APPROVED

<div align="center">

**Democratization of Digital
Digital Agriculture Association**

Position Paper

</div>

Digital technologies have the power to increase inclusion in the food system, linking farmers directly to markets, speeding their payments and their fair returns. It can improve access to information, rural advisory services, resources, and equipment, including for smallholders. Digital Agriculture can also allow farming to be more nature positive, by making the most efficient use of resources and farming with precision to each ecological zone – even zones within a field. It can also help measure the changes in the food system through use of technologies like near-infrared sensing to see how our soils and crops are doing.

Digitization shows us a path to normalize the opportunities or empower avenues for equal opportunities within diverse groups such as indigenous, remote, or from developed-developing countries/areas, in the sense of access to transport, market, and capital.

The Association hopes to unlock all these benefits, as a chance to democratize digital agriculture, making it more accessible for all.

1. **Call for rural infrastructure and bandwidth:** Without access to broadband, entire communities are left behind in today's information-driven economy, particularly those in rural areas. A reformed food system must address the lack of connectivity and related infrastructure to connect communities and create greater opportunities for the rural poor.

2. **Increased availability of cloud computing in rural areas:** Cloud computing can be used to aggregate data from tools like soil sensors, satellite images, and weather stations to help farmers make better decisions about managing their crops and understanding their production environment. Prices are frequently prohibitive in rural areas and developing countries. Nations should be putting a priority on accessibility.

3. **Call for collective efforts to support anonymized data sharing:** Data collected and shared in real time allow for the determination of patterns such as weather, pinpoint operational inefficiencies, and problems with soil quality.

4. **Use of remote sensing for global outputs of environmental health:** Soil health is critical for food production. Remote sensing gives the soil moisture data and helps in determining the quantity of moisture in the soil and hence the type of crop that can be grown in the soil. Through remote sensing, farmers can tell where water resources are available for use over a given land and whether the resources are adequate. Land use calculations are equally important,

as well as the assessments of crop rotations, and extreme weather. This could allow us to dramatically speed the rate at which we can understand the agricultural system and measure its improvements.

5. **Early warning systems for drought and weather-related issues:** Digital early warning systems help farmers and scientists get ahead of weather forecasts and disasters. The FAO Digital Services Portfolio informs Crop Calendars for more than 130 crops located in 283 agro-ecological zones in 44 countries; and the FAO Data Lab has been providing recommendations on planting and harvesting during the COVID-19 outbreak. Detailed weather and pest analysis has been a cornerstone of digital agriculture for more than 30 years but is still available to a tiny proportion of farmers.

6. **Digital inclusivity (value chain, blockchain-related):** Digital technologies are changing agriculture and the food system. Examples abound at different stages of the agri-food value chain and can support trade in agriculture and food products, by connecting private sector suppliers to new markets.

7. **Rapid response mechanism:** The Digital Agriculture Association calls on FAO to lead the globe in creating a next-generation rapid response mechanism to improve the resilience of food systems to disruptive events. Locust attacks, droughts, typhoons, and the pandemic are examples of incidents that have driven rising food prices. Climate change increases the risk of food system disasters. The UN, national governments, crop pathologists, entomologists, meteorologists, and digital agriculture companies should be convened in a rapid response mechanism that meets regularly and has the capacity to forewarn of issues, rapidly assess them and mount responses.

8. **Digitization in Agriculture must consider subsidization at various levels**: Subsidization of new technologies like electric vehicles and green energy has helped to advance their adoption. In a similar way, support for the adoption of digital technologies in agriculture will advance green and inclusive solutions for the sector.

9. **Coherent rules and regulations**: Local, national, and regional governance systems often involve decades-old regulation systems and don't recognize new technologies and the systems to accelerate their use for good. Good governance will be central to democratization of precision agriculture that includes good practices to allow sharing and exchange internationally.

10. **Carbon reduction**: Optimizing use of Digital Agriculture can reduce the carbon footprint of agriculture. Digital technologies should be used to maximize soil carbon sequestration, reduce inputs and measure GHG impacts.