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FAO REGIONAL CONFERENCE FOR THE NEAR EAST

Thirty-fifth Session

Muscat, the Sultanate of Oman, 2–4 March 2020

Innovation in Agriculture and Food Systems for Achieving SDGs

Executive Summary

The International Forum on Innovation for Agri-Food Systems to achieve the SDGs will be held in Riyadh, on 15–17 March 2020. The forum will serve as a staging point to address issues that require solutions and to explore available opportunities based on innovation in agriculture and food systems. The forum reflects the interest of FAO and Saudi Arabia to improve food systems and increase agricultural productivity and sustainability through policies, innovations and technologies and to promote investment to overcome the challenges in the agriculture and food sectors and in the sustainable management of natural resources. The forum seeks to produce knowledge and information about innovations that are applicable in agriculture and food systems and in rural development in the Near East and North Africa, and in the world. It provides an opportunity to identify the best ways through which agriculture and food systems innovation can be used efficiently to support countries in achieving the SDGs, and, in particular, to increase smallholder farmer productivity and income. The event is designed as an interactive forum that brings together stakeholders from all sectors to share their expertise on innovation for sustainable agri-food systems and deepen their understanding of its importance and of the importance of promoting agricultural innovation. The forum will centre on three key pillars:

- i) emerging technologies and innovation for agricultural production and plant health;
- ii) innovation to create job opportunities and employment for youth and women: through start-ups and business incubators, agricultural input supply chains, insurance programs, mobile learning centres and others;
- iii) innovating agri-food systems for markets and value chains: through market linkage, value addition through voluntary sustainability standards such as organic and fair trade, traceability, sustainable packaging and processing, advanced smart shops and food waste management.

The forum aims to propose processes and paths to unleash and scale-up innovation potentials in sustainable agri-food systems, and to activate private and public partnership and investment. The agenda includes the launch of an exhibition on agri-food innovation and technologies, the presentation of success stories, discussion panels, a youth forum and the organization of a youth challenge, and ten technical sessions on tangible examples of innovations. There will also be a high-

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level segment, including ministerial panels, which will be linked to the meeting of the agriculture ministers of the G20 group to be held in Riyadh immediately after the forum.

Suggested actions by the Regional Conference

The following recommendations are made to the Regional Conference:

1. Encourage country participation in the forum at the ministerial level and facilitate the attendance of relevant national participants.
2. Encourage FAO and its Member Countries to pursue actions and develop national and regional innovation programmes in support of small-scale family farmers and sustainable agri-food systems.

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I. Innovation in agriculture and food systems

1. Agricultural innovation is the process whereby individuals or organizations bring new or existing mindset, approaches, products, processes or ways of organisation into use for the first time in a specific context to increase effectiveness, competitiveness, resilience to shocks or environmental sustainability, and thereby contribute to food security and nutrition, economic development or sustainable natural resource management. In this context, it is important to consider that agriculture refers to all sub-sectors, including crops, livestock, fisheries and aquaculture.
2. Not all innovations contribute to achieving sustainable development goals in the same way. For innovation to contribute to the Sustainable Development Goals (SDGs), it must improve productivity; equity and sustainability resource use efficiency (particularly land and water); and, and green energy sources); the adaptation of food systems to climate change, equity and sustainability. It must also help reduce losses and waste and improve the production and consumption of more nutritious food. It must also help the economic development that would lift smallholder farmers out of poverty, reducing their vulnerability and building their capacity to participate actively in their country's economy. In particular, innovation should provide women and youth with new and more rewarding opportunities for decent employment in agriculture and along the food chain.
3. While the commercial agriculture sector in developing countries has adopted innovation such as precision agriculture technologies, the challenge is that the transformative innovations and modern tools that make agricultural systems more efficient and sustainable are often not designed for smallholder use. Adapting technology and innovation design to smaller scale producers in developing countries is a major challenge.
4. It is important to think of innovation holistically, rather than simply in terms of digital innovation. Innovation in agri-food systems also involves different policy, social, and institutional processes, mechanisms to improve access to markets, credit or extension services, technologies for adding value to raw materials, and new ways of marketing products.
5. To better understand the role of innovation in agriculture, FAO hosted an International Symposium on Agricultural Innovation for Family Farmers at its headquarters in Rome, from 21 to 23 November 2018. The symposium focused on unlocking the potential of innovation in agri-food system to achieve the SDGs¹.

II. Innovation in agriculture and food systems in the Near East and North Africa region

6. The Near East and North Africa (NENA) region faces a series of challenges related to food and nutrition security and to the degradation of its already scarce natural resources. Conflict, migration and climate change exacerbate these challenges. It is the only region where both the prevalence and the quantity of malnutrition have increased over the last decade. Current trends are clearly unsustainable and, if not adequately addressed, they will aggravate the above problems and hinder the achievement of the SDGs. The region requires new development approaches that employ innovative policies, technologies and organisational processes and practices. Cooperation among the countries of the region is also necessary, on issues of

¹ <http://www.fao.org/about/meetings/agricultural-innovation-family-farmers-symposium/en/>

- economic development, nutrition and food security, development of inclusive and sustainable food value chains; water on the fight against transboundary animal and plant diseases; and on use of innovations for the overall improvement of agriculture food systems and natural resource management.
7. Actions are required to remove barriers and address the constraints that stifle the innovation capacity of producers and other stakeholders along the food value chain and beyond it by engaging with and optimizing for governance and public policy. As part of this, innovative financing and investment solutions needs to be considered. The forum will shed light on the drivers of innovation and the constraints to scaling it up to achieve the transformative change required in the region's agriculture and food systems.
 8. Scaling up innovation requires that stakeholders and decision makers are better able to understand the impact pathways as well as new partnership and business models involving the public and private sectors, civil society and farmer organizations.

III. The international forum on innovation

9. To respond to the need to scale up innovation to deal with the various regional challenges, FAO is coordinating the International Forum on Innovation in Agriculture and Food Systems for achieving the SDGs.
10. This event is also in-line with the strengthened focus on innovation within FAO, underpinned by the newly established Office for Innovation. Headed by a Chief Scientist at the level of an Assistant Director-General, the Office will focus on leveraging innovation, technology and new approaches in support of Member Countries to contribute to improving results and creating synergies.
11. Although this is an international forum, there will be a strong focus on the NENA region, drawing out locally applicable solutions and best practices. Saudi Arabia will host the forum in March 2020, shortly before the G20 summit, which Saudi Arabia is chairing and hosting. Participants at the forum will be able to jointly outline the pathways and identify the drivers that lead to successful innovation, as well as identifying opportunities for scaling up innovation through investments and partnerships.
12. The specific objectives of the forum include:
 - (i) to serve as an interactive platform for knowledge sharing and exchange to better understand the potential of agri-food system innovations to address the SDGs;
 - (ii) to propose processes and pathways to unlock the potential of innovation in agri-food systems and to scale up inclusive and sustainable innovations;
 - (iii) to act as a catalyst for boosting partnerships as well as public and private investments to foster and scale up agricultural and food systems innovation;
 - (iv) to encourage young entrepreneurs to collaborate in creating innovative solutions for transforming agriculture and food systems in the NENA region; and
 - (v) to showcase success in the field where innovation in agriculture and along the food system are contributing to achieving the SDGs.
13. Approximately 400-500 participants from governments, public, private, civil society and farmer organizations are expected to participate and to work on innovation for sustainable food and agriculture systems. Inspiring world leaders, innovation practitioners, farmers, researchers and policy-makers, students and young entrepreneurs, experts and thought-provoking speakers will be invited to share their stories, innovations and lessons learned, and to challenge forum

participants to think outside the box on how innovations in agri-food systems can drive the achievement of the SDGs.

IV. Major themes of the forum

14. The forum will address two broad categories of innovation: (i) digital innovation, artificial intelligence and disruptive technology and (ii) social, institutional, organizational and policy innovation. The first category focuses on how to harness the potential of the internet, artificial intelligence, big data and remote sensing. In this regard, the forum will address questions around what agricultural and food chain technologies contribute to more efficient and sustainable practices. The second category focuses on what policies and institutional mechanisms can be put in place to accelerate the development of more productive, sustainable, efficient and equitable value chains and food systems.
15. The forum has been planned to be a dynamic, multi-stakeholder and multi-disciplinary event aimed at exchanging experiences on agricultural innovation and understanding the potential of different types of agricultural innovations their key drivers and processes, and the impact pathways to foster and scale up innovation through the exchange of knowledge and practices. The forum will also address the adaptation of policies and incentives and the development of partnerships and action plans to enable adaptation. The forum will focus on three major themes: (i) agri-food systems innovation for markets and value chains, (ii) innovation for youth and women's employment, and (iii) emerging technologies and innovation for agricultural production and plant health.
16. Within the theme of agri-food systems innovation for markets and value chains, the focus will be on the innovations needed for market linkage and to ensure facilitating development of sustainability standards such as organic and fair trade, traceability, food safety, and sustainable-packaging and processing. How to create smart supermarkets and prevent and manage food loss and waste will also be addressed within this theme.
17. Innovation for youth and women's employment will focus on creating start-ups, business incubators, seed supply chains, insurance schemes, and mobile education centres. There will be a strong focus on the role of youth in agriculture, particularly within the Youth Forum segment.
18. Emerging technologies and innovation for agricultural production and plant health will focus on a variety of technologies and practices, such as precision agriculture, hydroponics, early warning systems, and crowd sourcing systems. Managing agriculture in the desert, undertaking remote diagnostics, the use of drones, gene editing, climate information services, digital extension and precision harvesting will also be covered under this theme.
19. By addressing these themes, the forum aims to achieve four major outputs. First, the forum will review innovations with potential to address key SDG challenges, including sustainable productivity enhancement, natural resources conservation and restoration, smallholder income enhancement, adaptation to climate change, sustainable and efficient value chains. This last component will include exploring transformation and value addition, healthy diets, responsible consumption, and waste management. Second, it will identify priority intervention areas for different stakeholders to unlock the potential of innovation for agri-food systems to achieve the SDGs. Potential benefits of nexus approaches that look at issues in an integrated manner (Such as Water-Energy-Food or Land-Water-Nutrition), will be explored. Third, it will issue a call to action for stakeholders and investors in the region to unlock the potential of agri-food systems innovation. The forum is expected to design a pathway to encourage increased investments in

agricultural and food systems innovation, including the development of national innovation programmes in support of country efforts to achieve the SDGs. Finally, the forum will facilitate the development of a partnership framework and an innovation platform where government, the private sector, entrepreneurs, civil society and development partners join forces to increase investment to implement proposed actions. This platform will begin with the networks created at the forum, and can be perpetuated through the secretariat.