Multi-stakeholder Forum on Science, Technology and Innovation for the SDGs

New York, 15-16 May 2017

Concept Note for <u>Session 2b on the</u>
<u>*"Role of STI in ending hunger, achieving food security and improved nutrition and promoting sustainable*</u>
<u>*agriculture (SDG2)"*</u>

Trusteeship Council Room, UN Headquarters New York, 15 May 2017, 11:50 - 13:00 am

1. Background

This session will explore technology needs and gaps, implications of new technologies, and cooperation priorities for Sustainable Development Goal (SDG) 2. The session's conclusions will feed into a more general deliberation on SDG 2 progress at the High Level Political Forum on Sustainable Development in July 2017.

SDG 2 aims to "*end hunger, achieve food security and improved nutrition and promote sustainable agriculture*". At present, roughly 795 million people worldwide are undernourished, including 90 million children younger than five years old. Across all countries, those who live in rural areas are the most exposed to food insecurity. Fifty per cent of them are smallholder farmers.

Poverty and climate change exacerbate the global challenge of food insecurity. Other factors are directly implicated in the achievement of food security, including demographic growth, urbanization, changing consumption patterns, conflicts, and particular natural features in certain geographies.

Against this background, there is a need to deploy existing and new applications of science, technology, and innovation (STI) across the food system - in manners that fully consider the various dimensions of food security such as food availability, access, use, and stability. More broadly, STI is necessary to make agriculture and food systems effective components of sustainable development strategies.

2. Objectives

The session will contribute to all the mandated objectives of the Forum with regard to the role of STI in achieving food security by 2030. It will place particular emphasis on the identification of major potential benefits and development implications of a number of key technologies and the role of global and regional STI cooperation in connection with them. In this regard, the discussion should be organized in terms of the main dimensions of food security, and give priority attention to technologies with high potential impact.

For food availability, examples that should be addressed include the convergence of technologies such as artificial intelligence, drones, Internet of Things and big data for precision farming, technologies for sustainable soil management and the role of conventional cross-breeding and other genetic technologies in improving plants varieties and livestock. With regard to food access, recent developments in post-harvest technologies (for example, nanotech applications for enhanced crop preservation) and process innovation (in handling and marketing for example) could be considered. In the area of food utilization, different bio-fortification experiences would be relevant. Under the stability dimension of food security, the session could examine the role of STI, including social and process innovation, in adapting food production to climate change, and the experience of early warning systems that leverage satellite and other meteorological data.

As a complement to the discussion of the impact of such technologies and the opportunities for global and regional collaboration in their deployment, the panel could also address the need to develop adequate approaches to assess and manage technological risk in food systems, and identify related needs in terms of scientific and institutional capacity building.

Food security depends disproportionately on the contribution of women. Despite their prominent role in food production and processing, women typically have limited access to resources, particularly STI related ones, and are

often excluded from decision-making. Promoting community-driven approaches to the development of new farming technologies and crop diversification can benefit women and smallholder farmers more generally. The panel could identify good practices and propose initiatives to make food systems more gender sensitive, especially in their STI dimension.

3. Format of the session

The session will begin with a short (90 seconds) innovation pitch by a winner of the Call for Innovations for the STI Forum, followed by a panel discussion. The moderator will introduce the session and give the floor to the panellists for an initial round of remarks (7 minutes each) which will focus on one or two STI applications and/or international collaboration initiatives relevant to food security. This will be followed by a moderated discussion and remarks from the floor.

4. Questions for discussion

The discussion will be guided by the following questions:

- What are emerging technologies with high impacts on food availability (access/ utilization/ stability) and what key changes are needed in food and innovation systems to eradicate hunger sustainably? How can they be scaled-up quickly? What are characteristics of successful global and regional STI collaborations to this end?
- What do we know about women's needs in food systems and what could be done to make agricultural STI more relevant to them?
- What are your top three recommendations for action by the United Nations system, governments, businesses, scientists, civil society, and others?