The need for demand driven solutions and a science-led holistic approach to obtain efficient solutions across regional and global programs were some key aspects focused on at the Asia Regional Program planning meeting held recently.

Participants discussed key issues to reduce hunger and poverty in the semi-arid tropics, and discussed how to build consortia through effective partnerships to scale up workable solutions to tackle these urgent issues.

Dr SP Wani, Research Program Director, Research Program Asia, initiated the meeting by explaining the importance of building markets for better technologies, holistic understanding of processes, and co-creation of solutions through partnerships between the private sector and the not-for-profit sectors. He stated that through the consortium approach and participatory research and skill development, ICRISAT could build capacities of more partners and play a role in reducing poverty and work towards zero hunger across the semi-arid topics.

“Out of 137 million farmers in India, only 1 million farmers are large farm holders, while the rest possess land less than 2 ha. Our model is to address the needs of these farmers through a holistic approach by scaling up technologies and providing international standard analysis in the lab and fields. We need to build an ecosystem to create wealth and building a nodal organization brings increased investment. With the Rythu Kosam project (Andhra Pradesh, India), we are delivering 1,000 Farmer Producer Organizations (FPOs) and this is how we need to change with the times by thinking outside the barriers of academic logic,” he said.

Dr David Bergvinson, Director General ICRISAT, addressing the gathering via videoconferencing from Rome, emphasized on the importance of pulses and said, “Pulse sufficiency has to be met in the next four years in India, with India and Africa working as a team. ICRISAT needs to apply science to understand the pulses framework and deliver on that goal.”

Dr Peter Carberry, Deputy Director General–Research, ICRISAT, noted from his recent field visits to Malawi and Zimbabwe, that sorghum and millets are being reintroduced in these countries and how this is helping reduce hunger and malnutrition. He also mentioned how ICRISAT’s research in Zimbabwe was being highlighted and strongly supported by all partners.

The group discussed the challenges and opportunities in farming across Asia and presentations made included topics such as climate change impacts in Asia, water scarcity and low water use efficiency, increasing land degradation, markets and risks, and pulses self-sufficiency.
Participants at the planning meeting.

Other presentations made during the regional meet were on current project portfolios and outputs by various departments under the Asia Research Program; strengthening inter-region collaborations; on building partnerships; how the Genetic Gains global program can support the Asia program; innovation systems approach to address challenges of dryland farmers; and importance of monitoring impacts.

One session focused on state and country strategies to help scale up technologies for sustainable development. Presentations covered topics related to Karnataka and pigeonpea, Andhra Pradesh and groundnut, Rajasthan and pearl millet, Myanmar and chickpea, and Thailand.

Dr Ramadjita Tabo, Director, West and Central Africa, spoke about strengthening inter-region collaborations, climate change and adaptation, Mali Agribusiness Incubation Hub (MAIH), among other issues. He also shared West Africa’s experiences and lessons learnt from the national science policy platforms for informed policy planning in Senegal, Ghana, Mali and Burkina Faso.

Dr Moses Siambi, Director, Eastern and Southern Africa, briefed participants about the major projects that are presently underway in Ethiopia, Malawi, Zimbabwe and Mozambique and the steps required to scale up and take them forward.

During the brainstorming session, participants split into smaller groups and brainstormed on what needs to be done to help improve the Asia Research Program, what were the weaknesses that needed refinement, what as a team one could stop doing, strategies for scaling-up and how the team could conserve resources and enhance efficiency.

Groups were of the opinion that there was a need to strengthen data management, enhance synergy across programs and discipline, improve and centralize institutional funding, project the program as an Asia program and not as an Indian program. The groups felt that the team should stop working in silos and start building more effective partnerships, and avoid work duplication between departments and scientists.

Almost all groups stressed on increasing partnerships and taking the consortium approach; demonstrating on-site success through case studies; enabling better policies to create positive impact; provide need/context based solutions; and have a mass outreach by using tools such as ICT and digital agriculture.

On conserving resources, the groups agreed upon the need to harness solar energy; initiate a need based sharing of resources between teams; share work travel, and use low cost and effective technologies.

The 2-day meeting was held on 4-5 May and was attended by more than 80 participants.

Click on the links below to watch a few of the presentations from the Asia Regional Program planning meeting:

- Dr Kaushal K Garg
  Senior Scientist - Natural Resource Management
  Water Scarcity and Low Water Use Efficiency

- Dr Girish Chander
  Senior Scientist - Soil Science
  Increasing Land Degradation

- Dr AVR Kesava Rao
  Scientist - Agroclimatology
  Climate Change Impacts in Asia

- Dr Pooran M Gaur
  Principal Scientist - Chickpea Breeding
  Pulses Self Sufficiency

- Dr Ranjit Kumar
  Principal Scientist - Economics
  Markets and Risks

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New publications

Current Science
Special section - Soil and Water Management

**Guest Editors:** Bhattacharyya T, Wani SP, Sahrawat KL and Pal DK.

**Publication:** 2016. Current Science, 110 (09):1652-1739 & 1756-1788. ISSN 00113891

Soil and water form the basis of all terrestrial life. The impact of degradation of these two natural resources in terms of impairment in their physical, chemical and biological properties has attracted the attention of researchers in recent years. It is observed that the major soil types in the Indian semi-arid environment with mean annual rainfall of <1000 mm are becoming calcareous with concomitant development of sodicity. Both natural and human-induced degradation ultimately modifies the physical and chemical properties of soils that restrict the entry of rainwater and reduce the storage and release of soil water. Under the changing scenario, potable water is becoming scarce, forcing hydrologists to develop methods to filter sewage water.

This special section articulates some of these issues in a modest way through 15 research articles contributed by scientists engaged in soil and water research. Of these, 14 research articles are contributed by ICRISAT scientists, generated from different projects financed through various agencies.

The research articles contributed by ICRISAT scientists are:

**Land use and agricultural change dynamics in SAT watersheds of southern India.**

**Authors:** Ahmed IM, Gumma MK, Kumar S, Craufurd P, Rafi IM and Haileslassie A

[http://oar.icrisat.org/9488/](http://oar.icrisat.org/9488/)

**ICRISAT, India soils: yesterday, today and tomorrow.**

**Authors:** Bhattacharyya T, Wani SP, Pal D, Sahrawat KL, Pillai S, Nimje A, Telpande B, Chandran P and Chaudhury S


**A simple and farmer-friendly decision support system for enhancing water use efficiency in agriculture: Tool development, testing and validation.**

**Authors:** Garg KK, Wani SP, Patil MD


**How fertile are semi-arid tropical soils?**

**Author:** Sahrawat KL

[http://oar.icrisat.org/9491/](http://oar.icrisat.org/9491/)

**Resilience of the semi-arid tropical soils.**

**Authors:** Bhattacharyya T, Pal DK, Wani SP and Sahrawat KL

[http://oar.icrisat.org/9502/](http://oar.icrisat.org/9502/)

**Natural chemical degradation of soils in the Indian semi-arid tropics and remedial measures.**

**Authors:** Pal DK, Bhattacharyya T, Sahrawat KL and Wani SP

[http://oar.icrisat.org/9492/](http://oar.icrisat.org/9492/)

**Soil mapping and variety-based entry-point interventions for strengthening agriculture-based livelihoods – exemplar case of ‘Bhoochetana’ in India.**

**Authors:** Chander G, Wani SP, Krishnappa K, Sahrawat KL, Parthasaradhi G and Jangawad LS

[http://oar.icrisat.org/9493/](http://oar.icrisat.org/9493/)

**Land use and cropping effects on carbon in black soils of semi-arid tropical India.**

**Authors:** Chaudhury S, Bhattacharyya T, Wani SP, Pal DK, Sahrawat KL, Nimje A, Chandran P, Venugopalan MV and Telpande B


**Nitrogen response of sweet sorghum genotypes during rainy season.**

**Authors:** Sawargaonkar GL and Wani SP

[http://oar.icrisat.org/9495/](http://oar.icrisat.org/9495/)

**Monitoring efficacy of constructed wetland for treating domestic effluent – microbiological approach.**

**Authors:** Kaushal M and Wani SP, Patil MD and Datta A


**Conservation agriculture for improving water productivity in Vertisols of semi-arid tropics.**

**Authors:** Patil MD, Wani SP and Garg KK

[http://oar.icrisat.org/9498/](http://oar.icrisat.org/9498/)

**Field scale evaluation of seasonal wastewater treatment efficiencies of free surface-constructed wetlands in ICRISAT, India.**

**Authors:** Datta A, Wani SP, Patil MD and Tilak AS

[http://oar.icrisat.org/9499/](http://oar.icrisat.org/9499/)

**Evaluating wastewater treatment efficiency of two field scale subsurface flow constructed wetlands.**

**Authors:** Tilak AS, Wani SP, Patil MD and Datta A


**Livelihood system assessment and planning for poverty alleviation: A case of rainfed agriculture in Jharkhand.**

**Authors:** Petare KJ, Nayak J, Jaini V and Wani SP


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Call for Abstracts

The 70th Annual Conference of Indian Society of Agricultural Statistics (ISAS70), “International Conference on Statistics & Big Data Bioinformatics in Agriculture” will be held from 21-23 November 2016 at ICRISAT, Patancheru, Telangana, India.

ISAS70 invites paper abstracts for oral or poster presentation under the following themes:
- Design of Experiments & Phenotyping
- Bioinformatics
- Data Science Teaching & Scientific Communication
- Open Sources Statistical Computing
- Big Data Analytics
- Statistical Genetics & Genomics
- Genomic Selection & Genome Wide Association Mapping
- Bayesian Statistics
- Geostatistics & Remote Sensing
- Statistical Modelling & Forecasting
- Data Management
- Advances in Statistical Sampling

Abstracts should not exceed 500 words and the deadline for abstract submission is 15 August 2016. For more details, visit http://isas70.icrisat.ac.in

For the benefit of young researchers and students in plant breeding and agricultural statistics two parallel pre-conference workshops will be organized on 20 November 2016. Limited seats are available in these workshops with special discounts for students.

- Application of R in Bioinformatics
- Breeding Data Management & Analysis using BMS & VSNi tools

Register by visiting: http://isas70.icrisat.ac.in/registration

Welcome

Dr Aboubacar Toure, a Malian national, joined on 2 May, as Senior Scientist- Sorghum Breeding, at Bamako, Mali.

Dr Touré holds a PhD in Plant Breeding from Texas A&M University, USA. He has over 25 years of experience working as a Breeder on field research stations, farms and laboratories in Mali, Porto Rico and Texas. He comes with an excellent experience in germplasm collection, enhancement, conservation and training.

We welcome Dr Aboubacar Toure to Team ICRISAT and wish him all success.

New publications ... from page 3

Evaluation of introduced pigeonpea (cajanuscajan (l.) Millsp.) genotypes for growth and yield performance in Sudano-Sahelian ecology of Nigeria

Authors: Ezeaku IE, Ajeigbe HA and Okechukwu EC


Abstract: Field experiments were conducted at the Institute for Agricultural Research (IAR), Research Farm, Minjibir, Kano State, Nigeria over two years to assess the performance of twelve improved pigeonpea genotypes comprising of early (ICPL 84031, ICPL 85010 and ICPL 87), medium (ICP 7120, ICP 8863, ICPL 161, ICPL 85063, ICPL 87051 and ICPL 87119) and late (ICP 7035, ICP 8094 and ICPL 9145) flowering groups introduced from International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patencheru, India. Effects due to genotype, year and genotype x year interactions were significant (P=<0.01) for most characters evaluated. Grain yield ranged from 723 kg ha⁻¹ to 2,710 kg ha⁻¹ with ICP 7120 having the highest grain yield followed by ICPL 87119 and then ICPL 84031 genotype. The two highest grain yielding genotypes (ICP 7120 and ICPL 87119) were medium flowering type, followed by ICPL 84031, an early flowering genotype whose grain yield did not differ significantly from that of the two medium flowering genotypes. The high yielding and early flowering genotype (ICPL 84031) is a candidate genotype recommended for promotion in short rainfall environments of northern Nigeria. Significantly higher grain yields were obtained during second year with mean yield of 3,118 kg ha⁻¹ compared with 838 kg ha⁻¹ recorded in first year, an indication that delayed planting in first year affected yield and that genotypes responded differently to year and soil effects. Correlation analysis (pooled over two seasons) revealed that number of primary branches plant⁻¹ and pod weight were the most important traits influencing grain yield in pigeonpea.

http://oar.icrisat.org/9439/