

## Web Annex 2:

### Science and innovation for agrifood systems transformation

#### Background

1. The world is not on track to achieve Zero Hunger by 2030. Between 720 and 811 million people in the world faced hunger in 2020. Considering the middle of the projected range (768 million), 118 million more people were facing hunger in 2020 than in 2019 - or as many as 161 million, considering the upper bound of the range<sup>1</sup>. The global intersecting emergencies of climate change, biodiversity loss, pollution and the COVID-19 human health crisis have increased risks and vulnerabilities of agrifood systems. Between 2008 and 2018, agriculture absorbed 26 percent of the overall impact caused by medium- to large-scale natural hazard induced disasters, with disaster-related loss in crop and livestock production valued at USD 280 billion. Many contemporary agrifood systems are unsustainable and, as currently governed, not fit-for-purpose.

2. To achieve the Sustainable Development Goals (SDGs), agrifood systems must be transformed to nourish people, nurture the planet, advance equitable livelihoods and build resilient ecosystems. The strategic deployment of science and innovation can be a central and significant enabling factor for agrifood system transformation, and act as an engine leveraging emerging opportunities. As the lead United Nations (UN) technical agency for food and agriculture, FAO should be at the forefront of facilitating the integration of science and innovation to provide solutions that improve small-scale producers' income, enhance rural development, reduce inequalities, and increase agricultural productivity while building resilience to climate change, reducing agrifood system related emissions of greenhouse gases, and protecting biodiversity and natural resources. Indeed, FAO's new Strategic Framework 2022-31, anchored in Agenda 2030, recognizes technology, data and innovation as three of the four accelerators to be applied in all programmatic interventions.

3. This document provides a short update on the Science Days that were held in July 2021 as well as FAO's engagement in the Science, Technology and Innovation (STI) Forum.

#### Science Days

4. In September 2021, the UN Secretary-General (UNSG) convened a Food Systems Summit<sup>2</sup> as part of the Decade of Action to achieve the SDGs by 2030. In preparation for the UN Food Systems Summit (UNFSS), and drawing on the Action Tracks and various dialogues, the Scientific Group organized the "Science Days for the UN Food Systems Summit 2021"<sup>3</sup>, facilitated and hosted by FAO on 8-9 July 2021.

5. The Science Days were organized as two half-day virtual events, with 4 plenary and 13 parallel sessions, in combination with side events. More than 2,000 participants from research, policy, civil society and industry came together to examine how to unlock the full potential of science, technology and innovation to transform food systems. They also discussed:

- advancing science-based options for achieving more healthy diets and more inclusive, sustainable and resilient agrifood systems;
- putting science to work, especially through stronger science-policy interfaces, investments in institutional and human capacity, and capitalizing on open models and open data;
- addressing missed opportunities and contentious issues hindering the advancement of science;

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<sup>1</sup> <https://www.fao.org/3/cb4474en/cb4474en.pdf>

<sup>2</sup> <https://www.un.org/en/food-systems-summit>

<sup>3</sup> <https://sc-fss2021.org/events/sciencedays/>

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- empowering and engaging key players, including youth, Indigenous Peoples, food industry and start-ups, and women;
- pushing the frontiers of science, especially in bio-science innovations, digital innovations, and policy and institutional innovations; and
- looking ahead to the world in 2030 and beyond, and prioritizing urgent actions to achieve Agenda 2030 and the SDGs, especially SDG 2.

6. Brief highlights of the discussions that took place over the two days have been published in a report<sup>4</sup>, with an emphasis on opportunities for investments in science and knowledge and evidence gaps that must be addressed to meaningfully and successfully transform agrifood systems. The Science Days were preceded by numerous independently organized side-events<sup>5</sup> from 5 to 7 July 2021 that offered an opportunity for partners to present their insights on science, technologies and innovations that can drive agrifood systems' transformation. A total of 49 side events were organized with FAO involved in the co-organization of 9, including on the role of nuclear and related technologies, Indigenous Peoples' food systems, agricultural innovation systems, aquatic foods, forgotten foods, Agroecology, land and water management and the science-policy interface, among others. The strategic report<sup>6</sup> from the Scientific Group for the UNFSS was subsequently revised in the light of the comments received during and after the Science Days.

### **FAO's Engagement in the Science, Technology and Innovation (STI) Forum**

7. The Addis Ababa Action Agenda and the 2030 Agenda for Sustainable Development established the UN Technology Facilitation Mechanism (TFM) to support the achievement of the SDGs. The TFM comprises the following:

- an annual multi-stakeholder Forum on Science, Technology and Innovation (STI Forum);
- an online platform (2030 connect) – UN online technology platform for the SDGs;
- a group of 10 high-level representatives appointed by the UN Secretary-General from civil society, the private sector and the scientific community (10-Member Group); and
- the Inter-Agency Task Team on Science, Technology and Innovation for the Sustainable Development Goals (IATT).

8. FAO is an active member of the UN Inter-Agency Task Team on Science, Technology and Innovation for the Sustainable Development Goals (IATT). The 10-Member Group is mandated to work with the IATT to prepare the annual STI Forum and to develop and operationalize the online platform. In 2021, FAO contributed to the Multi-stakeholder Forum on Science, Technology and Innovation (STI Forum) held on 4-5 May through STI Forum Session 2 entitled Effective paths towards the SDGs: STI for ending poverty and hunger, enhancing human well-being and building resilience and a High-Level Side Event on Science, Technology and Innovation (STI) for SDGs Roadmaps. FAO also actively contributed to the High-Level Political Forum (HLPF) through its dialogue on the Partnership in Action on Science, Technology and Innovation for SDGs Roadmaps and a high-level session on mobilizing science, technology and innovation and strengthening the science-policy-society interface held on 9 July 2021. The UN online technology platform for the SDGs is an opportunity to share the link to FAO's knowledge portals for wider dissemination.

### **Outlook**

9. To bring FAO's important initiatives into a coherent framework, and to facilitate the development of new initiatives, the Organization is developing its first ever FAO Science and

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<sup>4</sup> [https://sc-fss2021.org/wp-content/uploads/2021/08/Science-Days\\_Report.pdf](https://sc-fss2021.org/wp-content/uploads/2021/08/Science-Days_Report.pdf)

<sup>5</sup> <https://sc-fss2021.org/events/sciencedays/side-events/>

<sup>6</sup> [https://sc-fss2021.org/wp-content/uploads/2021/07/Scientific-Group-Strategic-Paper-Science-for-Transformation-of-Food-Systems\\_August-2.pdf](https://sc-fss2021.org/wp-content/uploads/2021/07/Scientific-Group-Strategic-Paper-Science-for-Transformation-of-Food-Systems_August-2.pdf)

Innovation Strategy that will help strengthen the use of science and innovation in FAO's technical interventions and normative guidance.

10. Finally, multilateralism and the upcoming international events – the recently held UN Food Systems Summit 2021, COP 26, CBD COP 15 – are important milestones that will help us in driving forward the transformative agenda and we need to weave a common narrative between them. We must drive stronger connections between the Agrifood Systems agenda, the Climate agenda and the Biodiversity agenda, given the interdependency of these global agendas.