



Farming System Design (FSD7) Webinars on Capacity Development in Systems Research for the transformation of agri-food systems to achieve Sustainable Development Goals under climate change, March 22-25, 2021.

A series of short and interactive webinars is planned to take place in order to foster the **engagement of young scientists in the value and function of systems research** to support the transformation of agri-food systems to reach the UN's Sustainable Development Goal 2 (SDG2) - to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture by 2030 (UN, 2019), as well as related SDGs under climate change. It is envisaged that the webinars will maintain momentum for the FSD7 Symposium which has been postponed to 20-23 March 2022 due to COVID-19.

The [webinars](#) will build on abstracts submitted for the FSD7 Symposium and on the outcome of the recent scientific dialogue on [“Systemic Transformation of the dryland agri-food systems of Africa and Asia”](#) between the DryArc Initiative of the 9 CGIAR centers and Australian Institutions for Research and Development that took place in August and September 2020. The webinars will also form part of the FSD7 International Course for design and assessment of rainfed farming systems in North Africa and the Middle East which will be held in Tunisia in March 2021. While not exclusive, the focus of the webinars will be transformation of agri-food systems in the **dry regions**. The output of the webinars will be an online proceedings of the presentations and of the actions points to help young scientists to start or amplify their research on agri-food systems transformation in the drylands and be involved in specific sessions during the [FSD7 symposium](#) in 2022.

Date and time: March 22-25, 2021 10:00AM-12:00PM (GMT+2).

Participants and participation: Anticipated number of participants for each webinar is between 50 and 100, especially from the drylands of Africa and Asia. The webinars will be free of charge, but participants will need to [register](#) in advance.

Presenters will be selected from those that have submitted abstracts to the FSD7 and will include scientists and invited speakers from research institutions and development agencies.

The webinars are envisaged to be interactive, with the **full engagement of young scientists**. To ensure a dynamic and participatory process, discussion papers by presenters will be made available on the website ahead of time for review, comments, and questions from participants which will inform discussions during the webinars.

Tentative list of webinars

Webinar 1: Systemic transformation of agri-food systems to reach synergies between SDG1 (no poverty) and SDG2 (no hunger) under climate change, water scarcity and planetary boundaries: An insight on the opportunities and pathways for transformation and implementation.

Chaired by Jacques Wery (ICARDA, Egypt) and Rabi Mohtar (AUB, Lebanon)

22 March 2021. 10:00AM-12:00PM (GMT+2)

The webinar aims to discuss opportunities and pathways to implement development projects in the drylands of Africa and Asia, recognizing that approaches based on a single technology (e.g. new varieties) a single commodity (e.g. wheat) or a single resource (e.g. water) are not sufficient to achieve a sustainable transformation of agri-food systems and synergies between SDG1 (no poverty) and SDG2 (no hunger) under climate change and within planet boundaries. The role of systems research for a systemic transformation in development projects will be discussed based on examples of action research, systems modelling and participatory research in different regions.

Webinar 2: Designing climate smart and resilient cereal-livestock based farming systems for food and nutrition security in the drylands of Africa and Asia.

Chaired by Zvi Hochman (CSIRO, Australia) and

Lamia Ghaouti (IAV Hassan II, Morocco)

23 March 2021 10:00AM-12:00PM (GMT+2)

Farmers design their farming systems by manipulating their crop-livestock balance, cropping intensity, the diversity of their crops and crop types and the level of exogenous inputs within the limits of their land, labor and other resources. Will dryland farming systems that have evolved to be resilient to historical weather patterns and socio-economic circumstance stand the test of time over the next thirty years or will transformational changes be required to adapt to a future climate in 2050 and beyond? Dryland agriculture is both vulnerable to the impacts of global warming and a significant contributor to the greenhouse gas (GHG) emissions that cause it. To be resilient to global change, farming systems need to achieve household food security and nutrition goals while reducing vulnerability to a warmer and increasingly variable climate. To be climate smart, these systems will balance these objectives with the need to reduce GHG emissions and to conserve natural resources. This webinar will discuss issues, challenges and case studies relating to co-design of resilient climate smart cereal-livestock farming systems.

Webinar 3: Multi-scale and multi-criteria trade-off analysis in the SDG1-SDG2 nexus, to co-design sustainable and healthy agri-food systems and inform policies.

Chaired by Hatem Belhouchette (CIHEAM, France) and

Pytrik Reidsma (Wageningen University and Research, The Netherlands)

24 March 2021 10:00AM-12:00PM (GMT+2)

The objective of this webinar is to present and discuss case studies that have addressed methodological challenges related to the co-design of resilient and sustainable farming systems in dryland areas. More particularly, this session will initiate a debate on the multiscale, multidisciplinary and trade-offs analysis when faced with the challenges of co-designing innovative farming systems with multifaceted objectives including optimal productivity, conserving natural resources and ensuring household food needs. Presentations have been selected to represent a variety of different biophysical and socio-economic contexts, assessment objectives, and methods and tools/models that, in one way or another, engage stakeholders.

Webinar 4: Accelerating and amplifying systemic transformation of agri-food systems with digitalization of research and advisory services to family farmers and decision makers

Chaired by Ram Dhulipala (ICRISAT, India),

Thouraya Souissi (IRESA, Tunisia) and Bruno Gerard (CIMMYT, Mexico)

25 March 2021 10:00AM-12:00PM (GMT+2)

Digitalization has transformed most industries in a fundamental way. From incremental efficiency gains to enabling disruptive business models, the impact of digital technologies has been far reaching. Evidence, however, points to a low integration and use of digital technologies in agriculture despite their immense transformative potential especially in smallholder and resource poor contexts. In some instances, digitalization of agricultural research has led to efficiency gains, for example, faster varietal development, tablet-based surveys, and ICT enabled communication of climate information and precision farming. Impacts on the broader farm system, however, require better transmission of research around management and agronomy to farmers and enhanced connections to the private sector. Facilitating and catalyzing digitally enabled systemic transformation of agri-food systems that touches upon a number of global issues like climate change, GHG emissions, resilience etc. would require a more coherent approach towards the digitalization of agri-food systems from research through to advisory systems that support farmers. Such innovations will find ready users only when agricultural research and extension interfaces with market access, government policy, social setting and a host of other local factors that influence farmer behavior and decisions. The design and provisioning of digital tools and interventions, therefore, need to incorporate elements of user-centered design that consider decisions around technology adoption and behavior. This webinar will bring together examples of and the current thinking on application ICTs and digital technologies addressing issues at a broader systems and regional scales.

Webinar organization

Technical backstopping (pre, during and post activities) of the webinar organization will be ensured by a dedicated team from CIHEAM and ICARDA. Each webinar will have a lead scientist working with this team and a co-lead who will also be the moderator of the webinar.

Organizers of the webinars can be reached at: fsd7-CIHEAM-adamolle@sciencesconf.org and fsd7-ICARDA-megenasa@sciencesconf.org