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Statement of the Food and Agriculture Organization of the United Nations (UN FAO)

on the 26th OSCE Economic and Environmental Forum

“Promoting economic progress and security in the OSCE area through innovation, human capital development, and good public and corporate governance”

5-7 September 2018, Prague, Czechia

Excellences,
Distinguished Delegates,
Ladies and Gentlemen,

I would like to call your attention to e-agriculture for digital transformation, or the use of Information and communication technologies (ICTs) in food and agriculture in the context of digital economy. In 2006, FAO has received a global mandate to facilitate the e-agriculture action line by the World Information Society Summit. At FAO, rather than promoting digital technologies, we consider and facilitate the creation of appropriate policy and institutional environment and capacity development, which all together can allow innovations to take place.

Today, the world community faces unprecedented and escalating challenges in relation to agriculture, which can be observed or are affecting Europe and Central Asia. The world's population is expected to grow to almost 10 billion by 2050, boosting agricultural demand – in a scenario of modest economic growth – by some 50 percent compared to 2013. Income growth in low- and middle-income countries would hasten a dietary transition towards higher consumption of meat, fruits and vegetables, thus adding pressure on natural resources.

- Crop and livestock sectors use 70 % of fresh water resources;
- Livestock alone uses 80% of global crop and pasture areas
- More land is needed for the fastest developing sector: aquaculture.
- By 2050 we would lose 60% of our biodiversity, and we will never again have the luxury of cheap energy sources to be harnessed in agriculture.
- The growth of yields has slowed to rates that are too low for comfort. By 2050 we will need 60% more food, 50% more energy and 40% more water.
- Food losses and waste claim a significant proportion of agricultural output (1/3 in EU and Russia), and needs optimisation.
- In addition, we need to operate in a scenario of climate change, which if not addressed may throw back to poverty 35 to 122 million people by 2030.
- Global hunger is again on rise, which may lead to deteriorated security.

Satisfying increased demands on agriculture with existing farming practices, business as usual, current political economy model, is not an option: is likely to lead to more intense competition for natural resources, increased greenhouse gas emissions, and further deforestation and land degradation.

WE NEED paradigm shifts, such as Sustainable food systems, climate smart agriculture, agroecology, AIS transformation. The Information and communication technologies can contribute to this transformation by offer significant benefits and means to leverage the SFSs.

The potential for data acquired through e-agriculture to fundamentally change food and business systems is real and immediate. With the introduction of big data analytics, cloud computing, cheap and improved sensors, and high-bandwidth mobile communication, a revolution in e-agriculture has been observed in the past decade, known as Agriculture 4.0. In transforming SFS, e-agriculture can specifically address:

- Governance (good governance practices transparency, inclusion, fight corruption, managing natural resources)
- Sustainable diets and malnutrition
- Reduce food loss and waste
- Resilience to risks and disasters
- Contributes to social inclusion
- Facilitates agricultural trade integration. For instance, distributed ledger technologies such as blockchains allow for trusted information exchange among a wide range of actors that leads to shared benefits. They may support e-commerce initiatives, directly linking food producers to local and international buyers and end-consumers, thereby increasing market transparency and shortening social distances in the food system. They may enhance food safety through traceability.

However, at FAO we are aware that digital technology dividends are not automatic, and not everyone can benefit equally. Technology challenges in applying e-agriculture include triple divide, complexity of using large sets of data and their analysis, open data, data ownership and data sovereignty, interoperability, slow adoption of innovations in agriculture and security concerns, related to cybercrime. Hence, the impact of those new technologies is still unknown, may have a disruptive effect and requires further socio-economic assessment and strategic and participatory planning.

Support systems and capacity development are pertinent for generating a development change through ICTs in agriculture. Hence, there is a critical need for actions at policy level to maximize the benefits and minimize the potential risks, and ensure government commitment to upscale new solutions and create a structured enabling environment for innovation.

To achieve a paradigm shift, we need to reorient the technologies in service of transformation, which includes private and public actors alignment, reorienting of research agenda, empowerment of stallholders and family farms, youth and elderly. The technological innovation is not likely to happen without deliberate efforts to promote inclusion. This message came very clear from the joint FAO and Bulgarian EU presidency high- level ministerial forum on e-agriculture in April this year in Sofia and the FAO Regional Conference in Voronezh, Russian Federation in May 2108.

FAO advocates for a participatory policy formulation on e-agriculture linked to agricultural and rural strategy goals, based on a detailed needs assessment of agricultural sectors against the available ICT solutions. The food and agriculture sectors lag seriously behind other sectors – while food systems innovation has attracted 14 billion \$ since 2010, the health has attracted 145 billion\$ and very often agricultural sector is not considered properly in the overall digital strategy discussions at country level.

The FAO -ITU national e-agriculture strategy guide and toolkit, published in 2016 is now also available in Russian.

FAO will continue to develop tools, such as the e-AGRI index for country demand and preparedness for embarking on an e-agriculture strategy, facilitate good practices exchange and capacity development frameworks in support of the e-agriculture strategies.

At FAO we believe that no technology alone can resolve the problems in agriculture but the right combination of channels, processes and tools that include digital innovations- both technological and social, biological improvement and agroecology, can make a development change where it is most needed and create a crucial difference in the livelihoods of people involved in agriculture and related fields.

FAO in Europe and Central Asia provides support to our member countries through three regional initiatives – (i) regional initiatives on empowering small holdings and family farms; (ii) trade integration and resource management and climate change and digitalisation is a cross-cutting topic. More specifically, we collect examples of innovations that have already added value to smallholders and family farmers-men and women; work actively on setting standards for information sharing and interoperability; and contributes to enhancing the digital skills in innovation ecosystem in agriculture. In FAO we have elaborated capacity development framework on agricultural innovation systems which has been piloted in many countries in the world. We are ready to adapt this framework in the context of digital innovations.

I will like to close by stating a famous African proverb: "If you want to go fast, go alone, if you want to go far, go together".

Ladies and Gentlemen,

I strongly believe that this proverb is no longer relevant in the digital era: we need to go both fast and far. Therefore, FAO and OSCE, in cooperation with other intergovernmental organizations and governments can help go fast by adopting and implementing comprehensive national digital strategies that consider *interalia* agriculture and food sectors, and assist the process of transformation, allowing countries in the region to go both together and far.

Thank you.

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