

Web Annex 2:

Scaling up digital solutions for the sustainable transformation of agrifood systems, including Artificial Intelligence (AI) and Digital Public Goods (DPG)

1. Digitalization efforts in agriculture are key to achieving sustainable agrifood systems for all, and underscore FAO's commitment to the 2030 Agenda for Sustainable Development (2030 Agenda) by advancing concrete, integrated and targeted policies and actions to drive Sustainable Development Goal (SDG) transformation. They have the potential to create and enable spaces for collaboration and inclusion to tackle epochal challenges, including the negative effects of climate change – as highlighted in the last Science and Innovation Forum 2023 session on “[AI & Digital Tools for Climate Resilient Agrifood Systems](#)”.
2. In the past few years, keeping abreast of the accelerated development of global trends, including the emergence of new and disruptive digital technologies, FAO has been actively exploring digital solutions and advisory services to further unlock their transformative potential and enhance new capabilities to make a greater impact worldwide, including through the implementation of targeted interventions on the ground, leaving no one behind.
3. Digital technologies, if correctly used and targeted, can bridge divides around the world, digital and beyond, helping smallholders through the same approach, accelerating their integration, bringing capabilities to them through enhanced knowledge sharing, capacity building, including digital skills and infrastructure, as well as tools in hand.
4. Renewed focus is being given on FAO's digital inclusion initiatives worldwide, benefitting women, youth and marginalized communities, which would be a priority for achieving efficiently SDGs 1 and 2 on food security and eradication of poverty.
5. As proposed in the [United Nations Secretary-General's Roadmap for Digital Cooperation](#), digital public goods (DPGs) can be part of the solution. DPGs are open-source software, open standards, open data, open AI systems and open content collections, promoted by multistakeholder campaigns with significant United Nations (UN) backing which highlight the alignment on global actions to leverage digital public infrastructure for societal advancement.
6. Building upon the DPGs openness as the core feature of these digital solutions, and with FAO being part of the [Digital Public Goods Alliance](#), the Organization's newly launched DPG-First approach is a commitment to supporting a global ecosystem for digital technologies in agriculture and promoting digital solutions that are: Safe (ensuring the security and privacy of data); Inclusive (providing equitable access to all, especially marginalized communities to include them in the last mile); Scalable (capable of adapting to growing needs and complexities in countries); and Sustainable (supporting long-term environmental, economic and social well-being).
7. Scaling up digital solutions can help address the current food crisis that is currently affecting smallholders, also in remote locations, by using new, high-impact, sustainable digital-based solutions. This includes embracing new technologies, such as generative AI, which has the potential, if used in a safe and ethical way, to revolutionize agriculture by improving efficiency, productivity and sustainability, through enhanced data-driven decision-making, precision farming, resource management, climate adaptation and resilience of agrifood systems, which are relevant to FAO's mandate and achieving the Organization's *four betters*, for *better production*, *better nutrition*, *a better environment* and *a better life*.
8. FAO is then continuing its active participation in international fora, with the aim of adopting a coherent and unified response through common mechanisms and guidelines for the Organization, internally and externally, and building on existing recommendations and policies, including the [United Nations Secretary-General's Roadmap for Digital Cooperation](#), Personal Data Protection and Privacy

Principles, the [UN's Principles for the ethical use of artificial intelligence in the United Nations system](#) as well as the [UN 2.0](#).

9. Building on these overarching strategic UN entry points, and common platforms for global collaboration, FAO has already identified five strategic priorities for the integration of AI in the delivery of its specific mandate that include: a) advancing science, technology and innovation using AI; b) advancing the transformation of agrifood systems to be more efficient, inclusive, resilient and sustainable through responsible use of AI; c) ensuring inclusive and fair implementation of AI in agrifood systems for everyone; d) improving global governance, collaboration and partnerships for responsible AI in agrifood systems; and e) enhancing FAO's delivery model and efficiency by leveraging AI solutions. Some of the key actions recommended to the Organization to achieve these priorities include: a) bridging data gaps; b) integrating and building on FAO's existing knowledge; c) enhancing the use of AI in all relevant areas of work to increase FAO's impact; d) optimizing resource allocation; and e) public-good AI service provision.

10. FAO strongly recognizes the potential of AI to address global food security challenges and promote sustainability and inclusivity. It aims to optimize agrifood systems through AI, while prioritizing innovation, data-driven decision-making, and equitable access to technology. The Organization fosters this vision by adopting five principles for responsible AI, aligned with internationally agreed frameworks and promoting the following: inclusive growth, respect for human rights and diversity, transparency, robustness and accountability in the use of AI systems.

11. In a concerted approach, FAO is championing efforts towards the responsible use of digital technologies, including AI, fully committed with the [Rome Call for AI ethics](#), signed in February 2020, as well as engaged in efforts to implement AI-related policy discussions and in working at the UN level to achieve the 2030 Agenda.

12. FAO is ready to embrace the change and is using AI already in many of its projects and digital initiatives to better serve its Members, people and communities worldwide, using "[AI for Good](#)" aligned with the Organization's mandate to eradicate hunger and poverty. Ethical AI that is integrating in the most accurate and timely manner all relevant information across FAO's information system for the benefit of both countries and FAO's strategic partners in the mobile world, already powers FAO's work for *better production, better nutrition, a better environment* and a *better life*, driven by a deep commitment to innovation-powered solutions through digital technologies, Big Data, and AI.

13. However, while AI offers great potential, there are also risks and challenges to consider. Data-related risks include issues of acquisition, access, quality and trust. Narrow optimization of AI models and unequal adoption of technology can lead to unintended consequences, especially in less developed countries, with low digital and data literacy and poor infrastructure, exacerbating rather than bridging the digital divide. Deployment at-scale poses thus its own set of challenges and risks.

14. Aligned with [the call of the UN Secretary-General](#) to the Security Council to "Ensure Transparency, Accountability, Oversight" on AI use, FAO emphasizes the importance of using AI in a responsible and ethical manner.

15. Addressing all these new challenges requires a wide and strong collaboration among governments, researchers, technology providers and local communities. It is essential for FAO, with the UN system, to act as a true catalyst and use the common platforms, mechanisms and voices to work together in a multistakeholder approach, fitting and better answering the new needs that are emerging from and within a global digital ecosystem, while staying abreast of all the latest changes and trends that affect us to our core, preventing unwelcome new economic, social and ethical challenges and risks.

16. FAO's work in partnerships, to leverage digital technologies and AI's cross-cutting potential and put in place policies and regulations, aims to be strengthened in the future with and for the Members,

while making sure to steer them in the direction of equity, inclusion, safety and security for all the beneficiaries it will affect, now and for the generations to come.