



APAARI

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Editorial

Information and Communication Technology (ICT) offers immense opportunities for the National Agricultural Research Systems (NARS) to achieve their mandate as apex organizations addressing the challenges of national food security, climate change, poverty alleviation, rural development and environmental sustainability. The potential of ICT is significant in making Agricultural Research for Development (AR4D) more inclusive through highly targeted and location specific information services. Advances like cloud computing, availability of new generation mobile technology in many developing countries and GIS, ease of web 2.0 technologies and social networking at all levels have increased opportunities for new ways to share both information and knowledge with wide range of stakeholders. It has also led to improve the agricultural advisory services and encourage innovative partnerships in Information Communication Management for greater impact.

APAARI, as a neutral platform, has been promoting the use and application of ICT/ICM in AR4D in the region through its programme called "Asia-Pacific Agricultural Research Information System (APARIS)". Advocacy and capacity development in ICT/ICM is necessary to enable stakeholders to adopt advances in technologies and knowledge management systems to create content in the digital realm and to make it easily available, accessible, applicable and appropriable in a sustainable manner. In order to accelerate its application in the Asia-Pacific region and to integrate regional and national efforts with global initiatives, capacity development of NARS is critical to improve information and communication management for generation, storage, processing and usage of content in most economic and effective manner and with equity of access and use by the stakeholders, especially the end users.

Considering above, APAARI, the Global Forum on Agricultural Research (GFAR), the Food and Agriculture Organisation (FAO) and the Asian Institute of Technology (AIT) jointly organised a three-day workshop on ICT/ICM for Information Managers from 14-16 September, 2010 at AIT, Bangkok. The objectives of the workshop included orientation of participants to the potential opportunities of new ICT/ICM for AR4D; Coherence in Information for Agricultural Research for Development (CIARD) initiative and equip them to contribute effectively towards CIARD Roadmap to Information Nodes and Gateways (CIARD RING); and identification of mechanisms to strengthen APARIS for efficient exchange of data, knowledge and technologies in the region.

The workshop provided an opportunity to Information and Communication Managers of various NARS to present the country status reports. An important outcome of the workshop had been the endorsement of APAARI Communication Strategy which was endorsed by all those who attended.

It is our expectation that the new communication strategy of APAARI will serve well the research community in the Asia-Pacific region.

Editors

The Eleventh General Assembly Meeting of APAARI

The Eleventh General Assembly Meeting (GAM) of APAARI was held on 12 October, 2010 at the International Technical Cooperation Center, Rural Development Administration, Suwon, Republic of Korea. The meeting was hosted by the Rural Development Administration (RDA). Forty eight members attended the GAM with participation of APAARI Members comprising leaders of National Agricultural Research Systems (NARS),

representatives of the Ministries of Agriculture, CGIAR institutions, GFAR, International organizations and Civil Society Organisations (Farmers' Organisations and NGOs).

Dr. Abd Shukor Abd Rahman, Chairman, APAARI welcomed the participants on behalf of APAARI. He expressed his gratitude to Dr. Seung-Kyu Min, Administrator of Rural Development Administration (RDA) and Dr. Seung-Yeol Na, Director General, Technical Cooperation Bureau and Government of Republic of Korea for hosting the XI GAM of APAARI in Suwon. Dr. Shukor pointed out that APAARI is now recognized as one of the vibrant organizations engaged in promoting agricultural research for development (ARD), and provides a neutral platform to all its key stakeholders.

Dr. Shukor specifically pointed out that developing countries of the Asia-Pacific region have benefited greatly through their association with APAARI which has been undertaking new role and responsibility in meeting the emerging challenges for sustainable agriculture. According to him, 2009-2010 was a very productive period for APAARI, during which many important events/activities were held including the reorientation of AR4D research agenda and the active participation in Global Conference on AR4D (GCARD) held in Montpellier, France in March 2010. He also emphasized that APAARI has now become a well recognized and self-sustainable regional organization, mainly due to regular participation and support of its members.

Dr. Shukor also released three new APAARI publications viz. (i) A Success Story on Short Duration Mungbean: A New Success in South Asia, (ii) APAARI on CD 2010, (iii) APAARI Calendar for 2011.

Dr. Raj Paroda, Executive Secretary welcomed the members on his behalf and expressed his appreciation for their excellent support in carrying out the work programme during the biennium 2009-2010. He highlighted the progress made by APAARI relating to: (i) the establishment of NGO Consortium for Asia-Pacific called NGO Association for Agricultural Research in Asia-Pacific (NAARAP), (ii) efforts on de-centralized management of ARD information system and development of APAARI web site, (iii) review of the progress on agricultural biotechnology



Participants of the Eleventh General Assembly Meeting

related activities undertaken by the Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB), (iv) amendment to APAARI Constitution concerning expansion of the Executive Committee, (v) continued emphasis on APAARI publications, etc.

The Executive Secretary informed that APAARI has been striving to increase its membership and approached several NARS, IARCs, CG Centres, Regional Fora, etc. to join as new members. During the biennium 2009-2010, fifteen new members have joined APAARI, which indeed is very encouraging development. Current membership of APAARI stands at 55. Efforts are on to enroll more new members, especially China, Indonesia, Myanmar, Lao PDR, Cambodia etc., and renew membership of potential NARS in some Pacific countries, agricultural universities in the region, CAAS (China) and New Zealand. He appreciated that funding support for implementing the planned activities of APCoAB and APARIS programmes has been received from ACIAR, COA (Chinese Taipei), GFAR, MAHYCO and FAO.

The XI General Assembly Meeting of APAARI held at Suwon, Republic of Korea unanimously agreed for the following Executive Committee for the biennium 2011-2012:

New APAARI Executive Committee for 2011-2012

Chairman	: Dr. S. Ayyappan, ICAR
Vice-Chairman	: Mr. Mason Smith, DoA, MPI
Members	: Dr. Abd. Shukor Abd Rahman, MARDI Dr. Simon Hearn, ACIAR Ms. Su-San Chang, COA Dr. Tashi Samdup, CoRRB Mr. Raul Montemayor, IFAP Dr. Colin Chartres, IWMI Fr. Francisco Lucas, NAARAP Dr. Mark Holderness, GFAR
Executive Secretary	: Dr. Raj Paroda, APAARI

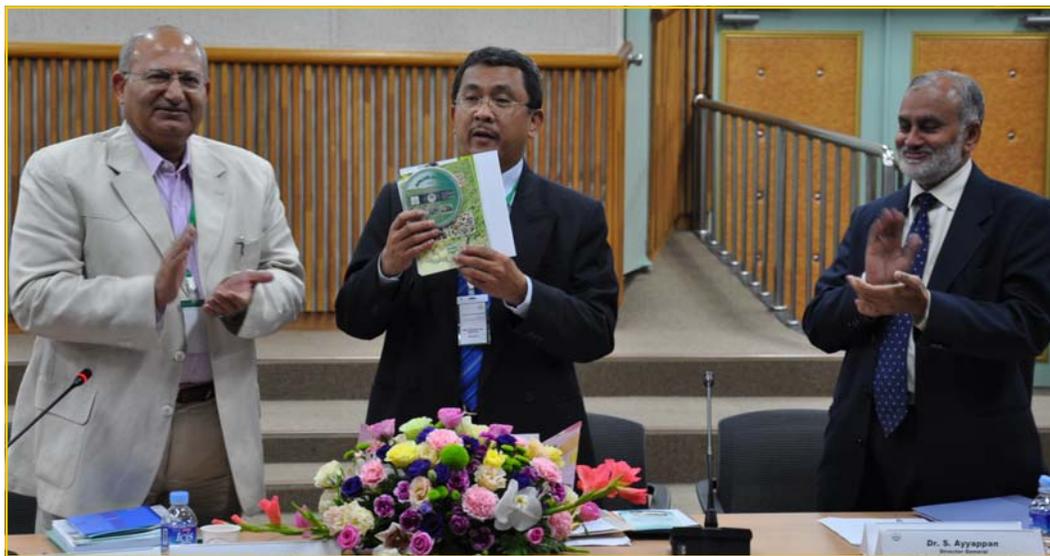
The audited statements of APAARI for the period January-December, 2009 and January-September, 2010 and Assets and Liabilities statement were circulated to all members. Having gone through all details, the members expressed satisfaction

and approved the audited accounts for both 2009 and 2010. Dr R.D. Ghodake, Chairman of the Working Group on Investment Policy made a brief presentation on his report entitled “APAARI Fund Management- Strategy and Options”. All pros and cons of the proposed four options suggested by him were discussed in detail. Members appreciated the excellent analysis made by Dr. Ghodake and were unanimous in their decision to go ahead with Option 2 (A) for an initial investment of US\$ 500,000 through ICRISAT. Members also authorized the Chairman and the Executive Secretary to take necessary action for entering into a contract or Memorandum of Agreement (MoA) for the proposed investment from APAARI to that of ICRISAT after the signing of agreement by the Executive Secretary.

APAARI Work Plan for the year 2011 prepared as per advice of the Executive Committee, was presented by Dr. Paroda for consideration and approval of the GAM. Both the work plan and budget for the next biennium 2011–2012 were considered and approved by the General Assembly.

Dr. S. Ayyappan from ICAR, India extended an informal invitation to host the XII GAM in India. All participants were pleased to accept the invitation to hold the next GAM in India around October, 2012. It was also agreed to organize an Expert Consultation on one of the thematic areas, to be finalized by the Executive Committee in due course. Members also urged Dr. Ayyappan to extend more support to APAARI for its programme activities during next biennium. The General Assembly was also pleased to know of the intention of the offer from the Council of Agriculture (COA), Chinese Taipei for hosting the next annual meeting of the Executive Committee along with an Expert Consultation during October-November, 2011 through the representative of Ministry of Foreign Affairs, Ms. Ko Kathy Yi-Chia.

Under Any Other Items, presentations were made on important themes. These included: (1) **GCARD Road Map- Its Implications** by Dr. Ajit Maru, GFAR highlighted the outcome of the Global Conference on Agricultural Research for Development held at Montpellier, France in March 2010 and stressed on the need for implementation of GCARD Road Map. Need for reorientation on ARD agenda in the Asia-Pacific region was emphasized, which lays greater emphasis on small holder farmers. (2) **APAARI Communication Strategy and its Implementation** by Dr. S. Attaluri, Coordinator, APARIS highlighted the recently adopted APAARI Communication Strategy by the Steering Committee. It stresses the importance of effective coordination among stakeholders for knowledge sharing. Need to empower National Information Nodal Points (NINPs) for exchanging freely the information of general nature concerning agricultural AR4D was also highlighted. (3) **NAARAP- A Brief Report** by Fr. Francis Lucas, Chairman,



Dr. Abd Shukor Abd Rahman, Chairman releasing APAARI New Publications. Dr. S. Ayyappan, Vice Chairman and Dr. Raj Paroda, Executive Secretary, APAARI are also seen

ANGOC made a brief presentation on NAARAP Updates and Future, the current status of ANGOC and desired to have continued linkages with APAARI in future. 4) **FARA Presentation on Supporting Southern-European Alliances** by Mrs. Myra Wopereis, Director, Access to Knowledge and Technologies, FARA was shared. 5) **AARINENA Experiences on Inter-regional Cooperation** by Dr. Ibrahim Hamdan, Executive Secretary, AARINENA. Members felt that exchange of information and germplasm material on olive and date palm, through AARINENA networks will be of much benefit to some countries in Asia.

The Chair and Vice-Chair congratulated all the members of the newly formed Executive Committee. They also expressed their satisfaction on the achievements of APAARI during the last biennium, mainly through the dynamic leadership and dedicated efforts of Dr. Raj Paroda as Executive Secretary. In view of APAARI's expanding structure and the programme of work, Dr. Abd Shukor desired that in future GAM could be organized for one full day and he also stated that it was an honor for him to serve as Chairman of APAARI.

At the end, Dr. Raj Paroda proposed a vote of thanks. He expressed his gratitude to Dr. Seung-Kyu Min, Administrator of Rural Development Administration (RDA) and Dr. Seung-Yeol Na, Director General, International Technical Cooperation Center, RDA and Government of Republic of Korea for hosting the XI GAM of APAARI in Suwon. Dr. Shukor also thanked all the delegates for their active participation as well as continued support to the activities of APAARI. In the end, Chairman presented the plaques of honor to the out-going/retiring members viz., Dr. Abd. Shukor Abd. Rahman, Chairman, Executive Committee; Dr. S. Ayyappan, Vice-Chairman, Executive Committee; Dr. Robert Zeigler, Members, Executive Committee, Dr. Seung-Kyu Min, Administrator, RDA, Mr. Seung-Yeol Na, Director General, ITCC, RDA, Dr. Somchai Charnnarongkul, Ex. DG, DOA, Dr. Hong-Kil Moon, Director, ITCC, RDA for their active role and support for the APAARI activities in the past.



The Suwon Agrobiodiversity Framework: A Framework for Conservation and Use for Sustainable Agriculture in the Asia-Pacific Region



APAARI organized an International Symposium on “Sustainable Agricultural Development and Use of Agrobiodiversity in the Asia-Pacific Region” in partnership with Rural Development Administration (RDA), Republic of Korea, Global Forum on Agricultural Research (GFAR), Bioversity International and other International Centers such as AVRDC, CIMMYT, FAO, ILRI, ICARDA, ICRISAT and IRRI from 13 to 15 October, 2010 in Suwon, Republic of Korea. More than 100 participants comprising heads and representatives of NARS, International Agricultural Research Institutions, Regional Fora, Civil Society Organisations and progressive farmers attended the Symposium.

The symposium provided an excellent opportunity to review, identify and redefine the role and directions of agricultural R&D, especially in the context of conservation through use of valuable agrobiodiversity for sustainable agricultural development. It also helped in deciding a ‘Way Forward’ for the access and benefit sharing of valuable genetic resources.

The proposed agrobiodiversity research and development framework for the Asia-Pacific region, adopted during the Symposium aims to provide a strategic approach, towards both management and use of agro biodiversity through regional collaboration and partnerships among stakeholders. Brief details of the Suwon Agrobiodiversity Framework are given below:

Focus of Research and Development:

- 1. Studies to enhance use of genetic resources through sub-set approach** by following methods/approaches (core, minicore, Focus Identification of Germplasm Strategy (FIGS), composite and reference collections and trait-specific sub-sets to sample germplasm collections to create sub-sets) that are manageable in size by the researchers to quickly evaluate / characterize (phenotypic/genotypic) genetic resources so as to select useful accessions for use in pre-breeding.
- 2. Pre-breeding and participatory breeding work to enhance utilization of genetic resources in crop**

improvement programmes: There is a need to encourage the use of genetic resources (especially underutilized species; their relatives and other useful species such as non-timber forest products (NTFPs), medicinal plants, etc.) to exploit untapped genes, broaden the genetic base of existing cultivated varieties and develop the new ones.

- 3. Strategies and technologies to enhance *in situ* and *ex situ* conservation through use:** Incorporation of information/knowledge and new technologies (genomics) into integrated approaches can promote the understanding of the diversity distribution and identification of useful traits for adaptation to climate change, and other abiotic and biotic stresses. Research should explore the potential of consumer preferences, certification strategies, geographic indication, community and farmers’ rights or payment systems for eco-system services to secure agrobiodiversity. A market oriented approach is very important in enhancing the economic status of farmers involved in conservation and use of genetic resources. Efforts need to be made to empower traditional custodians of biodiversity in the region for *in situ* conservation on-farm to enhance conservation of landraces and wild relatives of cultivated crops, both *in situ* and on-farm together with its associated knowledge. Applying proven modalities for community based biodiversity conservation with partners especially the civil societies. Promotion of cost effective complementary *ex situ* and *in situ* strategies for conservation of genetic resources.
- 4. Assessment of the agrobiodiversity richness and the status relative to economic, social and cultural (traditional knowledge) factors:** The studies related to the assessment of genetic erosion and restoration of lost diversity across the region can be done jointly with various national and international partners including advance research organizations. Studying the relationship of poverty and other socio-economic factors with the presence of genetic diversity is important in developing various livelihood

options or for the payment for ecosystems services associated with conservation and use. More emphasis on documenting traditional indigenous knowledge (TK) and linking its use in both conservation and utilization of genetic resources is also important

5. **Interdisciplinary studies** on the invaluable ecosystem services for agriculture that agricultural landscapes, forests and other mainly wild ecosystems (following CBD COP5 Ecosystems Approach) are needed. There is a need to better understand the relationships between human and nature in the socio-ecological production landscape (as those envisioned in the CBD COP10 Satoyama Initiative). Studies may focus on the role of wild ecosystems in providing services for forest and other agricultural systems, the processes and interactions which maintain these services, and the threats that they are facing; planning rehabilitation and maintenance of diverse landscape mosaics of agricultural lands and viable wild ecosystems including policies that support their creation; and adaptation of wild ecosystems to changing environment as a prerequisite for the continued provision of the services as their demand increases.
6. **Information systems and tools for data exchange:** The aim is to develop or adopt an information facility for online access to a wide range of datasets on genetic resources through application of new ICTs. The integration of geo-references as the primary key for all forms of data, capitalizing on social media, data-interchange protocols, electronic germplasm catalogues and directories, GENESYS, GRIN Global and others. Common descriptors with guidelines for recording and reporting information should be established to increase comparability and usability among datasets.
7. **Supportive policies, laws and strategies to enable enhanced exchange and use of genetic resources:** There is need to focus on assessing the impacts of international laws and policies on the use and conservation of genetic resources. Studies also needed to assist countries that have signed the International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA) to have the necessary regulatory/legislative mechanisms to implement effectively. A well developed Access and Benefit Sharing (ABS) framework must also be developed to provide legal mechanisms necessary to accelerate sharing of genetic resources.

Areas of Regional Collaboration:

1. **Developing national agrobiodiversity plans and integrating them into regional and global collaborative frameworks:** The development of national plans and integrating them into regional collaborative frameworks is important to enhance both food security and sustainable agricultural development. This will require assessment of national and regional priorities for agrobiodiversity in view of the emerging challenges. To achieve this, the facilitation role of regional fora such as APAARI, CGIAR centres, FAO, etc., is necessary and must be promoted.
2. **Increasing R&D collaboration on agrobiodiversity conservation and use in the region:** Agrobiodiversity cuts across national boundaries. More R&D collaboration for

underutilized crops in the region such as: small millets (finger millet, kodo millet, barnyard millet, foxtail millet, and little millet), minor but locally important legumes (black gram, rice bean, lablab bean, horsegram, etc.), cultivated minor and wild tropical fruits, and indigenous vegetables will ensure needed progress in improving these crops through breeding activities.

3. **Increased sharing of information and data on genebank collections:** To further improve access and sharing of genetic resources in the region, the sharing of information on national genebank collections is first pre-requisite. This could be on the model similar to that of CGIAR's SINGER or the European countries' EURISCO where data and information from different genebanks are available from a common searchable database. These databases are needed to accelerate the access to the collections held by the different genebanks. The national and international centers must ensure sharing of information being critical for enhanced use of genetic resources (*i.e.* GENESYS) following an open source system. The sustained use and maintenance of the National Information Sharing Mechanism-Global Plan of Action (NISM-GPA) in the 15 Asia Pacific countries and its development in other countries should also be supported.
4. **Strengthening agrobiodiversity capacity, education and public awareness:** Capacity development needs to be addressed at the individual, systemic and institutional levels. There is a need to make the universities curriculum more innovative and interesting to young people and make it relevant to supporting the extension and seed systems besides support through scholarship programmes to GR related degrees and courses. Courses offered by advanced organisations in the region (e.g. RDA, South Korea; Japan Genebank; NBPGR, India) should cover new tools (e.g. DNA fingerprinting, information technology), approaches (complementary and integrated approach) and strategies. Skill development courses on grant writing and producing effective publications are also needed. There is a need to lay greater emphasis on public awareness on agrobiodiversity targeting policy makers and consumers, especially in the context of importance of conservation. There is also an urgent need for policy advocacy on agrobiodiversity for the officials involved in developing national policies and international treaties and conventions such as ITPGRFA and CBD.
5. **Enhancing exchange and use of genetic resources:** Through available options for multilateral system for exchange of genetic resources using Standard Material Transfer Agreement (SMTA), especially in those countries that have signed the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). Empowering the farmers' organizations to participate in decision making related to implementation of farmers' rights as stipulated in the ITPGRFA. Enhanced cooperation on plant quarantine issues including Pest Risk Analysis (PRA) for safe movement and exchange of germplasm. Promoting the implementation of the Global Plan of Action (GPA) through specific actions at the national and regional levels through policy advocacy, strengthened R&D programmes and the use of NISM-GPA. More active facilitating role of

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The GCARD Road Map: Transforming Agricultural Research for Development (AR4D) Systems for Global Impact

The Global Conference on Agricultural Research for Development (GCARD) is organized by the Global Forum on Agricultural Research (GFAR), in association with the reform process of the Consultative Group on International Agricultural Research (CGIAR). The GCARD process is radically reshaping agricultural innovation and its significance in meeting key Millennium Development Goals.

The global fragmentation and under-resourcing of public innovation, education and advisory processes and weak linkages with wider development processes and with farmers, NGOs and the private sector, are major bottlenecks constraining the value and impact of agricultural innovation on the lives and livelihoods of the poor.

The contributions and dynamic interaction of thousands of stakeholders from all sectors have created the **GCARD Road Map**, providing a clear path forward for all involved. The Roadmap highlights the urgent changes required in AR4D systems globally, to address worldwide goals of reducing hunger and poverty, while ensuring environmental sustainability and meeting the needs of resource-poor farmers and consumers.

The GCARD Road Map establishes an inclusive rolling process of reform and capacity development that aims to mobilize the full power of agricultural knowledge and innovation towards meeting agriculture and food-related development needs. It proposes a six-point plan for transforming agricultural research for development around the world, requiring actions from all those involved in the generation, access and use of agricultural knowledge:

1. The need for collective focus on key priorities, as determined and shaped by science and society
2. The need for true and effective partnership between research and those it serves
3. Increased investments to meet the huge challenges ahead and ensure the required development returns from AR4D,
4. Greater capacities to generate, share and make use of agricultural knowledge for development change among all actors
5. Effective linkages that embed research in the wider development context and actions enabling developmental change
6. Better demonstration and awareness of the development impact and returns from agricultural innovation.

The Road Map shows that this transformation is the responsibility of all those who care about the future of agriculture and its role in development. "Business as usual" is no longer an option; the time for action is now.

The GCARD Road Map is a plan for urgent, collective action in AR4D, derived from the views and analyses expressed through the GCARD process. It matches solutions with short and long-term goals that can be reached through many paths. This roadmap has three major objectives, to: (i) reach a consensus on important needs in transforming agricultural research for development and the solutions required to satisfy those needs,

(ii) provide an inclusive mechanism by which to look forward, and (iii) provide a common framework to plan and coordinate actions for development impact.

The GCARD Road Map aims to transform AR4D globally, from its current fragmented status to more coherent and cohesive systems for greater impact. Its goal is that agricultural knowledge, science and technology should play their fullest possible roles in removing poverty and hunger from the world. To do so, collective actions are required to develop each of the six essential characteristics of well-functioning AR4D systems defined through the GCARD 2010 process:

1. Inclusively defines key research priorities and actions, driven by evolving national, regional and global development
2. Invests in ensuring equitable partnership and accountability among all stakeholders of agricultural innovation and developmental change
3. Actively achieves increased investments in human, institutional and financial resources for AR4D systems to meet demands in development
4. Develops required institutional capacities for generation, access and effective use of agricultural knowledge in development
5. Effectively coordinates linkages relating agricultural innovation to development programmes and policies;
6. Demonstrates its value and gains recognition by society through involvement of stakeholders in effective monitoring, evaluation and reporting of outcomes.

This creates clear expectations for all involved in the innovation process, from intended beneficiaries to advanced research and building out from national commitments. There is a clear need to avoid past failures of AR4D systems, to contribute to achieving national development targets and to ensure benefits to resource-poor smallholder farmers and poor consumers and thus help meet key Millennium Development Goals (MDGs).

For full version of the draft GCARD Road Map, please visit GFAR website: <http://www.egfar.org/egfar/website/gcard> and APAARI website: <http://www.apaari.org/news/gcard-2010-reports.html>



APAARI Family
Wishes You A
Very Happy and Prosperous
New Year 2011

Workshop on ICT/ICM for National Agricultural Research Information Systems

APAARI-FAO-GFAR-AIT jointly organised a three-day Workshop on ICT/ICM for National Agricultural Research Information Systems in the Asia-Pacific Region during 14-16, September, 2010 at the Asian Institute of Technology (AIT), Bangkok, Thailand. Twenty one Senior Information and Communication Managers from the National Agricultural Research Systems (NARS) of 17 countries in the Asia-Pacific region attended the workshop. More than 12 resource persons representing APAARI, FAO Headquarters, FAO RAP, Bangkok, GFAR, ACIAR, AIT and Kasetsart University participated and provided valuable inputs in the workshop.



Participants of the Workshop

The objectives of the workshop included orientation of participants to the potential opportunities of new ICT/ICM for AR4D; Coherence in Information for Agricultural Research for Development (CIARD) initiative and equip them to contribute effectively towards CIARD Roadmap to Information Nodes and Gateways (CIARD RING); and identification of mechanisms to strengthen APARIS for efficient exchange of data, knowledge and technologies in the region.

Dr. Simon Hearn, Principal Adviser, Australian Council for International Agricultural Research (ACIAR) & Chairman, APARIS Steering Committee chaired the Inaugural Session. Dr. Ajit Maru, Senior Knowledge Officer, GFAR Secretariat co-chaired the inaugural session. Dr. Raj Paroda, Executive Secretary, APAARI welcomed all the participants, briefed about the increasing role of Information and Communication Management in AR4D and highlighted the contribution of APAARI in improving use of ICTs in agriculture in the region. Dr Malcolm Hazelman, FAO RAP also welcomed the participants and emphasized the need for improving use and application of ICT/ICM in AR4D for better agricultural research and extension services. Dr. Ajit Maru highlighted the need for accessibility, applicability and appropriability of agricultural information at all levels. The Guest of Honour Prof. Sudip K. Rakshit, Vice President for Research, AIT delivered special address and reiterated the need for sharing information and knowledge for sustainable agricultural development in the developing countries in the Asia-Pacific region.

The Chief Guest Mr. Hiroyuki Konuma, Assistant Director General and Regional Representative for Asia and the Pacific, FAO RAP inaugurated the workshop and delivered inaugural address. He stressed the need for using ICTs for food security and addressing the challenges of climate change. He flagged that farmers lack access to market information and suggested that ICTs could help improve access to market information to farmers. Dr. Simon Hearn pointed that ICT/ICM comes with challenges as well as enormous opportunities to harness for AR4D. He mentioned that regional organizations and national agricultural research systems should take up this challenge in order to harness ICT/ICM for AR4D. The inaugural session

ended with a vote of thanks by Dr. S. Attaluri, APARIS Coordinator.

The workshop was organised in six technical sessions including a session of Group Discussion on APAARI Communication Strategy and a Plenary Discussion and Recommendations.

APAARI, GFAR and ACIAR made presentations on APARIS status, Global ICM4ARD Agenda and experiences of ACIAR in ICT applications respectively. Country papers from Bangladesh, Bhutan, Cambodia, Chinese Taipei, Fiji, India, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, Nepal, Papua New Guinea, Samoa, Sri Lanka, Thailand and Vietnam were presented along with a presentation by SAARC Agriculture Centre.

Resource persons made presentations on Agricultural Institutional Knowledge Repositories: Experiences of AGRIS DSpace and AGROVOC Plug-in for AGRIS DSpace (Kasetsart University); Role of Agricultural Libraries in Agricultural Research for Development in India (IARI, India); Production Planning and Protecting Ecosystems using Remote Sensing and GIS (AIT); and e-Agriculture (FAO RAP). FAO and GFAR made presentation on the CIARD Checklist and the Pathways, CIARD RING Platform, and clarified questions on the CIARD initiatives, its benefits and membership issues.

In a session on Strengthening Agricultural Information Systems in the Asia-Pacific Region, Dr. Raj Paroda initiated open discussion and briefed that APAARI through its APARIS programme has been instrumental in sharing and exchanging agricultural information and promoting use of ICT/ICMs for AR4D in the region and assured that APAARI would continue to assist the NARS in the region in strengthening agricultural information systems through providing need-based capacity building programmes, exchange of expertise, technical assistance and networking of information and knowledge resources.

One of the important outcomes of the workshop had been the endorsement of APAARI Communication Strategy for its implementation. After a thorough discussion, participants suggested that a step-by-step approach may be followed in implementing Communication Strategy after prioritizing the activities depending on the availability of resources. It was also suggested to categorize stakeholders into primary, secondary

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Communication plays an important role in taking the results of an organisation to its stakeholders for ensuring intended impact in knowledge, attitude and actions. Realising the need for a communication strategy, the APARIS Steering Committee in its Eighth Meeting in 2009 recommended that APAARI Communication Strategy be developed in order to adopt a strategic and systematic approach to communicate with all the stakeholders and audiences.

A draft APAARI Communication Strategy has been prepared and shared among the experts for comments in the month of June, 2010. The comments and suggestions of the experts have been incorporated in the draft and the same has been presented in the Workshop on ICT/ICM for Agricultural Research Information Systems in the Asia-Pacific Region organised jointly by APAARI-FAO-GFAR-AIT at Asian Institute of Technology, Bangkok during 14-16 September, 2010. A Group Discussion has been organised exclusively to discuss on the APAARI Communication Strategy during the workshop. After thorough reviewing, participants provided valuable suggestions and endorsed the APAARI Communication Strategy for its implementation.

Later, the draft APAARI Communication Strategy along with suggestions of the workshop participants was presented to the APARIS Steering Committee in its IX Meeting held on 16 September, 2010 at AIT, Bangkok. The APARIS Steering Committee considered it to be realistic and suggested that the Strategy be implemented during the years 2010-2015 in a step-by-step approach after prioritizing the activities depending on the availability of resources. It was also suggested to categorize stakeholders into primary, secondary and others in order to target the information and communication services and emphasized the need to integrate communication activities with the initiatives like CIARD and involvement of national information systems for implementing the Communication Strategy.

The APAARI Communication Strategy has also been presented in the XI Meeting of the APAARI General Assembly held at Suwon, Republic of Korea on 12 October, 2010. Members of the General Assembly appreciated the communication strategy and desired to have it implemented soon for the benefit of all ARD stakeholders in the region. The brief outline of APAARI Communication Strategy is given under:

- Its goal is to raise the profile of APAARI as the lead organisation in AR4D in the Asia-Pacific region through communicating results and information in order to influence the stakeholders, partners and ARD community. It aims to provide two-way and well targeted communication to ensure the results of activities by APAARI and its partners achieve impact and contribute to achieving the overarching goal of improving efficiency of ARD in the Asia-Pacific region.
- Its objectives are derived from the Association's vision and objectives. It is assumed to use communications as a means to operationalise the APAARI objectives and strategies by continually communicating the Association's activities and services in ways that enhance its role, strengthen its partnerships, provide access to reliable and cohesive ARD information, increase its resources and enhance its impact

on agricultural research for development in the Asia-Pacific region.

- It is based on the principles of increasing access to ARD information, APAARI activities, promoting participation, contribution, and collaboration of stakeholders and partners with APAARI programmes; harnessing communication channels and new ICT tools / applications; striving for reliable, relevant, timely and useful information in an open, transparent and coherent manner for all the stakeholders; and establishing APAARI as a facilitator to support coherence in information for agricultural research for development in the Asia-Pacific region.
- The SWOT analysis indicate that there are immense strengths and opportunities to exploit the strength of strong linkages with NARS, increasing importance of regional fora, networking capabilities and the power of information and communication channels for better management of information and knowledge and targeted communication.
- Target audiences included APAARI Member NARS and other ARD stakeholders in the region including Farmers' Organisations, NGOs, Governments, Civil Society Organisations, International Agricultural Centres/Organisations, Associations, Private Sector, General Public, etc., who are classified as primary, secondary and other audiences.
- Audiences generally seek information that included Contact details of ARD stakeholders, database of experts and projects; dialogue/debate on ARD issues through e-discussion forums; Information on country profiles, ARD policy, projects, and research outputs; linkages to regional and global research networks, libraries and institutional knowledge repositories; employment opportunities; information on APAARI activities, publications, success stories etc.
- The print channels included APAARI Newsletter, Success Stories, Proceedings of Expert Consultations and Workshops, Status Reports on ARD, Declarations, Concept Notes, Posters, Pamphlets, Flyers etc. The digital channels that included APAARI Website, e-mails, digital documents, presentations, mailing list databases, CD-ROM publications etc.
- Based on the stakeholders analysis, information needs and use of communication channels, a Communication Plan is proposed along with key issues and timeframe. The activities proposed included development of Contact Databases; Electronic Discussion Forum; Improving APAARI web space; ARD Repository; E-Newsletter; CD-ROM publication, use of RSS newsfeeds, use of web 2.0 and social networking tools for reaching the audiences effectively besides continuation of print-based communication. It also proposed a rigorous monitoring & evaluation mechanism to measure the impact of Communication Strategy.

(Source: Dr. S. Attaluri, Coordinator, APARIS, attaluri@apaari.org)



APARIS Steering Committee Meeting

The IX Meeting of the APARIS Steering Committee was held on 16 September, 2010 at the Asian Institute of Technology, Bangkok. The meeting was chaired by Dr. Simon Hearn, Chairman, APARIS Steering Committee & Principal Adviser, Australian Centre for International Agricultural Research (ACIAR) and attended by members of the committee and special invitees.

Dr. Raj Paroda, Executive Secretary, APAARI welcomed all the members of the APARIS Steering Committee and special invitees who attended the meeting. He appreciated the support provided by ACIAR to APAARI and its patronage for the APARIS Programme for improving dissemination of information knowledge for AR4D in Asia and the Pacific region. He appreciated the GFAR's support and collaboration to conduct workshop on ICM for National Agricultural Research Information Systems in the Asia-Pacific Region held at Asian Institute of Technology during 14-16 September, 2010.

Dr. Simon Hearn, Chairman welcomed all the members of the APARIS Steering Committee. He flagged the growing concern of food security and continuing challenges posed by climate change that are crucial for agricultural development in Asia and the Pacific region. He mentioned that there is immense opportunity for Regional Fora to contribute for the CG Reform process with collaboration and support from the Fund Council, donors and other stakeholders. He appreciated the role and contributions made by APAARI for the GCARD process in the region and especially lauded the importance of the Bangkok Declaration that reflects the collective thinking of stakeholders from the region. He pointed that the role of APARIS in communication in AR4D is important. He envisaged that APARIS programme has a pivotal role to play in realizing the mandate of APAARI through sharing of knowledge and information for re-energizing networking, capacity building, partnerships and cooperation among ARD stakeholders in the Asia-Pacific region.

Dr. Ajit Maru, Co-Chairman & Senior Knowledge Officer, GFAR Secretariat also welcomed all the members on behalf of GFAR and appreciated the support of ACIAR for the APARIS programme in the region. He emphasized on need to invest more in the ICM for AR4D and envisaged that APARIS will play an important role in the region to address challenges through networking its activities with more public funded agricultural research institutions, NGOs, civil society organizations and private sector.

Dr. Malcolm Hazelman, Senior Extension, Education & Communication Officer, FAO RAP expressed that APARIS should establish stronger linkages with all stakeholders at the regional level and assured full support of FAO for APARIS programme for improving agricultural information sharing in the region. Dr. Bharatendu Mishra, Executive Director, Nepal Agricultural Research Council (NARC) highlighted that the experiences of the developed countries should be shared with the countries developing agricultural systems for better impact and opined that APARIS should assist and play an important role in this regard. Dr. Fazle Karim, Head IT, AIT appreciated the role of APAARI and expressed willingness to collaborate with APARIS capacity building programmes. Dr. S. Attaluri, Coordinator, APARIS presented the Action Taken Report on the



Members of the IX APARIS Steering Committee

decisions taken in the eighth Meeting of the APARIS Steering Committee. The Committee appreciated the progress made in different programmes and approved both the minutes of the eighth meeting of the APARIS Steering Committee and the Action Taken Report.

APAARI Communication Strategy

Dr. S Attaluri made a presentation on APAARI Communication Strategy. While appreciating the draft of the Communication Strategy, the committee members considered it to be realistic and suggested that the Strategy be implemented during the years 2010-2015 in a step-by-step approach after prioritizing the activities depending on the availability of resources. It was also suggested to categorize stakeholders into primary, secondary and others in order to target the information and communication services and emphasized the need to integrate communication activities with the initiatives like CIARD and involvement of national information systems for implementing the Communication Strategy.

APARIS Work Plan 2011

The following work plan along with budget for the year 2011 programmes was approved:

- Success Stories on Agricultural Information and Learning Systems in the Asia-Pacific Region
- Workshop on 'New Dimensions in Information and Communication Management for Agricultural Research for Development' for National Agricultural Research and Extension Systems
- Implementation of APAARI Communication Strategy
- Website maintenance and renewal
- Development of Databases on ARD Experts and ARD Projects
- APAARI on CD-2011
- APAARI Newsletter (2 issues)
- Success Stories on Innovations in Agricultural Research, Extension and Marketing Systems in Asia and the Pacific.

Continued on Page 10.....

From Page 9.....APARIS Steering Committee Meeting

- ❑ Collaboration with regional/sub-regional fora, ARD Networks and partnerships with other regional and global initiatives in the Asia-Pacific region.
- ❑ Facilitation of the Coherence in Information for Agricultural Research for Development (CIARD) process in the Asia-Pacific region.

Dr. Raj Paroda thanked the President of AIT, Prof Said Irandoust for his kind cooperation and providing the AIT as venue for ICM Workshop and APARIS Steering Committee Meeting. He also appreciated the cooperation by Dr. Jonathan Shaw, Director AIT Extension and his team members for their efforts in organisation of the Steering Committee Meeting and ICM Workshop successfully. Dr. Simon Hearn appreciated the efforts made under the APARIS programme and stressed the need to avail more opportunities of the ICT/ICMs for efficient exchange and sharing of information and knowledge in the region. He also assured the support of ACIAR to APAARI. He thanked all the APARIS Steering Committee Members for their valuable contributions and guidance provided for improving both use and application of agricultural information for AR4D in the region.

(Source: Dr. S. Attaluri, Coordinator, APARIS, attaluri@apaari.org)



From Page 7.....ICT/ICM Workshop

and others in order to target the information and communication services and emphasized the need to integrate communication activities with the initiatives like CIARD and involvement of national information systems for implementing the Communication Strategy.

The workshop recommendations emphasized that the needs of small-holder resource poor farmers should be given high priority while implementing the ICT/ICM in AR4D; strengthening APARIS through networking and sharing of ARD information in the region; need for advocacy and capacity building programmes for improving ICT/ICM for AR4D and facilitation of CIARD process in the region.

Dr. Raj Paroda thanked all the NARS leaders who showed keen interest in the workshop and nominated the participants. He appreciated the cooperation and support of partners FAO, GFAR and AIT in conducting the workshop. He appreciated the cooperation of Prof. Said Irandoust, President of AIT and commended the efforts of all resource persons and the excellent support provided by the Faculty and staff of AIT Extension. At the end, in a valedictory programme, certificates were distributed to all the participants.

A Technical Workshop on AgriDrupal was organized on 16 and 17 September, 2010 jointly by GFAR, FAO and APAARI under the CIARD umbrella for the interested participants. Hands-on training on website management by using AgriDrupal Content Management System was provided to participants. Ms Valeria Pesce, Information Management Specialist, GFAR provided expert input in the workshop.

(Source: Dr. S. Attaluri, Coordinator, APARIS, attaluri@apaari.org)



Dr. Sanjay Rajaram Honoured



Dr. M.S. Swaminathan Award for Leadership in Agriculture 2010 was awarded to Dr. Sanjay Rajaram, an Eminent Weed Breeder and Consultant, ICARDA, by Hon'ble Dr. A.P.J. Abdul Kalam, Former President of India on Saturday 18 December, 2010 at the National Agricultural Science Centre Complex, New Delhi.

Prof. K.V. Thomas, Minister of State for Agriculture presided the function, attended by over 300 scientists and students.

The award has been instituted by the Trust for Advancement of Agricultural Sciences (TAAS) and it is given annually to eminent Agricultural Scientists whose research work has made valuable impact on food, nutrition and environmental security. Present award was the 5th in the series. The other awardees were: Dr. Norman Borlaug, Dr. Gurdev S. Khush, Dr. Surinder K. Vasal and Prof. Rattan Lal.

New APAARI Executive Committee for 2011-2012

The XI General Assembly of APAARI held at Suwon, Republic of Korea unanimously agreed for the following Executive Committee for the biennium 2011-2012:

Chairman	: Dr. S. Ayyappan, ICAR
Vice-Chairman	: Mr. Mason Smith, DoA, MPI
Members	: Dr. Abd Shukor Abd Rahman, MARDI
	Dr. Simon Hearn, ACIAR
	Ms. Su-San Chang, COA
	Dr. Tashi Samdup, CoRRB
	Mr. Raul Montemayor, IFAP
	Dr. Colin Chartres, IWMI
	Fr. Francisco Lucas, NAARAP
	Dr. Mark Holderness, GFAR
Executive Secretary	: Dr. Raj Paroda, APAARI

APAARI Family Members congratulate all the new Members of Executive Committee and wish that APAARI would exceed well under their able guidance.

New APAARI Members

Indian Agricultural Universities viz., Anand Agricultural University, Anand; Central Agricultural University, Imphal; CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur; Navsari Agricultural University, Navsari; and Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar have joined APAARI as Affiliate members.

APAARI Family Welcomes the New Members.

Recent APCoAB Trainings

I. Training Workshop on Assisted Reproductive Technologies for Livestock Genetic Improvement

APCoAB in collaboration with Livestock Research Institute, Taiwan, Chinese Taipei (LRI) and International Livestock Research Institute (ILRI) organized a Training Workshop on Assisted Reproductive Technologies for Livestock Genetic Improvement at LRI during 24-26 October, 2010. The training was attended by eight participants, five of which (from Malaysia, Iran, Philippines, India and Oman) were nominated by APAARI-APCoAB. The training comprised lectures by LRI and ILRI staff on principles and applications of artificial insemination (AI) in mammalian species, poultry, ducks and geese; embryo transfer and *in vitro* fertilization; nuclear transfer and somatic cell cloning;



Participants of the Training Workshop

livestock and poultry genetic diversity; genomic breeding technology; and utilization of animal genetic resources for biomedical research. Demonstrations were held on AI, including equipment and procedures; preparation technology for frozen semen; *in vitro* fertilization; and somatic cell manipulation. The trainees visited local livestock and poultry cooperative farms for gaining first hand experience on practical application of improvement and rearing practices. Dr. J.L. Karihaloo, APCoAB Coordinator made a presentation on the status, issues and options for biotechnology application in the developing countries.

In the concluding session, participants discussed their R&D experiences and needs for future training programmes/ collaborative activities.

II. International Training Course on *In Vitro* and Cryopreservation Techniques for Conservation of Plant Genetic Resources

The International Training Course on *In Vitro* and Cryopreservation Techniques for Conservation of Plant Genetic Resources was organized by ICAR-Bioversity International-APAARI at the National Bureau of Plant Genetic Resources (NBPGR), New Delhi during 15-27 November, 2010. Being organized for the third consecutive year, the course was attended by 14 participants from eleven countries, four of whom (from Sri Lanka, Chinese Taipei and Iran) were nominated by APAARI/APCoAB. The faculty was drawn from NBPGR and other local organizations, Bioversity International, APCoAB and Royal Botanic Garden, Kew.

The course was organized into 28 lectures and practicals on topics related to *in vitro* conservation and cryopreservation of



Group Photograph of the Participants

germplasm of vegetatively propagated and non-orthodox seed species, and use of molecular tools for management and conservation of plant genetic resources. Hands-on training was provided on cryopreservation of non-orthodox seeds like citrus, buds of mulberry and pollen. Presentations were also made by the participants on their ongoing research programmes. Interactive sessions with training faculty provided an assessment of the knowledge gained by the participants and directions for further refining of the training course.

III. Training Course on Edible Mushroom Production for Asian Farmers and Entrepreneurs

APCoAB in collaboration with Taiwan Agriculture Research Institute (TARI), Taichung, Chinese Taipei, Food and Fertilizer Technology Centre (FFTC), Chinese Taipei and Southeast Asian



Field Visit of Mushroom Farm

Regional Center for Graduate Study and Research in Agriculture (SEARCA) organized the training course at TARI during 21-27 November, 2010. The training course was aimed to equip researchers, government officers and extension workers in the AP region with a working knowledge and share experiences on improved technologies for mushroom production. The curriculum was particularly focused on the importance of eco-friendly resource recycling of agricultural wastes.

Fifteen participants undertook the course, of whom three from Malaysia, Thailand and Vietnam were nominated by APAARI-APCoAB. The course comprised lectures on edible and

Continued on Page 14.....

Expert Consultation Meeting on Post-harvest and Value Addition of Horticultural Produce



Participants of the Expert Consultation

APAARI-APCoAB in collaboration with the Malaysian Agricultural Research and Development Institute (MARDI) organized “Expert Consultation on Post-harvest and Value Addition of Horticultural Produce” in Malaysia on 29 November-2 December, 2010. The need for this consultation was felt in view of the enormous postharvest losses (upto 30-50%) suffered by fruits and vegetables in the Asia-Pacific region, which in turn adversely affect the income of farmers, the quality and price of produce available to consumers, and human and environmental health due to accumulating biowastes. The meeting was supported by GFAR, FAO-RAP, HortCRSP and Malaysian Agricultural Corporation.

Eighty six participants attended the meeting comprising international experts and experts from APAARI member countries, representatives of farmer organizations in the Asia-Pacific engaged in postharvest handling of horticultural produce and local participants from government agencies, traders, farmers and private sector. The four day event comprised two days of presentation and group discussions, and two days technical visits. The presentations were organized under four sessions (Session 1. Status of ARD initiatives on postharvest and value addition of horticultural produce in the Asia-Pacific Region; Session 2. Technology spectrum for managing quality and safety of horticultural produce; Session 3. Initiatives and experiences of farmers and farmer organizations on postharvest handling technology of horticultural produce; Session 4. Global ARD future directions on postharvest and value addition of horticultural produce, followed by two sessions of Group Discussions, and Plenary Discussion and Recommendations.

The expert consultation recognized that horticultural produce comprising fruits, vegetables, ornamentals and medicinal herbs constitutes an important component of agriculture sector in the Asia-Pacific region. It contributes significantly to farmers' income, and food and nutritional security. Horticultural produce provides employment and livelihood security to large numbers of people involved in the production, processing and marketing chain. Being an important export item of several Asian countries, horticultural produce also contributes to foreign exchange

earnings. However, substantial postharvest losses occur, though the figures vary over countries. These losses take place at all stages of marketing chain and result in losses to farmers, deterioration in quality, reduced nutritional value and high costs to consumers. Hence, there is an urgent need to reduce postharvest losses by adopting appropriate policies, technologies and regional cooperation.

Recommendations on the following broad areas were adopted after discussion:

- Policy support– there is a need to enhance policy support including funding for R&D in postharvest technology.
- Detailed assessment of the postharvest losses to be made along the entire production and marketing chain to identify the critical gaps and remedial measures.
- Develop infrastructural support base for postharvest management that will facilitate quality retention, in-time delivery, and reduce handling costs and losses.
- Adopt appropriate and integrated postharvest management practices. Low cost technologies that can be adopted by small farmers are most suited for countries of this region.
- Establish a regional postharvest center to couple an education center with a one-stop-shop that will sell postharvest technologies and services.
- Train urban and peri-urban horticultural growers in cropping systems, pre- and post-harvest handling and marketing techniques.
- Postharvest information management is an emerging need for farmers to keep abreast of the market demands, and labeling and traceability requirements. Infrastructure and local skills need to be developed for the benefit of resource poor farmers to remain competitive in the globalised markets.

(Source: Dr. J.L. Karihaloo, Coordinator, APCoAB, j.karihaloo@cgiar.org)



Profile of the Council for RNR Research of Bhutan (CoRRB)

The Kingdom of Bhutan is a small Himalayan, land-locked country in South Asia. Under the initiative of His Majesty King Jigme Singye Wangchuck, Bhutan started decentralization to enhance people participation in the formulation of development policies and activities, and to strengthen their traditional local institutions. Bhutan became a Democratic Constitutional Monarchy in 2008. Gross National Happiness (GNH) is the development concept of Bhutan.

The country is divided into 20 districts with the city of Thimphu as the capital. Bhutan encompasses an area of 38,394 square km with a forest area of 72.5%, and is constitutionally mandated to maintain a minimum forest cover of 60% for all times to come. The Ministry of Agriculture and Forests (MoAF) is responsible for the agriculture, livestock and forestry development activities in the country. The integration of these three sub-sectors is a common feature in the farming systems of Bhutan and is referred to as the RNR Sector. Six main agro-ecological zones have been distinguished: from north to south: alpine, cool temperate, warm temperate, dry sub-tropical, humid sub-tropical and wet sub-tropical zones. This zoning enables to plan and prioritize research and development activities in the fields of agriculture and natural resource management based on the available resources.



CoRRB: An Overview

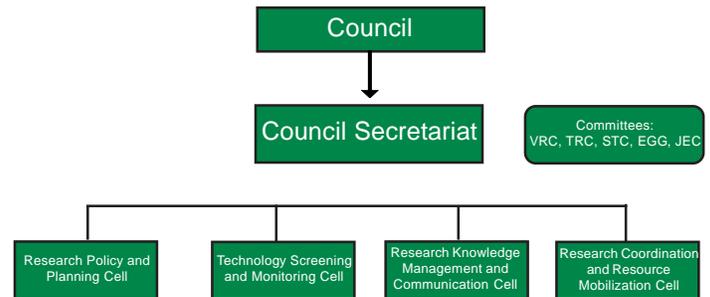
The Council for Renewable Natural Resources Research of Bhutan (CoRRB) is the apex body responsible for coordination and monitoring of national agricultural research system in the country. RNR Research refers to the thematic areas of field crops, horticulture, livestock and forestry conducted by the various Departments/agencies under the Ministry of Agriculture and Forests and other agencies.

The Vision of CoRRB is to be an effective apex body to promote science and technology for sustainable natural resources management and socio-economic development.

The Mission of CoRRB is to enable an innovative and effective Renewable Natural Resources research that supports social, economic and environmental sustainability through development of science and technology thereby contributing to the goals of Gross National Happiness.

Organogram

In order to operationalize the mandates of CoRRB, the following structure is put in place.



The Council

The Council is the apex decision making body of CoRRB. It guides, directs and ensures coherence of RNR research policy and programme in harmony with national policies and priorities. The Council meets twice in a year but special meetings could be called on need basis. Hon'ble Minister, Ministry of Agriculture and Forests is the President and Hon'ble, Secretary, the Vice President. Other member includes Hon'ble Secretary from National Environment Commission, Director(s) from all the Departments under Ministry of Agriculture and Forests and representatives, Director of Research from the Royal University of Bhutan and from the relevant institutes and agencies. The Director of the Council for RNR Research of Bhutan (CoRRB) is the member Secretary of the Council.



The Council Secretariat

The secretariat (CoRRB) follows-up on the directives of the council. It takes the lead in setting the research policies, and research agenda in line with national and emerging priorities, coordinates, screens research proposals and technologies for relevance, and control quality of research. It follows a Process based, Result based and Impact based monitoring and evaluation system that upholds application of science and research in the RNR sector development, thereby contributing to the goals of GNH. CoRRB monitors the efficiency with which the different components of the research project are being implemented and suggests improvements. CoRRB provides feedback to the researchers/agencies (and/or to all donors of research) regarding the research projects and their progress based on milestones for achieving their goals. It undertakes assessment of adoption of technologies and supports in preparation of policy briefs, need assessment and gaps for submission to the council.

Cells under CoRRB Secretariat and their main functions

There are four cells within the CoRRB Secretariat to support its day to day function and implement its mandates:

(i) Research Policy and Planning Cell: It is responsible to formulate research policy and priorities. It is also mandated to review research proposals of department and agencies and conduct policy/strategic and socio-economic research.

(ii) Technology Screening and Monitoring Cell: This Cell

Continued on Page 14.....

From Page 13.....Profile of CoRRB

takes the lead to monitor, review and evaluate the research agenda and programme of departments/agencies. It also coordinates and implements adoption and impact studies of RNR Research technologies generated and disseminated in collaboration with departments/agencies. They also coordinate the evaluation and release of new technologies.

(iii) Research Knowledge Management and Communication Cell: The main function of this cell is to maintain the data of RNR research technologies and improve the access of this information to clients. It is also the mandate of this cell to maintain the quality and standard of research and extension publications and facilitate publication of research articles. This cell also coordinates the cross-cutting RNR extension issues among Department and agencies.

(iv) Research Coordination and Resource Mobilization Cell: This cell takes the lead to develop and strengthen functional linkages with relevant national and international agencies. This cell also coordinates School Agriculture Programme (SAP) and Public Private Partnership research and development programmes/projects (PPP). It takes the lead in mobilizing resources for research and coordinates research conferences, seminars and workshops.

Committees under CoRRB

For effective coordination and management of research programmes at the national level, four technical committees are formed within CoRRB. The Director of CoRRB is the chairperson of all these committees. These included:

(i) Scientific Technical Committee: to provide the technical

CoRRB became a member of APAARI in 2010. During XI APAARI General Assembly Meeting (GAM) held at Suwon in October, 2010. Dr. Tashi Samdup was elected as a Member of the new Executive Committee for the year 2011-2012. APAARI congratulates Dr. Tashi Samdup.

advice and support concerning RNR research and development to the Council. The STC consist of 14 technical representatives from departments and agencies under Ministry of Agriculture and Forests.

(ii) Technology Release Committee: to coordinate and conduct the release of new varieties, breeds of crops and animals and production packages. TRC constitutes 11 members representing departments and agencies. However, the Chairperson is empowered to invite relevant members depending on the technologies to be released.

(iii) Extension Coordination Committee: to coordinate cross-cutting extension related policies, strategies, methodologies, and programmes amongst the various agencies of the MoAF. The ECC constitutes 14 members representing departments and agencies within the Ministry and other relevant institutes. The frequency of EEC meetings is twice a year.

(iv) RNR Journal Editorial Committee: to manage the Journal of RNR Bhutan (www.moaf.gov.bt/journal)-a multidisciplinary peer-reviewed journal published annually by CoRRB which publishes original articles in basic, applied or adaptive RNR research, case studies and critical reviews, surveys and short communications.

(Source: Dr. Tashi Samdup, tashi_samdup2001@yahoo.com & Mr. Kailash Pradhan, CoRRB, pradhankailash@gmail.com)

From Page 11.....Recent APCoAB Trainings



Group Photograph of the Participants

medicinal mushrooms, their cultivation technology, production, nutritional and medicinal value, and market prospects. Practical demonstrations were given on preparation of substrates, tissue isolation and sub-culture, and preservation of cultures. The participants were exposed to on-farm mushroom cultivation and management practices through visits to mushroom farms and interaction with large and small scale growers. The participants also observed cultivation of mushroom as value-added products.

APCoAB New Website Launched

The new website of APCoAB www.apcoab.org has been launched with user-friendly design, navigation and relevant information to all users. The website provides information on mandate, genesis, organizational strategy, supporters, composition of steering committee, current activities in detail. It provides access to rich resources such as APCoAB publications, databases of institutions, biosafety regulations etc. The website also provides links to several national, regional and global organizations and it gives current news and events on agricultural biotechnology.



GRiSP: Blueprint for a Greener Revolution

The Global Rice Science Partnership (GRiSP)- an innovative and holistic blueprint that seeks to improve international partnerships in rice research, its delivery, and impact- was formally launched during the III International Rice Congress (IRC 2010) held in Hanoi, Vietnam, 8-12 November, 2010.

The launch of GRiSP marks the beginning of a 5 year, nearly US\$600 million endeavor. While GRiSP builds on existing research, development, and funding, it requires additional new financial support to raise annual funding for rice research from around \$100 million in 2011 to \$139 million in 2015 to fully realize its potential. GRiSP is a product of concerted efforts of the International Rice Research Institute (IRRI), the Africa Rice Center (AfricaRice), the International Center for Tropical Agriculture (CIAT), and many other organizations. GRiSP is a Consultative Group on International Agricultural Research (CGIAR) Research Programme (CRP) under the theme “sustainable crop productivity for global food security.” It streamlines current research for development of the CGIAR.

The mission of GRiSP is to reduce poverty and hunger, improve human health and nutrition, reduce the environmental footprint, and enhance ecosystem resilience of rice production systems through high-quality international rice research, partnership, and leadership. GRiSP specifically aims to: (1) increase rice productivity and value for the poor in the context of a changing climate through accelerated demand-driven development of improved varieties and other technologies along the value chain; (2) foster more sustainable rice-based production systems that use natural resources more efficiently, are adapted to climate change and are ecologically resilient, and have reduced environmental externalities; and (3) improve the efficiency and equity of the rice sector through better and more accessible information, improved agricultural development and research policies, and strengthened delivery mechanisms.

To achieve its goals, GRiSP plans to foster high-quality, impact-oriented research and development activities in a global context. Strategically, the key point for farmers to enter into a virtuous circle is to raise the productivity and resource efficiency of rice production systems to unprecedented levels. Better income will enable farmers to invest more in diversification and sustainable management practices-improving their food security, nutrition, health and the environment.

The overarching organizing principle of the partnership is rice-based production systems and value chains (the “from field to market principle”). Using an interdisciplinary approach, GRiSP has six major rice research and development (R&D) themes: (1) harnessing genetic diversity to chart new productivity, quality, and health horizons; (2) accelerating the development, delivery, and adoption of improved rice varieties; (3) ecological and sustainable management of rice-based production systems; (4) extracting more value from rice harvests through improved quality, processing, market systems, and new products;



(From left to right) Alain Ghesquière, Marco Wopereis, Carlos Pérez del Castillo, Achim Dobermann, Robert Habib and César Martínez during IRC 2010

(5) technology evaluations, targeting, and policy options for enhanced impact; and (6) supporting the growth of the global rice sector.

It is also worthy to mention that gender is inherent in GRiSP's objectives, and themes. And, capacity building in both rice science and extension is fully integrated to ensure adequate skilled personnel for future rice development.

As an evolving partnership, GRiSP will be led by IRRI, which also oversees the activities in Asia. It is supported by AfricaRice, which leads the work in Africa, and CIAT in the Latin America & Caribbean region. CIRAD- a French research centre working with developing countries to tackle international agricultural and development issues, IRD- a French public research institute working for the development of Southern countries, and the Japan International Research Center for Agricultural Sciences (JIRCAS) have played a key role in the development of GRiSP and will play a role in its implementation.

GRiSP serves as the umbrella to strengthen and expand partnerships and currently includes about 900 partners worldwide.

GRiSP brings together key players and stakeholders such as advanced research institutes and universities; national research, education, and extension systems; CGIAR centers; the private sector; and civil society organizations, among others. National rice research and development systems such as those of China, India, Japan, and Brazil will also significantly contribute to GRiSP by connecting their national research programmes with GRiSP's global themes. GRiSP will expand its partnerships with civil society organizations such as non-government organizations and farmers' associations, among other groups. Partnership with the private sector is also an integral part of GRiSP.

Earlier, the Executive Committee as well as General Assembly of APAARI had endorsed the GRiSP proposal for funding in view of the fact that rice is mainly (90%) from in Asia and considered to be most important for food security in the region.

Note: The full GRiSP document can be downloaded through <http://irri.org/our-science/global-rice-science-partnership-grisp>.

(Source: Lanie Reyes, IRRI, L.Reyes@cgiar.org) □

Village-based Eco-lodge Launched in Papua New Guinea

Morobe Province of Papua New Guinea is the first in the Pacific to try out a new village movement concept, focusing on agricultural and eco-tourism development, supported by the South Korean Government. The pilot project includes the construction of a yam-based tourism facility known as “Saemaul Eco-lodge” and the production and processing of yams.

This is a cooperation project for rural development between Korea and PNG, facilitated by Korea’s Kangwon National University and PNG’s National Agricultural Research Institute (NARI). The project is titled “Production and Processing of Yam and Preparation of Yam-based Saemaul Eco-tour Village for Rural Poverty Reduction”. The Korean Government, through the Ministry for Food, Agriculture, Forestry and Fisheries, has invested US\$58,900 in this new initiative which is expected to bring positive developments in eco-tourism to the province and the country.

The eco-lodge is established in a village called Gabensis. The local community will use the eco-lodge to accommodate tourists visiting Gabensis to adventure an attractive and virgin lake close to the village and enjoy activities like diving, canoeing, fishing, bush tracking and bird watching. In doing so, they will also spend their money on yams produced and processed at the lodge site by the local community.

The project comprises of three major aspects– lodge establishment, yam agronomy and yam processing– all to be facilitated at the project site with the Gabensis community. Under



Korean Team Leader Dr. Chang Jin-Kwang launching the New Eco-lodge in PNG

agronomy, interested local farmers will participate in trainings by National Agricultural Research Institute (NARI) on best practice by going through stage-by-stage of the critical production practices so as to impart appropriate and relevant skills for improved production. This training will be provided through the ‘farmer field school model’. With food processing, NARI will also demonstrate yam processing techniques for value added products for income generation by the local community. Team leader Dr. Chang Jin-Kwang had officially opened the eco-lodge on 14 December, 2010.

(Source: Seniorl Anzu, NARI, PNG, seniorl.anzu@nari.org.pg)



APAARI Contact Database

APAARI launched Contact Database on its website. It helps to search contact details of APAARI Members by sub-region, country, category, area of activity etc., and allows downloading



of contact information. NARS and National Information Nodal Points (NINPs) are welcome to register in this platform and add contacts of their constituencies. Efforts are also on to create ARD Experts and ARD Projects Database under the APAARI Communication Strategy. For more details, please visit <http://www.apaari.org/ard-database/>

From Page 5.....Suwon Agrobiodiversity Framework

APAARI on communications between the Treaty Secretariat and the NARS, and between NARS and policy makers.

6. Role of stakeholders in strengthening agrobiodiversity conservation and use: Enhanced collaboration between international and regional agencies, civil societies, private sector, and regional networks will help in promoting genetic resource conservation and use. The proposed emphasis on research relating to genetic resources in the different Consortium Research Programmes should ensure better integration with national plans and regional and global strategies/collaborative frameworks. The sub-regional networks on genetic resources will have better sustainability if linked with regional/global organizations such as APAARI, GFAR and FAO with adequate financial support and active facilitation roles of CGIAR centres. Regional PGR and crop networks should emphasize on strengthening partnerships for the exchange of genetic resources that benefit users and germplasm providers directly. Civil societies and the private sector can contribute to the development of a more holistic perspective to support agrobiodiversity initiatives in the region. For full draft of the Suwon Agrobiodiversity Framework, visit APAARI website: www.apaari.org.



News Update from AVRDC

● **A field day for vegetable soybean:** AVRDC–The World Vegetable Center's Regional Center for South Asia and the Indian Council of Agricultural Research - Research Complex for Eastern Region (ICAR-RCER), Ranchi, Jharkhand organized a Vegetable Soybean Field Day on 27 September, 2010. More than 450 participants, including NGO representatives, staff from the Sir Ratan Tata Trust, and 350 farmers from 43 villages from Ranchi and Khunti districts attended. Regional Center for South Asia, Director Dr. M.L. Chadha and government officials opened the event, in which 13 farmers from various parts of Jharkhand received awards and certificates for excellent performance in vegetable soybean cultivation using AVRDC technologies.



Vegetable soybean variety 'Swarna Vasundhara' is a farmer favorite. It was developed from AVRDC line GC89009-1-1-2

● **Home gardening workshop:** AVRDC–The World Vegetable Center's Regional Center for South Asia organized a training workshop from 29 September-1 October, 2010 at the Department of Vegetable Crops, Punjab Agricultural University (PAU), Ludhiana to train extension officers and trainers in the basic concepts of home gardening. Thirty-five participants, including 10 research and district extension officers from PAU, 7 from Jharkhand, and 8 extension staff from the Department of Agriculture, Bhutan participated.



Demonstration of setting up a home garden plot

● **Building capacity in Bhutan:** Eight extension/technical staff from Bhutan's Department of Agriculture visited India for a short but information-packed study trip from 25 September–5 October 2010. The visitors toured AVRDC–The World Vegetable



Visitors from Bhutan get a closer look at home garden plots in Bada Salga village, Jharkhand. Home garden designs developed by AVRDC.

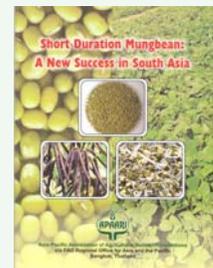
Center's home garden project sites in Jharkhand, where they interacted with the farmers and visited home garden plots in Bada Salga village; participated in the vegetable soybean field day at ICAR-RCER in Ranchi; toured the Division of Vegetable Sciences at the Indian Agricultural Research Institute, New Delhi and learned about the institute's vegetable R&D programmes; attended AVRDC's home gardening training workshop held at Punjab Agricultural University, Ludhiana; and completed their visit with a brainstorming session on home gardening organized at AVRDC's Regional Center for South Asia.

(Source: Mr. Maureen Mecozzi, AVRDC, maureen.mecozzi@worldveg.org)



Latest APAARI Publications

1. A Success Story on Short Duration Mungbean: A New Success in South Asia
2. APAARI on CD 2010
3. APAARI Calendar for 2011



Sustainable Soil Management through SCAMP in Vietnam

In Vietnam, soil maps are available for several regions but this information has generally not been interpreted to identify soil-specific management practices for sustainable agricultural production. Sustainable agricultural systems are based on managing soils according to their capabilities and environmental constraints. The productive capacity of a soil is determined by key soil properties: some are intrinsic (such as texture and structure) while others (such as pH and organic matter content) can be manipulated by management. To facilitate the interpretation of upland soil properties for identifying soil constraints and appropriate management strategies, a decision support framework 'Soil Constraints and Management Package' (SCAMP) has been developed by Dr. Philip Moody, Queensland Department of Environment and Resource Management and Dr. Phan Thi Cong, the Institute of Agricultural Sciences for southern Vietnam (IAS). SCAMP organises information on key soil properties to answer the questions: 'What does this information mean?' and 'What can be done about it?' Knowledge of the intrinsic properties of a soil enables inferences to be made about derived properties such as CEC and pH buffer capacity. From these inferences, management strategies can be developed for maximising the productive capacity of the soil.

Basic soil morphological, chemical and physical data are entered into an Access database and are processed to firstly identify intrinsic soil constraints to long-term productivity, and then to indicate management practices that will minimise the impacts of these constraints on productivity. SCAMP can be applied at plot, farm or catchment/regional scale, and where geo-referenced soil data are available, maps of constraints can be produced by interfacing the SCAMP Access database with any Geographic Information System (GIS) such as MapInfo or ARCGIS.

The first SCAMP descriptor of a soil is the texture class of the plough layer (generally 0-20 cm) and the subsurface layer (20-50 cm), followed by a series of 'constraint' descriptors. Constraints are grouped under the general headings of: drainage constraints, pathway of water movement, soil pH and acidity constraints, cation constraints, clay fraction constraints, landscape constraints and soil structural constraints.

In order to make it user-friendly, SCAMP has been arranged into three 'levels' of complexity, depending on the availability of key soil attribute data. Level-1 uses only observations made on a soil 'mini-pit' in the field which are suitable for farmer's practice (soil texture, slope, colour, structure, dispersion permeability, erosion hazard, compaction, etc.). Level-2 utilises field observations and some simple field measurements (EC, pH, infiltration rate) and is able to be applied by extensionists. Level-3 utilises a range of diagnostic laboratory analyses that can be determined with a minimum of equipment (CEC, organic carbon, pH buffer capacity, etc.). Soil management strategies that can be formulated from the SCAMP assessment become more comprehensive as the application level of SCAMP moves from Level-1 (e.g., sandy texture infers low nutrient retention and possible K deficiency) to Level-3 (e.g., actual measurement of ECEC and exchangeable K allows a K fertiliser recommendation to be made). Since 2006, the Institute of Agricultural Sciences for southern Vietnam (IAS) has held



Soil profile description being carried out by Dr. Phan Thi Cong for trainees during a training course on SCAMP

several SCAMP training courses for provincial extensionists and leading farmers. In addition, field staff from the World Vision Vietnam agricultural development project in Binh Thuan Province have been trained in the use of SCAMP. Trainees from these courses have trained others to bring the total number of trained farmers to a thousand. SCAMP is being used to identify sustainable management practices for the various soil types in the focus communes of the project.

Adaptation of SCAMP to local crops and upland soils in many provinces has identified the constraints of Ferralsols and Acrisols, the two major upland soil groups of Vietnam. This allows the design of experimental preschedules to test the efficacy of different management strategies to improve productivity and gross margins over those obtained from local 'farmer practice'. From observations made using SCAMP, scientists from the IAS have discovered that large areas of Ferralsols in the north-west of Gia Lai province have the 'generic' property (i.e. soils at or near the point of zero net charge). This finding has important implications for the management of these soils.

(Source: Phan Thi Cong, VAAS, congphanthi@hcm.vnn.vn)



New Responsibilities to Dr. Raj Paroda

1. Chairman of GFAR Programme Committee

The Steering Committee of the GFAR met in Brussels on September 28-29, 2010 and unanimously decided to elect Dr. Raj Paroda, as Chairman of the Programme Committee for the second term of three years (2011-2013). Subsequently, the Programme Committee met in Rome on 10-12 November, 2010 under his Chairmanship to finalize the draft of GCARD Road Map and also the Technical Programme and budget of GFAR for 2011.



Dr. Raj Paroda addressing the GFAR Steering Committee

2. Chairman of the GCARD II Organizing Committee

Action has been initiated by the Steering Committee of the GFAR to organise the second Global Conference on ARD (GCARD) by late 2012. As first step, an Organizing Committee has been constituted under the Chairmanship of Dr. Raj Paroda having representatives of different stakeholders (Regional Fora, CGIAR, FAO, NGOs, Farmers' organizations, Private Sector and Donor Organizations). Focus of the second GCARD is likely to be on "Innovations for Impact". A call has already been given to invite proposals for hosting the next GCARD meetings.

3. Chairman of Haryana Farmers' Commission

The Government of Haryana State in north India has recently appointed Dr. Raj Paroda as Chairman of the newly established Haryana Farmers' Commission to assess the problems of farmers and suggest appropriate measures and policies to address them in order to improve the livelihood and well being of farmers through sustainable and profitable agriculture. Dr. Paroda has been given the status of Cabinet Minister in the Government of Haryana. The other two members of the Commission are : Secretary, Agriculture, Government of Haryana and the Vice-Chancellor of Haryana Agriculture University, Hisar.

ICRISAT Strategic Plan to 2020

Inclusive Market-Oriented Development for Smallholder Farmers in the Tropical Drylands

For a long time, dryland farm families have been marginalized out of the development loop. An inclusive (broad-based) strategy puts them into the mainstream to participate and reap the benefits of development. Moreover, an inclusive strategy will enable the poor, particularly women and the youth/ children, to participate, rather than be sidelined, in the development process. ICRISAT will implement research programmes in ways that benefit smallholder farmers enabling them and their families to go beyond subsistence farming to produce surpluses that can be stored and sold to markets, paving the way for prosperity in the drylands. Surplus produce, which is stored as food, serves as a buffer in times of hunger. Income from marketed produce enable farm families to purchase more food when needed, including inputs such as seeds, fertilizer, labor, tools, livestock, insurance and education. These will further raise farm productivity, kicking off a series of investments that bring about economic growth. As this is sustained, it creates a self-reinforcing pathway to prosperity. The socio-economic process called ***inclusive market-oriented development (IMOD)*** on which ICRISAT's new strategy is anchored.

Systems perspective

To pursue this pathway to prosperity, ICRISAT will employ a ***systems perspective*** in setting its priorities to ensure that all important issues are addressed holistically. At a macro level, systems thinking allow ICRISAT to study the interaction of various economic, social, political, physical and technological factors influencing tropical dryland agriculture. At a micro level, this perspective is valuable in viewing how the things influence one another within a dryland farming system.

Strategic thrusts

To implement its strategy, ICRISAT mapped out four research-for-development thrusts, which will generate products and innovations that help provide the poor with goods and services to participate in inclusive market-oriented development. These included: **1. Resilient Dryland Systems** – Reducing vulnerability to drought and climate change while increasing crop diversity and value. **2. Markets, Institutions and Policies** – Harnessing development pathways for inclusive prosperity. **3. Grain Legumes** – Raising and securing legume productivity for health, income and sustainability and **4. Dryland Cereals** – Increasing dryland cereal crop productivity to help end hunger.

Critical focus areas

Cutting across the strategic thrusts are a host of capacities that will be strengthened during the plan period and propelled by cultural change. These are monitoring, evaluation and impact assessment; gender and diversity analysis; geospatial science methods; modeling and scenario analysis; modern breeding platforms; information and communication technology; knowledge sharing and innovation; and fostering agro-enterprises.

For more information please visit: www.icrisat.org

Forthcoming Events/Meetings

New Directions for Smallholder Agriculture, 24-25 January 2011 in Rome, Italy

IFAD is organising an International Conference on “New Directions for Smallholder Agriculture” to discuss the future of some 500 million smallholders. The conference is an opportunity to examine various options facing the smallholders; what support can be extended to them and by whom; how far can they really become the engine for sustainable development of developing countries. It is also an opportunity to learn from each other, compare and contrast successes and see what institutional, political and economic support is needed to ensure a better future for the smallholders, within and outside agriculture. Papers presented at the conference will focus on regional diversities and the technical, financial and institutional environments which will determine their future. The participation in the conference is by invitation only. For more details, visit: <http://www.ifad.org/>

APAARI Executive Committee Meeting

The next **APAARI Executive Committee Meeting** is proposed to be held on 14th February, 2011 at the National Agricultural Science Center, Pusa Campus, New Delhi. The meeting is being hosted by the Indian Council of Agricultural Research (ICAR).

APCoAB XIII Steering Committee Meeting will be held on the afternoon of 14th February, 2011 at the National Agricultural Science Center, Pusa Campus, New Delhi.

Sixth International Workshop on Management of the Diamondback Moth and Other Crucifer Insect Pests, 21-25 March, 2011 at Kasetsart University, Kamphaeng Saen Campus, Nakhon Pathom, Thailand

The Cornell University, USA, Kasetsart University, Thailand, AVRDC– The World Vegetable Center will host the International Workshop. About 200–300 researchers worldwide are expected to participate and present papers on the bio-ecology of insect pests, host plant resistance, biological controls, pesticides, and insect management on crucifer crops. For more details visit: <http://www.avrdc.org/index.php?id=646>. Contact: Srinivasan Ramasamy, AVRDC Entomologist, e-mail: srini.ramasamy@worldveg.org

2nd International Symposium on Underutilised Plant Species: Crops for the Future – Beyond Food Security, June 27-July 1, 2011, Kuala Lumpur, Malaysia

The University of Nottingham Malaysia Campus in collaboration with the International Society for Horticultural Science (ISHS) with support from the ISHS Working Group on Underutilised Plant Genetic Resources, the ISHS Commission on Plant Genetic Resources and the ISHS Section on Tropical and Sub-Tropical Fruits is organising the above symposium. The University of Nottingham Malaysia Campus together with the Asia Pacific Oceania Office of Bioversity International, hosts the global Crops for the Future Centre in Malaysia. The symposium is co-convened and supported by the Malaysian Agricultural Research and Development Institute (MARDI). For more details visit: <http://www.cffsymposium2011.org/>. e-mail: cropsforthefuturesymposium@nottingham.edu.my

5th World Congress on Conservation Agriculture and 3rd Farming Systems Design Conference (WCCA5 and FSD3), 26-29 September, 2011, Brisbane, Australia

The Grains Research and Development Corporation (GRDC) and the Australian Centre for International Agricultural Research (ACIAR) joined forces to organise the 5th WCCA and 3rd FSD in Australia in September 2011.

The combination of 5th WCCA and 3rd FSD effort brings a unique opportunity to discuss the application of conservation agriculture principles from a farming systems perspective. Discussions will be held on conservation agriculture principles in both large-scale, high-tech commercial farms, and small-scale low-cost smallholder farms from developing regions in the world in the context of food security concerns, increasing food demand and climate change. The Congress expects to attract over 700 scientists, students, farm managers, policy makers, conservationists and others interested in sustainability, conservation and farming systems.

For more details visit: <http://www.wcca2011.org>, e-mail: infowcca5@icmsaust.com.au

2011 Asian Seed Congress, 14-18 November, 2011, Kobe, Japan

The 2011 Asian Seed Congress will be held at Kobe, Japan during 14-18, November, 2011. For registration and other details visit: <http://www.apsaseed.org/>. Contact: APSA Secretariat, Bangkok 10903, Thailand, e-mail: apsa@apsaseed.org

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Adieu to Outgoing Staff



Mr. Pijush Kanti Saha, Liaison Officer, Bangkok completed his contract with APAARI on 31 December, 2010. He is a retired Plant Protection Officer of the FAO RAP, Bangkok. APAARI family wishes him all the best and appreciates his services to the organisation.



Mr. Kanwar Pal, Office Secretary, New Delhi has joined a permanent job with Indira Gandhi National Open University (IGNOU), New Delhi, from December 31, 2010. APAARI family appreciates his services and wishes him all success in his new assignment.

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