

## What roles could private actors play in agricultural adaptation in sub-Saharan Africa? Insights from publicly funded projects

### Key messages

- Interest in involving private actors in climate change adaptation is growing. Sub-Saharan African countries have identified agriculture as a priority for adaptation, and engaging private actors, including smallholder farmers and small and medium-sized businesses, in adaptation projects is widely recognized as essential.
- Our analysis identified 64 agricultural adaptation projects in sub-Saharan Africa approved by five international climate funds and Rwanda's Green Fund (FONERWA) in the period 2010–2016; of those, 39 (61%) included the private sector.
- These projects involve the private sector in very different ways: some use public finance to raise awareness of climate risks and adaptation opportunities, aiming to stimulate future private investment; several others channel public finance through private actors, who are hired to provide goods and services; in a much smaller number of projects, public finance is already leveraging private investment.
- It is important to draw lessons from these projects and share knowledge across sub-Saharan Africa, to gain further insight into how private actors become engaged in agricultural adaptation, identify effective policy instruments, and assess and find ways to overcome existing barriers.

Agriculture plays a key role in food security, and in Africa, it is also a crucial economic sector, accounting for 40–65% of jobs.<sup>1</sup> Even as countries urbanize and industrialize, farming is expected to remain an important livelihood for decades to come.<sup>2</sup>

Yet because of a high reliance on rainfed production, among other factors, agriculture in sub-Saharan Africa is also very vulnerable to climate change.<sup>3</sup> Governments recognize this, and in their (intended) nationally determined contributions (NDCs) under the Paris Agreement, all sub-Saharan countries identified agriculture as a priority for adaptation action.<sup>4</sup>

There is growing interest in the role that private finance could play in supporting those efforts. But while several opportunities for private investment have been identified on the mitigation side – for instance, in renewable energy – the private sector's role in adaptation in developing countries is less understood. Previous research suggests that developing countries may find it difficult to attract private investment that meets their most urgent needs.<sup>5</sup> The impact of private finance on adaptation to date is unclear, mainly due to a lack of data that could be used in global assessments.<sup>6</sup> This discussion brief examines the role of private actors in publicly funded agricultural adaptation projects in sub-Saharan Africa, identifying different types of involvement. The goal is to provide a foundation for exploring ways to expand the role of private actors, and to identify ways in which public climate finance could be used to catalyse and scale up private investment in the sector.



A rice farmer in Mozambique talks with an agricultural supervisor as part of an irrigation and climate resilience project.

© CIF Action / Flickr

### How much are private actors participating in adaptation projects?

Key adaptation strategies being implemented in sub-Saharan African agriculture include introducing irrigation and water management systems; improving weather and seasonal forecasting systems, and ensuring that farmers can use them; introducing drought- and heat-resistant crop varieties; adopting new “climate-smart” farming techniques; and expanding finance and insurance options for farmers.<sup>7</sup>

To identify agricultural adaptation projects involving the private sector, we used a set of selection criteria<sup>8</sup> to screen the proposals for 197 projects in sub-Saharan Africa approved between 2010 and 2016. We found 64 focused on agriculture, and of those, 39 (61%) – all of which are currently being implemented – mentioned the private sector. Due to limited data availability, the screening was limited to projects supported by five international climate funds and Rwanda's Green Fund (FONERWA). Table 1 shows the breakdown for each of the funds. In the section that follows, we analyse the role anticipated for private actors in those 39 projects.<sup>9</sup>

Notably, of the funds we reviewed, only the Pilot Program for Climate Resilience (PPCR) and the Green Climate Fund (GCF) have specific strategies for working with private actors, with a particular interest in leveraging additional investment in adaptation. Both have specific funds set aside for private actors to access, but little of that money has gone to sub-Saharan Africa so far.<sup>10</sup> This is why we included not only projects where private actors are the main recipients of public adaptation finance, but also others in which the private sector has a specific role.

As shown in Table 2, the projects we reviewed vary considerably in scale and focus. While some target the agriculture sector as a whole, others target specific commodities such as rice, bananas or cocoa. We also found projects focusing on improving hydro-meteorological systems for agriculture. Similarly, the projects focus on different rural communities, including

**Table 1: Agricultural adaptation projects in sub-Saharan Africa included in this analysis**

Fund	Total number of projects	Number (and %) of these projects including private sector	Total international public climate finance allocated to projects with private-sector involvement
Adaptation Fund (AF)	4	4 (100%)	US\$ 24 million
Pilot Program for Climate Resilience (PPCR)	12	8 (67%)	US\$ 192 million
Least Developed Countries Fund (LDCF)	22	13 (59%)	US\$ 87 million
Green Climate Fund (GCF)	6	5 (83%)	US\$ 103 million
Adaptation for Smallholder Agriculture Programme (ASAP)	15	7 (47%)	US\$ 58 million
Rwanda's Green Fund (FONERWA)	5	2 (40%)	US\$ 4 million
<b>Total</b>	<b>64</b>	<b>39 (61%)</b>	<b>US\$ 468 million</b>

pastoralists, smallholder farmers, small livestock producers or a combination of these livelihoods (e.g. agro-silvo-pastoralism).

### What role do private actors play in adaptation projects?

The project proposals offer limited information on the types of private-sector actors involved. Some refer to large corporations, or micro-, small and medium enterprises; non-governmental organizations and farmers' associations are also mentioned. Sometimes it is difficult to determine whether actors are public or private, particularly when there are references to farmers' savings and credit cooperatives or to public banks operating commercially.

We classified private-sector involvement into three categories, as shown in Figure 1: (1) public finance used to stimulate private investment in the future, but without direct private-sector involvement in the project itself; (2) public finance channelled through private actors, who are involved as providers of services and goods but do not invest their own money; (3) public finance used to leverage private capital, with private actors directly investing in adaptation.

### Activities to stimulate future private-sector investment in adaptation

A major reason why private actors are not investing in adaptation, governments have learned, is that they have very low awareness of climate risks – much less of adaptation

options or related business opportunities.<sup>11</sup> Thus, several projects are focusing on engaging private actors and raising their awareness. Some projects have set up formal meeting and knowledge-exchange spaces such as technical advisory boards. Others are sponsoring business roundtables, training sessions for private actors, and other activities. The projects focusing on improving hydro-meteorological information treat private actors as potential paying clients, and seek to engage them in the design of tailored climate and weather information services.

Projects have also provided training on entrepreneurship for farmers' associations, cooperatives and federations to promote the establishment of small and medium enterprises. In addition, projects are developing new business models and conducting pilots to demonstrate the commercial viability of adaptation efforts, aiming to help smallholder farmers to access to credit from private banks.

In Rwanda, for instance, a US\$ 5.5-million LDCF-funded project includes a feasibility assessment for private actors to finance ecosystem-based adaptation projects at the community level; two business models will be designed and piloted.<sup>12</sup> In addition, we found projects focused on agro-pastoralism in Djibouti (AF); and medicinal plants and fibres in the Gambia (GCF). Another pilot involved developing tailored weather-based insurance mechanisms, largely targeting small-scale producers.

**Table 2: Types of adaptation projects in agriculture identified**

Targeted sector or population	Examples of adaptation activities	Number of projects (fund and country)
<b>Agriculture sector</b>	Irrigation; introduction of ecosystem-based adaptation; post-harvest infrastructure for processing and storage; roads to guarantee access to markets	3 (PPCR Niger; GCF Gambia; LDCF Benin)
<b>Commodities</b>	Downscaling and modelling of climate change impacts for specific crops/goods; use of adapted/resilient seeds; support to post-harvest activities; support for commercialization	4 (LDCF Uganda; ASAP Liberia and Rwanda; FONERWA Rwanda)
<b>Rural communities</b>	Use of stress-resistant seeds; irrigation and water management measures; soil conservation and use of fertilizers; diversification of livelihoods; financial mechanisms for changing agricultural practices; community-based and ecosystem-based adaptation	24 (LDCF Gambia, Zambia, Angola, Mali, Mozambique, Comoros, Rwanda, Sudan, Chad; ASAP Burundi, Nigeria, Sudan, Niger, Malawi; AF Djibouti, Rwanda, Mauritania; GCF Senegal, Madagascar, Namibia; PPCR Niger (3 projects), Zambia)
<b>Hydro-meteorological systems</b>	Installation of stations for collecting hydro-meteorological information; early-warning systems for extreme weather events; design of new climate information services (for profit and not for profit)	6 (PPCR Mozambique, Niger; LDCF DRC, Gambia; GCF Malawi; FONERWA Rwanda)



**Figure 1: Types of roles of private-sector actors within adaptation projects in agriculture in sub-Saharan Africa**

In Niger, the International Finance Corporation has conducted market assessment studies to develop weather-based insurance for small and medium crops and livestock enterprises (PPCR). In Namibia, a project will demonstrate small-scale farmers' capacity to pay for agricultural index-based insurance, in order to develop a business model that allows independent replication and scale-up by private providers (GCF).

#### **Private sector implementing publicly funded adaptation activities**

In many publicly funded adaptation projects, private actors play a key role in providing inputs and services to smallholder farmers and producers to reduce their vulnerability to climate change. Notably, in these projects, the private actors are not necessarily adapting their own practices, but rather, they are supporting adaptation by the farmers.

Examples of these types of projects include private actors providing training to farmers, especially on ways to add value through the production process (e.g. cleaning, sorting, drying, packaging) and in marketing and commercialization. Private actors may also be expected to provide new inputs (e.g. seeds for drought-resistant crop varieties, fertilizers) and services (e.g. irrigation, veterinary care).

In the case of irrigation, private equipment providers are identified not only on the basis on their capacity to provide training to smallholder farmers in the use of irrigation kits, but also on their ability to set up financial mechanisms that make irrigation financially accessible to farmers. Some projects also envision the use of private irrigation maintenance services.

In addition, we found projects in which private actors are expected to operate and maintain new or refurbished infrastructure through leasing, performance-based contracts or other forms of public-private partnerships. For example, in Rwanda, public-private partnerships are foreseen for post-harvest operations in sorting, grading, packaging and cold-chain storage, as well as with agro-processors along the value chain.

In Zambia, a PPCR-funded project to make the Kafue sub-basin more resilient to climate change includes US\$ 17.5 million in loans to "climate-proof" more than 250 km of roads that connect farms to markets, through erosion-control measures, upgraded drainage systems and embankment stabilization. The private sector may participate through performance-based road maintenance contracts.<sup>13</sup>

Partnerships with private traders and wholesale buyers are also proposed, in particular, in projects focused on commodities. For example, in Rwanda, FONERWA envisions establishing partnerships with agribusinesses, including multinationals, to export tea and coffee.

#### **Private-sector investment leveraged by public adaptation finance**

We found limited evidence of projects using public adaptation finance to leverage private investment in agriculture projects. In a few projects, private actors are expected to invest in adaptation as a result of specific incentives schemes. In Zambia, for example, the PPCR is proposing a matching grant mechanism for medium- and large-scale investments focused on adding value to agricultural produce supplied by local farmers. An LDCF project on agro-pastoral production systems in Angola secured funding from oil companies through corporate social responsibility mechanisms.

The only project we found in which private investment is expected to be leveraged at scale is funded by the GCF in Madagascar. Althelia, a private institutional investor, is starting with a contribution of US\$ 0.5 million in equity, but is expected to increase it to US\$ 50.5 million (also in equity). The project involves an investment fund to support land-grown commodities and aquaculture activities in Madagascar, together with renewable energy investments in Europe. The funding will be available for community and farmer organizations and companies through loans (including profit participation loans) and equity investment.

#### **Conclusion and ways forward**

The analysis presented in this discussion brief suggests that the private sector is an increasingly relevant actor in agricultural adaptation in sub-Saharan Africa. Lessons from these experiences could help public-sector actors learn how to increase private investment for adaptation, particularly by smallholder farmers and small and medium-sized businesses.

In order to accelerate and scale up private investment, policy-makers in sub-Saharan Africa would do well to provide more clarity on which types of private actors they seek to involve in their agriculture adaptation projects and programmes. The private sector is diverse, and different actors respond to different incentives. Without such clarity, projects may find it difficult to attract private actors.

Too many agricultural adaptation projects start from the assumption that there are no commercial opportunities, so there is no scope to involve the private sector. This makes it difficult to engage private actors later on. By identifying ways to involve private actors already at the design stage, project developers can create stronger partnerships and more effective mechanisms and incentives to promote further engagement and investment.

Moreover, commercial opportunities for private actors should be identified along the entire value chain, and not only on the production side. Increasing productivity is only one of several possible project objectives: as shown in Table 2, improvements

at the post-production/harvest and commercialization stages are also relevant for private actors.

We found some projects that sought to create pathways for uptake and scaling up of the use of financial products and services in support of adaptation in agriculture. It is important to demonstrate the commercial viability of adaptation strategies, through feasibility assessments and pilot projects.

Finally, adaptation funders should consider including private-sector involvement as part of their results, particularly in frameworks that monitor and evaluate outcomes. In view of the interest in getting private actors involved in adaptation, and a lack of transparency of private-sector activity, this information could help in identifying good practices and future opportunities.

## Endnotes

- 1 Alliance for a Green Revolution in Africa (2016). Africa Agriculture Status Report 2016. Progress towards Agricultural Transformation. Issue 4. Alliance for a Green Revolution in Africa, Nairobi. [https://agra.org/wp-content/uploads/2016/06/AASR-report\\_2016-1.pdf](https://agra.org/wp-content/uploads/2016/06/AASR-report_2016-1.pdf).
  - 2 Sadler, M. P., Millan Arredondo, A., Swann, S. A., Vasileiou, I., Baedeker, T., Parizat, R., Germer, L. A. and Mikulcak, F. (2016). Making Climate Finance Work in Agriculture. Working Paper ACS19080. The World Bank, Washington, DC. <http://www.worldbank.org/en/topic/agriculture/publication/making-climate-finance-work-in-agriculture>.
  - 3 Serdeczny, O., Adams, S., Baarsch, F., Coumou, D., Robinson, A., Hare, W., Schaeffer, M., Perrette, M. and Reinhardt, J. (2017). Climate change impacts in Sub-Saharan Africa: from physical changes to their social repercussions. *Regional Environmental Change*, 17(6). 1585–1600. DOI:10.1007/s10113-015-0910-2.
  - 4 Strohmaier, R., Rioux, J., Seggel, A., Meybeck, A., Bernoux, M., Salvatore, M., Miranda, J. and Agostini, A. (2016). The Agriculture Sectors in the Intended Nationally Determined Contributions: Analysis. Working Paper, Environment and Natural Resources Management. Food and Agriculture Organization of the United Nations, Rome. <http://www.fao.org/3/a-i5687e.pdf>.
  - 5 Atteridge, A. (2011). Will Private Finance Support Climate Change Adaptation in Developing Countries? Historical Investment Patterns as a Window on Future Private Climate Finance. SEI Working Paper No. 2011-05. Stockholm Environment Institute, Stockholm. <http://www.sei-international.org/publications?pid=1986>.
  - 6 See, for instance, Buchner, B., Trabacchi, C., Mazza, F., Abramskiehn, D. and Wang, D. (2015). The Global Landscape of Climate Finance 2015. Climate Policy Initiative. <http://climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2015/>.
- Also see Druce, L., Moslener, U., Gruening, C., Pauw, W. P. and Connel, R. (2016). Demystifying Adaptation Finance for the Private Sector. United Nations Environment Programme Finance Initiative, Nairobi. <http://fs-unep-centre.org/projects/demystifying-private-adaptation-finance>.
- 7 See, for example, the Adaptation of African Agriculture initiative launched at the Marrakech Climate Change Conference, <http://www.aagainitiative.org/initiative>.
  - 8 The criteria for project selection included a two-tier approach. Tier 1: Adaptation Marker; Countries in sub-Saharan Africa; Financial volume over USD 1 million; Activities approved during the period 2010–2016; Focus on agriculture. Tier 2: Private-sector involvement.
  - 9 It is beyond the scope of this project to examine the specific nature or merits of the projects.
  - 10 PPCR private-sector funding, for instance, has been approved mainly in South Asia, and non-EU Europe and Central Asia. See Ward, J. and Caldwell, E. (2016). Private Sector Investment in Climate Adaptation in Developing Countries: Landscape, Lessons Learned and Future Opportunities. Climate Investment Funds. The World Bank Group, Washington, DC. [https://www.climateinvestmentfunds.org/sites/default/files/knowledge-documents/7544-wb\\_cif\\_ppcr\\_report-v5.pdf](https://www.climateinvestmentfunds.org/sites/default/files/knowledge-documents/7544-wb_cif_ppcr_report-v5.pdf).
  - 11 See, e.g., Dzebo, A. and Pauw, P. (2016). Mobilizing Private Finance: Unlocking the Potential of Rwanda's Businesses to Drive Climate Change Adaptation. SEI policy brief. Stockholm Environment Institute, Stockholm. <https://www.sei-international.org/publications?pid=3029>.
  - 12 UNEP (2015). Project Document: Building Resilience of Communities Living in Degraded Wetlands, Forests and Savannas of Rwanda through an Ecosystem-Based Approach. [https://www.thegef.org/sites/default/files/project\\_documents/ID5194\\_Rwanda\\_Project\\_Document\\_20.08.2015\\_clean\\_copy\\_0.pdf](https://www.thegef.org/sites/default/files/project_documents/ID5194_Rwanda_Project_Document_20.08.2015_clean_copy_0.pdf).
  - 13 AfDB (2013). Appraisal Report: Strengthening Climate Resilience in the Kafue Sub-Basin. African Development Bank. [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Zambia\\_-\\_Strengthening\\_Climate\\_Resilience\\_in\\_the\\_Kafue\\_Sub-Marin\\_-\\_Appraisal\\_Report.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Zambia_-_Strengthening_Climate_Resilience_in_the_Kafue_Sub-Marin_-_Appraisal_Report.pdf).

This discussion brief was written by Nella Canales, Richard Klein and Marion Davis. It is a deliverable of the project "Private Sector Finance for NDC Implementation in Sub-Saharan Africa" (PRINDCISSA), funded by the Swedish Energy Agency (project no. 2016-003317). PRINDCISSA assesses how the private sector can be stimulated to contribute to the financing of mitigation and adaptation activities as part of the implementation of NDCs in sub-Saharan African countries. To learn more, visit: [www.sei-international.org/projects?prid=2238](http://www.sei-international.org/projects?prid=2238).



PRINDCISSA

Published by:  
Stockholm Environment Institute  
Linnégatan 87D, Box 24218  
104 51 Stockholm  
Sweden  
Tel: +46 8 30 80 44

**Author contact:**  
Nella Canales,  
[nella.canales@sei-international.org](mailto:nella.canales@sei-international.org)

**Media contact:**  
Karen Brandon,  
[karen.brandon@sei-international.org](mailto:karen.brandon@sei-international.org)

**sei-international.org**  
2017

Twitter: @SEIresearch, @SEIclimate