

Pathways to strengthened agri-food research and innovation systems in Asia and the Pacific



IRRI, BASF develop herbicide-tolerant rice - page 23



Expert Consultation on Agriculture Biotechnology- page 8



ACIAR- growing plant biosecurity in the Pacific region - page 17

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EDITORIAL TEAM

- Dr Ravi Khetarpal
- Ms. Mellissa Wood
- Mr. Gerard Sylvester
- Mr. Fai Collins Dzernyuy
- Ms. Celilu Bitong

Editorial

The Kathmandu Resolution on Conservation Agriculture

In many countries, intensive crop production has depleted the soil, thus seriously affecting production and our efforts towards sustainable food security. Shifting towards environmentally friendly farming systems that produce more from the same area of land, while reducing negative environmental impacts and enhancing the benefits people obtain from healthy ecosystems thus assume great importance. To this effect, the concept and practice of Conservation Agriculture is gaining attention in Asia-Pacific for all the right reasons. Conservation Agriculture is a response to sustainable land management, environmental protection and climate change adaptation and mitigation.

The Food and Agriculture Organization of the United Nations (FAO) and other international organizations promote the adoption of Conservation Agriculture principles, such as minimal soil disturbance, permanent soil cover and crop rotations, that are universally applicable in all agricultural landscapes and cropping systems. FAO provides member countries with technical support in designing, formulating and planning national strategies and policies that can provide required incentives for farmers to adopt practices that are climate resilient and make investments in sustainable agricultural mechanization. Farmers- especially smallholders- can in turn move away from inefficient agronomic management practices, and shift from manual labor to levels of mechanization that offer higher returns.

A high-level policy dialogue on scaling Conservation Agriculture for Sustainable Intensification (CASI) was jointly organized by the Australian Centre for International Agricultural Research (ACIAR) and the Trust for

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Advancement of Agricultural Sciences (TAAS) on 8-9 September, 2017 in Dhaka, Bangladesh, which was facilitated by the International Maize and Wheat Improvement Center (CIMMYT) and the Australia-supported Sustainable and Resilient Farming System Intensification (SRFSI) project. The dialogue assessed regional priorities and developed a roadmap for scaling Conservation Agriculture-based sustainable intensification in South Asia. Discussions on one of the key recommendations of this meeting i.e. establishment of a Regional Platform for CASI was taken up further and modalities developed to make it operational in a recent meeting held on 22-23 July in Nepal. The highlight of the meeting was the signing of the Kathmandu Resolution by Heads of NARS of Bangladesh, India, Nepal and Pakistan. The participants reviewed the progress made in Conservation Agriculture and sustainable intensification across the Indo-Gangetic plane region, and highlighted the need for a functional regional partnership., and thus to establish a Regional Platform for CASI.

APAARI was duly represented in the Kathmandu meeting and it was noted that there will be an effective mechanism developed to have a sharing of knowledge, capacity development and translational research with farmers' participation and policy support for investment in this approach in South Asia. APAARI also hopes that scaling up of innovation across Asia-Pacific would be an ideal approach for the region to meet food demands and avoid further negative impacts on the environment.

Food is one of our most basic needs. Reducing food loss and waste, eating lower-impact diets or investing in sustainable agriculture such as Conservation Agriculture, must become joint efforts of various public and private stakeholders to make a difference in achieving the Sustainable Development Goals. APAARI remains committed to support and promote Conservation Agriculture in the region.

Dr. Ravi Khetarpal
Executive Secretary



APAARI Holds 2018 Executive Committee Meeting

APAARI Executive Committee meeting held on 28 May 2018 at the Rama Gardens Hotel in Bangkok under the



Participants at the Executive Committee Meeting

chairmanship of Dr. Yusuf Zafar and Dr. Birte Komolong, who sat in for the Vice chair, Dr. Sergie Bang.

The meeting deliberated on an overview of the previous Executive Committee meeting held in November 2017, the recommendations made, actions taken and progress report of activities. Dr. Ravi Khetarpal, Executive Secretary, presented the institution's balance sheet of the year under review. An optimistic membership drive was undertaken with four new members and more prospects in the pipeline. It was equally an opportunity for each staff to present the work plan that dovetails APAARI Strategic Plan 2017-2022.

The special invitees were given a voice to talk about their organization, possible collaboration with APAARI to strengthen research and innovations for sustainable agricultural development in the Asia-Pacific region.

The amendment of the current APAARI constitution was one of the important points on the agenda. This is to enable the institution keep pace with its shifting role and function. Because of time constraints members agreed to set up a Task Force to work on a draft that will be circulated to members. The meeting concluded on a note of work well done to the staff.

Special guest at the EC meeting were from the Ministry of Agriculture, Livestock and Irrigation (MOALI), Myanmar; CropLife Asia, Singapore; Indian Council of Agricultural Science (ICAR) from India; Forum for Agricultural Research (FARA) Africa, International Association for Agricultural Sustainability (IAAS), Punjab Agricultural University (PAU), Indian Institute of Technology (IITB-Mumbai), Chulalongkorn University School of Agricultural Resources (CUSAR) and Mahidol University, Bangkok.

ASTI Project exploring partnership ties with Indonesian Agency for Agricultural Research and Development (IAARD), Jakarta, Indonesia

Dr. Norah Omot, ASTI Coordinator and Dr Ravi the Executive Secretary of APAARI visited the Indonesian Agency for Agricultural Research and Development (IAARD) on 8 January 2018 to explore the possibility of IAARD joining the ASTI project and holding an inception workshop for IAARD staff. Dr. Norah Omot made a presentation of the project to the hosts. The visit was an opportunity to meet with Dr Prama Yufdy, Executive



APAARI Executive Secretary, IAARD Executive Secretary and Staff and ACIAR Country Representative Manager

Secretary-IAARD, IAARD staff members Ms Erlita Adriani and Ms Seta Augustina, and ACIAR Country Manager Ms Mirah Nuryati.

The Executive Secretary of APAARI Dr Khertarpal used the occasion to discuss on the possibility of IAARD rejoining APAARI as a regular member.



USDA Phytosanitary Capacity Evaluation, Dhaka, Bangladesh



APAARI Executive Secretary with team members in Bangladesh

Dr. Ravi Khertarpal was on the final lap of a phytosanitary capacity evaluation of Bangladesh under USDA programme. During the mission, he held meetings with high level officials to finalize recommendations for a policy dialogue and developing a strategy plan framework for Bangladesh.



Workshop on the Banana Bread and Coffee Sustainable Consumption, Bangkok, Thailand

Dr. Rishi Tyagi, Coordinator, APCoAB, participated in a one-day Workshop on Banana Bread and Coffee Sustainable Consumption, organized by Agriculture and Food Marketing Association for Asia and the Pacific (AFMA) and Great Earth International, Bangkok on January 18, 2018. During the event, awareness was created to save over-ripe banana fruits and use it as baked products for sustainable consumption.



Pollinating experiences for a better agri-food system in ASEAN



Fai Collins Dzernyuy and Martina Spisiakova talking on the development of functional skills

APAARI was co-organizer of the International Conference on Social and Sustainability Science in ASEAN that held at the at Chulalongkorn University, Bangkok, Thailand from January 23-25 on the theme Agri-food Systems, Rural Sustainability and Socioeconomic Transformations. This event grouped together researchers and representatives from the various institutions and organizations interested in the food security of the Southeast Asian.

As one of the lead organizations in agri-food innovation systems in the region, APAARI used the occasion to showcase its prowess in promoting the exchange of scientific and technical knowledge and information in agriculture through capacity development and

knowledge sharing activities. During the 3 days of the conference, APAARI used the various platforms to present the association's approach to enhancing agri-food systems through transformational learning and capacity development.

APAARI used multiple platforms to showcase its activities and shared information and knowledge on production and facilitation of the flow of global knowledge in improving sustainable agriculture through innovation.



APAARI-COA Taiwan build stronger collaboration ties



Hon'ble Minister, COA, Taiwan and Senior management of APAARI during the visit

During the Executive Committee Meeting on November 12, 2017, the Council of Agriculture (COA), Taiwan endorsed the expansion of bioresources activities under the APCoAB programme of APAARI. A visit was made to Taiwan to discuss further strengthening collaboration, to expand activities, in the Pacific and the involvement of COA in APAARI's ASTI project. Visits were carried out to 9 scientific organizations dealing with agriculture research and policies including World Vegetable Centre, to explore possibilities of collaboration in areas of agricultural biotechnology, bioresources and other mandated activities of APAARI. In principle, COA agreed that a comprehensive proposal inclusive of expanded activities under APCoAB, Center of Excellence, and various APAARI mandated activities of ASTI, Knowledge Management and Capacity Building including the activities in the Pacific could be submitted by APAARI for consideration by COA.



ASTI Project takes pulse in Myanmar



Ms Thansita Tanaphatrujira, Mr. Kyaw Min Oo, and Dr. Norah Omot

The Coordinator of the ASTI project Dr. Norah Omot and Ms Thansita Tanaphathrujira visited Myanmar from 8-9 March 2018 to discuss the status and activities of the ASTI project with the Department of Planning (DOP)-Ministry of Agriculture, Livestock and Irrigation (MOALI).

During the visit, Dr. Norah Omot presented the project to a group consisting of representatives of a number of agricultural and university institutions and the staff, senior officials and policy advisor of MOALI. Discussions ensued on several topics including; the agencies to be invited to participate in the ASTI surveys, the types of survey forms for different agencies, the project impact matrix, research outputs, and the Myanmar agricultural research systems. Discussions were equally held on the possibility of MOALI joining APAARI as a regular member and APAARI extended an invitation to MOALI to attend its Executive Committee meeting in May 2018.

The key people met during the visit were Dr Tin Htut-Permanent Secretary-MOALI, Mr Kyaw Min Oo-Director General-DOP-MOALI, Dr Thanda Kyi-Director-International Cooperation Division (ASEAN)-DOP and Dr Cho Cho San, DOP.



Plant Cryopreservation researchers compare notes in Bangkok

The CryoSypm 2018 was organized jointly by Mahidol University, Bangkok and APAARI-APCoAB, in collaboration with International Society of Horticultural Science (ISHS), Thailand Institute of Scientific and Technological Research and DOA, Bangkok, on

March 26-28, 2018 at Bangkok, Thailand. A total of about 110 participants from 25 countries attended the symposium. The program comprised of three sessions – Session I: Research in Plant Cryopreservation. Session II: Cryobanking, and Session 3: Methods in Plant Cryopreservation. There were Thirty-five posters were presented related to various aspects of plant cryopreservation. Dr Rishi Tyagi, Coordinator, APCoAB, made a presentation on “Does cryopreservation stress impacts genotype integrity? A case study with germplasm of Musa spp.”. He acted as a member of (i) International Advisory Committee and (ii) Scientific Committee of CryoSymp 2018. APAARI sponsored three participants from Asia to present their work during the symposium.



Group picture of plant cryopreservation researchers



Taking stock of ASTI Project Implementation in Hanoi, Vietnam

Drs Gert-Jan Stads and Norah Omot visited the Department of Information at the Vietnam Academy of Agricultural Sciences (VAAS) from April 5-6. The purpose of the visit was to discuss Vietnam agricultural research outputs, system and issues related to the ASTI surveys. During the visit, important contacts were made at the Ministry of Agricultural and Rural Development (MARD) and another milestone was acceptance of the Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD) and IPSARD in the analytical capacity component of the project. Among the key people met were Dr Tran Dahn Suu-A/Director-VAAS, Mrs Xuan-Survey Coordinator-VAAS, Dr Trang Truong-Director-Division of Strategy and Policy Study-IPSARD, Dr Nguyen Tuan-Director General-IPSARD, Ms Nguyen An-ACIAR Country Manager, Dr Thuyn-MARD.



APAARI senior executives visit AREEO, Iran



APAARI delegation and AREEO management Iran

Dr Yusuf Zafar, Chairman, APAARI and Dr Ravi Khetarpal, Executive Secretary visited Iran from 4-6 March and held discussions with Deputy Minister of Agriculture and senior officials of AREEO on strengthening relationship with AREEO. During deliberations ensued, AREEO agreed on facilitating their annual paid membership fee to APAARI through ICARDA by a tripartite agreement, and also to convening and hosting APAARI important events in Iran. AREEO wished its achievements and events would be disseminated on APAARI website and social media platforms.

AREEO appreciated APAARI’s exploration of possibilities of facilitating sabbatical opportunities of Iranian researchers in Asia Pacific countries and promised to provide same in Iran. AREEO promised to inform APAARI on its decision to join and support the ASTI project soon. Both institutions thus look forward for a stronger long-term partnership.



ASTI Project builds partnership with IAARD-ICASEPS, Jakarta, Indonesia

Dr Gert-Jan Stads, IFPRI ASTI Programme Manager and Dr Ravi Khetarpal visited IAARD on April 9. The purpose of the visit was to meet with IAARD and Indonesian Centre for Agriculture, Socio-Economics and Policy Studies (ICASEPS) to firm up on the Agreements of the ASTI project, involving both IAARD and ICASEPS. During the visit, 2 focal points were appointed, who met with Dr Gert-Jan Stads to discuss the ASTI methodology and survey forms in detail. They also discussed the internal datasets that were available at IAARD.



APAARI Executive Secretary, IFPRI ASTI Program Manager and IAARD staff



Experts discuss phytosanitary protocols for expediting crop germplasm

Key representatives from research institutions and organizations working in food and nutritional security across the globe met for two days in Rome from 18-19 April 2018 to share notes and ideas on how to develop phytosanitary protocols for expediting crop germplasm exchange with special reference to that of CGIAR gene banks. The discussion led to the development of a science based phytosanitary protocol (Green Pass) that takes into account germplasm health at various stages of its collection, evaluation and conservation. The outputs of the meeting would be submitted to FAO to make it either as an international protocol or as a best practice for a faster and smoother exchange of germplasm that would eventually expedite the development of new varieties of crops that can meet food and nutritional security in the era of climate change.



Photo of experts on phytosanitary protocols exchange in Rome, Italy

Organized by Dr. Lava Kumar, Head of Germplasm

Health Unit at IITA, Nigeria, the other attendees-experts were; Dr. Ravi Khetarpal, Executive Secretary of APAARI in Thailand, Dr. Bonnie J. Furman Agric Officer at PGR-Agrobiodiversity FAO Rome, Dr. Charlotte Lusty Genebank Coordinator at Crop Trust, Germany, Dr. Radha Ranganatha from the International Seed Federation Switzerland and Dr. Michael David Halewood from Bioersivity International in Rome.



APAARI invited at the Science week at University of Kisangani, Kisangani, Congo



Group Photo with the Rector of the University Prof. Faustin Toengaho

The University of Kisangani under the auspices the European Union and the Center for International Forestry Research-CIFOR, organized the 5th session of the Science Week at the Faculty of Sciences of University of Kisangani from 7-12 May 2018. The one-week event brought together researchers, scientists and journalists from around the globe to share knowledge and add value to the research endeavors at the University of Kisangani.

For five days running, researchers and scientists from research institutions and Universities the world over, drilled Masters and PhD students on dominant themes in the world of Forestry in particular and the environment in particular.

Aligned to the seminar presentations was a back to back capacity development of science journalists from the major media organizations in the Democratic Republic of Congo. These men and women of the men were reinforcing and sharpening their skills in reporting science related themes especially in environment related. For one week, the journalists were drilled by researchers and scientists on current themes in environment in general and Forestry in general.



Participants listening to a presentation during one of the sessions

Closing the one-week event, the Rector of the University Professor Faustin Toengaho saluted the sustained partnership of his institution with the European Union through the Center for International Forestry Research-CIFOR.

The Knowledge Management Coordinator of the Asia-Pacific Association of Agricultural Research Institutions-APAARI used the occasion to present the mission and goal of APAARI especially the identification and sharing of knowledge in agri-innovation systems. This attracted discussions with students with related topics in knowledge management.

The Science week has become a yearly activity organized by the University with assistance from national and international organization with support from CIFOR since 2013.



Steering Committee takes stock of activities of the Asia-Pacific Consortium on Agricultural Biotechnology and Bioresources (APCoAB)



Participants at the 19th Steering Committee meeting of APCoAB

The 19th Steering Committee Meeting of the Asia-Pacific Consortium on Agricultural Biotechnology and Bioresources (APCoAB) was held on May 28, 2018 at Rama Gardens Hotel, Bangkok, Thailand. During the occasion the Chairman of the Steering Committee Dr Yusuf Zafar, emphasized the importance of agricultural biotechnology and bioresources and gave a brief account of status of biotech crops grown in Asian countries. Dr Chung-Hsiu Hung, the Vice Chairman, expressed his satisfaction on the progress made under APCoAB and assured COA Taiwan's continued financial support to biotechnology and bioresources activities in Asia-Pacific countries. The Coordinator Dr Rishi Tyagi, presented report on actions taken, progress made, revised work plan and audited financial statement of APCoAB.

The Chairman, Vice Chairman and all the members appreciated the progress and provided suggestions for further improvement. The meeting was attended by 18 participants including special invitees and observers.



Scoping partnership in agri-biotechnology to improve farmers' livelihoods in Asia-Pacific

A multi-stakeholder "Regional Expert Consultation on Agricultural Biotechnology- Scoping Partnership to Improve Livelihoods of Farmers in Asia-Pacific" was organized by APAARI/APCoAB, Bangkok, Thailand and COA, Taiwan from May 29-31, 2018 at the Rama Gardens Hotel, Bangkok. The objectives of expert consultation were threefold : firstly to provide a platform to explore initiatives and mechanisms of sustainable partnership and networking for capacity and institutional building, develop regulatory framework, communication strategies, to enable policies for application of biotechnologies including bioprospecting of bioresources at regional level; secondly to share technical knowledge, experiences and learn lessons from public-public, public-private, and private-private partnership to accelerate the application of agricultural biotechnologies and establish the mechanisms to ensure continued exchange of information on experiences with agricultural biotechnologies; and thirdly to identify important areas of agricultural biotechnologies and scoping the new and innovative ways of making investments to improve the livelihoods of farmers in Asia-Pacific region.

A total of 62 participants from 22 countries who

were either research managers, senior officials or researchers from NARS member countries of Asia-Pacific, CG centres, CropLife Asia, FAO, USAID, USDA and APAARI secretariat. Other technical and financial collaborators were from ACIAR, Australia; Research Program on Grain Legumes and Dry Land Cereals, Program on Grain Legumes and Dry Land Cereals, ICRISAT, India; BCIL, India and DOA, Thailand.



Inaugural Session of Expert Consultation on Agricultural Biotechnology



Chung-Hsiu Hung, COA, Taiwan delivering inaugural address



ICTs for Sustainable Agriculture in the Asia Pacific: An eye in the sky for agriculture

The Regional Office of the FAO for the Asia Pacific, organized a one-week hands-on regional workshop on the use of the drones, satellite imagery and GIS in agriculture from June 4-8 at the Asian Institute of Technology in Bangkok. This brought together 30 participants from Ministries of Agriculture, FAO country offices and ITU member countries in the Asia-Pacific region like Afghanistan, Bhutan, Sri Lanka, Fiji, Philippines and Papua New Guinea.



Family photo of guests and participants

Situating the urgency and importance of the training, the regional Knowledge and Information Management Officer at the FAO regional office, Gerard Sylvester, said the “use of sustainable information and communication technology in agriculture is not an option but a necessity.”

Research indicates that agriculture will soon be the single largest application of drones as 80% use will be in the

field of agriculture. This is accentuated by the fact that agriculture is currently carried out over large farmlands which are very difficult to monitor. It will be easier to fly a drone over a farm land and collect the imagery to get better insight about the farm.

The objective of the hands-on training which to introduce the use of drones in the agricultural sector in the region provided tips on the use of drones and drilled participants on how to use the lessons learnt in real life situations. Unfortunately, many countries in the region are still to adopt this innovative technology to improve agricultural productivity. From the assessment of the participants, the workshop objectives were fully attained as it was a well-balanced training; both in knowledge learning and skill development. The workshop was organized in partnership with APAARI, UIT, and Digital Globe.



Workshop participants learning to fly a drone



APAARI at the 2018 European Development Days

Organized by the European Commission (EC), the European Development Days (EDD) took place from 5-6 June 2018 in Brussels, Belgium under the main thread of 'Women and girls at the forefront of sustainable development: protect, empower, invest'. The agenda of EDD 2018 was framed by three major themes emerging as key priorities in today's current context:

- ensuring the physical and psychological integrity of Girls and Women
- promoting economic and social rights and empowerment of girls and women
- strengthening girls' and womens' voice and participation



Ms. Martina Spisiakova represented APAARI and TAP at the EDD 2018

Discussion from many speakers and participants from all over the world hinged on these themes. High-level guests included, Jean-Claude Juncker, President of the E U Commission Her Majesty the Queen of the Belgians, Her Majesty the Queen of Spain; Paul Kagame, President of Rwanda; Marie-Louise Coleiro Preca, President of Malta; Roch Marc Christian Kaboré, President of Burkina Faso; George Weah, President of Liberia; Mahamadou Issoufou, President of Niger; Amina Mohammed, Deputy Secretary-General of the United Nations; Phumzile Mlambo-Ngcuka, Executive Director of UN Women; and Antonio Tajani, President of the European Parliament. Their participation demonstrated the high importance of the girls and women-related issues on the political agenda.

APAARI hosted a stand in the 'Global Village' space showcasing activities of the Tropical Agriculture Platform (TAP) in transforming agricultural education in the Asia-Pacific region. The focus was on developing functional capacities of young professionals especially women, to enhance agricultural innovation systems. Representing the TAP, APAARI highlighted its ongoing activities on this topic, as well as other initiatives with TAP partners. This included activities of the Global Confederation of Higher Education Associations for Agricultural and Life Sciences (GCHERA), and the Food and Agriculture Organization of the United Nations (FAO) in Bangladesh, Lao People's Democratic Republic and other pilot countries on Capacity Development for Agricultural Innovation Systems (CDAIS) project in other regions.

During the event, APAARI interacted with other exhibitors at the Global Village, particularly those that shared similar initiatives. One such sub-topic on gender equality in education it was stressed that tackling global challenges like climate change and healthcare in in sustainable and inclusive, there is need for the active



Her Majesty the Queen of Spain attending the event and engaging with participants

involvement of both educated women and educated men. Yet, gender imbalance is particularly stark in the critical areas of science, technology, engineering and mathematics (STEM). Addressing the challenges of gender inequality in education is complex and requires the involvement of men and boys, women and girls throughout society and its institutions.

A number of institutions that took part in the EDD 2018 offer free online courses in agriculture that could be beneficial to the APAARI community in Asia-Pacific and beyond. For example, the University of Wageningen, offers open courses on food production, nutrition, animal breeding, genetics, and many other topics. Access Agriculture – an international NGO – offers agricultural training videos in local languages. These include, floating vegetable gardens, managing bacterial leaf blight in rice or tomato leaf curl virus, as well as many other processes that could provide solutions to farmers and/or be a topic of further research by agricultural scientists. The DEVCO Academy is another public learning platform providing free access to a wide range of topics, including development policies, thematic areas, methodological approaches and financial management. APAARI has recently shared links to these resources through its APAARI Network Highlights!

Strategic discussions on engagement and partnership through joint project development were equally held by APAARI with the Directorate-General for International Cooperation and Development, EC; Directorate-General for Research, EC; FAO Liaison Office with the European Union and Belgium; European Forum on

Agricultural Research for Development (EFARD); Bayer; GIZ; and Oxfam.

APAARI has been following up on its participation in the EDD 2018, where it was actively advocating the role of the TAP and the need for transformation in agricultural education systems as a pre-condition for effectively agricultural innovation systems. APAARI remains positive that its participation and various meetings at the EDD will lead to fruitful partnerships and collaboration in the future.

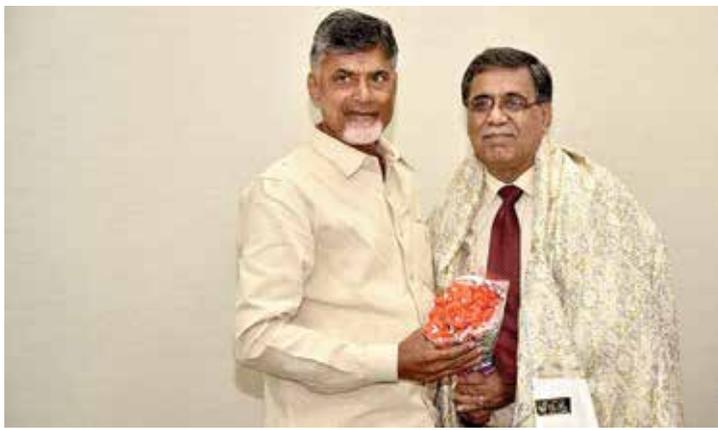


Andhra Pradesh State Mega Seed Park Work Plan meeting - Vijayawada, AP, India



Participants of Mega Seed Park workplan meeting with the honorable Chief Minister of Andhra Pradesh

The Mega Seed Park (MSP) is an initiative of Government of Andhra Pradesh and Iowa State University to give a fresh boost for the seed sector in AP. MSP intends to forge multiple partnerships among academics, researchers and knowledge bases, farmers, and as a cornerstone, public. private and farming community sectors of agriculture. Such partnerships enhance overall seed and food production. MSP goals are tenable farmer access to good quality seed; forge partnerships; create an enabling environment for advanced research, improved human resources, infrastructure and policy and regulatory framework; facilitate agricultural and hort universities transformation through commercialization of research and enhance food security through seed security. The main purpose of the work plan meeting held at Vijayawada, Andhra Pradesh from 20-21, June 2018 was to define the short term and long-term work plans for effective implementation of MSP goals. The participants include farmers, FPOs, NGOs, community Managed Seed Systems personnel, Government officers, private industry, international experts, seed science leaders from the state, national and



Honouring APAARI Executive Secretary with a shawl by the Chief Minister of Andhra Pradesh while assuring to become APAARI member

international research organizations/ universities. Important international organizations that contributed to the work plan are APAARI, Thailand, CYMMIT, Mexico and IRRI, Philippines and ICRISAT, India, in addition to consultants and senior professors from Iowa State University, USA. Detailed work plan developed for seed technology and research; knowledge consortium, business and policy and capacity building.

A delegation met Sri N Chandra Babu Naidu, Hon'ble Chief Minister of Andhra Pradesh and discussed the work plan meeting proceedings. Dr Ravi Khetarpal, Executive Secretary, APAARI explained the key roles played by APAARI in the region including India. Hon'ble CM appreciated and directed the officials to get associated with APAARI. Government of Andhra Pradesh approved the MSP policy recently for implementation.



PROFILE

Telangana State Agricultural University (TSAU), Rajendranagar, Hyderabad



University main campus

The University offers 4 undergraduate degree programmes, 22 postgraduate programmes and 17 doctoral programmes in various faculties. The students from 10 Indian States including Telangana and Nine Foreign Countries from Tanzania, Sudan, South Africa, Ghana, Uganda, Sri Lanka and Afghanistan are being mentored by well qualified University dons with faculty-student ratio of 1:7, in our colleges.

The University Library has a collection of 1,32,000 books, 315 foreign and Indian periodicals, 1400 e books, 4600 e journals, 10 databases viz., J Gate



University Auditorium

Agriculture and biological Sciences (CERA), KRISHI PRABHA, KRISHI KOSH made available both offline/ online which the students can access from anywhere.



University Library

In addition to the research stations, there are 27 AICRPs, two All India Network Projects spread across the State to develop varieties and sustainable NRM technologies, community welfare research for promoting nutritional and livelihood security of rural communities. Two NABL accredited laboratories, the Pesticide residue analysis laboratory and Quality Control laboratory are offer testing services for various clientele.

The University works hand in hand with the State Department of Agriculture, assisting in the planning and execution of several farmer friendly programmes The University extension units are involved in technology

assessment and refinement on farm, capacity building, diagnostic visits, field days, front line demonstrations and knowledge transfer through digital tools. The Home Science faculty develops healthy foods from underutilized but nutritious agri commodities, starting rural agri based enterprises like dieticians and community nutrition specialists, family resource managers, preschool educators, textile and apparel designers' communication and media savvy extension specialists. On an entrepreneurial mode, the Incubation Centres, offer training and mentoring services to interested rural women, self-help groups or young entrepreneurs to promote healthy living.

PJTSAU has collaborative agreements with seven International Institutes /Universities across the countries to facilitate student and faculty exchange and knowledge sharing. Institute, Philippines. PJTSAU is slowly but steadily moving towards becoming a force to reckon with in agri education, research and outreach and a talented human resource generator for ensuring the prosperity of the farming community, health and happiness of the community.

Source: Prof. K. Jeevan Rao, Ph.D, Director (International Programmes), PJTSAU



International Association for Agricultural Sustainability, IAAS

The International Association for Agricultural Sustainability, IAAS is a non-profit organization established in January 2018 to serve as a platform to assemble agriculture-related knowledge and methodology approaches to further impact the economy, human health, and sociality.

		
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MISSION OF IAAS

IAAS serves as an international platform for academicians, researchers, industry players and policymakers in the fields of agro-technology, sustainability, food technology, innovation, management and economics to communicate and interact for the advancement of research, instruction, trade promotion, and policy development.

FUNCTIONS OF IAAS

- To host international scientific conferences for academicians, researchers, industry players and policymakers from all over the world to share their knowledge on agricultural practices.
- To support or publish agriculture-related journal and books.
- To organize workshops for policy discussion and experience exchange among government agencies, industry, commodity groups, and academy.
- To promote the idea of agriculture sustainability in the whole world.

Source story and photo: Tracy Su, Secretary, IAAS

NEWS UPDATE FROM NARS

Lao-PDR - National Agriculture and Forestry Research Institute (NAFRI)

AFACI holds General Assembly in Lao PDR

The Asian Food and Agriculture Cooperation Initiative-AFACI is an agricultural technology cooperative established in 2009 by the Rural Development Administration (RDA) to help resolve common agricultural issues in Asia. It aims to solve agricultural common issue in Asia by sharing knowledge and information on agricultural technology, to develop the foundation of a developed agri-food Industry and Establish technology transfer system to its member countries.

It held its 5th General Assembly recently to share project' progress and to discuss future direction to improve the performance of each project. It was attended by about 90 delegates including the Minister and vice Minister of agriculture from RDA, Korea and head of Agricultural Research Institutes from 13 AFACI member countries. Representative of Five partner organizations were equally present including representatives from relevant organizations in Laos such as Embassy of Korea, KOICA, and KOPIA.

This event was co-organized by the Rural Development Administration (RDA) & National Agriculture and Forestry Institute (NAFRI). The General Assembly agenda was made up of the following highlights: signing of Implementing Arrangement (IA) with new partner organizations (ILRI, APIRAS), presentation of five most-outstanding projects, election of new chair group, selection and presentation of the new 2018 projects, amendment of the regulation of GA, and field visits to Lao agricultural institutes and sites.

AFACI implements nine (9) projects to solve agricultural common issues in Asia like climate change and food security. Some of these projects focus on development of crop varieties that are suitable and resistance to changing environment as well as on pest and disease outbreak.

Specifically, AFACI monitors and shares the information with member countries through 'Asia Migratory Insects and Virus Surveillance System (AMIVS) which was developed by the project "Establishment of epidemiology information interchange system for migratory disease and insect pest in Asian region'. This system was established for the management of migrating rice plant hoppers and associated rice viruses to provide the strategic basis enabling to reduce their incidences below the threshold level for chemical control of rice plant hoppers in resource-limited Asian countries. Through this collaboration network system, the outbreak of rice plant hoppers and associated viruses are intensively monitored in-countries or inter-countries.

The "Selection and Dissemination of Elite Salt Tolerant Rice varieties" is a project that will be implemented this year in nine countries in Asia to help resolve the threat of reduced rice production under salt-affected areas (coastal area in Mekong River).

Source story: Manoluck Bounsihalath, Deputy Director, NAFRI



Taiwan- Council of Agriculture (COA)

APAARI and Taiwan Agricultural Research Institute build closer ties

On January 30, 2018, three delegates from the Asia-Pacific Association of Agricultural Research Institutions (APAARI) visited the Taiwan Agricultural Research Institute (TARI) to deepen the existing relationships and

academic partnership.

The delegation made up of the Executive Secretary of APAARI Dr. Ravi Khetarpal, APCoAB Coordinator, Dr. Rishi Kumar Tyagi was received and introduced to TARI and its current R&D activities and extension services by Dr. Jyh-Rong Tsay, Deputy Director General of TARI.

During the visit to the Center for Geographical Information Systems at TARI, presentation of the Center and remote sensing data for agricultural resource planning and management in Taiwan were made. The applications used here include provision of land use and landscape management, sustainable management of water and soil resources, and improvement of decision making and cultivation practices. The delegation also visited the National Plant Genetic Resources Center (NPGRC) located on campus, which is also the Plant Germplasm Division of the Institute.



Group photo of APAARI delegation with Dr. Jyh-Rong Tsay (Deputy Director-General of TARI), and staff from the Council of Agriculture and TARI. (From left to right)

TARI is currently actively using Information and Communication Technology (ICT) for improving the functioning of agricultural facilities and the application of protected cultivation, as part of its Smart Agriculture Programs. After viewing the use of ICTs for crops

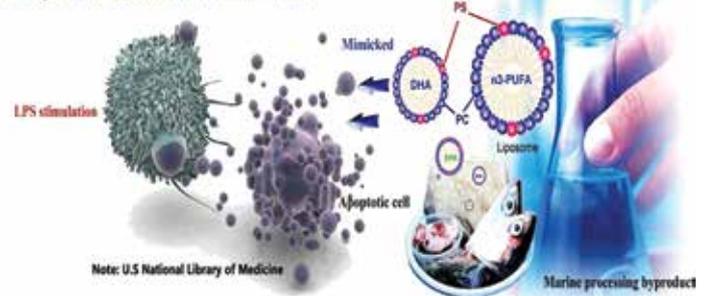


The introduction of the integration of GIS and remote sensing data for agricultural resource planning and management in Taiwan

production under protected cultivation facilities, APAARI delegation expressed great interest in the possibility of cooperation with TARI in topics related to ICT use for special agricultural needs as well as to showcase the development potential and capabilities of TARI's use of ICTs in agricultural production innovation to its members.

Regeneration squid for brain healthcare

Whether promote the resolution of inflammation?



The liposome prepared from marine processing wastes as mimicry of an apoptotic cell has been supported to biomedical application for inflammatory regulation

According to annual fishery reports in Taiwan from 2012~2016, the average squid production from ocean fisheries was approximately 146,066 tons per year. However, squid processing produces residual, low-cost by-products that account for about 35% of the total raw material, of which 8~13% is squid skin. Squid skin abounds with DHA-conjugated phospholipids. One of the phospholipids phosphatidylserine (PS) plays an important physiological role that induces clearance of apoptotic cell by some immune cells. Both of DHA and PS involve alleviation in late stage of inflammatory reaction. The Taiwan Fisheries Research Institute established a new technology which manufactured a PS containing liposome from the squid skin phospholipids to mimic apoptotic cell.

Taiwan is an aging society where brain related inflammatory diseases like dementia, Alzheimer are rapidly in the increase. The squid skin prepared PS liposome has been validated as the inflammatory alleviation on LPS induced mouse brain macrophage cell line (BV-2). The results support that the liposome do not only reduce regulation of pro-inflammatory mediates but also increases regulation of anti-inflammatory cytokines secretion in the brain cell-based assay. Manufactured DHA and PS containing liposome from the marine processing waste may be a good strategy for the development of brain health products. The manuscript, "Inflammatory alleviation on microglia cells has been published in the ICNFF 2018: 20th International Conference on Nutraceuticals and Functional Foods.

Researchers share experiences on Anti-infringement for Plant Breeder Right'

An International Symposium on Anti-infringement for Plant Breeder Rights was organized by Taiwan Seed Improvement and Propagation Station in Tainan on March 10 2018. The more than 70 participants were made up of students, DUS examiners, experts, representatives from several associations and visitors of the '2018 Taiwan International Orchid Show.

Six lectures made up the menu of the symposium amongs which were Fighting against illegality in the European vegetable seed sector-AIB's experience/ ; Protection of plant varieties in Taiwan

1. Plant variety rights infringements and remedies in Taiwan Selection of plant material for breeding programmes, and
2. efforts of support for plant variety protection system in Japan.



Fig. Participants of '2018 International Symposium on Anti-infringement for Plant Breeder Right'

During the event, experts from EU and Japan shared experiences and knowledge to demonstrate the importance of anti-infringement for plant breeder rights, development of plant variety identification technology as well as related provisions of the Convention on Biological Diversity. The panel discussion sessions were highly animated.

Source stories and photos: Ruby Yeh, Deputy Director, COA



Philippine Council for Agriculture, Aquatic and Natural Resources, Research and Development (PCAARRD)

PCAARRD- ACIAR impact assessment method underway



The participants, at the inception meeting held recently at PCAARRD

A collaborative program between the Philippine Council for Agriculture, Aquatic, Natural Resources Research, Development of the Department of Science and Technology (DOST-PCAARRD), and the Australian Centre for International Agricultural Research (ACIAR) is afloat to develop a mixed method approach to impact assessment.

The program titled "Development of Mixed Method Approach to Impact Assessment of Philippine Research Projects," has been approved for implementation for two years starting March 2018.

Relative to the Impact Assessment Program (IAP) of PCAARRD, the newly-approved program is considered a milestone after a first phase successful collaboration with ACIAR in 2007. The newly approved collaboration was conceptualized after observing that R&D projects are becoming increasingly complex, multi- or trans-disciplinary and occur in dynamic settings. Both PCAARRD and ACIAR recognize the need for more holistic and multidimensional approaches in assessing the projects' economic, social, and environmental impacts.

The collaboration is divided into three components: development of methodology, application and fine-tuning, and capability building. PCAARRD and ACIAR are co-investors in this activity wherein two projects are being simultaneously and jointly implemented by Filipino and Australian teams.

The methodology that will be developed will be applied and tested in three R&D programs implemented in the country namely: Landcare Program in Claveria, Misamis Oriental and Bohol Province; Mango Integrated Crop Management project in Davao del Norte; and Conservation Farming Villages in Davao del Norte and Negros Occidental.

Source story and photo: (Christian L. Abeleda, DOST-PCAARRD S&T Media Services, Image credit: Socio-Economics Research Division (SERD), PCAARRD)



HIGHER EDUCATION

Central Agricultural University (CAU)

4th Inter-Collegiate Youth Festival, CAU, Imphal, 2017



VIP (s) gracing the dais during the Opening Ceremony of the Festival

The 4th Inter Collegiate Youth Festival, was organized at College of Agriculture, Iroisemba, Imphal from 15th to 17th January 2018, at the Central Agricultural University CAU, Imphal. The event had participants from the 13 constituent colleges of the university. Some of the prominent guests were Shri Karam Shyam Singh, the Minister, Food & Civil Supply and Revenue, Government of Manipur, Prof. M. Premjit Singh, the Vice Chancellor, CAU, Imphal, Prof. C.A. Srinivasamurthy, the Director of Instruction CAU, Imphal, Prof. R.K Saha, Director of Extension Education, CAU, Imphal and Prof. J.M Laishram Dean College of Agriculture, Iroisemba, Imphal.

The Central Agricultural University holds AGRUNIFEST 2018



Youth Festival Team of CAU, Imphal, participating cultural procession of the Agri-Unifest 2018

The Central Agricultural University CAU, Imphal was part of the 18th All India ICAR AGRUNIFEST, 2018, that took place at Sri Venkateswara Veterinary University, Tirupati, Andhra Pradesh from 12 to 16 February 2018. Participation was from a team of 22 students and two officials who participated in the Dance, Theatre and Literary events.

Source stories and photos: S. Basanta Singh, Director of Instruction, CAU



Kamdhenu University

Convocation at Kamdhenu University

The 4th Convocation of Kamdhenu University was held on 3rd February, 2018 at GMERS Medical College Auditorium, Gandhinagar and presided over by the Chancellor of the University, political and educational elite. The Vice Chancellor welcomed the dignitaries,



Gold medalists of Kamdhenu University at 4th Convocation

guests, invitees and students and briefed them on the academic, research and extension activities of the university and plans for development. The convention address was made by Prof. A. K. Misra, while the Hon. Minister of State (Agriculture, Panchayat and Environment) who was guest of honor, congratulated the students and gave valuable suggestions on how they can be useful to society, state and country.

The Chancellor of the University Shri O P. Kohli in his address noted the role the University is playing in producing and developing highly knowledgeable and trained manpower. He also opined that it has become necessary to create more employment opportunities in rural areas especially in livestock and allied sectors. The Convocation also witnessed the award of degrees, diplomas and medals and the release of the third annual report of the Kamdhenu University

Source stories and photos: Dr. P. H. Vataliya, PhD, Director of Extension Education, KU

Anand Agricultural University, Dharwad

Technology transfer improves crop production

A workshop on technology transfer to improve agricultural productivity has been organized by Anand Agricultural University India in partnership with national and international partners to help farmers match India's growing economy with food production. According to Dr. Messe, India is fast a growing economy with a lot of possibilities for agricultural growth through the application of the latest agronomic techniques. He said On-Farm Trials technique for crop production and the application of basic agronomy principles will help increase the quality, productivity and production of farm produce.

The training programme on dubbed "Farmers to Farmers methods for Agriculture Extension Technology Transfer – Transferring Improved Practices from the Model Farm " according to the Vice Chancellor is an important program and opportunity to share knowledge for for better crop productivity. He equally called on farmers to pay attention to the efficient use of irrigation water, improved seed varieties, insect pest resistance and eco-friendly management of pests to ensure sustainable and climate smart agriculture.



Some participants at the workshop

Dr. N. C. Patel called on farmers to visit the different departments and farms of the university to be abreast with the latest agricultural technology and allied sectors. He advised farmers to use mobile phones and social media platforms like whatsapp, SMS, e-Kishan portal, to interact with scientists and to gather the information on best practices for high productivity. The workshop was attended by farmers, national and international organisations and partners.

Kerala team visits Business Incubation Centres

Senior officials of the Industries department of the Government of Kerala, Entrepreneurship Development Institute of India (EDI), KILA Campus, Mulamkunnathukavu, Thrissur visited AAU BPDU and

Biofertilizer plant and the Food Business Incubation Centre on 28th February 2018, to plan for the establishment of 14 business incubators across the Kerala state. The visitors wanted to understand the functioning of AAU's Agri & Food business incubators. During the visit they were briefed on the Startup and student support activities.

Source stories and photos: Navinchandra Soni, AAU



Visitors from the Government of Kerala



NEWS UPDATES FROM INTERNATIONAL CENTRES

Australian Centre for International Agricultural Research (ACIAR)

ACIAR – growing plant biosecurity in the Pacific region



The plant biosecurity team

ACIAR may soon be expanding to the Pacific region following the successful delivery of a plant biosecurity capacity building program in Africa. In late June 2018 the program manager, Bill Magee in association

with Sanitary and Phytosanitary (SPS) in Australia, held a workshop in Fiji with scientists and researchers, including plant protection officers from PNG, Fiji, Solomon Islands, Vanuatu, Tonga, Samoa, Kiribati, Tuvalu, as well as representatives from other relevant agencies to explore plant pest and disease issues challenging the region.



In the lab

Information gathered at the workshop will inform the development of a three-year plant biosecurity capacity building program, which will lead to an improved performance in surveillance, diagnostics, pest risk analysis, import border controls, export inspection and trade negotiation, improved supply chain compliance by the private sector and export markets.

ACIAR – growing plant biosecurity in the Pacific region



Partners Magazine

ACIAR has redoubled its efforts in 2018 to tackle the most formidable scientific, policy and political challenge. Earlier in the year, they launched the ACIAR Ten-Year Strategy 2018-27. While its focus remains on developing productive and sustainable agricultural systems for the benefit of developing countries

and for Australia, ACIAR's strategy supports scientific excellence by developing fewer, but larger, research projects, with tighter alignment to Australia's aid policy and the 2030 Sustainable Development Goals. You can read more about ACIAR and the impact of some of our successful scientific projects in [Partners magazine – Issue 1 2018](#).

Lessons from the rice fields

Many Asian countries are overly exposed to climate change, due to their strong dependence on agricultural activities highly prone to climate variability added to the reduced capacity of their governments and private institutions to respond to pending threats. The Asian Development Bank and the Potsdam Institute for Climate Impact Research, in a 2017 report captioned *A Region at Risk*, indicate that 'countries in Asia and the Pacific are at the highest risk of plummeting into deeper poverty—and disaster—if mitigation and adaptation efforts are not quickly and strongly implemented.'

In 2008, ACIAR initiated two significant climate change initiatives. The first targeted farm-level adaptation options in Cambodia, Lao PDR, Bangladesh and India (the ACCA project), and a second project focused on the Mekong Delta in Vietnam (the CLUES project outlined in this issue).

The project was designed as a four-country activity with a budget of \$8.9 m, including \$5.5 m from ACIAR. 21 partner organisations were engaged in the target countries, as well as CSIRO in Australia.

Cambodia, Lao PDR, Bangladesh and India were selected because they are particularly vulnerable to long-term seasonal climate variability. These countries risk losing valuable agricultural land or livelihoods through the effects of increased flooding in lowland areas, more extreme weather events and shifts in seasonal weather patterns. Focusing on rice-based cropping systems, solutions were explored through pilot studies and on-station trials for different issues in each target country—adapting existing methods to assess adaptation strategies, developing research capacity, evaluating crop and natural resource management, and informing policies and programs for implementing climate adaptation activities from local to national scales.

Enhancing Capacity to Adapt

In the Indian state of Telangana, the pilot studies aimed to assess drought risk and the impact of minimal climate information to guide farmer decisions, the rapid rural change with significant social complexity, and perceived constraints of agricultural labour.

Information was collected to empower rice farmers with rich relevant and free information, to better measure and predict weather conditions. This

combined information was from the Rainfall Visualiser tool (developed during the project which charts historical rainfall and provides a predictor of the next season's rainfall), agriculture-based weather advisory teams, farmer climate clubs and Climate Information Centres (CLICs). These CLICs have been adopted by state and federal government programs and United Nations initiatives for drought mitigation, with potential to reach 8,000 farming households in Telangana. The focus in Bangladesh was on developing the APSIM-ORYZA cropping systems model from high-quality datasets, by incorporating a new rice crop and salinity response module, and to explore alternative rice cropping scenarios. Along with social research from villages to determine the capacity of farmers to adapt to changing climate, the project found opportunities to manage and adapt to salinity at the farmer level.

Key Points

Cambodia benefited from a 'response farming' approach in lowland rice areas in the southwest of the country, whereby farmers gained access to management options to make the most of the cropping monsoon period. These included decisions on the timing of crop establishment, varieties of different duration, tolerance to water stress, double cropping, mechanising rice seeding, and the timing of pest and fertiliser application. According to Dr Roth, 'The concept of response farming (observing the early season and rainfall forecasts and, using decision-support tools, deciding what to grow) is a useful way for farmers to understand and manage climate variability, which builds their capacity to cope with climate change'.

Dry seeding of rice was the main adaptation strategy explored in the Savannakhet province of Lao PDR, where using a direct seeder results in much faster planting, reduced exposure to early season drought, and reduced labour and costs. The estimated gains compared with traditional transplanted rice are \$150 (USD) per hectare.

Strategic and Policy Benefits

From local to national levels, the project has instilled a more strategic approach to assessing climate risks and building capacity to implement adaptation plans. Farmers participating in discussions provided important information about how households cultivate rice and the labour shortages they face. The projects hope to increase local capacity to observe, interpret and act on weather observations. Research also tested a policy and planning tool, *Impredicative Loop Analysis*, which



A farmer direct seeding rice into a dry soil, using the modified seeder built in Savannakhet by the Savannakhet Provincial Agriculture and Forestry Office

compares the relationships and trade-offs between key social and biophysical aspects of climate adaptation. Social and demographic characteristics of farmers are compared to their farming economic situation (e.g. land quality and availability of family labour) to determine whether they can maintain a viable farming system or seek other employment options to exit from farming.

Dr Roth sees gradual implementation as key to continuing success. 'A key message from ACIAR's climate change adaptation work is that incremental adaptation, such as better varieties, good rice agronomy, improved nutrient management, tailored farm practices, and access to information are likely to buffer communities from detrimental impacts of climate changes predicted by 2030. Research and policy efforts aimed at improving rice productivity will most likely be sufficient to achieve this'.

By: Dr Christian ROTH and David GARDINER

Source stories and photos: Karen de Plater, Outreach and Capacity Building, ACIAR



Centre for Agriculture and Biosciences International (CABI)

Exploring structure and tree-damaging termites in the tropics

CABI scientists have held a three-day workshop exploring how to diagnose and manage termites associated with structures and trees in the tropics. The workshop, held at CABI's South East Asia (SEA) office in Malaysia, highlighted termites as ecologically important

insects with significant roles to play as decomposers but also as pests that can cause major damage to trees and buildings.



Participants of the three-day workshop

CABI to help reduce loss in the cotton industry in India

CABI is helping Pakistan's cotton industry to reduce losses of around \$350m a year due to poor production, transport and storage practices by training thousands of farmers and workers as part of the Better Cotton Initiative. Cotton is Pakistan's largest industrial sector and has played an important role in the economic development of the country and remains a key livelihood source for more than one million farmers.

However, the misuse of pesticides and water, the inappropriate use of chemical fertilizers, transportation and storage problems as well as gaps in knowledge and skills have resulted the loss of about 10-15 per cent annual value to the industry.



Cotton farmers in Pakistan

Funded by the Better Cotton Initiative's Growth & Innovation Fund and working with a range of partners including the Government of Sindh Agricultural Research Department, CABI has trained more than 22,000 farmers and 35,000 farm workers (males and female) on ways of practicing Better Cotton production principles and criteria on 90,000 hectares of cotton crop from where nearly 96,000 metric tonnes of Better Cotton lint is produced.

In addition, CABI has enhanced the capacity of 840

medium-sized farmers to implement the Better Cotton Standard System with a focus on protecting crops from harmful pests and diseases and to conserve the natural habitats on the farms. 18,000 women workers have also been trained on proper cotton picking, health and safety, female empowerment and the prevention of child labour. Rauf Ahmad Khan Laghari, Project Manager at CABI's Pakistan office, said, "We have been trying to instill good agricultural practices on farmers that will help them conserve limited resources and produce Better Cotton as a sustainable mainstream commodity.

According to her "It is hoped that through ongoing engagement with the Better Cotton Initiative we will encourage proper cotton picking to avoid contamination, better storage and transportation to markets and ginning mills where it is processed and thereby enable farmers to adopt a decent work strategy." Moving forward, the wish is that the Better Cotton Initiative strategies will be implemented on a country-wide basis and reach out to more than 500,000 farmers who rely on cotton crop for their livelihoods.

Mr Laghari added, that "We also need to encourage the use of biological control for pests and diseases through 'Natural Enemy Field Reservoirs' as well as increasing the fertility of soil by using compost and undertaking soil analysis and 'nutrient scouting' to apply the right nutrients. He further said that "We aim to extend our work in existing areas to achieve 'saturation' and to expand our work in Sindh and hopefully beyond."

CABI shares its expertise at the International Master Class in Plant Biosecurity in Indonesia

CABI has shared expertise in biosecurity and its links to food security, trade and market access at the International Master Class (IMC) in Plant Biosecurity held in Denpasar, Bali, Indonesia on 19 April 2018. Muhammad Faheem, Integrated Crop Management Advisor based at CABI's Malaysia office, delivered the one-day course at the event where the Bilateral Plant Biosecurity Initiative (BPBI) between Indonesia and Australia pointed out the need for greater training and awareness of the national, regional and global challenges of biosecurity and to build capacity to meet biosecurity needs.

The IMC in Plant Biosecurity, which was co-funded by the Crawford Fund and the Plant Biosecurity Cooperative Research Centre (PBCRC) and hosted by the University Mahasaraswati Denpasar, Bali, brought together 30 additional Indonesian participating

organisations that represented a significant contribution to meeting biosecurity needs in Indonesia. CABI provided in-kind resource support for the event.

Mr Faheem highlighted CABI's different global initiatives. While understanding aspects of biosecurity, the course also taught how components of food security and various forms of food insecurity are directly impacted by bio-risks, thus reiterating the importance of biosecurity for food security. Two other CABI projects and experiences— the industry biosecurity plan for Malaysian oil palm and the Australia-Africa plant biosecurity partnership were shared with participants

Twenty-six participants from the Indonesian economy were also taught the concepts of trade and market access, and how it relates with the risks of biosecurity. Mr Faheem said, “By breaking down the barriers in agricultural trade, we can get safer, quality produce from farmers to consumers”. The participants were briefed on tariff and non-tariff barriers to market access and measures to address the technical barriers for better trade and market access. The Plantwise programme that addresses the food security by reducing crop losses was used as case study during the course.

Source stories and photos: Rachel Winks, PR and Social Media, CABI



Plate 2: On Farm Field Visits by Farmers



Plate 3: A happy woman Lentil farmer



Plate 4: Large participation in Field days

International Center for Agricultural Research in the Dry Areas (ICARDA)

Pulses in Rice Fallows: IFAD-ICARDA Collaboration improves farmers' livelihoods



Plate 1: Technology Training to Farmers

An IFAD-ICARDA collaborative project “Enhancing food and nutritional security and improved livelihoods through intensification of rice-fallow system with pulse crop in South Asia (Bangladesh, India and Nepal)” is under implementation in 17 districts of three South Asian countries: India, Nepal and Bangladesh with a 4-year plan (2016-17 to 2019-20).

The project established a sustainable integrated pulse production system in rice fallows which increased cropping intensity with enhanced production of pulses and increased per unit farm income. Improved production technologies and appropriate varieties of Lentil, Grasspea, Mungbean, Blackgram and Chickpea were introduced in the fallow lands after rice harvest

where nothing is being grown. This provided extra-production and improved food and nutritional security. This ensured additional farm income and improved livelihoods of the farmers.

Source stories and photos: Ashutosh Sarker, Coordinator for South Asia & China Regional Program & Food legume Breeder, ICARDA



International Food Policy Research Institute (IFPRI)

Policy Dialogue on Innovations in Ensuring Remunerative Prices (MSP) to Farmers: Challenges and Strategies

In the backdrop of recent announcement by the government of India to fix the new minimum support price, the International Food Policy Research Institute (IFPRI), jointly with the National Academy of Agricultural Sciences (NAAS), and the Indian Council of Agricultural Research-National Institute of Agricultural Economics and Policy Research (ICAR-NIAP) organised a policy dialogue on remunerative prices to farmers. The dialogue was attended by more than 130 eminent economists, agriculture scientists, policy makers, development actors and field experts.



Participants of the policy dialogue

During the event, Rajiv Kumar, the chief guest, noted that addressing farm distress with the right policies is a priority for the Indian government. Panelists included Trilochan Mohapatra, secretary, Department of Agricultural Research and Education (DARE) and director general, Indian Council of Agricultural Research (ICAR), Mahendra Dev, director and vice chancellor, Indira Gandhi Institute of Development Research (IGIDR), Purvi Mehta-Bhatt, senior adviser and head of agriculture for South Asia, Bill & Melinda Gates Foundation (BMGF) India, Shenggen Fan, director-

general, IFPRI and PK Joshi, director, IFPRI-South Asia. Deliberations were held around four major themes - the announced MSP, market instruments to ensure remunerative prices, institutional arrangements and collective action for ensuring remunerative prices. The dialogue helped in discussing the major challenges in improving farmers' income and charting out a way forward for ensuring remunerative prices to the farmers. Some of the recommendations made by the panelists include:

- A strong network of collection centers for procurement of agricultural commodities at MSPs.
- A deficiency price model to compensate farmers when Farm Harvest Prices (FHPs) fall below MSPs.
- Engaging the private sector with appropriate and transparent mechanisms to check leakages.
- Reducing market inefficiencies- consumers are already paying much higher prices than the MSP, institutional reforms needed to shorten supply chains so that farmers get a larger share in retail prices.
- Strengthening existing institutions, like FPOs, contract farming, cooperatives, and SHGs to help in aggregating farmers' produce to reduce transactions costs and access remunerative markets.
- A significant investment in agri-infrastructure to make markets accessible to the farmers.
- A universal price policy will not solve the problem of price volatility-need to classify commodities according to their status such as commodities required for the social safety net program (e.g., rice and wheat), surplus but not needed by the government (e.g., maize, coarse cereals), deficit commodities but available in the global markets (e.g., edible oil), deficit commodities and not available in the global markets (e.g., pulses), perishable commodities (e.g., fruits and vegetables) etc. For each group, a different price and trade policy will be needed.

The dialogue concluded with the view that in the short-run, a higher MSP will be important in raising farmers' income, but price-driven growth may not be sustainable in the long-run. In the future, technology will play a key role in driving farmers' incomes. As such in the long-run efforts would be needed to improve efficiency and reduce cost through technologies. Technology-led income growth will make agriculture more efficient, competitive and sustainable.

Source stories and photos: Drew Sample, Senior Media Relations Specialist, IFPRI



International Rice Research Institute (IRRI)

IRRI, BASF develop herbicide-tolerant rice



Two farmers are inspecting crops with the Provisia gene planted to a field in Italy. These plants have a herbicide-tolerance which allows farmers to efficiently manage weed growth in the field.

The International Rice Research Institute (IRRI) and BASF will develop cytoplasmic male sterile (CMS) and restorer lines with the non-GM Provisia™ trait for herbicide tolerance. The system was developed by BASF and is currently being introduced to IRRI parental lines through rapid generation advancement scheme.

In Asia, the high labor costs required in transplanting crops and problems in water scarcity lead farmers to cultivate direct-seeded rice instead of transplanted rice. Direct-seeded crops require less labor, less water input, and tend to mature faster than transplanted crops. When direct seeding is adopted, plants are not subjected to the stresses caused by transplanting.

However, weeds are the primary biological constraint in direct-seeded rice systems. In this context, the Provisia™ System, in combination with the Clearfield® System, is a valuable tool not only to reduce water and labor inputs, but also to deliver selective weed control in rice fields.

The Provisia™ System provides selective post-emergence control of a wide range of broadleaf weeds and grasses that negatively affect the proper development of crops. It also prevents herbicide resistance evolution in the field. Together with the Clearfield® System which significantly improves rice production and quality, herbicide-resistant weeds can be properly managed towards more sustainable rice

production fields. The Environmental Protection Agency (EPA), in the United States, has recently recognized the safety of the Provisia™ System for 2018.

According to Dr. Jauhar Ali, a hybrid rice breeder at IRRI and coordinator of the Hybrid Rice Development Consortium (HRDC), the breeding process will take 27 months. Once the rice lines with Provisia™ are developed, a license will be secured from BASF and outputs will be shared with HRDC members.

IRRI-HRDC convenes both private and public organizations to work together to catalyze impact in rice production through advanced hybrid rice technology. The consortium provides a sustainable platform for sharing innovation, information, and access to germplasm. For more information, please visit <http://hrdc.irri.org>.

Source stories and photos: Kris Jovet F. Garcia, Stakeholders Relations- Communication Unit (IRRI)



The World Vegetable Centre

WorldVeg inaugurates 360 million-dollar projects in India

The Jharkhand Opportunities for Harnessing Rural Growth (JOHAR) and Assam Agribusiness and Rural Transformation (APART) projects were inaugurated in March 2018. Both projects aim to improve the livelihoods of 700,000 farmers in Jharkhand and Assam which are two of India's poorest states. The two projects will seek broad-based transformation of the agricultural sector in Jharkhand and Assam and they both fall in line with the Indian central government's goal of doubling farmer incomes by 2022.

Participants at the inception workshop for the JOHAR project on 13-14 March 2018 drew up the first year's work program while the signing of the contract for the APART project on 16 March brought together all the implementing partners for the first time.

WorldVeg will provide the main technical support for the JOHAR Project which will focus on training the staff of the implementing agency to train farmers to improve production of six targeted vegetable crops in the summer rainy season. With a budget of \$100 million, the project has the goal of benefiting 65,000 farmers in the first year.



WorldVeg Regional Director Warwick Easdown (right) Dr. Siddharth Singh (left), APART State Project Director, in the presence of the Honorable Atul Bora, Minister of Agriculture, Assam during the signing ceremony

“Vegetable production is seen to be the best way out of poverty for smallholders in India, and now the whole country is doing the same,” said World Bank representative Raj Shekar, in his address to workshop attendees. He emphasized the importance of improving both the quality and quantity of vegetable production to be able to compete in the national market.

The Assam Agribusiness and Rural Transformation (APART) Project, worth \$260 million, aims at broad-based transformation of the agricultural sector in this impoverished northeast state.

In addition to WorldVeg, technical agricultural support is provided by five other international centers including International Rice Research Institute (IRRI), International Livestock Research Institute (ILRI), WorldFish, the International Potato Center (CIP) and Wageningen University. Their role is to strengthen Assam government institutions to better support long-term economic growth for farmers. WorldVeg will focus on improving the production of five winter-growing vegetables and three legume crops.

WorldVeg South Asia Regional Director Warwick Easdown said that both projects would give a major boost to the training work of WorldVeg, and will require the appointment of 17 new staff. Activity will focus on improving the quality and availability of vegetable seeds and seedlings, and promoting climate resilient Good Agricultural Practices—especially integrated pest management (IPM). The JOHAR project will also promote improved postharvest practices, including the implementation of solar dryers and model packhouses.

Maureen Mecozzi, Head, Communications & Information, (WorldVeg)

FARA-APAARI Sign Partnership Agreement

ON the margin of the Executive Committee Meeting of 2018 and the Regional Expert Consultation on Agricultural Biotechnology held in Bangkok, Thailand 28-31 May 2018, the Asia Pacific Association for Agricultural Research Institutes (APAARI) and the Forum for Agricultural Research in Africa (FARA) have signed a Partnership Agreement. The signing ceremony was solemnized before the Chairman APAARI (Dr Yusuf Zafar, Director General, Pakistan Agricultural Research Council) and the high-level officials from the Ministries and the National Agricultural Research Systems of various countries of Asia and Pacific. Also present were representatives from USAID, ICRISAT, IRRI, International Centre for Genetic Engineering and Biotechnology and others.



Dr Ravi Khetarpal, Executive Secretary and Dr Yemi Akinbami of FARA signing the agreement

According to the principles of the two regional fora, the signing of the agreement by the principals of both secretariats comes on the heels of implementation of South-South framework that opens the two regions to mutually beneficial growth opportunities. It is also noteworthy that the Partnership Agreement will allow growth options between the two regions that hitherto remain largely unexploited. The agreement will also consolidate the two geopolitical regions as the largest global alliance of the most food and nutrition-challenged vulnerable people that are now repositioned to explore new prospects that are expected to be a game-changing collaborative framework across the two regional fora.

An initial discussion between FARA and APAARI identified the need for partnership to address issues of mutual interest confronting the agricultural sector in the two continents. This discussion has led to the drafting of a Partnership Agreement that sets the scope of the operationalization frame to work together and foster synergistic actions and partnerships.

The partnership will inter alia focus on i) Exchange of knowledge and expertise on agricultural research, ii) innovation and development, iii) joint scoping for regional and inter-regional projects on research and innovation, capacity development and policy advocacy with a special focus on women, youth and agribusiness. It is hoped by the two principals – Dr Yemi Akinbamijo and Dr Ravi Khetarpal of FARA and APAARI respectively, that the signing of the Agreement and its eventual operationalization would expedite achieving the Sustainable Development Goals in two important continents of the world which have much to share and synergize.



Call for applicants: The Crawford Fund Master Class in Agricultural Research Leadership and Management

The 3rd Master Class in Agricultural Research Leadership and Management" course will be held from 4 to 9 November 2018, in Penang, Malaysia. The Crawford Fund, in conjunction with ACIAR (Australian Centre for International Agricultural Research) is calling for applications for this five-and-a-half-day program. The Master Class introduces the skills and practices required to manage and lead successful R&D and extension programs for agricultural research systems that globally support the development needs of countries. APAARI has nominated ten participants from ten countries, namely, Mr. Wangda Dukpa, Bhutan; Dr. Ashok K. Singh, India; Dr. Arzhang Javadi, Iran; Mr. Tulasi Prasad Paudel, Nepal; Dr. Sergie Kopen Bang, Papua New Guinea; Dr. Muhammad Shakeel, Pakistan; Dr Mrs Samantha K Wasala, Sri Lanka; Dr. Pham Thi Xuan, Vietnam; Dr. Nimfa K. Torreta, Philippines, and Ms. Kanokros Thongsukdee, Thailand.



NEW APPOINTMENTS

Dr. Vitthal I. Benagi Vice-Chancellor and Director of Education and Research of UAS

Dr. Vitthal I. Benagi is currently the Vice-Chancellor and Director of Education and Research at the University Agricultural Sciences, Dharwad, since 31 March 2018. He has 35 years of experience with an M.Sc in Agriculture and PhD in FPSI.



Prior to his appointment, he was the Director of Extension He also served as Dean and Head of Plant Pathology. As a previous Associate Director of Extension, he worked as ZARS-KVK head and handled NATP-IPM projects for 4 years and disseminated IPM technologies. He also popularized vermicompost technology.

Permanent Secretary for Agriculture - Mr. David Kolitagane



Mr. Kolitagane joined the Ministry of Agriculture as its Permanent Secretary in January 2018. He is also the Permanent Secretary for Infrastructure and Transport. He spent 17 years in Fiji's Ministry of Finance Finance [now known as the Ministry of Economy] as a Chief

Economist and later appointed as Deputy Secretary for Economy. He joined the Ministry of Public Enterprise as its Permanent Secretary in 2016. He brings with him a very wide and rich professional training and experiences in economics, finance and investment both locally and overseas. He was a Senior Advisor to Executive Director (South-East Asia – Group) World Bank for two years ending in 2014. Mr. Kolitagane is also a board director in various government statutory bodies and private enterprises.



NEW APAARI STAFF

Tarathip Sanboonkrong as Project and Administrative Assistant

Ms. Tarathip Sanboonkrong is Project and Administrative Assistant from 1 January 2018. She is assisting the Secretariat in administrative, financial and other operational activities. Ms. Sanboonkrong holds a Bachelor's degree in Technology Aviation



Programme from Suranaree University of Technology in Nakhon Ratchasima, Thailand. She also supports APAARI's existing and new projects in organizing meetings and workshops.

Fai Collins Dzernyuy joins as the new Knowledge Management Coordinator



Fai Collins joined APAARI on 14 January 2018 as Knowledge Management Coordinator. He was formerly regional Communications Officer for Central Africa at the Center for International Forestry Research-CIFOR. He holds an M Phil in

Anthropology of Development and a Masters Degree in Communication Sciences. He has equally worked as Journalist and trainer at the United Nations radio in Haiti and Cameroon.

Geraldine Nemrod joins as Technical Associate

Geraldine Nemrod joined APAARI on 5 February 2018 as part-time technical associate for the APCoAB program. She designs and proofreads documents and presentations, updates the APCoAB website, assists in events and project organization.



Ms Nemrod holds a Master degree in Plant Biotechnology from Paul Sabatier University, Toulouse, France. She worked for the Institute of Research for Development (France) at Mahidol University. She is also co-founder and current director at Khlong Toey Music Program, an after-school program that teaches music, English and visual arts for free to the underprivileged children of the Khlong Toey community in Thailand.

Lorene Siegwart joins as Intern, APAARI

Ms. Lorene Siegwart joined APAARI on 2nd of April 2018 as Intern for four months. She is working on a preliminary need assessment on sustainable management of natural resources (soil and water) in the Small Islands Developing Countries in the Pacific: highlight of existing gaps in ongoing projects. Ms. Siegwart is from the National Institute of Further Education in Agricultural Science, Montpellier Supagro, France.



FORTHCOMING EVENTS

- Advances in Salinity and Sodicity Management Under Different Agro-Climatic Regions for enhancing Farmers Income, Karnal, Haryana, India, 4-24 September 2018, ICAR
- Training Workshop on Plant Tissue Culture Techniques, Suwon, Korea, 10-14 September 2018, APAFRI
- International Training Course on the Biology and International Training Course on the Biology and 10-21 September 2018, Biotec-NSTDA, Mahidol University
- Geoinformatics application in agriculture and resilience, Cairo, Egypt, 16 September- 4 October 2018, ICARDA
- National Workshop on Yogic Farming, Organic Farming & Zero Budget Natural Farming, Gujarat, India, 17- 18 September 2018, Prajapita Brahma Kumari Ishwariya Vishwa Vidyalyaya, Anand Agricultural University
- Winter School on Current and Emerging Trends for Conservation and Sustainable Utilization of Forest Genetic Resources at College of Forestry, Gujarat, India, 22 September- 14 October 2018, NAU
- 15th Solanaceae Conference (SOL 2018), Chiang Mai, Thailand, 30 September- 4 October 2018, East-West Seed Group, Chiang Mai University, APSA
- CGIAR Platform for Big Data in Agriculture Convention, World Agroforestry Centre, Nairobi, Kenya, 3-5 October 2018, CIAT, IFPRI
- 13th Asian Maize Conference and Expert Consultation, Ludhiana, India, 8-10 October 2018, ICAR-CIMMYT
- Earth Observation and Climate Services for Food Security and Agricultural Decision Making in South and Southeast Asia, Kathmandu, Nepal, 8-10 October 2018, CIMOD
- International Conference on Tropical Biodiversity 2018, Malaysia, 8-10 October 2018, Bioversity International
- The 3rd International Agriculture Innovation Conference (IAIC 2018), Beijing, China, 12-13 October 2018, IAAS
- 5th International Rice Congress, Marina Bay Sands, Singapore, 14-17 October 2018, IRRI
- KM workshop with focal points on Knowledge Sharing Strategies, Vientiane, Lao-PDR, 18-19 October 2018, APAARI
- Gateway for sustainable intensification of

- Smallholder System, Ludhiana/Karnal, India, 22 October- 3 November 2018, CIMMYT-BISA
- Veterinary Pathology Congress- 2018, Gujarat, India, 22-24 October 2018, SDAU
- Asia-Pacific Forest Invasive Species Network (APFISN) Training Workshop; Developing skills in forest protection: an integrated approach, Beijing, China, 23-27 October 2018, APAFRI
- ICUA 2018 on Green Energy for Sustainable Development, Phuket, Thailand, 24-26 October 2018, AIT



NEW APAARI MEMBER

Associate

IAAS- International Association for Agricultural Sustainability

Affiliate

MU- Mahidol University

Reciprocal

TAAS- Trust for Advancement of Agricultural Sciences

HLAF- Human Life Advancement Foundation



EXECUTIVE COMMITTEE

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Chairman, PARC, Pakistan

Vice Chairman

Dr. Sergie Bang
Director-General, NARI, PNG

Members

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Director-General, DoA, Thailand

Mr. Vincent Lin Deputy Director-General, Dept. of International Affairs, COA, Taiwan

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Director-General, NARC, Nepal

Mr. David Hunter
CEO, MAF, Samoa

Dr. Marco Wopereis
Director-General, World Vegetable Centre, Taiwan

Dr. N.C. Patel
President, AAU, India

Dr. Mark Holderness
Executive Secretary, GFAR, Italy

Dr. Barbara Wells
Director-General, CIP, Peru

Farmers Association* NGO* Private Sector*

Member Secretary

Dr. Ravi Khetarpal
Executive Secretary, APAARI

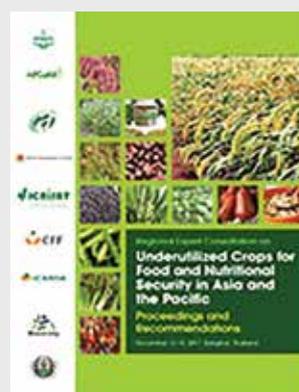
* To be decided by the Executive Committee

NEW APAARI PUBLICATIONS



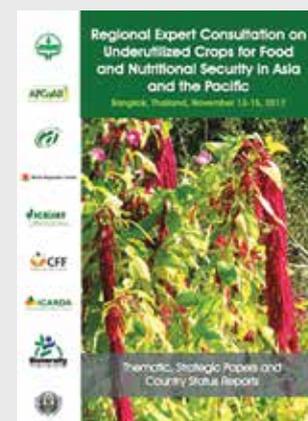
APAARI
General Flyer

APAARI
Membership Flyer



Regional Expert
Consultation on
Underutilized Crops for
Food and Nutritional
Security in Asia and the
Pacific - Proceedings and
Recommendations

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Food and Nutritional
Security in Asia and the
Pacific - Thematic, Strategic
Papers and Country Status
Report



APAARI acknowledges the partnership and support of all the members and stakeholders



All queries relating to APAARI Newsletter be addressed to:

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