

# 93. DIGITAL CLIMATE INFORMED ADVISORY SERVICES (DCAS)

ACTION AREA	CLIMATE RESILIENT DEVELOPMENT PATHWAYS
SOLUTION CLUSTER	CLIMATE RISK REDUCTION & MANAGEMENT
THEMATIC AREA	CLIMATE INFORMATION SERVICES
SUBMITTED BY	COLUMBIA UNIVERSITY, CCAFS, WRI, WBCSD, AGRA, GLOBAL COMMISSION ON ADAPTATION

## WHAT IS THE RISK, SHOCK, STRESS THAT THE SOLUTION IS TRYING TO ADDRESS?

Agriculture, food systems, and rural communities will be severely impacted by climate change, especially small-scale farmers, fishers, and pastoralists, who often lack the resources to adapt. About 570 million small-scale producers worldwide produce 60% of global agricultural output (FAO, 2017). Most of these producers are in low- and lower-middle-income countries, working and living on farms smaller than five hectares (World Bank 2018). The current and future climate-induced crop losses they face are grave and vary by crop and geography.

In agriculture, Digital Climate-informed Advisory Services (DCAS) can help people and value chains address the climate impacts that threaten agri-food systems. However, small-scale producers' access to these services remains limited around the world. Scaling up efforts while leaving no one behind is critical to safeguarding the millions of small-scale producers vital to our global food security. Current DCAS efforts are insufficient — marked by fragmented small-scale efforts, limited understanding of best practices, and misaligned policy and investment incentives.

## HOW DOES THE SOLUTION IMPROVE OR ENHANCE RESILIENCE OF FOOD SYSTEMS?

DCAS are tools, platforms or activities that integrate climate information into decision-making, helping users to adapt to climate variability and change. DCAS offer crucial opportunities to build the resilience of small-scale producers in the face of climate change, particularly when bundled with complementary services (e.g. financing, input supply, market access, insurance). From seasonal forecasts to pest advisories, effectively designed DCAS can provide producers with the resources to adapt to climate shocks and plan for new climate conditions. Consequently, small-scale agricultural productivity and household income can substantially increase, resulting in enhanced risk mitigation, farmer empowerment and wider environmental, economic and development benefits.

The Global Commission on Adaptation put forward a goal to build the resilience of 300 million small-scale agricultural producers by 2030. This solution – A Blueprint for Digital Climate-informed Advisory Services: Building Resilience of 300 Million Small-scale Producers by 2030 – is an effort to support the global community to reach that goal through a set of principles, case studies, and recommendations.

This blueprint aims to:

- Put forward core principles for good practice for DCAS investment, design, implementation, and utilization;
- Provide a first estimate for global investment that will be needed to build the resilience of 300 million small-scale agricultural producers by 2030 through DCAS;

- Highlight the current gap in investment into DCAS and provide recommendations for how to best target this investment to encourage sustainable, equitable resilience to those small-scale agricultural producers vulnerable to climate change.
- Set the foundation for global and national communities of practices to further develop the frameworks to guide and target investment into DCAS to encourage resilience for small scale producers vulnerable to climate change.

## IS THE SOLUTION RELEVANT TO BUILDING FOOD SYSTEMS RESILIENCE?

- Anticipate shocks/risks/stress and/or reduce vulnerability
- Manage risks
- Prevent (reduce exposure)
- Absorb, respond/cope
- Adapt to shock-affected scenarios and evolving risk scenarios
- Transform the Food System when the current Food System is no longer sustainable

## IN WHAT REALMS OF INTERVENTION IS THE SOLUTION DESIGNED TO ACT ON RESILIENCE?

Individual, Household, Community, Land/sea-scape, Institutional

## WHO ARE THE MAIN ACTORS THAT WOULD PUT THIS ACTION INTO PLACE?

- Policymakers (government)
- Private (businesses, etc.)
- Civil (NGOs, etc.)
- Farmers
- Scientists
- Indigenous groups

## WHAT IS THE POLITICAL SUPPORT FOR THIS IDEA? DOES THE IDEA HAVE ANY MEMBER STATES OR POLITICAL INTERESTS? ARE THERE ANY STAKEHOLDERS WORKING ON IT?

The Global Commission on Adaptation was established in 2018 to advance resilience in the face of intensifying climate change by putting adaptation central on the global agenda and inspiring and leading ambitious action. Consisting of 35 Commissioners & convened by 23 countries, the Commission put forward a goal to build the resilience of 300 million small-scale agricultural producers to climate change by 2030. DCAS offer a great opportunity to realize that objective. This paper articulates a blueprint to build the climate resilience of at least 300 million small-scale agricultural producers by 2030 through DCAS.

The content of this blueprint was co-created by ~250 stakeholders organized into three working groups on data quality and governance, equity and co-creation, and sustainable business models. These working groups were led by the International Research Institute for Climate and Society at Columbia University, the World Food Programme, and the World Business Council for Sustainable Development, respectively. In addition to working group reports, this blueprint was formed based on extensive literature review and expert consultations undertaken by the World Resources Institute and the Global Center on Adaptation.

This submission has been reviewed and is supported by a range of institutions who participated in the process, either as co-authors or members of the working groups. This includes: International Research Institute for Climate and Society, World Resources Institute, World Business Council on Sustainable Development, World Food Programme, the Global Center on Adaptation, and the CGIAR Research Program on Climate Change, Agriculture, and Food Security (CCAFS), as well as the Alliance for a Green

Revolution in Africa (AGRA), Mercy Corps, the Netherlands Space Office, BFA Global, the GSMA Foundation, & the Bill & Melinda Gates Foundation.

## IS THE SOLUTION APPLICABLE AT GLOBAL LEVEL, OR SPECIFIC CONTEXTS & PARTICULAR COUNTRIES?

Both – Global and country level

## WHAT ARE THE KEY ACTIONS REQUIRED TO ADDRESS THIS SOLUTION?

To effectively build the resilience of 300 million small-scale agricultural producers by 2030 through DCAS, a combination of donor, private and government investment of about US\$7 billion is needed between 2021-2030.

Returns on investment for digital climate-informed advisory service providers ranges from 1:10 to 1:70. Returns to farmers in the form of yields or incomes average 30% and 25%, respectively. Co-benefits include enhanced sustainability, farmer empowerment and GDP growth.

To meet the challenge of strengthening food security and building climate change resilience, the climate services community, investors, governments, and DCAS users will need to:

- commit to and implement principles of good practice;
- build and maintain partnerships that allow for the continuous development, deployment, and improvement of DCAS that suit a diversity of user contexts and needs;
- identify key strategies for reaching scale, not only in terms of geographic coverage, but also in terms of diversity of coverage and integration in local to national policies and programs.

## ARE THERE ANY FINANCIAL SOURCES / FUNDS THAT IS SUPPORTING THIS IDEA?

At the Climate Adaptation Summit in January 2021, it was announced that the African Development Bank was committed to mobilizing \$2 billion for digital advisories and other innovations as part of the Africa Adaptation Acceleration Program (AAAP).

## HOW DOES THIS SOLUTION CONTRIBUTE TO (A) EMPOWER WOMEN AND COMBAT GENDER INEQUALITIES, AND (B) THE FULFILMENT OF HUMAN RIGHTS, ESPECIALLY THE RIGHT TO FOOD AND THE RIGHT TO WATER, (C) MAKE USE OF INNOVATIONS (TECHNOLOGIES, INSTITUTIONS, PROCESSES)?

- a) *Empower women and combat gender inequalities:* Throughout, the Blueprint puts forward a vision of DCAS that would ensure that these services are socially inclusive, especially regarding women. It also includes equity as a key principle, which means ensuring that women, youth, the under-resourced, disabled and socially marginalized groups are equally served by advisories according to their intersectional needs (e.g. those relating to their identity, experiences and environment). This includes those who may not have access to digital tools. It also speaks to the degree to which disadvantaged groups affect design and governance of services. The Blueprint identified key components of equity for DCAS including:
- User-centered approach and improved targeting
  - Promote integrated, two-way, and multichannel interventions
  - Access to productive assets and inputs
  - Build the capacity for users to equitably engage with DCAS
  - Expand the types of knowledge that DCAS utilizes and disseminates
  - Invest in the “last mile”

- b) *Fulfilment of human rights, especially the right to food and the right to water:* Food security, implying the right to food, is at the core of the Blueprint and its vision of climate resilience for small-scale producers. The focus on equity also supports a rights-centered approach to DCAS.
- c) *Innovations (technologies, institutions, processes):* DCAS make use of innovative technologies, institutions, and processes. First, many of the technologies included in DCAS and supported through the Blueprint are innovative, such as mobile apps (e.g. Geodata for Agriculture and Water Programme, [G4AW]), online platforms, IVR, and data merging processes such as the Enhancing National Climate Services (ENACTS) approach. Technological innovations are also recommended as a component of scaling, including automated systems, artificial intelligence and cloud computing. The Blueprint also supports innovative institutional processes, such as co-creation, private-public partnerships, bundled services, i.e. DCAS complemented by insurance, market, or input services, as well as basing DCAS in an integrated climate risk management approach to adaptation, including through comprehensive risk management plans and policies, such as Disaster Management Plans, National Adaptation Plans, Climate Smart Agriculture Investment Plans.