

International Conference on Integrated Systems

draw conclusion on which agricultural innovations have the largest impact on gender norms and how women and men in these communities adopt the innovations.

Keywords: gender, social norms, qualitative methods, innovation

15:20 **Gender integration in agricultural innovation systems: some considerations to move forward from South-South experiences**

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Efforts to integrate gender in agriculture have not been easy and in this paper the authors try to focus on institutional directions to achieve just and equitable agricultural innovation systems. The agricultural innovation framework brings the opportunity to break down traditional social and norms and relations of power that increase poverty, food insecurity and hunger. The most important innovations are those that bring about a positive change in the way smallholders and other rural poor people invest in, produce and market their products; manage their assets; organize themselves; communicate and interact with their partners to influence policies and institutions. Gender is an important component across all these elements. Agricultural innovations can take many forms (institutional, organizational, financial, technological, procedural, methodological, administrative and legal) and occur within many contexts (social, political, cultural). Innovations are also needed in the way that structures (governments, non-governmental organizations, research and finance institutions, and private enterprises) support agricultural development by lifting barriers and creating new platforms for actors' action. In order to demonstrate that agricultural innovation can occur, the authors work on two case studies, the Papa Andina Initiative (CIP) and the Research in Development Approach from the CGIAR Research Program in Aquatic Agricultural Systems (AAS) (WorldFish). Both cases demonstrate that agricultural innovation in systems is possible if measures and processes are well monitored and followed while considering social and gender aspects.

Keywords: agricultural innovation systems, gender, gender transformative change, social transformation, governance, capacity development, stakeholders, research in development, institutions, learning, scaling

15:40 General Discussion

16:10 End of session

Theme 3 (cont'd): Integrating Productivity and Natural Resource Management - Dr. Bernard Vanlauwe & Dr. Richard Thomas

14:00 **Exploring options for sustainable intensification in different farming system types of four Africa RISING countries**

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Sustainable intensification is proposed as a promising way to increase the productivity of agricultural systems while reducing pressure on ecosystems, safeguarding equitable relations among societal groups, and supporting the economic viability of households, enterprises, and communities. In sub-Saharan Africa, the identification and dissemination of options for sustainable intensification is hampered by the large diversity within and between farming systems, and their complexity arising from the interactions among different farm components and external factors. This study therefore uses an integrated farming systems approach to identify and assess context-specific improvements that can then be implemented and tested on-farm to foster experiential learning and facilitate adoption.

We conducted a farming systems analysis for nine Africa RISING intervention sites across four countries, based on rapid and detailed farm characterizations, followed by model-supported diagnosis, and exploration of options for sustainable intensification. Farm diversity was described and analyzed by means of typologies and cross-site comparisons.

Identified constraints varied depending on site and farming system type, but commonly included low input availability, climatic variability, poor soil fertility, sub-optimal livestock feeding, biotic stresses,

and poor access to training and technical advice, all impairing farm productivity, returns to labor and capital inputs, income generation and food security. We investigated entry points that tackle the above constraints by exploring alternative farm configurations, technologies and practices for representative farms. By assessing potential impact of these changes on indicators beyond productivity, trade-offs were identified and assessed, for instance between profitability and household food self-sufficiency, and between nitrogen availability for crop uptake and increased nutrient losses. Taking a systems perspective during the entry point evaluation allowed differentiating potential effects on indicators at the field level versus the farm and household level. The exploration of options for specific farming system types now enables more targeted testing of promising innovations with farmers in the second project phase.

14:20 **Co-developing best-best interventions and protocols for their evaluation in the field through Participatory Trials Design Workshops in Rwanda**

Edmundo Barrios, Richard Coe, ICRAF (Kenya); Leon Nabahungu, Rwanda Agriculture Board (RAB); Athanase Mukuralinda, ICRAF (Rwanda); Catherine Muthuri, Fergus Sinclair, ICRAF (Kenya), E.Barrios@cgiar.org

Limited adoption of best management principles and practices is a key challenge in Rwanda agriculture. Blending local and technical knowledge is used here as a key principle to foster relevant, credible and legitimate action research. A novel methodological approach, Participatory Trials Design (ParTriDes) workshops, have proven successful to guide the co-development of best bet options by farmers representing seven communities, other relevant stakeholders and agricultural professionals to address constraints to integrated systems improvement. In the same effort, best-bet options are collectively identified and used to explore and learn some of the principles of design while producing detailed protocols that can be readily implemented on the ground. Participatory trials are designed to assess the performance of best bet options and guide the selection of best fit options for up-scaling.

The ParTriDes workshop combines learning by doing capacity building using a participatory approach to systematically identify, classify and prioritize local farmer knowledge on key system components (e.g. soil, crops, livestock and trees) and their interactions, which limit integrated system improvement. New skills and insights facilitated RAB research and extension staff, their partners and farmer communities to jointly design simple design trials, including simple indicators of performance measured by farmers that sample large variations in socio-ecological context. First generation participatory trials involving 84 farmers have been initiated to address issues of soil fertility recovery combining organic (e.g. leaf biomass) and inorganic nutrient sources, diversification of native tree components on-farm as alternative to exotic *Alnus acuminata*, and alternative sources of stakes for climbing beans.

14:40 **Impacts of the Integrated Agricultural Research for Development (IAR4D) on the adoption of Natural Resources Management (NRM), Crop and Post-harvest Technologies: Evidence from the Innovation Platforms approach in West Africa**

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In this paper, we employ data from twelve Innovation Platforms (IPs) of the three Task Forces (TFs) making up the Kano-Katsina-Maradi Pilot Learning Site (KKM PLS) of the sub-Saharan Africa Challenge Program (SSA CP) to assess the impacts of the Integrated Agricultural Research for Development (IAR4D) on the adoption of some key crops, Natural Resources Management and post-harvest technologies.

The results of this assessment are promising across the task forces and KKM PLS. A first cut at the data suggests that there is systematic relationship between the IAR4D intervention and adoption of these key innovations, which were promoted in most cases. About 80-90 percent of the variation in the adoption of NRM observed in the PLS are as a result of the IAR4D. The IAR4D also has positive and significant impact as compared to both the clean and the conventional sites in the adoption of maize (minimum of 10 % and maximum of 90 % variations in adoption). For Soybean adoption, the IAR4D has positive significant impact only on the conventional sites (50% variation in adoption for both models of OLS without and with interaction). Further results indicate that the IAR4D recorded