



Food and Agriculture  
Organization of the  
United Nations

The Role of IP in providing Sustainable Agriculture and Food  
Systems in the context of Climate Change - Geneva, 28 June 2023

**What is FAO's role in supporting  
innovation to deliver more sustainable  
crop and food production in the future?**

**Vincent Martin**  
Director, Office of Innovation, FAO

Crop production is the foundation of world food security, and it is at risk.

▶ If we continue operating the way we do today, we will continue facing hunger and malnutrition over the next decade, and we will not achieve the SDGs.

Dr QU, Dongyu, FAO Director-General,  
8 July 2021





## We need transformative change.

► To achieve the ambitious transformation required by today's challenges, we need to change:

- policies;
- mindsets;
- approaches; and
- business models.

Dr QU, Dongyu, FAO Director-General, 23  
March 2021 and 8 July 2021

# Enabling more efficient, inclusive, resilient and sustainable agrifood systems

## FAO Strategic Framework 2022-2031

- Innovation as a key accelerator

## FAO Science & Innovation Strategy

1. *Strengthening science and evidence-based decision making*
2. *Supporting innovation & technology at regional & country level*
3. *Serving Members better by reinforcing FAO's capacities*

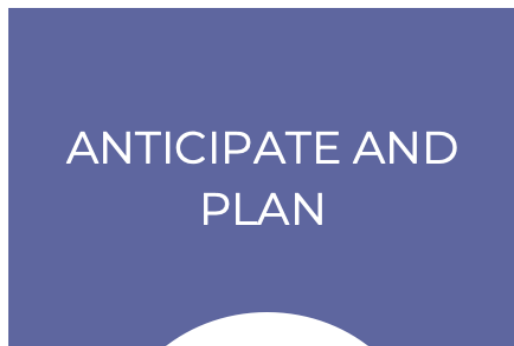
Enablers:

- i) Partnerships and ii) innovative funding & financing



# FAO Innovation

► We **create an enabling environment for co-innovation** to support member countries towards agrifood system transformation by focusing on four areas:



# Agrifood systems Technologies and Innovation Outlook (ATIO)

- ▶ More than a biennial publication: **Data, information and analysis of science, technology and innovation (STI)**, for descriptive and impact assess
- ▶ **Global coverage** (focusing on LMICs)
- ▶ **Beyond non-tech STI** to cover institutions, processes and policies.



# Digital agriculture

- ▶ **Blockchain technology** can connect all the stakeholders in the supply chain from the farmer to the end consumer
- ▶ **Artificial intelligence** to increase farming efficiency (e.g. through agricultural robotics, soil and crop monitoring, predictive analysis and agricultural advisories with automated chats)  
[! *Ethical issues requiring global standards and guidelines*]
- ▶ **Precision agriculture** technology for optimised management of inputs

Our Office, for instance, leads

- 📌 **Global Network of Digital Agriculture and Innovation Hubs** launched by FAO
- 📌 Support to countries with **Digital strategies**



# Agricultural innovation systems approach

- ▶ **Co-development of innovative solutions** to address specific problems
- ▶ **Strengthening capacity** of national agricultural research systems, extension and advisory services, business enterprises and market intermediaries
- ▶ **Integration of innovation priorities** into the national policies and strategies

Examples: MAIPs; Tropical Agriculture Platform (TAP) and TAP-AIS project; innovation policies





# New genomic techniques

- ▶ New tool for plant and animal breeding in low- and middle-income countries.
- ▶ Potential hazards, benefits and impacts on the environment and society, plus regulatory aspects
  - Issue Papers on **Gene editing and agrifood systems** (2022) and **Gene editing and food safety** (2023)



# Behavioural science for innovation and sustainability

- ▶ AMR in Mozambique
- ▶ Climate Smart Crop choices in Kenya
- ▶ Improve recycling habits to reduce FAO's carbon footprint
- ▶ Support Healthy diets and sustainable food choices



# Innovation and traditional knowledge

- ▶ **Indigenous Peoples' innovation** is place-based, context-specific, and holistic.
- ▶ Traditional knowledge and co-creation of innovation can result in rich cross-fertilization of knowledge and cultures, and **contribute to biodiversity preservation and climate resilience**.
- ▶ FAO report on *Labelling and certification schemes for Indigenous Peoples' foods*.

FAO-WIPO synergies around traditional knowledge protection and intellectual property frameworks?





## More examples from FAO's portfolio:

- **Sustainable crop production intensification** farming practices and technologies that support the development of resilient crop production systems.
- **Promotion of stress tolerant crop varieties and crop species** using emerging crop improvement technologies (including through the ITPGRFA)
- **Preserving crop diversity and genetic resources** for sustainable agriculture
- **Hydroponic solutions** to grow food while strengthening the livelihoods of communities
- **Adopting nuclear science**, such as with the sterile insect technique (SIT), for pest management



**Innovation  
is the future  
of sustainability**



**THANK YOU**

[www.fao.org/office-of-innovation](http://www.fao.org/office-of-innovation)