ICT4BXW organizes special session during global IAMO Forum 2020

Frans Hermans

The ICT4BXW project organized a special session during a 3-day virtual global forum which was organized by the Leibniz Institute for Agricultural Development in Transition Economies (IAMO). The IAMO Forum is the annual conference organized by IAMO to set up a dialogue among researchers and other the stakeholders of IAMO from (agro)business, politics and society, with a special focus on transition economies of Central and Eastern Europe, the Former Soviet Union, China and Vietnam. ICT4BXW project goals and scientific outputs align strongly with the year 2020 theme of the forum - "Digital transformation towards sustainable food value chains in Eurasia". The sessions were migrated to virtual mode because of the CoVID-19 crisis, and the forum organizers noted that the global audience learn and gain salient insights from ICT4XW project, as implemented in Rwanda.

Scope of Presentations

The special session was hosted by IAMO Scientist, Frans Hermans, who is also the IAMO-designated collaborator on ICT4BXW project. The session features four (4) presentations from ICT4BXW project team members and researchers, including project lead, intern, and doctoral researchers. In the first, presentation, Julius Adewopo presented the digital-tool development process which is based on human-centered design (HCD) principles and highlighted how mixed-method approach that was adopted in the project was translated to "technology-user readiness" assessment for the co-developed tool. The newly developed quantitative

assessment approach provides an objective basis to understand the contextual realities of farmers, as end-users of digital tools, and suggests that the aspirations for digital tool scaling must be matched with considerations of infrastructure and skill development needs. The second presentation from Mariette McCampbell and Frenske Blom (PhD and M.Sc. researchers, respectively, from Wageningen University) showcases detailed evidence-driven perspectives on how digital interventions in agricultural systems can transform rural communication. Specifically, they identified key levers for agile delivery of digital tools and suggested that the process of developing a (digital) technology is often skewed because hierarchy of roles and responsibilities has influence on the design.

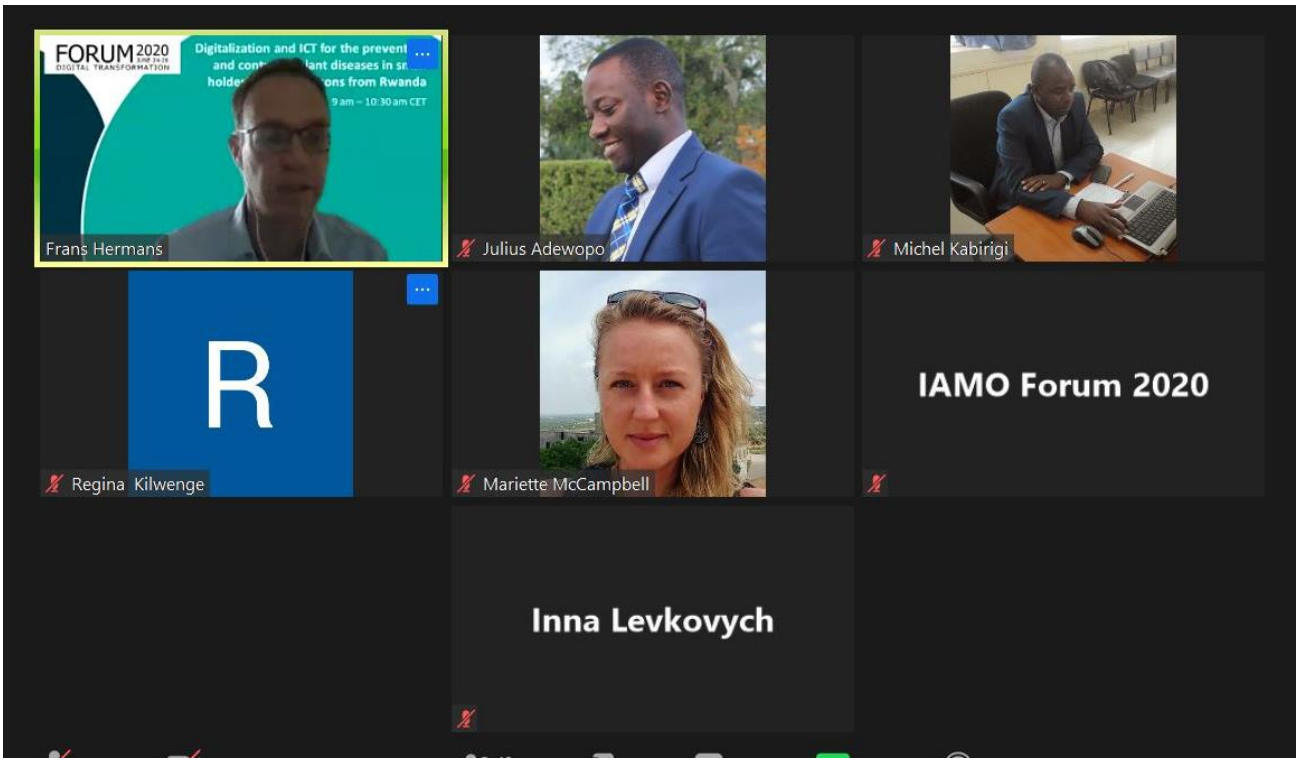

Image 2: Meeting participants

In the third presentation, Michel Kabirigi (PhD Researcher at IAMO) highlighted critical need to map typologies of banana farmers a s an entry point for tool targeting and sustainable adoption. Michel showed that the early warning system which has been developed for BXW surveillance can be linked to the understanding of farm typologies to optimize resource allocation for extension support, while providing incentives for farmer promoters for efficient data flow and continuous monitoring and learning. In the final presentation, Regina Kilwenge (ICT4BXW Intern) shared results on rapid classification of banana farmlands by using unmanned aerial vehicles (UAV/drone), in combination with machine learning (ML) algorithms. By developing and implementing a rapid digital mapping workflow, a village-level mapping of banana lands was achieved with a high accuracy (>95%) across all ML classifiers.

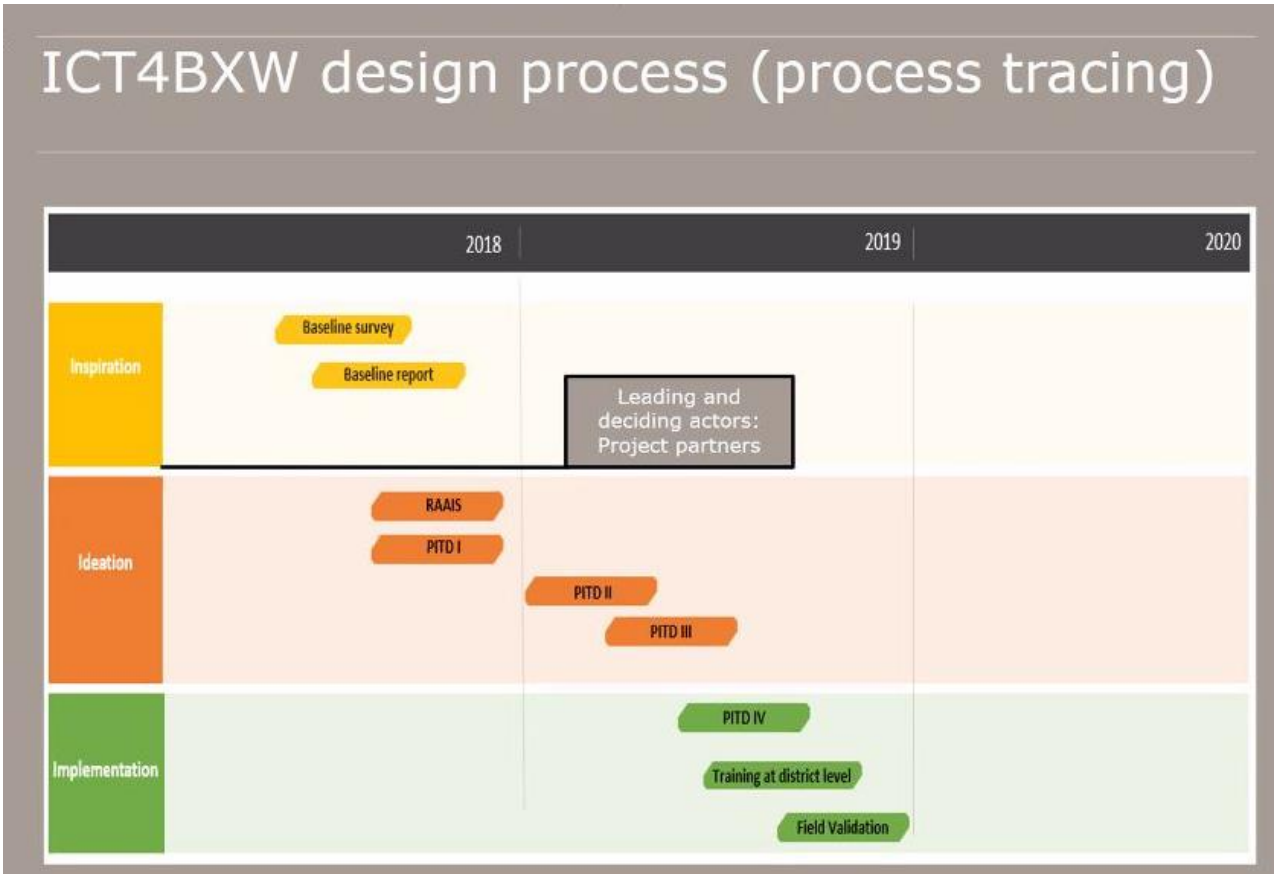

Image 3: Design and tracing process for the ICT4BXW tool

Relevance beyond the focal geography

Beyond focus on Rwanda, these presentations were contextually relevant to economies in transition because they provide data-driven insights about the opportunities, challenges, and practical consideration for advancing digital innovation for agricultural development under conditions where users have limited access to infrastructure and technical competency for adoption. For instance, by quantifying user-readiness based on array of relevant factors, the specific limiting conditions for target users can be identified and progressively evaluated to inform decision on specific actions that can optimize user-experience and enhance adoption at scale. Also, by understudying the pros and cons of power interplay during user-centered design process, new initiatives can address some of the nuanced dimensions by adapting structure and strategy for balanced co-development and equitable participatory design process. Finally, similar to other emerging innovations, one size may not fit all, and analytical approached for differentiating unique niches of farmers within cropping systems (rice, maize, soybeans etc) may be instructive to ensure that recommendations for threat mitigation at farm-level (e.g. disease and pests) is at par with farmers' objectives and aspiration, to maximize impact.