Food and Agriculture Organization of the United Nations

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Informal Consultation for Europe and Central Asia
12-15 July 2021

Background Note
Session 3
Closing the digital gap in Europe and Central Asia – Regional Priority 1

Regional Priority 1: Formulating effective policies, promoting digital innovation and facilitating rural livelihoods, with an emphasis on smallholders, women and youth

Technical discussion on digitalization and innovation – Regional Priority 1

This technical session will allow for a deeper dive into digital innovation in Europe and Central Asia, reflecting the big challenge of how to ensure that smallholder farmers and other vulnerable groups in rural areas become part of digital transformation.

A moderated panel discussion will highlight the issues of digitalization and the importance of its inclusion in the programme of the region as an accelerator (as outlined in the Strategic Framework) towards achieving the Sustainable Development Goals (SDGs).

The session also expects members and non-state actors to provide their thoughts and views on the guiding questions in the background document, regarding how to contribute to closing the digital gap, ensuring that smallholders become part of digital transformation in order to address Regional Priority.

1. Challenges for smallholders in applying digital innovation

Digital technologies can contribute to the increase of efficiency gains in agriculture.

E-agriculture, also called digital agriculture or agriculture 4.0, offers strong potential for driving economic growth and increasing incomes among the rural poor through better efficiency of agricultural production, improved livelihoods, and value-chain development. It can also play an important role in addressing some of agriculture's most pressing challenges, which include climate change, loss of biodiversity, drought, desertification, agricultural trade, high individual risk, and inefficient supply chains.

Alongside its recommendations to national governments, and encouraging its members to work towards digital transformation of agriculture, and following the Regional Conference in 2018, FAO commits to:

- assisting the countries in Europe and Central Asia in transforming their agricultural sectors and leveraging e-agriculture to improve the livelihoods of farmers, both women and men, as a cross-cutting instrument and in the framework of the three regional initiatives[1];
- collecting and analysing good practices, tools and mechanisms for knowledge sharing, and providing policy advice and capacity development to maximize the benefits and minimize the risks of e-agriculture technologies;
- developing, in collaboration with national, regional and international partners, a capacity-development framework in e-agriculture at all levels (policy-makers, institutions and people);
- providing a neutral regional platform to share knowledge on, and support the implementation of, the national e-agriculture strategies for countries in Europe and Central Asia;

[1] Regional Initiatives for Europe and Central Asia: http://www.fao.org/europe/regional-initiatives/en/

- establishing a national and regional digital innovation ecosystem, in collaboration with public and private partners, to foster cross-sectoral dialogue and support youth entrepreneurship to identify and accelerate innovative solutions using new technologies in a structured way.

FAO and partners underline the need to narrow the gap between urban and rural, rich and poor, men and women, to reduce poverty, provide access to basic services, and make progress in achieving the SDGs, in particular SDG1, SDG2, SDG10 and SDG17.

The rural digital divide exists due to a series of issues related to access, affordability, appropriateness, adaptation, and ability to use digital technologies. These common barriers can be overcome by paying particular attention to connectivity, content related to the context (localised content and use of local language), capacity (digital skills, and individual and institutional capacity), confidence in the use of the technologies, as well as trust in the digital systems. This is why the response should be inclusive (taking into account youth and gender issues) and in line with the components of the digital agriculture strategic framework[2].

Removal of these crucial deterrents is needed to leverage the potential of Information and Communication Technologies (ICTs) in achieving the SDGs. Presently, the low use of digital technologies in agriculture and rural areas can be explained by low or lack of return on investment for smallholders. Simple, effective and affordable technologies should be privileged. Due to a great variety of farm size and diversity, the technologies are often not adequate for smallholder farmers' realities. To avoid the exclusion of smallholders from policy incentives and rural services, they should be included in national digital strategic frameworks. At the level of farmers, service providers and regulators, we are still confronted with low capacities to generate, use and manage data and information. The issue of on farm-data ownership and privacy is a limiting factor.

2. FAO Strategic Framework and approach in the region

Digitalization and innovation are fully embedded in the new FAO Strategic Framework, whether as part of the aspiration for better production focussing on green innovation[3] and digital agriculture[4] or as part of the accelerators. It is critical that technology, innovations and data are inclusive and gender-sensitive, and used to spur development.

Helping farmers take full advantage of new technologies such as digital agriculture, biotechnologies, precision agriculture, innovations in agroecology, and Artificial Intelligence (AI) to increase food production while respecting the environment, is of paramount importance. As an example, the food and agriculture sectors can harness digital tools ranging from e-commerce and blockchain transaction

[2] Status of Digital Agriculture in 18 countries of Europe and Central Asia: www.fao.org/3/ca9578en/CA9578EN.pdf
[3] Better Production – Green Innovation. Programme Priority Area in the MTP 2022- 25 and PWB 22-23 p. 53
[4] Better Production – Digital Agriculture. Programme Priority Area in the MTP 2022 – 25 and PWB 22-23 p. 63

ledgers to the use of AI for improved pest control and crop genetics, as well as tools allowing optimized management of natural resources and early warning of food security threats.

Innovation in general and in particular in agriculture, is a central driving force for achieving a world free from hunger and malnutrition. Innovations, including social, policy, institutional, financial and technological innovations, which are science and evidence-based, are important drivers affecting food and agricultural production and distribution processes.

On data**,** FAO's Hand-in-Hand Geospatial Platform and the big data lab exemplify how data on food, agriculture, socio-economics, and natural resources can come together to help strengthen evidence-based decision-making in the food and agriculture sectors. Data can, *inter alia*, enable monitoring of agricultural water productivity, including agricultural systems at risk due to human pressure on land and water, ascertain aquatic species distribution, and analyse precipitation trends, allowing the design of targeted agricultural interventions and investment plans through a territorial approach, which fosters equality, inclusion and sustainable food and nutrition security.

As technologies revolutionize, the risks of unequal access and exclusion loom. Investments in human capital by developing capacities, as well as policy and regulations minimizing such risks, are required. It is key that the labour supply responds to the new labour demand that will result from the new technologies and innovation to make the process more inclusive. Technologies have to be affordable, so everyone can access them and use them, and other structural barriers to their application, including education and training, must be identified and addressed.

In its approach on digital agriculture in the region, the FAO 'Digital Village Initiative' is a way to bring all the elements of digitalization needed to support the agrifood system transformation and the rural transformation needed to achieve the SDGs.

In Europe and Central Asia, FAO is proposing a framework and twinning approach, which would see smart villages in Western Europe be connected to villages in the rest of the region. Rolling out 'champions villages' will enable a larger-scale engagement. This approach is based on the work that is already being done in every country, in partnership with the actors involved in digital agriculture at all levels. It is a people-centred approach that builds on synergies with existing projects and initiatives such as agrotourism, or the globally important agricultural heritage systems.

Rural digital transformation is driven by the urgency to narrow the urban-rural digital gap and regional disparities, accelerate job creation, rural economic diversification, promote agrotourism, and improve farmers' incomes and livelihoods.

The 'Digital Village Initiative' will help to build back better and achieve the four 'betters': better production, better nutrition, a better environment, and a better life. The initiative also aims to unleash the potential of digital agriculture in bridging the urban–rural divide by creating urban–rural linkages. It will help to integrate rural areas into the digital economy by increasing access for rural women to digital technologies and by expanding the concept of access to digital technologies, not only with respect to agriculture, but also to rural services and diversification of income.

3. Guiding questions for technical discussion on digital innovation

- What are the challenges and gaps to be bridged in terms of digital innovation for rural populations making their living from the agricultural sector in your country?
- What are the opportunities (main factors, considerations) to create an enabling environment in your country for digital innovation in favour of smallholder farmers?
- Which are the digital innovations you would like to share with other countries?
- What are your preferred mechanisms to share your experience at regional and international levels that we could use to collaborate?

4. **Countries contacted for panel discussion:**

- Albania
- Bosnia and Herzegovina
- Tajikistan
- Slovenia, France, Spain

References

- **FAO.** 2020. *Innovation and digitalization key for agriculture development in Europe and Central Asia*. http://www.fao.org/news/story/en/item/1323018/icode/
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