - with thirty delegates from eleven countries. It was chaired by Mr. K.P. Singh of India. The Committee noted its achievements since the last Congress in Seoul in 2006 in terms of linking (formally and informally) with intergovernmental bodies in the region such as the ASEAN, FAO, IFAD, APAARI and its increasing membership. It acknowledged the support provided by the ASEAN Foundation and the Government of the Republic of Korea in increasing the participation of its women farmer leaders during its recent World Development Report consultation in Manila. It appreciated AgriCord continuing support to further strengthen the regional network through exchange visits and more active participation in international conferences and meetings.



*Participants of the IFAP 38<sup>th</sup> World Farmers' Congress, Warsaw, Poland*

The Committee discussed important topics within the context of the World Development Report 2008 (WDR), rising food prices and climate change. The farmer organizations acknowledged the importance of information and knowledge exchange, sharing of best practices and popularizing technical and scientific information so that farmers could better understand them and apply solutions according to their own circumstances.

Some key messages from the deliberations in the meeting are as follows:

1. In an effort to link farmers to the markets, developing countries can design their own models that should be beneficial to poor farmers. Cooperatives, when effectively and efficiently managed, could provide the kind of marketing services and facilitation needed.
2. Farmers would need advice, guidance and training to grow safe and good quality produce. Governments must be able to provide the necessary means to assist them. All actors in the supply chain must act responsibly.

3. Consumers are complaining about the rise in food prices, but are not blaming farmers. They blame the governments' neglect of agriculture. Policy responses from governments regarding high rice prices are varied, and they are forced to give priority and focus to the agriculture sector.
4. Climate change is very important but information is scanty and mitigation experiences of farmers' organizations are limited. Awareness campaigns focusing on the benefits of mitigation strategies, for example, organic farming and reforestation will be useful advocacy tools in taking care of the environment.

The Committee validated its regional thematic priorities, namely empowering farmers in the market, sustainable development (biofuels, climate change) and food safety and quality. The main focus activities will be capacity building, training, awareness raising, exchange visits and implementation of action projects.

For the year 2009-2010, the Committee elected its officers, namely: Chair- Mr. K.P. Singh (India); Vice Chairs: Deepak Prakash Baskota (Nepal) and Sok Sotha (Cambodia).

*(Source: Dr. Beatriz Del Rosario, IFAP, [beatriz.delrosario@ifap.org](mailto:beatriz.delrosario@ifap.org))*

## The New GFAR Website

The new GFAR website is officially online! Please visit [www.egfar.org](http://www.egfar.org) to discover how easy it is to be a part of shaping the future of agricultural research for development. The web space features the new look of GFAR, while building on its role as a Global Forum for all those who care about the future of agriculture. As a member of "e-GFAR", you will be able to participate in Forum debates, post news items and also submit reports, papers and other information regarding ARD on the open site. Also remember not to miss out in taking advantage of GFAR's extensive document repository, which features over 1,000 publications from GFAR and its Regional Fora dealing with important areas of focus such as both new and learned methods of research, innovation, regional

research priorities and more. We look forward to connecting and working with all the stakeholders in agriculture research for development via the new GFAR website. We invite you to take part in the fight against hunger.



## CORRA and IRRI Join Hands in Tackling Current Rice Research and Production Challenges in Asia

### 12<sup>th</sup> CORRA Annual Meeting

About 30 participants comprising member-country representatives, IRRI and JIRCAS staff members, and observers attended the 12<sup>th</sup> CORRA (Council for Partnership on Rice Research in Asia) meeting at the Japan International Research Center for Agricultural Sciences (JIRCAS), Tsukuba, Japan from 23-24 October 2008. This annual meeting brought together the senior research representatives of 16 major rice producing and consuming nations to assess and discuss the main issues and challenges facing the Asian rice industry.

Dr. Kenji Iiyama, President of JIRCAS and 2008 CORRA Chair, welcomed the participants and mentioned the importance of rice in Japanese households and agriculture. He stressed that more focus is required on increasing productivity by working on the biotic and abiotic stresses brought about by the effect of global climate change. He also encouraged the member nations to find options that should improve collaboration among them in increasing rice production in Asia.

Dr. Achim Dobermann, IRRI Deputy Director General for Research, emphasized the value of CORRA as an important body to share experiences that can offer quick and strategic solutions to contemporary challenges facing the rice industry. He also underscored the importance of looking at long-term initiatives of investing in infrastructure and capacity building to address rice productivity in the future by both IRRI and the individual member countries.

### Presentations/Scientific Deliberations

The meeting had four major presentations by IRRI: *Global trends in rice production, markets, and consumption and the effect of the current financial situation* by Dr. S. Mohanty; *IRRI's plan on accelerating rice production* by Dr. A. Dobermann; *IRRI's climate change research activities* by Dr. R. Wassmann; and a *progress report on the International Network for Genetic Evaluation of Rice (INGER)* by Dr. E. Redoña.

Dr. William Padolina, IRRI Deputy Director General for Operations and Support Services, reported on preparations for IRRI's 50<sup>th</sup> Anniversary; the International Rice Congress (IRC) 2010 in Hanoi, Vietnam; and updates on APAARI meeting, which was held back to back with the CORRA meeting and also hosted by JIRCAS. Four country reports were also presented by Korea, Japan, Myanmar, and Cambodia highlighting their current rice R&D programs and areas of possible collaboration with IRRI.

More importantly, the meeting approved and fully supported the 4-point concerns of INGER: NARES commitment for increased germplasm exchange; need to increase local support for



Participants of 12<sup>th</sup> CORRA Annual Meeting

activities that will enhance collaboration/monitoring and evaluation; policy support for germplasm exchange, benefit sharing, and improved systems; and the need to raise more local support to modernize INGER.

### Recommendations

The delegates agreed to support the following recommendations:

1. CORRA and IRRI to work together in providing clear opinions and positions on the future potential of controversial concerns such as genetically modified rice, systems of rice intensification, etc., so that policy decisions makers will be guided accordingly.
2. Increase the profile of CORRA by working to attach future CORRA meetings to important meetings of the ministers of agriculture, whenever possible (i.e., ASEAN Ministers on Agriculture and Forestry, Round table Inter-Ministerial Meeting at IRC 2010 in Hanoi).
3. Strengthen effort of IRRI and member countries to conduct more in-depth rice supply and demand studies and make the data/results available for those making important decisions in the government.
4. Give full support to INGER's plan to modernize, and the commitment of NARES to have more exchange of materials; have a standard INGER country operating document among members highlighting country activities, and existing and future needs, including local budget; and attempt to establish recognition for breeders.
5. Encourage scientific capacity building among member countries to train future rice scientists by allocating more local resources and devising various options (i.e., sandwich programs).

The next CORRA meeting will be held in the last week of October 2009 in Thailand.

(Source: Dr. Achim Dobermann, Dy. Director General (Research), IRRI, a.dobermann@cgiar.org)

### ❑ A Multi Regional Study on Food and Bioenergy Got Approved at ERA ARD Meeting in Lithuania

The Southern Advisory Group's (SAG) effort to have a greater voice in the global research agenda of the European Research Area- Agricultural Research for Development (ERA ARD) took a turn to a higher level with the approval for funding of its initiated study on *'Regional Evidence Generation and Policy and Institutional Mapping on Food and Biofuel for the Africa, Asia and Latin American Regions'* on the occasion of ERA ARD's 8<sup>th</sup> Management Team meeting held in Lithuania February 26-27, 2009.

ERA ARD brings together 14 European countries within the frame of the European Research Area Network (ERA Net) of the European Commission to promote collaboration in European agricultural research for the world's poor. It likewise gives high priority to the participation of partners from the South in the decision-making process, thus the creation of the Southern Advisory Group (SAG) in 2006 comprised of representatives of regional fora, namely ; AARINENA, APAARI, FARA and FORAGRO.

Geared towards a better understanding of the current initiatives on food and bioenergy and their consequent effects on food availability and livelihood opportunities to smallholder farmers in developing regions, the six month study is funded out of the United Kingdom's contribution to ERA ARD, through its Department For International Development ( DFID ) . It will be conducted by the regional fora in their respective regions starting May 2009.

Generating evidences on the impact of converting food crops into bioenergy and mapping policies and institutional initiative in support of pro-poor bioenergy programs of developing economies are the two major components of the study. Initiated and developed under the leadership of the SAG chair and APAARI representative to ERA ARD, Dr. Nerlita M. Manalili, the study is a test case on how best to enhance SAG's potential as a driving force in ensuring that European agricultural research for development works better for the South .

The integrated results of the regional study shall be presented on the occasion of ERA ARD's end of project conference tentatively set in Brussels, Belgium during December 2009. Study results shall likewise be used as policy inputs to regional planning and shall be translated into popular documents for enhanced knowledge sharing.

### ❑ Call for Adapting to Climate Change in PNG

Papua New Guinea requires a multi-pronged strategy to adapt to climate change and mitigate its impacts on agriculture and food security in the country. NARI Director General, Dr. Raghunath Ghodake said that PNG must look after its own interests against the backup of global uncertainty and financial recession now that the world is going through global climate change along with food shortages and the worldwide economic crisis.

Speaking at the 19<sup>th</sup> National Agriculture Council (NAC) meeting in Madang, on March 24 2009, Dr. Ghodake pointed out that the phenomenon of climate change is a definite process and is

a fact of life with a complex manifestation in terms of its impacts on agriculture and food security and PNG has to prepare and adopt a multidimensional strategy, and that "The country requires a multi-pronged strategy in the areas of agricultural research for development, policy and resource support, and strategic and effective implementation". He therefore called on the public sector and donor agencies to participate and help support the development and implementation of medium to long-term efforts in this area.

In his joint paper with Dr. John Bailey on 'Challenges of Climate Change on Agriculture and Food Security and Strategies to Reduce Impacts in Papua New Guinea', Dr. Ghodake said that PNG, situated on the western rim of the tropical pacific, is already suffering from the effects of rising sea levels, which have eroded land and contaminated water supplies, to the extent that some small island communities have already had to evacuate. Also, the country is vulnerable to extremes in rainfall intensities linked to La Nina Southern Oscillation events. He said that "The most widespread food shortage in PNG has resulted from drought conditions brought by El Nino events; the event of 1997 triggering the worst drought in living memory. Scientific evidence suggests this event as the strongest on a series of ever strengthening El Ninos that are now recurring every 10-15 years with another major event being likely around 2012". He further pointed out that warmer and moisture conditions, which climate models predict for the humid tropics, are likely to increase threats to food and cash crop production posed by pests and diseases. Already there appears to be an intensification of pest and disease problems in PNG, including those caused by late blight on potato and leaf scab on sweet potato. Also, warmer temperatures are causing increased incidences of malaria in the PNG highlands.

Dr. Ghodake also highlighted that in response to the threat of climate change, a series of projects are being jointly implemented and/or developed by various Australian and PNG institutions and NARI. He said that the strategy associated with the projects has five main parts which tackle different aspects of the climate change problem in PNG. They include early warning system, crop and genotype diversification, biotechnology targeting of pests and disease, dissemination and adaptation of drought-coping strategies, and sustainable water supply. He emphasized that PNG must take the initiative and urgently address the imminent impacts of climate change on the nation's food and water security, and in particular the need to put in place a sustainable water supply facilities for vulnerable rural communities. Dr. Ghodake also stressed that PNG must make a strategic investment by accepting and implementing agriculture as a development agenda for well-being of the people and prosperity of the nation.

### ❑ IAUA: Indian Agricultural Universities Association

Some main objectives of the IAUA are- to serve as an inter-university organization; to promote, support and undertake programs to improve norms and standards in agricultural education, research, training and extension in universities, to act as a bureau of information and to facilitate communication, coordination, mutual consultation and collaboration amongst agricultural universities. To achieve the objectives, the

association undertakes/organizes and facilitates annual conventions, symposia, brainstorming sessions and regional meetings etc. Presently almost all the agricultural universities in India numbering 47, are its members. The Vice Chancellors of member universities or institutions constitute Association's General Body. The General Body meets once a year to decide activities and also to elect Executive Committee of the Association for the ensuing calendar year. Most working is governed and guided by the Executive Committee which meets quarterly (4 times a year). The decisions on policy matters are discussed and ratified by the General Body in its Annual meeting usually held in December each year. The IAUA brings out a quarterly Newsletter publishing significant contributions made by the member universities and other specific publications. For more information see IAUA website ([www.iauaindia.org](http://www.iauaindia.org)), or contact Dr. R.P. Singh, Executive Secretary, IG2, NASC Complex, D.P.S. Marg, Pusa Campus, New Delhi 110012 (India), Tele Fax 911125842422, E-mail: [esiaua@yahoo.co.in](mailto:esiaua@yahoo.co.in), [drsingh@rediffmail.com](mailto:drsingh@rediffmail.com)

### IFAP Committee of Women Farmers Appeals for More Support for Women Empowerment

The International Federation of Agricultural Producers (IFAP) Committee of Women Farmers held its meeting on June 3, 2008 in Warsaw, Poland during the 38<sup>th</sup> IFAP World Farmers Congress. The meeting was chaired by Karen Serres (France). The Committee welcomed the presence of male delegates and recognized that future activities of the Committee should include men who could help them champion women's causes. It noted the participation of some of its members in global events, and asked that more support be provided to enable active engagement in important global meetings and dialogues, such as the IFAD farmers' forum in 2010, which will have preparatory meeting to discuss specific issues on women in agriculture, the United Nations Commission on the Status of Women (UNCSW) session, which discussed financing for gender equality and empowerment this year, a central issue shared by both developing and developed countries, and the climate change meeting in Copenhagen in 2009. The Committee recognized the big challenge to IFAP, and appealed to mobilize international resources, including new and innovative funding sources.

### Millions Fed Project: Proven Successes in Agricultural Development- APAARI Success Stories

The International Food Policy Research Institute (IFPRI) one of the CG Centers, under its 2020 Vision Initiative, has taken up the Millions Fed Project. The project will synthesize selected case studies promoting information on "Proven Successes in Agricultural Development". Twenty seven topics/papers to be covered have been listed (<http://www.ifpri.org/millionsfed/casestudies.asp>). Dr. R.S. Paroda, Executive Secretary, APAARI is member of the Advisory Committee. The members will respond to the listed papers/case studies now under preparation.

The Asia-Pacific Association of Agricultural Research Institutions (APAARI) since its establishment about two decades back, has been covering successful case studies on agricultural research and development on topics of global, regional and national relevance, utilizing expertise from NARS, CG Centers and other partners. Dissemination of synthesized information and sharing knowledge and technology transfer as narrated in these

successful case studies has been of particular benefit to member- NARS of APAARI. To date 40 such success stories have been published and these cover diverse themes ([www.apaari.org](http://www.apaari.org)).

Of these success stories, some cover the selected topics listed for potential case studies being undertaken by the Millions Fed Project of IFPRI. These are:

1. Dairying in India (1994)
2. Hybrid Rice in China (1994)
3. Tilapia Farming in the Philippines (1994)
4. Integrated Pest Management in Rice in Indonesia (1999)
5. Resource Conserving Technologies: Transforming the Rice-Wheat Systems of the Indo-Gangetic Plains (2002)
6. Sustaining the Green Revolution in India (2004)

The information provided on above APAARI published success stories will be of use to the above IFPRI's Millions Fed Project.

### CACAARI Strengthens ARD Activities in Central Asia and the Caucasus

The Central Asian and the Caucasus Association of Agricultural Research Institutions (CACAARI) was established to provide a neutral platform for promoting scientific interface and partnership among the NARS of the Central Asia and the Caucasus (CAC—the countries are Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan in Central Asia, and Armenia, Azerbaijan and Georgia in the Caucasus). The Global Forum on Agricultural Research (GFAR) and Project Facilitation Unit (PFU)-CAC/ICARDA Regional Program for CAC have taken the lead in backing up CACAARI. The forum has also been supported by collaborating international organizations and regional fora, such as CG Centers, FAO, APAARI and AARINENA.

The main goal of CACAARI is to foster required regional cooperation for strengthening agricultural research for sustainable development in Central Asia and the Caucasus. The specific objectives of the Association are to:

- promote the exchange of scientific and technical know-how and information;
- encourage the establishment of appropriate research and training programs in accordance with identified regional, bilateral or national priorities;
- strengthen research organizational and management capability of member institutions; and
- build cross-linkages with regional and international research centers and organizations through involvement in jointly-planned research and training programs.

Since its establishment, CACAARI has been promoting regional initiatives such as establishing the Regional Agricultural Information System (RAIS) to foster sharing and exchange of information and knowledge in the area of agricultural research for development (ARD) at national, regional and international level, and the Inter-Regional Network on Cotton (INCANA) to strengthen regional collaboration for improving cotton production technology in Asia and North Africa through research, sharing of information, exchange of germplasm and participation in annual meetings, workshops and training programs.

CACAARI has recently been planning to widen the scope of the consortium through involving NGO, farmers, and private sector and establishment of relevant institutional units such as CAC NGO Consortium, Farmer Organizations Consortium and Private Sector Forum.

CACAARI brings out a newsletter that provides information on ARD activities, regional and international collaboration, capacity building and other new developments. Its website ([www.cacaari.org](http://www.cacaari.org)) serves as a window for counterparts from the CAC region and abroad to the region's agricultural research and contains detailed list of agricultural institutions located in the region. Most recently, CACAARI and APAARI have agreed on mutual partnership, to strengthen the exchange between the two sister organizations.

#### □ Agricultural Research Institute of Afghanistan (ARIA): Some Highlights

Agricultural research and development efforts of ARIA, are directed as follows:

1. To develop agricultural technologies adapted to agro-climatic zones, increase crop productivity, and improve socio-economic conditions of farmers.
2. To develop technologies improving crop efficiency in soil and water utilization.
3. To develop sustainable technologies for natural resource management and environmental conservation.

4. To develop efficient technology transfer methodologies reaching farmers.
5. To develop efficient and water saving irrigation systems.

At present, there are seven regional research stations existing along with some satellite stations. These stations location-wise cover different agroclimatic zones in Afghanistan having critical influences on crop varieties, farming systems, input used, crop productivity, etc.

Recognizing the importance of agricultural research, international donor agencies have been providing support to rehabilitate and update the research systems of ARIA since 2002. Contributions of agencies such as ICARDA, CIMMYT, JICA and IFDC are particularly noteworthy.

With the presentation of the Agriculture Master Plan in 2005 and its emphasis on technology development and its transfer to the farming communities, the road is paved for developing products to be competitive on world markets with regard to quality and price. ARIA is expecting support from many other donor agencies for revitalizing its research system on short-term and long-term basis.

For more information contact: Dr. M.A. Osmanzai, DG, Research & Extension, Ministry of Agriculture, Irrigation & livestock (MAIL), PB 5291, Kabul, Afghanistan, [aosmanzai@yahoo.com](mailto:aosmanzai@yahoo.com)



### Global Conference on Agricultural Research for Development (GCARD) Montpellier, France 28-31 March, 2010

GCARD aims to develop a new global agricultural research system, driven by tangible development outcomes and bringing together all those involved in agriculture research for development. The major objectives are to ensure that agricultural research systems are well integrated with regional and national partners (public, private and civil) and respond to national and sub-regional demands to help ensure development impact.

The GFAR is being given the responsibility to organize a rolling series of Global Conferences on Agricultural Research for Development (GCARDs), every two years, starting in 2009. These would involve regional reviews, electronic consultations and face to face dialogue in each region, and the reform process of the CGIAR. The 2010 GCARD will be organized by GFAR in collaboration with the CGIAR, to be held in Montpellier, France from 28-31 March, 2010; to align diverse stakeholders in agricultural research around a common agenda and develop the linkages required for its delivery. The conference will focus on: examining investment needs for systems of agricultural research, enhancing North-South collaboration, priority development challenges and the potential role of research in delivering desired impacts and possible solutions and ways forward to address the challenges identified. For more details either contact Dr. Mark Holderness, Executive Secretary, GFAR or visit GFAR website: [www.egfar.org](http://www.egfar.org)



### Expert Consultation on Biopesticides and Biofertilizers for Sustainable Agriculture 27-29 October, 2009

APAARI in collaboration with council of Agriculture, Taipei is organizing the Expert Consultation at Taiwan Agricultural Research Institute, Taichung from 27 to 29 October, 2009. Besides all APAARI members, experts on biopesticides and biofertilizers from CG Centers and other international organization, representatives from industry, civil society and farmer organizations are expected to participate in the Expert Consultation.

The main objective of the meeting will be to: (i) Review the current status of research, development and use of biopesticides and biofertilizers in agriculture at the regional level; (ii) Develop consensus on issues of quality control, regulatory management, commercialization and marketing; (iii) Identify the role of public and private sector organizations and public-private participation in promoting use of bioagents in agriculture; (iv) Promote stewardship, public awareness and stakeholders' participation; and (v) Highlight technological and policy issues and areas of regional cooperation.

It is expected that with diverse expertise/participation of NARS, CG Centers, Regional Fora, GFAR and other international organizations, NGOs and FOs; several emerging issues will be addressed to find a way forward towards promoting the use of biopesticides and biofertilizers for sustainable agriculture in the Asia-Pacific.

## Forthcoming Events / Meetings

The next **APAARI Executive Committee /APCoAB & APARIS Steering Committee meetings** are proposed to be held on 26<sup>th</sup> October 2009 at Taiwan Agricultural Research Institute (TARI), Taichung. All these are being hosted by the Council of Agriculture, Taipei.

### **VIII World Bamboo Congress, Imperial Queens Park Hotel, Sukhumvit Soi 22, Bangkok, Thailand 16-18 September, 2009**

The World Bamboo Congress in 3 days deliberations, in 12 sessions will cover diverse topics related to research and development of bamboos. Some of these are- Bamboos in Thailand and Southeast Asia; Bamboos and the Environment; Bamboo resources- forestry, plantations, conservation; Biology and taxonomy; Horticulture and Landscaping; Community and Economic Development; Production design and industrial aspects; Material properties of bamboos; Arts and crafts, architecture and engineering; Policy and trade; Declaration and celebration of 'World Bamboo Day'; INBAR country reports. The congress will also have Bamboo Expo, poster sessions and several specific workshops (see <http://www.worldbamboocongress.org/bamboo/program.php>; Hosting organization: World Bamboo Organization, <http://www.worldbamboo.net>; Official Event Coordinator: Equinox Marketing Ltd., [www.equinoxmarketing.com](http://www.equinoxmarketing.com)

### **Expert Consultation on 'Crops for the Future: Supporting Food, Nutritional and Economic Security in the Pacific in the 21<sup>st</sup> Century', 21-22 September 2009, Nadi, Fiji**

The expert consultation is being organized jointly by Bioversity International with APAARI, SPC and ICUC/Crops for the Future. The major objective of this meeting is to assist Pacific community to improve food, nutritional and income security. It is intended to formulate a Pacific regional strategy on 'Crops for the Future' in the Pacific to be incorporated in PAPGREN activities, opportunities to exploit priority underutilized species, promote awareness, assess capacity building needs, strengthen information sharing and develop a database. The presentations will be followed by the working group discussions to develop recommendations, future plan of activities.

### **International Conference on Food Security and Climate Change in Dry Areas, 12-15 October 2009, Amman, Jordan**

The conference aims to bring together national and international experts and other stakeholders to exchange views and experiences on urgent food security issues expected to be impacted by climate change in the dry areas; identify R&D priorities; cooperation needed between national, regional and international institutions to achieve desired objectives and support required to strengthen R&D in this field. The conference will address the following main topics: (i) climate change in the dry areas; (ii) impact of climate change on national resources availability (especially water), agricultural production systems and environmental dry radiation; (iii) impact of climate change and food security and poverty; (iv) adaptation and mitigation strategies; and (v) policy and institutional set up as enabling environments to cope up with climate change impacts. The conference is being organized by ICARDA in collaboration with the National Center for Agricultural Research and Extension

(NCARE), Jordan, AARINENA, APAARI and other partners. For more information, visit: <http://www.icarda.org>

### **Biosafety Workshop "Theoretical Approaches and their Practical Application in the Risk Assessment for the Deliberate Release of Genetically Modified Plants", 12-16 October, 2009, ICGEB Biosafety Outstation, Ca' Tron di Roncade, Italy**

As many countries are in the process of developing or implementing their national biosafety framework, this workshop aims to provide experience in the examination of scientific data submitted in environmental risk assessment (ERA) reports. First, a general background of the major risk analysis concepts and practices pertaining to the deliberate release of GM crops will be given, then three case studies will be presented. Participants will be asked to evaluate each ERA report, with the assistance of teaching personnel. For more information, visit: [http://www.icgeb.org/tl\\_files/MeetingsBIOSAFETY\\_2009\\_Rev1.Oct08.pdf](http://www.icgeb.org/tl_files/MeetingsBIOSAFETY_2009_Rev1.Oct08.pdf)

### **MPOB International Palm Oil Congress 2009 (PIPOC 2009), 9-12 November 2009, Kuala Lumpur, Malaysia**

The event will chart the way forward for the industry in the world's oils and fats economy. It will also be a platform for participants to interact and share information in all areas pertaining to the oil palm industry. For more information, visit: <http://www.mpo.gov.my>

### **International Conference on Nurturing Arid Zones for People and the Environment: Issues and Agenda for the 21<sup>st</sup> Century, 24-28 November, 2009, Jodhpur, India**

The Central Arid Zone Research Institute (CAZRI), Jodhpur, is completing its 50 years of dedicated services on research and development of Indian arid zone in 2009. To celebrate its Golden Jubilee *vis-à-vis* its achievements, an International Conference on Nurturing Arid Zones for People and the Environment: Issues and Agenda for the 21<sup>st</sup> Century will be jointly organized by Arid Zone Research Association of India (AZRAI) and Central Arid Zone Research Institute, during November 24-28, 2009 at Jodhpur, the Sun City of India. The Conference will provide a unique platform for scientists of national and international repute from India and different parts of the world along with policy planners, agri-entrepreneurs, NGOs and farmers, etc., to discuss various important issues for developing future action plan for sustainable development of these fragile ecosystems. For more information, visit: <http://www.cazri.res.in>



*All queries relating to APAARI Newsletter be addressed to:*

**APAARI Secretariat  
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: [apaari@apaari.org](mailto:apaari@apaari.org), <http://www.apaari.org>**