AFRICAN DEVELOPMENT BANK GROUP

GREEN CLIMATE FUND

# BUILDING CLIMATE RESILIENCE FOR FOOD AND LIVELIHOODS IN THE HORN OF AFRICA (BREFOL)

Djibouti, Ethiopia, Kenya, Somalia, and South Sudan

## Annex 25. Proposed Public Private Partnership Model for BREFOL Digital Solutions

# Public Private Partnership Program on "Building Climate Resilience for Food and Livelihoods in the Horn of Africa"

# (BREFOL)

## A proposed collaboration between Green Climate Fund – AfDB and the Private Sector to provide Digital Agricultural Solutions and Services to the program on Building Climate Resilience for Food and Livelihoods in the Horns of Africa BREFOL

## The Purpose of the BREFOL

The Program on Building Climate Resilience for Food and Livelihoods in the Horn of Africa (BREFOL) aims to address the complex challenges facing the region by implementing early warning systems and climate information systems tailored to agroforestry, crop farming, and pastoralism. The primary objective is to strengthen resilience and food security among vulnerable populations in the Horn of Africa.

Specifically, BREFOL seeks to achieve the following objectives:

- Develop and implement early warning systems capable of forecasting and monitoring climate-related risks, such as droughts, floods, and extreme weather events, to enable timely responses and interventions.
- Establish climate information systems tailored to the needs of agroforestry, crop farming, and pastoralism, providing accurate and localized data on weather patterns, soil health, water availability, and pest infestations to support informed decision-making and adaptive management practices.
- Enhance agricultural resilience by promoting sustainable land management practices, agroforestry techniques, and climate-smart agricultural strategies that mitigate the impacts of climate change and improve productivity in ecologically challenged areas.
- Strengthen community capacity and adaptive strategies through targeted training, capacity-building initiatives, and knowledge sharing on climate-resilient agricultural practices, disaster preparedness, and livelihood diversification.
- Foster collaboration and partnerships among governments, international organizations, research institutions, and local communities to ensure coordinated efforts in building resilience and promoting food security in the region.

BREFOL aims to mitigate the adverse effects of climate change, enhance agricultural productivity, and improve food security outcomes for vulnerable populations in the Horn of Africa, ultimately contributing to sustainable development and poverty alleviation in the region.

One of the tools to achieve the program objectives will be the heavy reliance on digital tools to reach pastoralists and farmers at scale. The BREFOL Project therefore aims to leverage on a tested Public-Private Partnership (PPP) that could allow sustainable and equitable dissemination of climate information services

to pastoralists and farmers through the use of Information and Communication Technology (ICT) platforms. This is expected to:

- Provide a decision-support system for managing climate risks and vulnerability for improved adaptive capacity to climate change and variability.
- Provide a business case for disseminating CIS for private sector empowerment.

## Proposed Public Private Partnership Approach for scaling Digital Tools

Despite the significant growth of digitalization in African agricultural sector, only 33 million of these rural based smallholder farmers have been registered by the approximately 390 digital companies operating in Africa in 2019 according to CTA/Dalberg Advisors Report[1] . Yet, the report recognizes that "digitalization could be a game changer in boosting productivity, profitability and resilience to climate change" and other economic stressors. Both the European Union-African Union Task Force on Rural Africa Report (TFRA) and the Communiqué from the Global Forum for Food and Agriculture (GFFA) highlighted the power of digitalization in transforming agriculture and rural economies. The graph below highlights the importance of digitizing agricultural value chain.

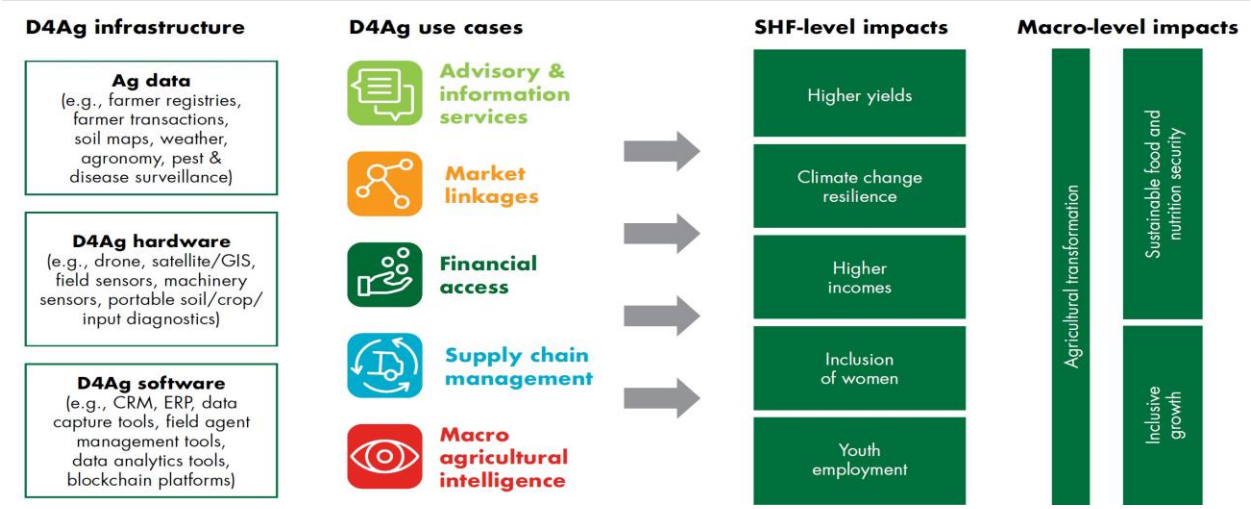


*Figure 1: Importance of digitalization on smallholder agriculture: Source CTA/Dalberg Advisors Report*

Among the reasons for low levels of digitization among African rural communities is lack of appropriate public private partnership to scale-up the adoption of digital solutions. Other challenges that have been identified with lack of traction in the adoption of digital solutions include the following:

- Presence of many small scale Agritech startups with stand-alone applications that serve limited agricultural challenges in most of the project countries. In some countries such as Kenya, the springing up of many Agritech Startups have led to fragmentation of the sector and many of these start-ups have not been able to scale beyond few hundred users.

[1] https://cgspace.cgiar.org/bitstream/handle/10568/103198/Executive%20Summary%20V4.5%20ONLINE.pdf

- Most digital agricultural interventions are government and NGO driven without the commensurate sustainability strategy to ensure continued deployment or scaling of the digital solutions beyond the lives of the projects that sponsored them.
- Nonexistence of Privately developed infrastructure designed to support agricultural services and general lack of Public Private Partnership for business model innovation.
- Nonexistence of market matching platforms for smallholder farmers and pastoralist
- Limited critical information services to smallholder farmers and agro pastoralist on climate smart agronomic practices

A recent survey showed how access and use of climate information resulted in increased yield of crops livestock and reduced crop failure by 70% as farmers used seasonal forecasts to make mixed strategic decisions such as when to start land preparation, when to plant, what variety of crops to plant and when to apply manure or chemical fertilizers. With this evidence of impacts, BREFOL intends to meet a major need by scaling up climate information services and climate-smart technologies through a functionally effective public-private partnership (PPP) business model. To ensure the program outcomes are sustained in the long term, the BREFOL project shall use a Public Private Partnership business model that solve the gaps identified above and then to work with reputable African Agritech providers to drive the use, adoption, and scaling of digitized climate information delivery across all five project countries.

## Methodology for the PPP Business Model Innovation

The methodology for selecting the private sector partner and subsequent development and deployment of the digital solutions shall involve the following procedure:

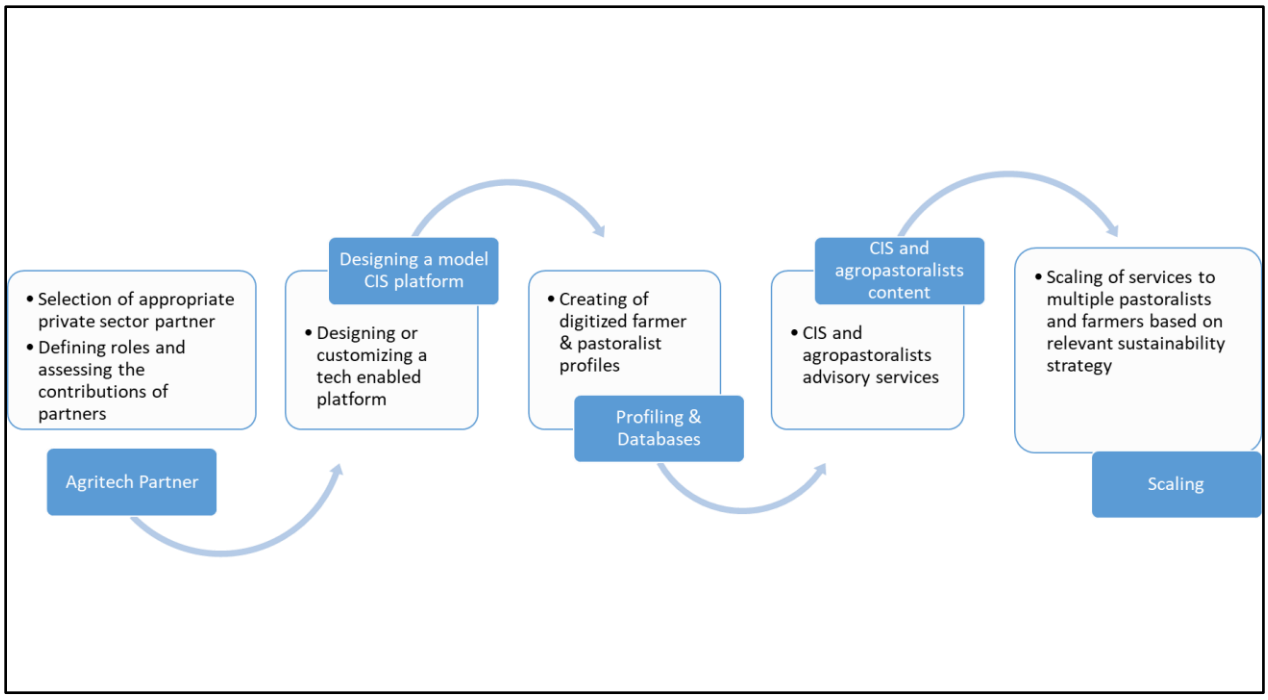


*Figure 2: Methodology for developing the PPP business model innovation.*

## 1) Selection of appropriate private sector partner

Every project country shall go through the process of selecting an appropriate private sector partner with the relevant experience and resources to partner the project. Depending on the experience, the same provider can be selected to deliver the PPP business model innovation for multiple project countries. Below are the critical requirements of the potential private AgriTech provider:

- Must be a duly registered African private business in good standing at the country of registration and operating for a minimum of 10 years in Africa.
- Demonstrated experience developing and delivering similar PPP models in at least two African countries.
- Demonstrated experience in developing sustainable business models in the area of digital solutions development and deployment for Agricultural projects. Commercial sustainability is marked by for instance, the provider's ability to generate its own revenue other than grant funding over the last 10 years.
- Demonstrated consistency in developing and deploying sustainable digital solutions to African pastoralists or small-scale farmers for at least 10 years.
- Demonstrated experience providing digitized information and climate information services to at least one million small-scale African producers or pastoralists over the last five years.
- Ability to leverage the project resources and bring in sufficient private sector capital to match the funding from the project.
- Must possess a robust, scalable, and demonstrated ICT enabled platform for quick launching of the service in project countries.

## 2) Designing the model CIS Platform

The platform should be a web-managed system that enables real-time data gathering and dissemination via the internet and mobile phones. The application shall allow users to receive downscaled seasonal forecast information on their mobile phones either as voice messages, SMS, IVR or through their call centers. The forecast information provided includes the total rainfall, the onset and end of the rainy season, plus a 10-day forecast across the rainy season. In addition to the seasonal forecast information, farmers and pastoralists shall receive agro-advisories that are intended to enable them to understand and apply received information in the best possible way.

- Seasonal Forecasts: This is compiled and sent to targeted groups based on their location in the language they understand either via SMS or recorded VOICE message to address any literacy concerns.

- Climate Smart Agricultural technologies and practices: The Agritech provider must send out a specially constructed message that specifies technologies and techniques that pastoralists and farmers can employ to help them manage the weather. These include animal breeds, seeds and varieties, techniques to conserve water, timing on specific activities due to weather patterns etc.

- Nowcasts: These are SMS (or Voice) messages that give farmers warnings or advisories about imminent extreme climate events like floods etc. The provider must be able to work with National Meteorological Agencies to obtain localized forecasts.

- Rain Forecasts: This is automatically delivered to farmers and pastoralists. It provides the likelihood of rain and the general amount to be expected. The precipitation forecasts should come from sources that guarantee high spatial resolutions, preferably at 10km or lower.

- Early warning system. The provider must setup an early warning system to support the decision making of pastoralists and farmers in the project catchment area. The provider must show the partnerships, the resources required to set up an early warning system for droughts and floods in the project areas.

### 3) Profiling and databases for pastoralists and farmers

The PPP model shall include a purposeful design and subsequent development of a database including the profiles of all pastoralists and farmer beneficiaries of the project. Such a database should be developed and managed by the private sector partner and will form the basis for all programmatic interventions of the BREFOL Project. Project partners should be able to run digital queries to extract key information or to deliver other critical services to project beneficiaries.

### 4) CIS and Agropastoralists Content for Digital Advisory Services

The Private sector partner shall also develop a digital repository of content to be used for the advisory services which must be disseminated via digital tools. The PPP partner must collaborate with national research organizations and relevant state actors to collate, digitize, and develop customized messaging capable for dissemination via digital channels in multiple languages including local languages of respective partner countries. The use of modern technologies such as AI in developing and disseminating such hyper localized advisories services shall be encouraged.

### 5) Potential for upscaling and Commercial sustainability

The PPP model must demonstrate a clear path to scaling the services to many more pastoralists and farmers in project countries. It must show a clear and concise business model innovation that allows the program interventions to be continued and scaled post the project funding. This is critical to ensure long-term impacts. The private sector partner must show evidence of having developed and sustained a similar project in Africa.

## Cost sharing

As with all PPP models, cost sharing is key to drive project incentives and ensure commitments from all partners, The BREFOL project shall work with private sector partner (s) that is/are able to commit significant funding towards the development and deployment of the business model innovation in the project partner countries. The private sector partner must demonstrate which costs shall be accrued in each of these four underlisted areas and how much funding (both in-kind and cash) it can contribute to each of them:

1) Designing the model CIS platform including infrastructure cost and related setup costs
2) Profiling and Pastoralists Database development
3) CIS and agropastoralists content development, dissemination including early warning systems.
4) Upscaling and sustainability activities.