

### Editorial

Maize as a major food, feed and industrial crop offers immense opportunities for food and nutritional security in Asia. The production trends in the recent past reveal much higher annual growth rate for maize production in Asia compared to the rest of the world. However, Asia remains a major destination of maize imports. Despite the challenges including climate change, there are tremendous opportunities to harness the maize production potential by outscaling innovations, growing climate resilient maize varieties and conservation agriculture. Sustainably increasing maize yields and stabilizing prices require deployment of new technologies, long-term research investments and enabling policies.

Maize has recorded the fastest annual growth rate (around 4 %) in Asia compared to rest of the world. Increasing and competing demands for food, feed, and industry imply continued need for higher investment in maize research for development (R4D). The demand for maize is expected to double by 2050, which implies further need to enhance maize production and productivity significantly. On the contrary, the maize production and productivity in several Asian countries is severely constrained by an array of factors, including lack of access to improved seeds and other critical inputs.

Maize-based cropping systems have to be made more robust and sustainable and new agricultural practices will have to be introduced to improve the resilience and reduce production costs. Maize productivity can be significantly enhanced through: integration of novel breeding techniques; accelerating the development and deployment of high-yielding and climate-resilient varieties; strengthening maize seed sector through public-private partnerships (PPPs); precision-conservation agriculture and climate smart practices; empowering local stakeholders; and implementing innovative policies for stronger maize value chains. Greater thrust needs to be given to outscaling innovations such as single-cross maize hybrids, nutritionally enriched maize (especially QPM), conservation agriculture (CA), small farm mechanization, genetically modified (GM) maize for traits of relevance to the maize smallholders, transplanted maize, winter and spring maize, and specialty baby corn and sweet corn.

**As Asia's agribusiness continues to grow, the opportunities for the use of maize for food, feed, fodder and industrial purposes will increase significantly.** The growing needs of the poultry sector, the expansion of maize seed sector and increasing interest by consumers in nutritionally enriched and specialty maize products require greater attention. Also, the CGIAR Research Program (CRP) on Maize offers options to catalyze stakeholders in the region to outscale innovations in maize-based cropping systems and maize value chains through new partnerships.

In order to address the existing and emerging challenges, the 12th Asian Maize Conference and Expert Consultation on Maize for Food, Feed, Nutrition and Environmental Security was organized jointly by APAARI, CIMMYT, FAO RAP and Department of Agriculture (DoA), Thailand, at Bangkok from 30 October to 1 November, 2014. A total of 292 delegates from 30 countries participated and discussed the current status of maize research and development, shared information on various aspects, and gave recommendations that provide a valuable base for developing a road map for doubling maize production by 2030 in Asia through partnerships among institutions and stakeholders.

### Editors

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### Executive Committee

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		Dr. Sae-Jung Suh
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		Ms. Esther Penunia
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Executive Secretary	:	Dr. Raj Paroda

### Editorial Committee

- Dr. Raj Paroda
- Dr. R.D. Ghodake
- Dr. P.S. Faylon
- Dr. J.L. Karihaloo



## The 13th APAARI General Assembly Meeting



*Participants of the APAARI General Assembly Meeting*

The Thirteenth General Assembly Meeting (GAM) of the Asia-Pacific Association of Agricultural Research Institutions (APAARI) was held on 1 November, 2014 at Rama Gardens Hotel, Bangkok, Thailand. Forty six members, representatives, special invitees and APAARI staff participated in the meeting.

Recalling the progress made by APAARI during the past 22 years under the able guidance of Dr. Raj Paroda, Executive Secretary, Dr. Simon Hearn mentioned that APAARI is now recognized as a very vibrant organization as well as prominent think tank in addressing various emerging issues concerning agricultural research for development in the Asia-Pacific region. Dr. Hearn informed that he would be relinquishing his position as Chairman, APAARI in December, 2014. He thanked all the members for their support and expressed his gratitude to Dr. Raj Paroda for his long and extraordinary contributions in bringing APAARI to this high pedestal.

Dr. Raj Paroda in his Progress Report specially highlighted the activities conducted since 2012 followed by status of membership, audited statement of accounts, appointment of external auditor and secretarial matters. He stated that APAARI is trying to implement the Strategic Areas identified in its vision 2025 document such as: policy advocacy, need assessment, investment in AR4D, knowledge

management, role of women in agriculture, youth in agriculture, and precision/conservation agriculture. Also, activities conducted under the two major programs of APAARI, i) the Asia-Pacific Consortium on Agricultural Biotechnology (APCoAB), and (ii) the Asia-Pacific Agricultural Research Information System (APARIS) were briefly presented. Dr. Paroda also **highlighted APAARI's efforts towards implementing GCARD Road Map**, strengthening CGIAR-NARS partnership, and for involving diverse stakeholders in its activities.

Some members announced their decision to raise their membership status: PNG NARI from category III to II, PARC from category II to I, SLCARP from category III to II and BARC from category II to I. BISA will be joining APAARI as an associate member and Junagarh Agricultural University, India will join as a new affiliate member effective 2015. Navsari Agricultural University, India and BARC, Bangladesh committed to clear their dues soon.

The Chairman informed the General Assembly about the desire of Dr. Paroda to relinquish his position of Executive Secretary on 31 December, 2014. He stated that Dr. Paroda has made outstanding contributions for more than two decades and brought APAARI to become one of the most respected and vibrant agricultural research associations.

Dr. Hearn thanked Dr Raj Paroda profoundly and hoped that he would continue his association with APAARI and provide guidance to the new Executive Secretary.

The General Assembly was also informed about the appointment of Dr. Raghunath Ghodake as the new APAARI Executive Secretary effective 1 January, 2015. Dr. Ghodake has a distinguished career as agricultural research manager having been the Director General of National Agricultural Research Institute, PNG. He also has very wide international exposure including as Chairman of APAARI during 2007-2008. On behalf of the General Assembly, the Chairman extended warm welcome to Dr. Ghodake and wished that APAARI will rise to newer heights.

The Chairman also informed the members about the request of Dr. J.L. Karihaloo, Coordinator, APCoAB to be relieved from his present position on 31 January 2015. Dr. Hearn informed that the advertisement for appointment of a new APCoAB Coordinator would be issued very soon.

An important announcement made during the meeting was the development of APAARI MoU with DoA, Thailand. DoA representative, Dr. Suwit Chaikiattiyos, informed that discussions with the Ministry of Agriculture, Thailand to sign the MoU are at an advanced stage and very likely the same will be signed in a separate ceremony to be organized with mutual consent.

The proposal for creation of an additional seat for the representation of private sector made during earlier Executive Committee meetings was put up for the approval of General Assembly and the same was approved unanimously. It was also decided that the issue of further expanding representation to some more stakeholders be taken up as an agenda for consideration in the next Executive Committee meeting.

With the expiry of the term of current Executive Committee, the following new Executive Committee for 2015-16 was approved:

Chair: DoA, Thailand  
Vice-Chair: BARC, Bangladesh  
Members: PCAARRD, Philippines  
CARP, Sri Lanka  
DoA, Fiji  
ACIAR, Australia

Besides, the Executive Committee will have representation of CG centers (to be nominated by the **CGIAR Consortium**), **GFAR**, **Farmers' Associations** (presently **AFA**), **NGO's** (presently **BRAC**) and a representative of the private sector.

Sri Lanka, CARP offered to organize the next Executive Committee Meeting and Expert Consultation in October 2015 on a theme of mutual interest to be decided in due course.

In his concluding remarks, Dr. Simon Hearn, Chairman thanked all the participants for their constructive suggestions and approval/endorsement of various proposals made during the meeting. He gave his best wishes to all the retiring participants who he felt would be involving themselves with other important engagements.

Dr. William Dar proposed a resolution to express thanks and appreciation by the General Assembly to the outgoing Executive Secretary, Dr. Raj Paroda for his utmost commitment and outstanding contributions to APAARI. The proposal was welcomed and endorsed by the Chairman as well as all members. The Chairman, while concluding, praised the excellent leadership provided by Dr. Paroda as Executive Secretary, APAARI. His enormous stature and efforts have brought together various stakeholders from all over the Asia-Pacific region under the umbrella of APAARI and hence his contributions will always be remembered.

Dr. Mark Holderness also presented a token of appreciation to Dr. Raj Paroda on behalf of GFAR for his excellent contributions to GFAR and GCARD processes in various important capacities.

The meeting was closed with a Vote of Thanks to the Chair.



APAARI has a new Chairman of the Executive Committee for the term 2015-2016, in the person of Mr. Anan Suwannarat who is also the current Director-General of **the Thailand's Department of Agriculture**. He was currently awarded as the Outstanding Alumnus of the Kasetsart University 2014 for his outstanding records in administration.

Mr. Anan Suwannarat graduated with Bachelor of Science in Agriculture at Kasetsart University, Thailand and with Master of Science degree in Development Economics at the National Institute of Development Administration in Thailand. Prior to his appointment as the Director-General of the Department of Agriculture, he held several important positions such as Director of the *Agricultural* Regulatory Office (2005), Director of the Office of Agricultural Research and Development Region 5 in the Central Region (2007), Deputy Director-General of the Department of Agriculture (2010), Inspector-General of the Ministry of Agriculture and Cooperatives (2010), and Director-General of the Queen Sirikit Department of Sericulture (2013 till 2014). His wide administrative experience in diverse disciplines and with his political exposure and devotion to APAARI would be the driving factors moving forward the APAARI vision for the prosperity of all APAARI members.

## 12th Asian Maize Conference and Expert Consultation on Maize for Food, Feed, Nutrition and Environmental Security

The 12th Asian Maize Conference on "Maize for Food, Feed, Nutrition and Environmental Security" was organized jointly by APAARI, CIMMYT, FAO RAP, and DoA, Bangkok on 30 October- 1 November, 2014 and was attended by 292 participants from 30 countries representing a wide cross-section of stakeholders. The Conference Program was structured in six Plenary Sessions and 12 Technical Sessions and provided a neutral platform and an excellent opportunity to participants in reviewing the ongoing efforts on maize research and development, identifying constraints and bottlenecks in production and productivity, and developing suitable recommendations and a strategic road map for enhancing (rather doubling) maize production and its utilization in Asia.

### Major Recommendations

- Concerted efforts are needed to integrate the novel techniques for improved genetic gains, accelerate the development of high-yielding and climate-resilient maize genotypes, strengthen maize seed sector, and climate-smart agriculture practices (CSAPs).
- There is an urgency to widen the genetic base of the existing elite maize germplasm and enhanced exchange of germplasm. Collection and characterization of maize landraces from genetic

diversity-rich and unexplored areas and pre-breeding efforts need to be intensified as a matter of priority.

- Tremendous opportunities exist for outscaling innovations such as climate-resilient and nutritionally enriched single-cross maize hybrids, quality protein maize (QPM), genetically modified (GM) maize, conservation agriculture (CA), small farm mechanization, transplanted maize, winter and spring maize, specialty maize (baby corn, sweet corn, popcorn etc.), and above all maize processing and value-addition, including biofuel production.
- Intensive breeding efforts using novel techniques, such as double haploids, molecular marker-assisted selection and precision phenotyping are needed for developing improved maize varieties (especially single-cross hybrids) with high yield, stress resilience and better nutritional quality and wider adaptability.
- The countries in Asia need to assess the opportunities that GM maize offers to the smallholder farmers through technologies that can reduce cost on inputs and ensure resilience.
- Sustainable cropping/farming systems need to be developed and adopted. Efficient input-use systems and conservation agriculture practices need to be scaled-up and scaled-out. Improved management practices need to be promoted.
- Hotspots of micronutrient deficiency need to be identified. High oil, quality protein and enhanced provitamin A, high methionine, high zeaxanthin,



*Participants of the Conference*

high vitamin E, low lignin (forage maize) are some of the desired traits which need to be channelized into varietal development. Molecular breeding for developing nutritionally enriched maize varieties has to be given high priority.

- Post-harvest processing, value addition, growing interest of consumers in nutritionally enriched and specialty products, product packaging, storage and marketing need to be given higher priority to strengthen maize value chains and to enhance income as well as livelihoods of smallholder farmers.
- Urgent attention is required for producing better quality seed for which the demand and availability of hybrid seeds need to be assessed and strategies to be developed to produce adequate quantity of good quality seed and empowering the farming communities and linking them to the markets.
- Agricultural research for development (AR4D) on maize should adopt a more holistic approach. The role of youth as service/knowledge providers has to be strengthened. This in turn warrants greater thrust on human resource development and capacity building through vocational training and information communication technologies.
- As a long-term strategy for sustainable intensification, balancing demand-supply vis-à-vis **natural resources**, **“A Maize Atlas for Asia”** should be developed so as to define the current and **potential maize production systems’ domains** and targeting portfolios of technologies and innovations with the present and projected resource scenarios.
- Smallholder farmers, especially women, should be at the centre-stage of AR4D agenda. Hence, gender programs need to be promoted through higher commitment and policy support to gather data on gender dynamics, drudgery and technological options. There is also a need to understand social constraints relating to women participation in agriculture.
- Conducive policy environment and enhanced investment (at least double) on maize research for development is the key factor for the growth of maize value chains in Asia. Besides addressing issues concerning maize industry, there is a need to catalyze the stakeholders to scale-up and scale-out innovations in maize-based cropping systems through innovative institutional reforms.
- There is a need to establish maize innovation platforms and initiate regional and sub-regional networks relating to specific priority areas such as improving maize genetic base through pre-breeding; doubled haploid technology; single-cross maize hybrids using genomics-assisted breeding and precision phenotyping; adopting GM maize technology, strengthening maize seed

sector and deploying climate resilient maize germplasm

- There is a strong need to work in a network mode. A Value Added Maize Network for Asia (VAMNET) was proposed keeping in view the benefits of earlier networks such as TAMNET (Tropical Asian Maize Network) and AMBIONET (Asian Maize Biotechnology Network). Facilitation role of CIMMYT to establish such a network was recognized.

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### Expert Consultation on Assuring Food Safety in Asia-Pacific



*Participants of the Expert Consultation*

In pursuance of its mandate to assist APAARI members and other stakeholders in developing appropriate agricultural research and development policies and programs, APCoAB/APAARI in collaboration with Japan International Research Centre for Agricultural Sciences (JIRCAS) organized “Expert Consultation on Assuring Food Safety in Asia-Pacific” at JIRCAS, Tsukuba on 4-5 August 2014. The objective was to deliberate on recent developments on the science and regulation of food safety, identify country level gaps in effective implementation of food safety measures, and set priorities for regional and sub-regional cooperation.

The expert consultation was attended by 23 participants from nine countries representing policy makers and scientific experts from national agricultural research systems, CG centers and universities. Seventeen presentations were made in four technical sessions: I. Keynote Presentations: Overall Scenario of Food Security and Food Safety, II. Country Status Reports, III. Issues and Scientific Advances in Specific Commodities, and IV. International Initiatives. Presentation sessions were

followed by a Discussion Session during which deliberations were held under three main topics: (i) Food safety priority issues in the region, (ii) Challenges and constraints, (iii) Actions/interventions and National/regional cooperation.

Although the consultation was specifically related to food safety, it was emphasized that food safety has a very close relationship with food security, nutrition security and sustainability and the relationship should be well understood for the overall impact of this important subject on the food scenario.

Recommendations were made under items: (i) Policy and standards, (ii) Traditional foods, (iii) Stakeholders' involvement, (iv) Food control systems – risk management aspects, (v) Laboratories, (vi) R&D, (vii) Farm level good agricultural practices (GAP), (viii) Genetically modified food, and (ix) Others. In addition, areas of collaboration at national/regional level were identified which included suggestions for increasing coordination between competent authorities within countries, creation of information network for knowledge sharing, rapid alert system for food and feed, and capacity development.

## 2014 International Conference on Avian Influenza Prevention and Control

Council of Agricultural (COA), Chinese Taipei and APCoAB/APAARI jointly organized “2014 International Conference on Avian Influenza Prevention and Control” on 18-19 November, 2014 at Animal Health Research Institute, New Taipei City. The conference was attended by experts from Japan, Russia, India, Korea, the Philippines, and Chinese Taipei and comprised presentations on country status of epidemiology and control of avian influenza, technical advances in characterization and control, and Round Table Meeting on prevention and control of avian influenza. The last session was co-chaired by Dr. J.L. Karihaloo, Coordinator, APCoAB.

Based on the presentations and discussion, the following conclusions and recommendations were made in the conference:

It is considered that:

- H5N1 highly pathogenic avian influenza virus (HPAIV) strains have persisted in domestic poultry for 18 years and antigenic variants have been selected mainly due to the misuse of vaccine.



*Participants of the Conference*

- Highly pathogenic avian influenza (HPAI) has been put under control in several countries by the stamping out policy without the use of vaccine.
- Stamping out policy has been recognized as the most effective measure for the control of HPAI.
- Vaccine is used in several countries where HPAI has not been controlled.
- Compensation for livestock owners is prerequisite in the case of stamping out.
- H5 and H7 low pathogenic avian influenza viruses have potential to acquire high pathogenicity to chickens.
- Clinical signs are observed in chickens infected with HPAI viruses, but not in ducks.

It is, therefore, recommended that:

- Since stamping out is the best and ultimate measure for the control of HPAI, vaccination should not be applied as an alternative policy.
- We should continue to develop standards and share information on avian influenza surveillance, prevention and control.
- Infection of H5 and H7 low pathogenic avian influenza virus in poultry is notifiable and should be controlled.
- Intensive surveillance is necessary to detect HPAI virus in domestic water birds.
- Surveillance of swine influenza is important in addition to that of avian influenza for the preparedness for pandemic influenza.
- International collaboration for the prevention and control of avian influenza should be encouraged.

## Training on Analytical Techniques in Nutrition, Food Safety and Biosafety



*Participants of the Training Course*

The training program on “Analytical Techniques in Nutrition, Food Safety and Biosafety” was organized by APCoAB/APAARI in collaboration with ICRISAT, Patancheru and conducted at ICRISAT on 1-14 September, 2014. Of the 18 participants from eight Asian and four African countries, seven from Nepal, Bangladesh, Chinese Taipei, Thailand, the Philippines, Sri Lanka and Vietnam were supported by APCoAB.

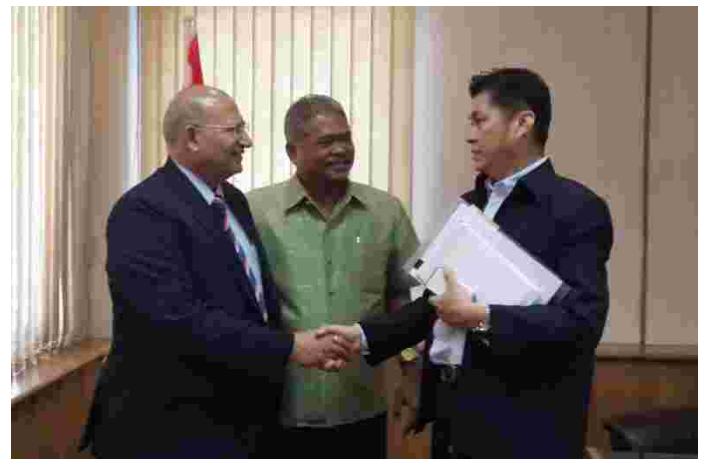
The participants were exposed to lectures and hands-on training towards understanding of the concepts and principles of genetically engineered food safety assessment, risk analysis for genetically modified organisms (GMOs) – concepts, methods, and issues; use of GMOs under containment, confined and limited field trials and post-release monitoring of GMOs and allergenicity and toxicity assessment in GM crops. The biosafety training was conducted both at ICRISAT’s Platform for Translational Research on Transgenic Crops (PTTC) and the National Institute of Nutrition (NIN). The participants were also exposed to nutritional analysis and dedicated sessions on laboratory accreditation (ISO/IEC 17025:2005) at the NPK laboratory and also to rules and regulations in food industry and their implications with respect to International trade barriers. Hands-on training on different analytical aspects of food testing was also arranged at one of the most reputed ISO17025: 2005 accredited Food Testing Laboratories in India - National Collateral Management Services Ltd. (NCML), Hyderabad.

As part of the feedback on the training program, Dr. Miladis Mabuto Afidchao of the **Philippines** said “the training program covered the most recent and important aspects of nutrition, food and biosafety and the participants look forward to future training programs

providing even more exposure to specific areas of analytical testing”. Mr. Sydney Phiri of Zambia in his feedback said “We learnt a lot on better scientific practices and new technologies towards ensuring food and biosafety. Not only did we learn the technical part of the process and analysis, but we were also able to understand the principles behind the analysis. It was an eye opener on how an ISO/IEC 17025:2005 accreditation system brings in credibility and accountability to a testing laboratory. We need to go back to our countries and strengthen the local capacity in the area of food safety and biosafety”.

## APAARI Builds Cooperation with DoA, Thailand

Dr. Raj Paroda, Executive Secretary, APAARI met with Mr. Anan Suwannarat, Director General, DoA, Thailand on 26 November, 2014 to discuss possibilities of building bilateral cooperation between the two organizations. Dr. Suwit Chaikiattiyos, Deputy Director General, Dr. Songpol Somsri, Head, Research Programs and Dr. Margaret C. Yoovatana from International Cooperation Division were also present.



*Dr. Raj Paroda with Dr. Anan Suwannarat and Dr. Suwit Chaikiattiyos*

In the meeting, Dr. Paroda congratulated Mr. Suwannarat on his election as new Chairman of APAARI for the biennium 2015-2016 and wished that under his able leadership, APAARI will reach newer heights. Mr. Suwannarat assured his full support and hoped that DoA-APAARI partnership will get further strengthened. He indicated that both Dr. Suwit Chaikiattiyos and Dr. Songpol Somsri from DoA will assist him in discharging

his new function. Dr. Paroda also apprised Mr. Suwannarat about the appointment of Dr. Raghunath Ghodake as the new Executive Secretary. He will join the Bangkok office on 1 January, 2015. Dr. Paroda also briefed Mr. Suwannarat about the APAARI work plan for 2015 and on-going efforts towards strengthening regional cooperation towards agricultural research for development, capacity building, and information sharing and policy advocacy.

During the meeting, it was decided to hold a formal MoU signing ceremony on December 19, 2014 at APAARI office, FAO Annex Building, Larn Luang, Bangkok. Dr. Paroda also presented a set of new APAARI publications to Mr. Suwannarat, including 22 Years of APAARI, which he appreciated very much.

## APAARI Signs MoU with DoA Thailand

Dr. Raj Paroda, Executive Secretary, APAARI and Mr. Anan Suwannarat, Director General, Department of Agriculture (DoA) Thailand signed and exchanged the MoU on 19 December, 2014 in a ceremony at APAARI Office.

The MoU is intended to facilitate further strengthening of agricultural research for development activities. The MoU provides a framework for cooperation between APAARI and DoA Thailand in developing mutually beneficial processes of collaboration and increasing knowledge base to achieve their overall programs and stated goals.

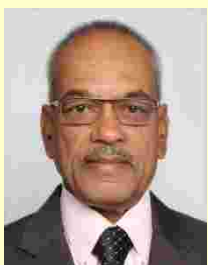
Under the MoU, APAARI and DoA Thailand agreed to share resources, as well as responsibility for management of joint programs and projects; organize activities of mutual interest including conferences, workshops and training programs in fulfillment of their missions and publish the results of research and collaborative work jointly by the staff from both parties.

Dr. Simon Hearn, Chairman, APAARI, Dr. Raghunath Ghodake, incoming Executive Secretary, APAARI, Dr. Suwit Chaikiattiyos, Deputy Director General, DoA Thailand, Ms. Rosa Rolle, Senior Agro-Industries and Post Harvest Officer, FAO RAP, Mr. Gerard Sylvester, Knowledge & Information Management Officer, FAO RAP and Mr. Peter Sha-Li Lan, Director of Political Division, COA were present on the occasion.



*MoU signing ceremony at APAARI Bangkok Office*

## Dr. Raghunath Ghodake, the New Executive Secretary of APAARI



Dr. Raghunath Ghodake, the new Executive Secretary of APAARI will be taking over the position effective January 2015. He is former Director General of the National Agricultural Research Institute (NARI) in Papua New Guinea. He was responsible for establishment, development, and nurturing NARI and successfully led the Institute for the past 17 years (1997-2013). He holds M.Sc. and Ph.D. degrees in agricultural and resource economics from the Indian Agricultural Research Institute, New Delhi (1971-76). He spent more than 28 years working in Papua New Guinea and the Pacific.

Dr. Ghodake was an active member of APAARI over the last 16 years (1998 - 2013), including 8 years as a member

the APAARI Executive Committee, and 2 years as APAARI Chairman. Having fair understanding and appreciation of APAARI constituencies, Dr. Ghodake represented APAARI as a member of the GFAR Steering Committee and participated in CG reform process, including a crucial Maputo Declaration and also served as a member of CG Fund Council (2010-13). He represents APAARI as a member of the Global Task Force of the Tropical Agriculture Platform.

He was bestowed with the "Order of Logohu (OL)" award in 2008, and a "Decoration of Distinction in 2013" in recognition of his distinguished services to the community through contribution in the areas of scientific leadership, research policy and management, and institutional development, including his role as the Director General of the NARI.



## University of Agricultural Sciences, Dharwad



*Campus of UAS, Dharwad*

The University of Agricultural Sciences (UAS), Dharwad was established on October 1, 1986 to cater to the needs of farming community of northern Karnataka. The University has tri-fold functions of teaching, research and extension in the field of agriculture and allied sciences. In its 28 years of dedicated services the University has earned the reputation of being a 'Farmers' University'.

### Teaching

- Current students strength of the University is 3446, which comprises 2415 (UG), 460 (Masters), 188 Doctoral and 383 (Diploma).
- Undergraduate teaching carried out at four campuses in five degree programmes, viz., B.Sc. (Agri); B.Sc. (Ag. Maco); B.Sc. (For.); B.H.Sc. and B.Sc. (Food Technology).
- Postgraduate teaching carries out at three campuses viz., Dharwad (M.Sc. & Ph.D. in Agriculture, Home Science), Bijapur (M.Sc. in Agriculture) and Sirsi (M.Sc. in Forestry).
- Master degree programme is offered in 24 disciplines and Ph.D. programme in 17 disciplines.
- Two years Diploma (Agri.) course with Kannada as medium of instruction is also being offered.

### Research

Major Research Achievements: the research needs of the farmers are catered through

- 30 Agricultural Research Stations across diverse agro-ecosystems
- 26 All India Coordinated Research Projects (AICRPs)
- 214 Externally funded *ad hoc* projects

The crop varieties recently developed and released are Sugarcane:CO-86032; SNK-7680; Cotton:DDCC-1; DLSA-17;

DHH-263; Chilli : KDCC-6 and GPC-82, 9646; Capsicum : DMC-14; Wheat : DDK-1001; DDK-1009; DDK-1025 and DDK-1029; UAS-304; UAS-415 & UAS-428 etc.

### Extension

- Directorate of Extension assesses, refines and demonstrates advanced technologies and products through a network of TOT Centers - Krishi Vigyan Kendras (KVK), Extension Education Units (EEU) and Agricultural Technology Information Centre (ATIC).
- UAS Dharwad has the credit of establishing First Community Radio Station (90.4 FM)
- **Kissan (Farmers) Call Centre: free telephone service** to farmers
- Touch Screen Information KIOSK
- Staff Training Unit
- Bakery Training Unit
- **Krishi Mela: Farmers' Fair an annual mega event** for farmers which attracts more than 1 million people
- Publication Centre: UAS Dharwad Publication Center brings out quarterly scientific periodical-Karnataka Journal of Agricultural Sciences
- The other publications – Krishi Munnade, Technical bulletins, Leaflets, Newsletters, Folders, Package of practices for field crops and animal husbandry along with the Annual Reports of the University.

### Specialized Institutes/Laboratories

- Institute of Agri-Biotechnology (IABT)
- Agri-Business and Export Knowledge Centre
- Institute of Organic Farming
- Pesticide Residue Testing and Quality Analysis Laboratory
- Food Testing and Processing Laboratory
- Seed Unit
- Hi-Tech Horticulture Unit
- International Centre for Agricultural Development (ICAD)

### Awards/Recognitions

- National Productivity Council Award (1986-87)
- Sardar Patel Outstanding ICAR Institution Award (2000)
- Indira Gandhi National NSS Award (2001-02)
- Best DUS Test Centre Award by the PPVFRA (2011)
- Mahindra Samridhi Krishi Shiksha Samman National Award (2013)
- ISO certified institution as per ISO 9001:2008
- First place in total number of JRFs during 2006, second place in 2005, 2007 and 2008

*(Source: Dr. Rajendra Poddar, Head, Project Planing & Mornitoring Cell, UASD, ppmc@uasd.in)*

## Pakistan

### ICIMOD Day on Pro-Mountain Policies and Legislation at NARC



*Federal Minister for National Food Security and Research addressing the participants*

International Centre for Integrated Mountain Development (ICIMOD) in collaboration with Ministry of National Food Security and Research (MNFSR) and Pakistan Agricultural Research Council (PARC) organized one-day Pakistan-ICIMOD Day on Pro-Mountain Policies and Legislation at National Agricultural Research Centre (NARC).

The objective of the meet was to provide platform for mutual learning, sharing and networking opportunities among the national partners and mobilize support for sustainable development challenges and regional cooperation in the Hindu Kush Himalayan region.

Addressing the participants, the Federal Minister for National Food Security and Research (NFSR) Mr. Sikandar Hayat Khan Bosan said that the Hindu Kush-Himalayan (HKH) **region of Pakistan is one of the world's hotspots** for global warming. The vulnerable mountain communities are managing their living with great limitations. Migration is taking place to a greater scale due to the devastation of climate change such as floods, glacial lake outburst floods **called GLOF's transboundary issues and so many other factors**. He assured the best possible support to the mountain people, and the excellent work being undertaken by the ICIMOD commended through national partnership in Pakistan.

The Chairman Pakistan Agricultural Research Council (PARC) Dr. Iftikhar Ahmad, gave a detailed presentation on developing mountain agriculture along the Pak-China Economic Corridor (GB & Chitral). Director General ICIMOD Dr. David Molden highlighted mountain issues and challenges of the Hindu Kush-Himalayan region in the context of climate change, Dr. Eklabya Sharma, Director Program Operations (ICIMOD), presented an

overview of regional programs of ICIMOD, Mr. Basanta Shrestha, Director Strategic Cooperation, ICIMOD and Dr. Abdul Wahid Jasra, ICIMOD Country Representative-Pakistan explained the purpose of Pakistan-ICIMOD day.

On this occasion, two books entitled 'Understanding the Transboundary Kakoram Pamir Landscape' and 'Towards a Framework for Achieving Food Security in Mountains of Pakistan' were launched by the Federal Minister NFSR, Secretary MNFSR, Chairman PARC and DG ICIMOD, Nepal. The expected outcome of the Pakistan-ICIMOD Day will be to further strengthen collaboration between ICIMOD and Pakistan for the implementation of Medium - Term Action Plan. The event will help to expand partnership and foster new linkages between ICIMOD and national institutions, particularly aligning with national priority programs.

*(Source: Muhammad Altaf Sher, Director (International Cooperation), PARC, icparc@yahoo.com)*

## The Philippines

### PCAARRD, WorldFish lay down 2014-2015 Work Plan

In what is described as a historical move, the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) and WorldFish came together to craft their 2014-2015 Work Plan of Cooperation. Building on the Memorandum of Understanding (MoU) signed in October 2012, both organizations sought to strengthen their partnership by identifying specific areas of collaboration and complementation for implementation in the next two years.

PCAARRD Deputy Executive Director for Administration, Resource Management and Support Services (ARMSS) Dr. Danilo Cardenas welcomed the WorldFish team and **looked forward to fruitful discussion towards "a monumental initiative once the collaboration is set"**. He stressed that PCAARRD always welcomes the opportunity **to partner with WorldFish and that "it is prepared to co-invest in any planned initiatives aligned to the Industry Strategic S&T Plans (ISPs)"**.

Dr. Leah Buendia, Director of the Policy Coordination and Monitoring Division (PCMD), traced the history of the PCAARRD-WorldFish partnership that culminated in the 2012 MoU. She described the sporadic and spontaneous **involvement of both in each other's activities, also citing**



*Members of the PCAARRD and WorldFish TWG during the break-out session of the workshop*

that while the MoU binds both agencies in an agreement to collaborate, no specific plans have been drawn up. Dr. Buendia then pointed out the potential areas of complementation as well as those areas for new initiatives.

Dr. Maripaz Perez, WorldFish Regional Director for Asia, presented the aquatic agricultural systems (AAS) Program and its activities especially in the Visayas-Mindanao Hub. Outlining the programs that both parties could pursue, she commended PCAARRD for developing the ISPs. She stressed how these were very valuable to WorldFish in focusing its research agenda for the AAS in the Philippines and in identifying its own priority activities in its program sites.

Dr. Patricio Faylon, Executive Director, PCAARRD, expressed happiness that **“WorldFish is engaging**

**PCAARRD and the network more intensely,”** and said that PCAARRD looks to WorldFish and CGIAR centers for technologies and technical support. Specifically for this work plan, he emphasized a two-step goal:

- Enhanced understanding of appropriate and relevant fisheries technologies; and
- Innovation so that these technologies become adaptable to the capacities of our small-scale fishers and farmers as well as to our environment.

Slated for implementation by August 2014, the draft Work Plan focuses on ongoing and pipeline projects in which both parties have a common commodity and sites. For ongoing projects, the commodities include abaca, mud crab, sea cucumber, milkfish, vegetables, tilapia, and coral reef. In the pipeline for 2015 implementation are projects on tilapia, seaweeds, mango, and milkfish, as well as fisheries resource accounting.

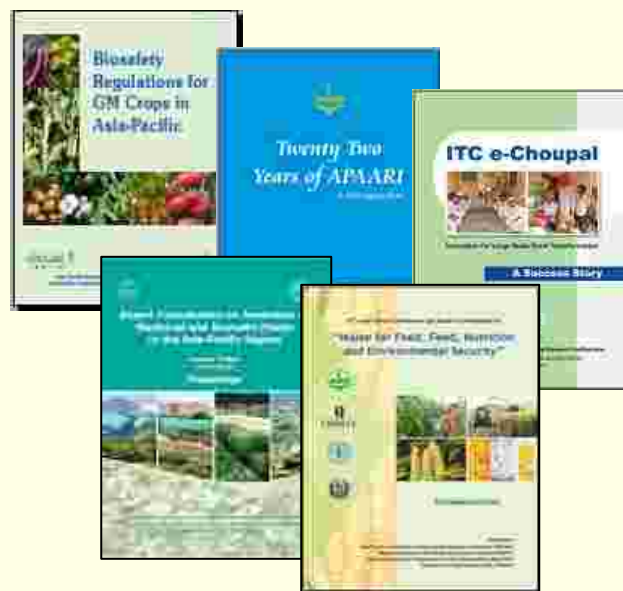
Dr. Buendia and Dr. Albert Aquino (Director, Socioeconomics Research Division [SERD]) convened the workshop with the assistance of PCMD and SERD staff.

Specific ISP managers presented their respective programs and highlighted those aspects in which collaboration is apparent or possible.

*(Source: Dr. Patricio S. Faylon, Executive Director, PCAARRD, p.faylon@pcaarrd.dost.gov.ph; psfaylon@yahoo.com)*

## New APAARI Publications

- Biosafety Regulations for GM Crops in Asia-Pacific
- Twenty Two Years of APAARI – a Retrospective
- Success Story on ITC e-Choupal: Innovation for Large Scale Rural Transformation
- Recommendations of the 12th Asian Maize Conference and Expert Consultation on Maize for Food, Feed, Nutrition and Environmental Security
- Proceedings of the Expert Consultation on Promotion of Medicinal and Aromatic Plants in the Asia-Pacific Region



## CAPSA

### SATNET Asia Study Tours for Smallholder Value Chain Actors

As part of the European-Union funded 'Network for Knowledge Transfer on Sustainable Agricultural Technologies and Improved Market Linkages in South and Southeast Asia' (SATNET Asia) project, the Centre for Alleviation of Poverty through Sustainable Agriculture (CAPSA-UNESCAP) organized a series of four highly successful 'Study Tours for Smallholder Value Chain Actors' in South and Southeast Asia during the period July – September, 2014 in collaboration with regional and national partners. The objective of the tours was to expose smallholder representatives to good practices and technologies for sustainable agriculture from the sub-region, allowing them to see the efficacy of these practices, interact with local champions, and thus support the dissemination and adoption of these practices in their own communities. The tours focused on crop production technologies, integrated pest management (IPM), post-harvest management and marketing, and climate resilience which are of strong relevance to the region. All tours received excellent feedback from participants.



*Participants interacting with local community on IPM*

Each tour had around 20 participants representing progressive farmers, village community leaders, NGO extension workers and staff from government agencies, a number of whom were travelling abroad for the first time. The participants represented 10 countries, namely, Afghanistan, Bangladesh, Bhutan, Cambodia, India, Indonesia, Lao PDR, Myanmar, Nepal and Pakistan. They were selected by prioritizing candidates with a lead advocacy role in their communities or organizations for effective dissemination of good practices learned. During the tours, there was an air of excitement as participants saw new techniques such as biological pest control, and

had in-depth discussions to compare them with what they do back home.

### Technologies and practices demonstrated

The first Study Tour was organized in Thailand from 20-25 July, 2014 in collaboration with AVRDC-The World Vegetable Center, the Department of Agricultural Extension (DOAE) of Thailand, and Kasetsart University. The participants visited a number of progressive farmers growing vegetables as per good agricultural practices (GAP) standards and got a hands-on opportunity to see innovative practices in organic farming, vermicomposting, production of liquid bio-fertilizer, use of safe and eco-friendly bio-botanical pesticides, and new methods of irrigation. They also visited laboratory and research facilities where they were exposed to safe biological pest control methods and post-harvest/food-preservation techniques. Moreover, they participated in a Farmer Field School session for a rice farmer **community which demonstrated the 'farmers as researchers' concept in practice. On the final day, the participants visited one of the largest fruit and vegetable wholesale markets in Bangkok to obtain a better understanding of the marketing end of the value chain.**

The second Study Tour took place in Cambodia from 4-9 August, 2014 in partnership with the Cambodian Center for Study and Development in Agriculture (CEDAC). The **participants were exposed to CEDAC's initiatives in the areas of organic crop production and community mobilization. Site visits to farmers' fields demonstrated integrated and multipurpose farming techniques including System of Rice Intensification (SRI), fruit and vegetable cultivation, aquaculture, and poultry rearing.** An award-winning farmer who had attained the highest yield through SRI in Cambodia (three times the national average) shared her experiences and learning with the participants. The visitors also observed farmer saving groups and cooperatives in action which are bringing tangible benefits to their members by establishing warehouses and rice milling units in order to corner a greater share of profits and allow farmers greater control over the value chain. Another important area of learning was **CEDAC's agricultural marketing initiatives involving Nature Agri-Product Shops which run on a cooperative model and help farmers realize prices 20 – 30 per cent higher than the usual market rates for their produce.**

The third Study Tour was organized in Nepal from 18-23 August, 2014 in partnership with International Development Enterprises (IDE) Nepal. The participants **visited a number of IDE's project sites in the south of the country.** They met community groups who demonstrated IPM and organic practices in their locations, and interacted with village-level Marketing and Planning Committees which collect produce from members, provide backward and forward marketing linkages, and

enable the growers to bargain better with traders to realize higher prices. Innovative and climate-friendly technologies for off-season vegetable cultivation, biogas production, aquaculture and irrigation were also showcased. It was useful to observe how many of these innovations have been taken up by the community and scaled up.

The fourth Study Tour took place in India from 1-7 September, 2014 in close collaboration with three NGO partners, namely Kudumbam, Concern Universal and the Rashtriya Gramin Vikas Nidhi (RGVN). The Kudumbam site in Tamil Nadu province offered the participants an **opportunity to see the NGO's work in preserving traditional knowledge of farmers and promoting organic farming and certification through a community-based approach.** They witnessed the beneficial results of techniques that have helped to rejuvenate greenery on barren land like rainwater harvesting and planting of drought tolerant tree varieties. The participants took part in a Farmer Field School session aimed at finding community-driven solutions for sustainable agriculture, and also saw methods of preparation of various bio-inputs including plant growth promoters, bio-pesticides, pest repellents, and bio-fertilizers. In the second stage of the tour in Assam province, the partners Concern Universal and RGVN demonstrated sustainable technologies like Pheromone insect trap, floating vegetable garden (suitable for flood-prone areas), and low-cost vermicompost pit.



*Meeting with organic vegetable producer group in Cambodia*

### Outcomes

During all the visits, there was lively interaction amongst the participants and the stakeholders visited, indicating that they significantly benefited from them. In their feedback to the organizers, the participants reaffirmed that they had found the tours extremely useful and had gained a lot of new knowledge and ideas, particularly in relation to sustainable crop production practices, IPM

and organic farming, mobilization of rural saving groups and cooperatives, and marketing of agricultural products. Many participants said that they would utilize and disseminate the learning upon returning to their home countries. One of the farmers, for instance, indicated that he would immediately apply the method of pest control on bean that he had seen in Cambodia, on his farm in Lao PDR upon going back. Another participant highlighted the potential of replicating the off-season lemon cultivation methodology as well as other practices in Indonesia, and mentioned he would apply many of the approaches learned during the visit in his community right from the next season. In addition, the visits provided ample opportunity for a two-way flow of knowledge as the study tour participants actively shared their own knowledge with the local communities they were visiting.

Some useful lessons emerged from the visits. First, organizing such tours at a sub-regional level (e.g. for Southeast Asia or South Asia) is helpful given that this implies a greater level of similarities in culture and agricultural production systems between participating countries, which in turn, better allows farmers to apply the good practices learned at home. Second, while the participating group predominantly comprised of lead farmers, community leaders and grassroots extension workers, having a limited number of participants from NGOs and government officials allowed the group to gain from diverse perspectives. Demand was expressed that – given their potential for effective knowledge sharing at the farmer level – many more such study tours should be organized and that they should be of longer duration. Overall, it is amply clear that such an approach is valuable for enabling intraregional learning and productive knowledge exchange.

*(Source: Anshuman Varma, Knowledge Management Coordinator, SATNET Asia, CAPSA-UNESCAP, a.varma@uncapsa.org)*

## CACAARI

### Regional Conference on Rural Advisory Services (RAS) in Central Asia and Southern Caucasus (CAC)

Many farmers in the countries of Central Asia and the South Caucasus find it difficult to access advanced knowledge and information required to introduce innovative technologies and practices on their farms, and to market their farm products at profitable prices. Thus they are deprived of innovation-based opportunities to improve productivity, profitability and their livelihoods. The systems for provision of advisory and training



*Participants of the Conference*

services, along with linkages to profitable markets, access to means of production, credit, and agricultural insurance are yet to be developed fully. In view of these challenges, Central Asia and the Caucasus Association of Agricultural Research Institutes (CACAARI) and Central Asia and the Caucasus Forum for Rural Advisory Services (CAC-FRAS), an informal regional platform of Global Forum for Rural Advisory Services (GFRAS) in collaboration with Global Forum on Agricultural Research (GFAR), Modernising Extension and Advisory Services (MEAS) project, International Centre for Agricultural Research in Dry Areas (ICARDA) and a range of local partners, with support by the Government of the Kyrgyz Republic, USAID, the European Union, GIZ, HELVETAS Swiss Intercooperation and ICCO Cooperation decided to organize the Regional Conference on Rural Advisory Services (RAS) in Central Asia and Southern Caucasus (CAC), which was held on 17-21 November, 2014. In the conference, over 100 professionals from public and private rural advisory organizations, Ministries of Agriculture, and scientific research institutions were participating.

The purpose of the event was to share overviews of the advisory service systems in the countries of the regions, **to learn from each other's' good practices and to elaborate common recommendations for approaches to strengthen rural advisory service systems in the region, with the ultimate goal that these systems are competent and effective in assisting farmers in enhancing their business success so that farming is profitable enough to enable decent livelihoods in the villages of the region.**

Eight country representatives delivered presentation on their landscape analysis of RAS system conducted beforehand. The outcomes of the assessment demonstrated generally effective RAS system activities within the countries and triggered discussions on the topic of support made towards RAS in CAC region. **NGO's, governments, donor organizations stimulate RAS system expressively.**

Field trip visit and foresight workshop on developing forward thinking capacities for food, agriculture and

rural development in Central Asia and the Caucasus were conducted on the third day. Participants acknowledged the value of engaging in foresight/forward thinking in the CAC region on the future of food, agriculture and rural development, and that they would form a critical mass with which CACAARI can work in order to promote and implement the concept of the foresight academy.

The fourth and the fifth day deliberations were clearly concentrated on advisory service policies, the relevance of government strategies and its support provision for RAS systems. Presentations, valuable speeches and discussions highlighted these points to be considered on a serious and attentive basis.

Also, CACAARI Steering Committee Meeting was held as a side event on November 19, 2014, which was focused on transformation of CACAARI into Forum to offer significant changes to unite and strengthen new linkages and relationships between representatives of National Agricultural Research Systems, expand the partnership between research, extension and advisory niches.



*CACAARI Steering Committee Meeting*

By the end of conference participants discussed further and made in-depth assessments to develop an understanding of RAS systems based on the conference outcomes and correspondent actions to be taken; Future collaborative partnerships establishment for a better cooperation between NARS and international partners (transformation of CACAARI into forum), and; Commit actions towards the establishment of Foresight Academy in CAC region facilitated by CACAAR.

*(Source: Dr. Alisher A. Tashmatov, Executive Secretary, CACAARI, a.tashmatov@cgiar.org)*

## SAARC

### SAARC Agriculture Centre – 2014 Highlights



*Regional biopesticide meeting in Bhutan*

The SAARC Agriculture Centre (SAC) has come a long way to emerge as a credible institution promoting agriculture research and development in the region. Under the leadership of SAARC Secretariat and support of the Member States, SAC has managed to reach out to all Member States and address the common issues related to agricultural research and development. Some of the highlights of 2014 are as follows:

Regional level agro-technology transfer: The NARS of SAARC Member States have made remarkable achievements in generation of technologies that has helped in attaining greater production increase. SAC as a regional platform initiated network of adaptive trials on various crops like vegetable, pulses, oilseed crops, rice and wheat.

- The Centre is collecting varieties/lines of pulses and oilseed crops from Member States to compose a trial kit which is being despatched to NARS for testing.
- Wheat is an important crop in the region and is challenged by stress growing environment. One among many is the soil salinity which is hampering the crop. Considering the varietal improvement/development work done in the region, SAC initiated discussion with CIMMYT-Nepal to organize an adaptive varietal trial to share and test salt tolerant wheat varieties/lines.
- The Centre plans to explore the adaptability trial of *guar*, (cluster bean - *Cyamopsis tetragonoloba*) an annual legume and the source of *guar* gum. SAC is working with scientists from India and Pakistan to share *guar* varieties so that other Member States can test their adaptability.
- SAC in collaboration with the national research institutes, is initiating exchange of semen of Buffalo breed Murrah and Ravi for improvement of buffalo breeds in member countries.

Contribution to regional policies: The Centre strives to review issues of regional relevance and proposes inputs

to regional policies such as need for harmonizing seed policies, regulating trans-boundary animal diseases, regional genebank for fisheries and livestock, promoting biopesticides, harmonizing agricultural curriculum, and regulating GM products.

Regional collaborative studies: Based on the common issues emanating from the SAARC forums like TCARD and Chief Veterinary Officer's Meeting, the Centre organized regional collaborative studies on

- SAARC dairy outlook
- Climate change impact on coastal fisheries and aquaculture in the SAARC Region
- Mite management of coconut in SAARC countries
- High yielding dairy buffalo breed development in SAARC countries

Capacity development: The need for capacity development of national scientists and extension professionals is a priority area of the Centre. Depending on the emerging issues in the region and capabilities to provide trainings, the Centre organize regional level trainings to serve the needs.

- Regional training on advances in poultry nutrition and feed technology
- Training on fish processing quality control and hazard analysis and critical control point (HACCP)

Publication: The Centre brought out series of publications of regional relevance and distributed widely to all stakeholders and policy maker. The SAC publications can be accessed from [www.saarcagri.org](http://www.saarcagri.org). The important ones are as follows:

- SAARC Journal of Agriculture (Vol. 12 Issue 1)
- Value Chain Analysis and Market Studies on Fruits and Vegetable in SAARC Member Countries
- National Agricultural Extension Systems in SAARC Countries - An Analysis of the System Diversity
- SAC Monograph: Developing Capacity in Cropping Systems Modelling for South Asia

Collaborations: In 2014 the Centre made an exploratory visit to International Sericultural Commission, Bangaluru, India to initiate possible collaboration to promote sericulture research and development in the region. Collaboration with other organizations such as ICIMOD and CAPSA are under consideration.

*(Source: Dr. Tayan Raj Gurung, Senior Program Specialist (NRM), SAARC Agriculture Centre, [tayangurung@yahoo.com](mailto:tayangurung@yahoo.com))*

## GFAR

### Global and regional advocacy



*Delegates of the MACS*

Dr. Mark Holderness, Executive Secretary represented GFAR at the G20 Meeting of Agricultural Chief Scientists (MACS) in Brisbane, Australia. The events brought together science and business leaders from G20 participant nations, to examine global links between agricultural productivity, food security, sustainability and economic growth. The meeting reinforced the direct linkage between the MACS and GFAR, the value of GFAR and the GCARD as a venue for the MACS to articulate their work to a wider community. The Chief Scientists of **the G20 Nations explicitly recognized GFAR's role and actions as follows:**

- There is need for increased collaboration between countries and the critical work of international organizations in collaborative international research, including FAO, CGIAR, GFAR and OECD, and initiatives including the GEOGLAM, Global Foresight Hub, Open Data Partnership, Tropical Agriculture Platform (TAP) and the Wheat Initiative
- The meeting welcomed the proposed integrated international investment facility for agricultural innovation and growth, as put forward by IFAD, GFAR and FAO in response to request from the second MACS meeting
- Higher level of formalized information sharing and cooperation between national agricultural research systems could benefit national agricultural research, CGIAR and knowledge exchange systems.
- The communiqué encouraged G20 members to consider the opportunities associated with open data networks such as Global Open Data for Agriculture and Nutrition (GODAN) and the Coherence in Information for Agricultural Research for Development (CIARD)

## Gender in Agriculture Partnership

The Gender in Agriculture Partnership (GAP) was conceived during the Global Conference on Women in Agriculture (GCWA) organized at the initiative of APAARI with support from GFAR and other co-sponsors during March, 2012. GAP is an open and inclusive GFAR initiative that aims to contribute to closing the gender gap by making agricultural innovation better serve the economic empowerment needs of women farmers.

The GAP website, launched at the end of 2013 is now a major open resource for information on gender-linked actions in agriculture around the world. In addition to **being the agricultural portal for the women's economic empowerment website of UN Women**, the website is now also providing an external link point for the Gender Technical Network of FAO and in due course for that of other major institutions. The GAP now benefits from the co-patronage of Prof. M.S. Swaminathan and Prof. Catherine Bertini, both world-renowned figures in this arena. There are now over 200 institutions directly committed to the GAP, ranging from farmer organizations and civil society organizations to UN agencies and CGIAR centres. Together they are providing and sharing materials and building practical partnerships. The GAP LinkedIn group was established in 2014 and now has nearly 500 members actively contributing to dialogues on these issues.

**A side event on women's empowerment was organized** with the World Farmers Organization at the UN Commission on the Status of Women in NYC last March and a joint position paper on gender developed with FAO was presented at the Second International Conference on Nutrition.

GAP partners are also developing practical collective programs to turn agricultural innovation into enterprise opportunity for women. A major program is being developed with institutions in Sub-Saharan Africa and this is also being picked up into demand from Asia-Pacific for a similar approach.

GFAR also published a few stories which could be accessed at [www.egfar.org](http://www.egfar.org).

- Family Farming at the center: Asian Farmers Association General Assembly
- What could research do for the future of family farming
- ICTs for improving family farming
- Funding female farmers for a less hungry world
- Open access to agricultural knowledge for inclusive growth

*(Source: F.J.C. Chandler, Program Delivery Manager, GFAR, [fiona.chandler@fao.org](mailto:fiona.chandler@fao.org))*



## ICRAF

### Beginning of a new Era in Agroforestry Research in India

Since the beginning of the organized agroforestry research at global level, India has remained on the forefront of agroforestry research and its use. During 1983, Indian Council of Agricultural Research (ICAR) launched an All India Coordinated Research Project (AICRP) on Agroforestry implemented through 20 centers located in 18 provinces across the country. This was followed with the establishment of a National Research Centre on Agroforestry on 8th May, 1988 at Jhansi, U.P. The centre coordinated and managed one of the largest research network projects, the AICRP on Agroforestry which currently works through its 39 centers located throughout the country at State Agricultural Universities, ICAR and at Indian Council of Forest Research and Education (ICFRE) institutions. Both the center and the AICRP on Agroforestry receive from the Federal Government of India a total budget of 206 million Indian Rupees/year which is topped up by externally funded projects from various agencies.

**The centre's contribution** in natural resource conservation through agroforestry based interventions to develop model watersheds is acclaimed at national and international level. These watersheds have provided livelihood security to the resource poor farmers. The development focused on five major activities such as soil and water conservation measures, agroforestry system development, and crop demonstrations with improved package of practices, plantation and human resource development in a participatory mode. During last few years, **the focus of the center's activities is on role of agroforestry** in mitigating climate change and its carbon sequestration potential, development of soil quality index and use of remote sensing and GIS technology in demarcating agroforestry area at the national level.

The significant contributions of AICRP on Agroforestry include the diagnostic and design survey of the agroforestry practices in the country, collection and evaluation of MPTS, and management of agroforestry systems. Crops and cropping sequences which can be grown successfully in association with MPTS and fruit trees have been identified. Successful efforts have been made to stabilize the yields of selected crops under tree canopies through agronomic manipulations and tree canopy management practices. Agroforestry systems for different zones developed. Beside research activities, the centre has been contributed significantly in capacity building of farmers, researchers, policy makers.

ICRAF has been involved from the beginning of organized agroforestry research in India when it contributed for HRD and helped in Diagnostic and



*Elevation of NRCAF to CAFRI being celebrated*

Design survey conducted under AICRP on Agroforestry. This partnership grew further since 2007, when NRCAF and World Agroforestry Center actively partnered and played active part in the planning and implementation of ICRAF-ICAR Work Plan. Both ICRAF and NRCAF have jointly worked on domestication, utilization and conservation of superior agroforestry germplasm, maximizing on-farm productivity of trees and agroforestry systems, developing National Agroforestry Policy for India, and organizing the 3rd World Agroforestry Congress. ICRAF-NRCAF also closely partnered in an ongoing capacity building program for Indian and regional scientists on various aspects of agroforestry.

After 26 years of successful research and development activities on agroforestry, ICAR has elevated the status of the NRCAF to a Central Agroforestry Research Institute (CAFRI). The newly declared institute will expand its research activities in some of the upcoming researches like estimation of environment and ecosystem services, mapping of agroforestry through geoinformatics techniques, developing tree-signatures of important agroforestry species, increasing water use efficiency of agroforestry systems, agroforestry for biofuel and bioenergy and livelihood options through agroforestry besides further strengthening the activities of AICRP on Agroforestry by involving new partners.

With the elevation of NRCAF to a Central Agroforestry Research Institute, the partnership with ICRAF is expected to grow even stronger and **effective**. ICRAF's Regional Director for South Asia, Dr. Javed Rizvi visited the newly created CAFRI to congratulate the fellows scientists, and to assure an even stronger collaboration between ICRAF and CAFRI. Partners jointly celebrated the elevation of NRCAF to CAFRI which was attended by representatives of other ICAR institutions, state agricultural universities, and partners from Bangladesh, Bhutan, Nepal and Sri Lanka.

*(Source: Javed Rizvi, Reginal Director, ICRAF, j.rizvi@cgiar.org)*

## ICARDA

### Establishment of ICARDA's Research Platform in India



*ICARDA delegates visit research platform site at Amlaha, Bhopal*

In its decentralization plan, ICARDA is establishing its research platform in India focusing on food legume research at Amlaha, Bhopal, Madhya Pradesh. The Govt. of Madhya Pradesh has allocated 171 acres of land along with some infrastructures to ICARDA through ICAR. With strong support from Dr. S. Ayyappan, DG, ICAR and from Chief Minister of Madhya Pradesh, the platform received a momentum.

Dr. Mahmoud Solh, accompanied by Dr. Shideed and Dr. Ashutosh Sarker embarked for the visit to state of Madhya Pradesh from 10-11 August, 2014. The team visited the India platform site, designated for Food Legume Research Platform at Amlaha, where they were greeted by farmers and shown around the land and existing facilities by officials from local state government departments, the Vice Chancellor of RVSKV Agricultural University at Gwalior Dr. A.K. Singh and the Dean of RAK College of Agriculture at Sehore Prof. V.S. Gautam.

Dr. Solh later visited the RAK College of Agriculture at Sehore where he was bestowed with the honour of inaugurating their Seed Technology Laboratory. He also interacted at length with the scientific and teaching staff of the college, as well as participated in the local festivities enthusiastically with the students.

On 11 August, 2014, the DG of ICARDA called on the **Hon'ble Chief Minister of Madhya Pradesh, His Excellency Mr. Shivraj Singh Chouhan** at his office in Bhopal to thank him for his support towards ICARDA for establishment of the upcoming Food Legumes Research Platform (FLRP), and further reiterate ICARDA's commitment towards upliftment of Indian farmers by alleviating poverty by enhancing food and nutritional security. Mr. Chouhan was glad that ICARDA had

decided to set up the platform in Madhya Pradesh and promised to extend all possible cooperation to assure that it would be a model partnership for such future endeavors.

*(Source: Dr. Ashutosh Sarker, Regional Coordinator, ICARDA, a.sarker@cgiar.org)*

### Launch of the Asia-Pacific Agricultural Extension and Outreach Network (APAEON)



*APAEON launched by Mr. Hiroyuki Konuma, ADG/RR of FAO-RAP*

Food and Agriculture Organization of the United Nations (FAO) announced the launch of the Asia Pacific Agricultural Extension and Outreach Network (APAEON) at its Regional Office in Bangkok on 17 December 2014. The joint launch involved FAO, APAARI and CAPSA and brought together 25 governments and representatives from farmers' organizations.

The network is designed to share the latest agricultural knowledge among Asia-Pacific governments and other stakeholders as well as to extend that knowledge to front-line farmers, fishers and land users. It is initiated to fill the gaps in research and extension by taking into consideration the challenges of agriculture and food production; for example, climate change, price hikes, lack of linkage among different stakeholders, increasing cost of inputs and market vulnerability.

During the initial period, FAO Regional Office for Asia and the Pacific will host the network for two or three years, and then the function of secretariat will be transferred to one of the participating countries.

*(Source: www.fao.org)*

## Celebrating the International Year of Soil (IYS2015)



The 68th UN General Assembly declared 2015 as the International Year of Soils (IYS) and recognized 5 December, which is His Majesty the King Bhumibol's birthday of Thailand, of each year as the 'World Soil Day' (WSD) in recognition for HM the King's dedicated efforts in the conversation and rehabilitation of soil conditions.

The Food and Agriculture Organization of the United Nations has been nominated to implement the IYS 2015.

The IYS aims to be a platform for raising awareness of the importance of soils for food security and essential eco-system functions

The objectives of the IYS 2015 are to:

- Create full awareness among civil society and decision makers about the fundamental roles of soil for human life
- Educate the public about the crucial role soil plays in food security, climate change adaptation and mitigation, essential ecosystem services, poverty alleviation and sustainable development
- Promote effective policies and actions for the sustainable management and protection of soil resources
- Sensitize decision-makers about the need for robust investment in sustainable soil management activities
- Catalyze initiatives in connection with the sustainable development goals processes and post-2015 agenda
- Advocate for rapid capacity enhancement for soil information collection and monitoring at all levels

Further information about the IYS2015, please visit <http://www.fao.org/soils-2015/en/>

### New Director General of ICRISAT



Dr. David Bergvinson has been appointed as the new Director General of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, India and will join effective 1 January, 2015.

Dr. Bergvinson was Senior Program Officer, Crop Value Chains and Digital Design for

Agriculture, Agriculture Development, Bill & Melinda Gates Foundation, Seattle, WA, USA and led the Digital Design for Agriculture Initiative. He managed the Gates Foundation's first Discovery grant to develop C4 Rice and developed CIMMYT's most recent tropical research station in Mexico. He served on AGRA's Grants Review Committee and has contributed to strengthening the Alliance for a Green Revolution in Africa (AGRA). He also served on the CGIAR Fund Council and reviewed all 16 CGIAR Research Programs and is currently engaged in the process to update the CGIAR Strategic Results Framework.

Dr. Bergvinson is the recipient of the CGIAR Science Award for Promising Young Scientist as well as several service awards from CIMMYT. He received his Ph.D. in plant biochemistry from the University of Ottawa and MPM in integrated pest management in agriculture and forestry from Simon Fraser University.

### New Director General of CIP



Dr. Barbara H. Wells is the new Director General of the International Potato Center (CIP), joining the organization in early 2014. She is an accomplished senior executive with extensive scientific and business experience in research, general management, strategic planning, regulatory processes, and the technical development

and commercialization of products in agricultural and forestry markets throughout the world. Her agriculture and forestry expertise spans more than 30 years. Throughout her career, Dr. Wells has worked directly with farmers to apply science at the farmer level to improve their livelihoods and productivity.

Prior to this, Dr. Wells held the position of Vice President of Global Strategy at Agrivida, Inc., and President and Chief Executive Officer of ArborGen, Inc. Her move to CIP is in keeping with her ambition to improve the livelihoods of the world's poor farmers, and to drive forward the mission of CIP in food security and nutrition.

Dr. Wells received her Ph.D. in Agronomy from Oregon State University, her M.S. degree in Plant Pathology and her B.S. degree with Honors in Horticulture from the University of Arizona.

APAARI wishes them a great success in their new assignments

### Forthcoming International Conferences/Events

- Regional Inception Workshop on Strengthening Forest Tenure for Improving Income and Livelihoods in Cambodia, Nepal and Viet Nam on 11-12 February, 2015 at Kathmandu, Nepal
- The 5th International Conference on Next Generation Genomics and Integrated Breeding (NGGIBCI-2015) for Crop Improvement on 18-20 February, 2014 at ICRISAT, Patancheru, Hyderabad, India
- CTA/FAO/ITU Stakeholder Workshop on the e-Agriculture Strategy Toolkit on 3-5 March 2015, Thailand
- International Conference: Systems Research for Sustainable Intensification in Smallholder Agriculture on 3 – 6 March, 2015 at Oyo, Nigeria
- 18th International Soil Conservation Organization Conference on 31 May – 5 June, 2015 at El Paso, Texas
- Global Forum for Innovations in Agriculture on 9-10 March, 2015, Abu Dhabi
- International Symposium of Durian and other Humid Tropical Fruits 2015 on 2-4 June, 2014, Chantaburi, Thailand

### Dr. Raj Paroda is honored with Honorary D.Sc. Degree



Dr. Raj Paroda, Executive Secretary, APAARI was conferred with the Honorary Doctorate degree by the University of Agricultural Sciences, Dharwad. The degree certificate was presented to him during his recent visit to the campus on 16th September, 2014 jointly by Dr. D.P. Biradar, Vice-Chancellor, Dr. J.V. Goud, Founder Vice-Chancellor and Dr. R.R. Hanchinal, Chairperson, Protection of Plant Varieties & Farmers' Rights Authority, Govt. of India. This was the 15th Honorary Degree received by Dr. Paroda including the one from Ohio State University, USA. He also delivered Dr. R.K. Hegde Memorial lecture on 'Urgency for Outscaling Innovations in Agriculture' during the award function.

### Forthcoming APAARI Meetings/Workshops

- APAARI Executive Committee Meeting will be held in April, 2015 at Bangkok, Thailand
- APCoAB Steering Committee meeting and APARIS Steering Committee meeting will be held in April, 2015 at Bangkok, Thailand

### Dr William Dar completes his tenure as DG, ICRISAT



Dr. William Dar, Director General, International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, India has laid down his responsibilities since 31 December 2014 after successful completion of three terms of 5 years each. Prior to joining ICRISAT, Dr. Dar served in various capacities as Presidential Adviser for Rural Development, and Secretary of Agriculture in the Philippines; Executive Director, the Philippine Council for Agriculture, Forestry, and Natural Resources Research and Development (PCARRD); and the Director of the Bureau of Agricultural Research (BAR), Philippines

At ICRISAT, Dr. Dar intensively advocated for a Grey to Green Revolution in the dry tropics of Asia and Sub-Saharan Africa through Science with a Human Face. In pursuing the Institute's mission, he strengthened strategic partnerships with an array of stakeholders – NARS, ARIs, NGOs, development agencies and the private sector. Dr. Dar has led ICRISAT to rise to new heights and the institute was honoured with several prestigious national and international awards.

Dr. Dar had very close association with APAARI. He served as Chairman, APAARI during 1995-96 and as a Member of the APAARI Executive Committee and Steering Committee of APCoAB. He is a strong supporter of APAARI.

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