











of Agricultural Research Institutions

International Maize and Wheat Improvement Center

Organization of the United Nations

# 12th Asian **Maize Conference**

# and Expert Consultation

Maize for Food, Feed, Nutrition and **Environmental Security** 





30 October - 1 November 2014 Rama Gardens Hotel Bangkok, Thailand

























# 12<sup>th</sup> Asian Maize Conference and Expert Consultation on "Maize for Food, Feed, Nutrition and Environmental Security"

# Rama Gardens Hotel, Bangkok, Thailand 30 October – 1 November, 2014

#### **Preamble**

Around the world, maize is a major food, feed and industrial crop. In addition, maize is a major food security crop in several developing countries. The area, production and yield of maize have increased several-fold over the last 50 years; much of that growth has occurred in the developing world. In Asia, maize has recorded the fastest annual growth (around 4 per cent), as compared to other cereals. Despite increased production, increasing and competing demands (food, feed, industry) imply continued need to invest in maize research for development (R4D). The demand for maize is expected to double by 2050, which implies further need to increase productivity significantly. At the same time, 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 production-related inputs, lack of training and knowledge transfer for the resource-poor farmers, and abiotic and biotic stresses, the magnitude and dynamics of which are rapidly increasing under climate change.

Several factors are critical to effectively meet the present and future demand for maize in Asia. These include: integrating novel breeding techniques for improved genetic gains (especially under stress-prone environments); accelerating the development and deployment of high-yielding and climate-resilient maize; strengthening the maize seed sector and access to quality seed through public-private partnerships (PPPs); introducing precision-conservation agriculture and climate smart practices for sustainable intensification of maize-based cropping systems; empowering local stakeholders through cutting-edge technologies; and implementing innovative policies for stronger maize value chains and services for client communities.

Maize's importance in Asia's cropping systems has grown rapidly in recent years, with several countries registering impressive growth in production and productivity rates. There is scope for further expansion of maize area in the region, as well as tremendous opportunities for innovations in crop improvement, management and diversification. International and national institutions engaged in maize research and development are also emphasizing foresight, technology targeting, partnerships involving all stakeholders and capacity development to effectively out-scale innovations for greater impact. Innovations include single cross maize hybrids, quality protein maize (QPM), genetically modified (GM) maize, conservation agriculture (CA), small farm mechanization, transplanted maize, winter and spring maize area development, baby corn, sweet corn and biofuel production.

As Asia's agribusiness and food processing industries and economies continue to grow, the opportunities for the use of maize as food, feed, fodder and in industry will also 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 both from the research and development viewpoints. Beyond the need for conducive policy support/environment, what is needed most is greater investments on maize R4D in the region to harness the opportunities. There also are specific issues concerning the Asian maize industry that require urgent attention in order to harness the emerging opportunities. Also, the CGIAR Research Program (CRP) on Maize ("Global Alliance for Improving Food Security and the Livelihoods of the Resource-Poor in the Developing World") offers options to catalyze stakeholders in the region to outscale innovations in maize-based cropping systems by building new PPPs. The 12th Asian Conference and Expert Consultation on Maize will bring together the key Asian maize partners to discuss the

current status, future opportunities and challenges for enhancing food, feed, nutrition and environmental security in Asia.

#### Goal

Enhancing food, feed, nutrition and environmental security in Asia

# **Objectives**

- To assess the regional priorities and niches for enhancing maize production and productivity
- To share experiences and latest information/knowledge on cutting-edge maize technologies among the maize research and development community
- To create general awareness and provide a platform for synergies among institutions and stakeholders for better use of maize as food, feed and industrial crop in Asia
- To develop an innovative and impact-oriented regional strategy and road map through access to and accelerated adoption of resilient technologies, market opportunities, networks, investment priorities, and policy guidelines

# **Expected Outputs**

- National and regional priorities for enhancing maize production and productivity identified
- Experiences and knowledge on innovations relating to sustainable maize production and utilization shared among diverse stakeholders
- Awareness created for promoting the use of maize for diverse purposes
- Synergies and convergence opportunities among maize R4D stakeholders in Asia identified
- A regional maize strategy for sustainable food and nutritional security in Asia developed

# **Organizers**

- Asia-Pacific Association of Agricultural Research Institutions (APAARI)
- International Maize and Wheat Improvement Center (CIMMYT)
- Food and Agriculture Organization of the United Nations (FAO RAP)
- Department of Agriculture (DoA), Thailand

#### **Co-Sponsors**

- CGIAR Research Program on MAIZE
- United States Agency for International Development (USAID)
- Monsanto
- Syngenta Foundation for Sustainable Agriculture
- Maharashtra Hybrid Seeds Company (Mahyco)
- Bioseed
- International Plant Nutrition Institute (IPNI)
- DuPont Pioneer
- Rasi Seeds

# **Participants**

The participants will include researchers, policy makers, service providers, innovative farmers and representatives of various organizations including NARS institutions, private sector, international agricultural research centres and advanced research institutions, non-governmental organizations, foundations and funding agencies, involved in maize breeding, biotechnology, production management, seed systems, and value chains. About 250 participants are expected to attend this important Conference and Expert Consultation.

## Language

The official language of the Conference will be English.

## **Registration**

All participants are required to register in advance by submitting the duly-filled Registration Form to the Conference Secretariat (<a href="mailto:amc.apaari@gmail.com">amc.apaari@gmail.com</a>) with copy to Ms. Urairat, Administrative Associate, APAARI (<a href="mailto:urairat@apaari.org">urairat@apaari.org</a>) latest by 30 September 2014.

#### Registration Fee (applicable only for self-sponsored participants)

•	Amount :	US\$ 500
•	Mode of Payment :	Cash
		Wire Transfer to APAARI Bank A/c No. 003-200031-0-840
		Siam Commercial Bank, Banglumphu Branch,

#### **Travel and Accommodation**

A block booking for the accommodation for the delegates has been made at Rama Gardens Hotel, Bangkok (<a href="https://www.ramagardenshotel.com">www.ramagardenshotel.com</a>). The room rates (including breakfast and internet service) are:

Superior (Main Wing) : Single 1,800 Baht/room/night

Twin 2,000 Baht/room/night

Bangkok 10200, Thailand (Swift code: SICOTHBK)

Executive Deluxe (New Wing) : Single 2,500 Baht/room/night

Twin 2,900 Baht/room/night

Detailed guidelines regarding travel, visa, accommodation, etc. have been sent to all the interested participants/invitees who are either fully sponsored, or partially sponsored, or self-sponsored. For Thailand visa, foreign delegates may contact the Thailand Embassy/High Commission in their respective countries; Thailand issues visa on arrival for nationals of some countries (please check the information on relevant website). If required, a formal letter of invitation will be sent by the Organizers to the registered delegates for the purpose of applying for Thailand visa. Registered participants must send their travel plan in advance to the Conference Secretariat (amc.apaari@gmail.com) with a copy to Ms. Urairat, Administrative Associate, APAARI (urairat@apaari.org).

## **Important Dates**

Submission of Registration Form : 30 September 2014
 Submission of Travel Information : 15 October 2014

# **Organizing Committee**

Chair : Dr. Raj Paroda, Executive Secretary, APAARI

Email: <a href="mailto:raj.paroda@gmail.com">raj.paroda@gmail.com</a>

**Co-Chair** : Dr. Thomas Lumpkin, DG, CIMMYT

Email: t.lumpkin@cgiar.org

Members : Dr Hiroyuki Konuma, ADG, FAO RAP

Email: Hiroyuki.Konuma@fao.org

: Dr. Dumrong Jirasutas, DG, DoA-Thailand

Email: j.dumrong@hotmail.com

Member-Secretary: Dr. B.M. Prasanna, Director, Global Maize Program, CIMMYT

Email: b.m.prasanna@cgiar.org

# **Program Committee**

Chair : Dr. B.M. Prasanna, Director, Global Maize Program, CIMMYT

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Members : Dr. Bhag Mal, Consultant, APAARI

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Dr. Subash Dasgupta, Senior Plant Production Officer, FAO RAP

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: Dr ML Jat, Cropping System Agronomist, CIMMYT

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# 12<sup>th</sup> Asian Maize Conference and Expert Consultation on "Maize for Food, Feed, Nutrition and Environmental Security"

# Rama Gardens Hotel, Bangkok, Thailand

30 October – 1 November, 2014

### **TENTATIVE PROGRAM**

# Day 1: 30 October, 2014

08:45 - 10:00	Opening Session
08:45 – 08:55 08:55 – 09:10	Welcome – DG, DOA-Thailand Introductory Remarks – Raj Paroda (Executive Secretary, APAARI)
09:10 – 09:25 09:25 – 09:35	Introduction of the Theme – Thomas Lumpkin (DG, CIMMYT) Chairman's Remarks – Simon Hearn (Chairman, APAARI)
09:35 – 09:55 09:55 – 10:00	Address by Chief Guest – Hiroyuki Konuma (ADG, FAO RAP) Vote of thanks – BM Prasanna (Director, Global Maize Program, CIMMYT)
10:00 – 10:30	Group Photograph & Tea/Coffee break
10:30 – 11:40	Plenary Session 1
Co-Chairs:	Nick Austin (ACIAR, Australia) Thomas Lumpkin (CIMMYT)
Keynote Lectur	es:
10:30 – 10:55	Global maize R4D scenario: Challenges and opportunities in Asia

10:30 – 10:55	Global maize R4D scenario: Challenges and opportunities in Asia – BM Prasanna (CIMMYT)
10:55 – 11:20	Maize in Asia: Drivers of change – Subash Dasgupta (FAO RAP)
11:20 - 11:40	General discussion and concluding remarks by Co-Chairs

# 11:40 - 13:00 Plenary Session 2

Panel Discussion: "Doubling Asia's maize production in the next decade"

Moderator: Raj Paroda (APAARI)

#### Panelists:

- 1. Iftikhar Ahmad (PARC, Pakistan)
- 2. Edwin C. Villar (PCAARRD, Philippines)
- 3. Xinhai Li (CAAS, China)
- 4. BS Dhillon (PAU, India)
- 5. Dil Bahadur Gurung (NARC, Nepal)
- 6. Marianne Banziger (CIMMYT, Mexico)

#### 13:00 – 14:00 Lunch break

#### 14:00 – 16:00 Parallel Technical Sessions

## Technical Session 1: Enhancing genetic gains in maize breeding

Co-Chairs:	Swapan K. Datta (ICAR, India)
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Suwit Chaikeattiyod (DOA, Thailand)

#### **Keynote Lectures:**

14:00 – 14:25	Advances in maize crop improvement: Monsanto pipeline – Mike Graham (Monsanto, USA)
14:25 – 14:50	Genetic gains in maize breeding in China: Experience and lessons – Shihuang Zhang (CAAS, China)
Speakers:	
14:50 – 15:10	High throughput and precision phenotyping for improving abiotic stress resilience of maize – Jose Luis Araus (Univ. of Barcelona, Spain)
15:10 – 15:30	Strategies for germplasm enhancement of maize – Walter Trevisan (GEM Program, USA)

15:30 – 15:50 Seeds of Discovery: Characterizing and utilizing maize genetic resources for

germplasm diversification – Kevin Pixley (CIMMYT, Mexico)

15:50 – 16:00 General discussion and concluding remarks by Co-Chairs

# Technical Session 2: Maize for fodder/feed, specialty corn, value-addition and processing

Co-Chairs: Eskandar Zand (AREEO, Iran) Sergie Bang (NARI, PNG)

# **Keynote Lecture:**

14:00 - 14:25 Maize for feed and fodder security in Asian Countries, with special reference to India – A.K. Srivastava (NDRI, India)

#### Speakers:

14:25 – 14:45	The rapid growth of the poultry industry in Asia: Implications for research and development – Christian Boeber (CIMMYT, India)
14:45 – 15:05	The fodder value of maize stover vis-à-vis other cereals residues and

opportunities for improvement through crop breeding and value addition -

Michael Blummel (ILRI)

15:05 – 15:20	Breeding purple waxy corn for health and wellbeing – Kamol Lertart (KKU, Thailand)
15:20 – 15:35	Development and commercialization of value-added food products of Quality Protein Maize for nutrition security – Usha Singh (RAU, India)
15:35 – 15:50	Effect of extrusion technology on texture properties of corn starch – Jingsheng Liu (JAU, China)
15:50 – 16:00	General discussion and concluding remarks by Co-Chairs

# 16:00 – 16:30 Tea/Coffee break

# 16:30 – 18:15 Parallel Technical Sessions

# Technical Session 3: Stress resilient maize for Asia

Co-Chairs: Ropate Ligairi (DoA, Fiji)

Md Rafiqul Islam Mondal (BARI, Bangladesh)

# **Keynote Lecture:**

16:30 – 16:55 Abiotic stress resilient maize for adaptation to climate change in the Asian tropics – PH Zaidi (CIMMYT, India)

# **Speakers:**

16:55 – 17:10	Multi-trait selection index for excess water tolerance in maize at seedling stage – M Shalim Uddin (BARI, Bangladesh)
17:10 – 17:25	Understanding of <i>Curvularia lunata</i> pathogenicity differentiation induced by resistance varieties – Jie Chen (SJU, China)
17:25 – 17:40	Effect of Maize Dwarf Mosaic inoculating at various growth stages on yield of Nakhon Sawan 3 – Siwilai Lapbanjob (NSFCRC, Thailand)
17:40 – 17:55	Temporal variation of stem borer damage in maize at Chitwan, Nepal – Buddhi B Achhami (NMRP, Nepal)
17:55 – 18:10	Genetic analyses of resistance to stored grain weevil ( <i>Sitophilus oryzae</i> L.) in maize – Rajkumar Zunjare (IARI, India)
18:10 – 18:15	General discussion and concluding remarks by Co-Chairs

# Technical Session 4: Socioeconomics and innovative policies for enhanced maize production and impacts

Co-Chairs: Raghunath Ghodake (NARI, PNG)

Prabath Wimal Kumara (SLCARP, Sri Lanka)

#### **Keynote Lecture:**

16:30 – 16:55 Policy frameworks for effective innovation, dissemination and adoption of maize technologies in Asia – Katinka Weinberger (CAPSA, Indonesia)

# **Speakers:**

16:55 – 17:15	Scaling maize innovations in a changing Asia – Olaf Erenstein (CIMMYT)
17:15 – 17:35	Assessments of the maize situation, outlook and investment opportunities in Asia – K Srinivas (NAARM, India)
17:35 – 17:50	Competitiveness of maize production in Pakistan – Hassnain Shah (NARC, Pakistan)
17:50 – 18:05	Maize production in Bangladesh: way towards self-sufficiency – Monayam Miah (BARI, Bangladesh)
18:05 – 18:15	General discussion and concluding remarks by Co-Chairs

#### 18:15 - 19:00 Poster Session

(Posters accepted under Technical Sessions shall be displayed all through the day for review by delegates, as well as for evaluation by a panel)

# 19:00 Dinner hosted by FAO

# Day 2: 31 October 2014

# 08:30 - 09:30 Plenary Session 3

Co-Chairs: William Dar (ICRISAT)

Simon Hearn (APAARI)

# **Keynote Lectures:**

08:30 – 08:55	Present and potential impacts of changing climate on maize-based cropping systems in Asia: Strategies for adaptation – Clare Stirling (CIMMYT-CCAFS)
08:55 – 09:20	Maize marketing in Asia: Innovations and reforms for improving efficiency – Ramesh Chand (NCAP, India)
09:20 - 09:30	General discussion and remarks by Co-Chairs

# 09:30 – 09:45 Tea/Coffee break

# 09:45 – 12:00 Parallel Technical Sessions

# Technical Session 5: Biotechnology for maize improvement in Asia

Co-Chairs: Sharif Haron (MARDI, Malaysia)

HS Gupta (BISA, India)

# **Keynote Lecture:**

09:45 - 10:10	Insect-resistant and herbicide-tolerant GM maize in Philippines: present
	status and prospects – Randy A. Hautea (ISAAA, SE Asia)

Speakers:	
10:10 – 10:30	Developing resilient maize for Asia against biotic and abiotic stresses  – Jan Samson (DuPont Pioneer)
10:30 – 10:50	Molecular marker-assisted breeding for tropical maize improvement  – Raman Babu (CIMMYT, India)
10:50 – 11:05	Genome-wide analysis of phosphate transporter gene family in maize – Lijuan Yu (YAAS, China)
11:05 – 11:20	Deciphering genomic regions associated with waterlogging and drought tolerance traits in tropical maize using multiple connected populations – Dung Do Van (NMRI, Vietnam)
11:20 – 11:35	Genome-wide association study of resistance to rough dwarf disease in maize – Jianfeng Weng (CAAS, China)
11:35 – 11:50	Enrichment of kernel $\beta$ -carotene in maize hybrids using marker-assisted backcross breeding strategy – Vignesh M (IARI, India)

11:50 – 12:00 General discussion and concluding remarks by Co-Chairs

## Technical Session 6: Strengthening maize seed systems in Asia

Co-Chairs: Kevin Gallagher (FAO RAP)

NN Singh (TAAS, India)

#### **Keynote Lecture:**

09:45 – 10:10 Innovation, competition, and industry performance: better metrics for measuring the growth of Asia's maize seed system – David Spielman (IFPRI)

### **Speakers:**

10:10 - 10:30	Strengthening the maize seed sector in marginal markets in Asia – Ian Barker
	(SFSA)

# 10:30 – 10:50 International Maize Improvement Consortium (IMIC) in Asia: Partnership with seed companies for client-oriented product development and delivery – AR Sadananda & BS Vivek (CIMMYT, India)

10:50 – 11:10 Strengthening the local seed systems and disadvantaged communities: Success and evolution of the first community-managed seed production company in the hills of Nepal – DB Bhandari (Hariyali Seed Cooperative Ltd., Nepal)

11:10 – 11:30 Maize seed village: A self-reliance production for Thai farmers – Chutima Koshawatana (FRECRI, Thailand)

11:30 – 12:00 General discussion and concluding remarks by Co-Chairs

### 12:00 - 13:00 Plenary Session 4

# Panel Discussion: "Ensuring a vibrant maize seed sector in Asia through public-private partnerships"

**Moderator**: Marianne Banziger (CIMMYT)

#### Panelists:

- 1. Marco Ferroni (SFSA)
- 2. Arvind Kapur (Rasi Seeds, India)
- 3. Bijendra Pal (Bioseed)
- 4. Shilpa Divekar Nirula (Monsanto)
- 5. Fan Xingming (YAAS, China)
- 6. John McMurdy (USAID)

# 13:00 – 14:00 Lunch break

# 14:00 – 16:30 Parallel Technical Sessions

# Technical Session 7: Regional Assessment of Maize in South Asia and the Oceania: Country Reports

Co-Chairs:	Quasim Obaidi (ARIA, Afghanistan) Bhag Mal (APAARI)
14:00 - 14:20	Bangladesh – Md. Abu Alam Mondal (BARI)
14:20 - 14:40	Bhutan – Dorji Wangchuk & Tirtha Katwal (RNR-RDC)
14:40 - 15:00	India – OP Yadav (DMR-ICAR)
15:00 - 15:20	Nepal – KB Koirala (NMRP-NARC)
15:20 - 15:40	Pakistan – Mian Md. Shafique (MMRI)
15:40 - 16:00	Sri Lanka – WMW Weerakoon (FCRDI)
16:00 - 16:20	Papua New Guinea – Julie Sip (NARI)
16:20 – 16:30	General discussion and concluding remarks by Co-Chairs

# Technical Session 8: Regional Assessment of Maize in East Asia, South East Asia and West Asia: Country Reports

Discussion and concluding remarks by Co-Chairs
Turkey – Rahime Cengiz (MRS)
Iran – Rajab Choukan (SPII)
Myanmar – Thant Lwin Oo (DAR)
Vietnam – Mai Xuan Trieu (NMRI)
Thailand – Pichet Grudloyma (NSFCRC)
Philippines – Roger V. Navarro (PhilMaize)
Indonesia – Taufik Ratulle & Muhammad Azrai (ICERI)
China – Mingshun Li (CAAS)
David Watson (MAIZE CRP)
Xinhai Li (CAAS, China)

# 17:15 – 18:15 Plenary Session 5

# Interface with Farmers and Entrepreneurs on Opportunities for Enhanced Maize Production and Utilization in Asia

**Moderator**: Mark Holderness (GFAR)

#### Panelists:

- 1. Esther Penunia (AFA, Philippines)
- 2. Ambika Pandey (Hariyali Seed Cooperative Ltd., Nepal)
- 3. Md. Abdul Mazid (BRAC, Bangladesh)
- 4. Yash Sahrawat (YPARD, India)
- 5. Baldev Singh (AIAMMA, India)
- 6. Taweesak Pulam (Sweet Seeds Co. Ltd., Thailand)

#### 18:15 – 19:00 Poster Session

(Posters accepted under Technical Sessions shall be displayed all through the day for review by delegates, as well as for evaluation by a panel)

# 19:00 Dinner hosted by DOA, Thailand

# **Day 3: 1 November 2014**

# 08:30 - 10:30 Parallel Technical Sessions

# Technical Session 9: Precision-conservation agriculture for enhanced input use efficiency

Co-Chairs:	Alok K. Sikka (ICAR, India)
	Tien-Jung Yu (COA, Chinese Taipei)

# **Keynote Lecture**:

08:30 - 08:55	Conservation agriculture based management for sustainable maize systems:	
	Learnings from South Asia – ML Jat (CIMMYT, India)	

# **Speakers:**

•	
08:55 – 09:15	Precision nutrient management in smallholder maize systems: recent advances – Kaushik Majumdar (IPNI, South Asia)
09:15 – 09:35	Sustainable intensification of maize-based systems: Lessons from SIMLESA – Mulugetta Mekuria (CIMMYT, Zimbabwe)
09:35 – 09:50	Performance of a precision planter with row cleaners and depth control units for no-till sowing of maize – Dongxing Zhang (CAU, China)
09:50 – 10:05	Sustainable intensification of cereal based cropping systems of north-western IGP for a food secure future in India – Hanuman Singh Jat (CIMMYT, India)
10:05 – 10:20	Influence of soil compaction stress on root endogenous hormone and protective enzyme activities in maize – Chaohai Li (HAU, China)
10:20 – 10:30	General discussion and concluding remarks by Co-Chairs

# Technical Session 10: Enhancing nutritional quality of maize

Co-Chairs:	Kevin Pixley (CIMMYT)
	Sain Dass (IMDA, India)

# **Keynote Lecture:**

08:30 – 08:55	Development of biofortified maize in southern China – Fan Xingming (YAAS,
	China)

# Speakers:

08:55 - 09:15	Provitamin A enrichment in maize – Willy Suwarno (BAU, Indonesia)
09:35 – 09:50	Biofortification potential of QPM and normal maize for major micronutrients – Dharam Pal Chaudhary (DMR, India)
09:50 – 10:05	Evaluation of colored waxy corn germplasm for high anthocyanin concentration and antioxidant capacity – Harakotr B (KKU, Thailand)

10:05 – 10:20 Effect of locations and varieties on yield, phytochemicals and antioxidant activity in corn silk – Sarepoua E (KKU, Thailand)

10:20 – 10:30 General discussion and concluding remarks by Co-Chairs

#### 10:30 - 11:00 Tea/Coffee break

#### 11:00 – 13:00 Parallel Technical Sessions

### Technical Session 11: Adapting maize production practices to the changing climate

Co-Chairs: BS Dhillon (PAU, India)

# Bruno Gerard (CIMMYT)

#### **Keynote Lecture:**

11:00 – 11:30 Climate resilient agriculture: a major initiative in India – Alok K. Sikka (ICAR, India)

#### **Speakers:**

11:30 - 11:50	Building resilience to climate and non-climate drivers of change through
	systems diversification with maize: Scope and implications in the western
	and eastern IGP – Andrew McDonald (CIMMYT-Nepal)

- 11:50 12:05 Using ecological intensification to improve maize yields while minimizing adverse environmental effects T Satyanaryana (IPNI, India)
- 12:05 12:20 Environmental footprint of maize-based cropping systems under different crop establishment methods in north-west India Tek Sapkota (CIMMYT, India)
- 12:20 12:35 Effect of fertilizer management and cropping system on soil quality, greenhouse gas emission and maize productivity Suphakarn Luanmanee (NSFCRC, Thailand)
- 12:35 13:00 General discussion and concluding remarks by Co-Chairs

# Technical Session 12: Enhancing gender equity and social inclusiveness

Co-Chairs: Nora Lapitan (USAID)
Olaf Erenstein (CIMMYT)

### **Keynote Lecture:**

11:00 – 11:30 Amplifying outcomes through addressing inequality: The role of gender transformative approaches in agricultural R4D – Paula Kantor (WorldFish, Egypt)

# **Speakers:**

11:30 – 11:50	Community based seed systems in hills of Nepal – Yamuna Ghale (SDC, Nepal)
11:50 – 12:10	Gender roles or production relations? Gender equity and social inclusion through agriculture research – Maitrayee Mukhopadhyay (KIT, Netherlands)
12:10 – 12:30	ICT for gender empowerment – Surabhi Mittal (CIMMYT, India)
12:30 – 13:00	General discussion and concluding remarks by Co-Chairs

# 09:00 - 13:00 APAARI General Assembly Meeting

(Only for APAARI Members and Special Invitees)

13:00 – 14:00 Lunch break

# 14:00 – 15:15 Plenary Session 6

Co-Chairs: Nguyen Van Bo (VAAS, Vietnam)
Iftikhar Ahmad (PARC, Pakistan)

# **Special Lectures:**

14:00 – 14:30	Nutritionally enriched maize: adoption and impact in Asia – SK Vasal
14:30 – 15:00	New developments in production of doubled haploids in maize breeding – Albrecht Melchinger (Univ. of Hohenheim, Germany)
15:00 – 15:15	General discussion and remarks by Co-Chairs

# 15:45 – 17:00 Concluding Plenary Session

Co-Chairs: Raj Paroda (APAARI)
Thomas Lumpkin (CIMMYT)

15:15 – 15:45 *Tea/Coffee break* 

- Presentation of key recommendations from Technical Sessions
- Best Poster Awards
- Concluding remarks by Co-Chairs

# 19:00 Dinner hosted by APAARI and CIMMYT