

FACASI Stakeholders Visit - Borlaug Institute for South Asia (BISA), Ludhiana

A delegation comprising of 16 members of African Stakeholders (GIRMA MOGES, FRIEW KELEMU, MINWYKET BEYENE, YONAS MULATU, PASCAL G KAUMBUTHO, JOSEPH MBITHI, ABEL GIKENYI ONDONG'A, STEPHEN MWANIKI NGERU, WILFRED LENGAKI MARIKI, JOHN ELIAS SARIAH, JOHN FRANK LESIRIAM, DAVID CHISAWILO, SPECIAL MUSONI, LEWIS MATABA, TIRIVANGANI KOZA AND SIADI MKOMWA) visited Borlaug Institute for South Asia (BISA), Ladhawal, Ludhiana (Punjab) on 5th May, 2013. The delegation was led by Er. Siadi Mkomwa, CEO of African Conservation Tillage (ACT) network. This was the second visit of high level foreign delegation to BISA in the current year and received & welcomed by the CIMMYT-BISA team comprised of Dr HS Sidhu and other staff members. The basic purpose of the visit was to understand & see the extent of agricultural mechanization happening in North West India and being practised at BISA in relation to conservation agriculture (CA). The delegates were keen to understand issues of food security under the emerging challenges of resource degradation and climate change and how CIMMYT-BISA is showcasing these CA smart mechanization technologies to complement South Asian NARS efforts to address these challenges. The delegation was provided with a brief summary of the BISA vision, mission, mandate and updated about the development activities. Dr. HS Sidhu provided the background information on partnerships of CIMMYT/BISA with NARS to accomplish this and highlighted that the current activities across BISA locations are primarily focussed on 4 themes (i) Research infrastructure & farm development, (ii) Research on new maize and wheat germplasm, precision-conservation agriculture, climate resilient production systems, farm typology smart mechanization, (iii) capacity enhancement through advance courses, visiting scientists, students/interns, exposure visits and (iv) partnerships and networking.

After the brief discussion on background information the delegation travelled all across the BISA farm and facilities. The current research activities/trials at BISA Ludhiana shown to the delegates were mainly focused on the challenges like water table depletion, labour scarcity, residue burning, soil health deterioration and climate change. The no-till Mung bean planted in full surface residue of wheat using Turbo Happy Seeder was shown to them. The working of the machines and advantages of this eco-friendly technology (like: time, energy & cost saving, reducing environmental pollution and climate adaptation) was explained along with live demonstration. The African delegation asked about the effect the residue retention on fungal disease manifestation in the long-run. They assumed that keeping surface residue, which might harbour insects and disease pathogens on the ground, may lead to higher disease pressure in futures. Dr. Sidhu informed that this has so far not been observed, but it will be continuously monitored under long-term trial on CA at all BISA sites. The delegation also visited the maize trial on water management for spring maize supported by CIMMYT GCAP programme. This trial created lot of interest among the visitors and they asked many questions like weed management, Insect & pest incidence, how water is measured precisely and the basis on which we are applying irrigation to the different treatments in the trial. Dr Sidhu explained the trial details and conveyed that irrigation is applied purely on the basis of tensio-meter (45 KPa & 60 KPa) readings fixed for different treatments and water is measured using a precise water meter .

A live demonstration and display of small scale farmer machinery was also organised for the delegation which includes two wheels tractor Laser Land Leveller, Relay seeder, tractor operated boom/gun sprayer, multi crop planter, and maize planter and small multi crop thresher and Dr.

Sidhu described about them about the use and advantages of these machinery. The utility of a self propelled Reaper-binder cum sprayer and different rotary weeders was also demonstrated to the visitors for small scale farmers. The Delegation also visited the plot where threshing of research plots was going on to understand the working of a small plot threshers. BISA team explained them the protocols for the trial harvesting and the precautions by which we can avoid the chance of mixing of varieties while threshing. The delegation was also shown BISA efforts on sustainable intensification of cotton-wheat system and development & evaluation of multi utility high clearance tractor & related machinery for intensification. Then the visiting team moved to the trial on the “Adaptation of new wheat germplasm and its use in NARS breeding program” and Pankaj Singh (Assistant farm Manager, BISA) told that same replicated trial is laid at all three BISA site and described about the trial. The delegation was impressed by the efforts taken to assess the fields before implementing trials (measurements regarding salinity, soil texture and compaction using EM 38 survey of the plots). A live demonstration of the yield monitor fitted on the wheat combine harvester was also given to the delegates by Dr. H.S.Sidhu and they considered it as sound scientific base to verify field variability.

The objectives of the “Long term research on Conservation Agriculture in intensive cereal systems” were also explained to the visitors with purpose to diversify from Rice-wheat cropping system with a resource efficient and resilient cropping systems and the trial serves the basis not only for generating new scientific information but also as platform for capacity building and policy guides. The trial on “Genotype and Management interactions in wheat for defining climate resilient systems in different ecologies” initiated as a part of BMZ supported project was also a point of attraction for the delegation. Vicky Singh described about the trial and told them the same trial is replicated at across the BISA/CIMMYT sites. The team also deliberated on how the contrasting management systems and planting dates can be helpful for enhancing crop and water productivity under climate changing scenario. This trial is capturing large number of interactions and defining recommendation domains of wheat genotypes under diverse wheat ecologies and management practices across South Asia. At the end the delegation visited the new generation precision-conservation agriculture machinery developed, adapted and being fine-tuned at BISA Ludhiana to satisfy the need of a range of farm typologies as smart mechanization solutions to South Asian farmers. The members of delegation appreciated the efforts of CIMMYT-BISA team especially for innovations on smart mechanization suited to the needs of smallholder farmers. Then the delegation moved to a farmer’s cooperative society (working very closely with CIMMYT-BISA) at Noorpur bet to understand the mode services provided in terms of farm input & machinery on custom hiring to the small holders with latest technology. The delegation also interacted with Mr. Kamaldeep Singh Sangha, Managing Director Co-op bank during this visit. At the end the African delegation team leader thanked cooperative society members and CIMMYT-BISA team for the entire visit/arrangements.