

## **Technical Session II: Research Strategies at International Level**

Chair: Thierry Mennesson

Co-Chair: Simon Hearn

Rapporteur: Anil K. Bawa

## **Speakers**

- John D. H. Keatinge (AVRDC)
- Rodomiro Ortiz (CIMMYT)
- Maarten van Ginkel (ICARDA)
- C.L.Laxmipathi Gowda (ICRISAT)
- Reiner Wassmann (IRRI)
- Andrew D. Noble (IWMI)
- Andreas Wilkes (ICRAF)
- Kenneth S. Fischer (Science Council, CGIAR)

## **Recommendations**

**AVRDC-Prosperity for poor and health for all**

- Screening for biotic and abiotic tolerance/resistance
- Improving nutrient use efficiency
- Water use efficiency
- Storm damage-short term flooding
- Promoting good agricultural practices & crop diversification
- Processing, packaging, transport, Link farmers to markets

## **Recommendations**

**CIMMYT**

- Pilot testing of stress tolerant germplasm-beat the heat
- Crop genetic improvement thru targeted crosses using diversity spectrum
- N management to curtail N<sub>2</sub>O emissions;
- Promote Zero-till and other RCTs – improve resource use
- Develop partnerships- research, information,HRD

## **Recommendations**

**ICARDA**

- Heat stress – crop and livestock
- Improving water conservation, productivity thru multiple/diversified use
- Quality seeds
- Improving rangelands and grazing management
- Integrated crop-livestock-rangeland system and conservation agriculture
- Diversification and value addition
- Participatory and gender sensitive approaches
- Promote Innovations in ARD

## **Recommendations**

**ICRISAT**

- Selective Breeding for heat tolerance, salinity and acidity, drought avoidance- ICRISAT has taken the lead
- Coping with variability in rainfall
- Mapping out development pathways and policy interventions to help poor farmers in the SAT
- Plan for crop migration to warmer areas
- 11 projects in operation/to start to address CC issues
- Public-Private partnerships are essential to address the CC adaptation and mitigation

### Recommendations

#### IRRI

- **Breeding for Heat stress tolerance/drought screening/submergence tolerance**
- **Intensification of rice production with higher resilience to extreme natural events and for specific agro-ecological situations**
- **High yielding low emission rice production system**
- **Interdisciplinary consortium of institutions at international level**

### Recommendations

#### IWMI

- **Thinking more creatively about water storage**
- **Increases in water productivity**
- **Integration of soil & water management**
- **Basin Water Management and Allocation**
- **Early Warning and Insurance**

### Recommendations

#### ICRAF

- **Generate credible evidence of C seques. Potential of different land management practices – Combat land degradation(Conservation agriculture, forestry & Rangeland management)**
- **Support national agric. Agencies for engaging in carbon markets**
- **Improve data on CC impacts and options**
- **Mainstream impact assessment and adaptation development and resource use planning**
- **Capacity building in Extension agencies**
- **Research role of agroforestry in household risk management**

### Recommendations

#### Science Council, CGIAR

- **Objectives of CP on CCCP – reduce critical gap in nexus of food security; livelihood; and env. Outcomes; develop and evaluate the options; assist farmers, policy makers, researchers, donors, to adjust their action to CC**
- **Target Asia, Africa and Latin America –work on anticipated temp and precipitation change; current and predicted land use pressure and different land tenure arrangements**
- **Seeks Active involvement of CGIAR, NARES and GEC shedding \*business as usual approach\***

### Overarching Issues

- **Pervasive role of climate change on future research objectives and priorities**
- **Commonalities of analysis: similarity of climate observations across CG Centers**
- **Scope for greater inter-agency collaboration: challenge for the future at regional & global levels**
- **Multi-disciplinary nature of future climate change research imperatives**
- **Enabling policy environment & suitable funding mechanisms for research & adoption**