

BUILDING DISASTER RESILIENCE IN SUB-SAHARAN AFRICA PROGRAM:

## **Result Area 5**

### **Africa Disaster Risk Financing Initiative**

# Activity Report 2018 –2019



**GFDRR**  
Global Facility for Disaster Reduction and Recovery



**WORLD BANK GROUP**

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Farmers, Kenya  
Source: iStockphoto

## Africa Disaster Risk Financing Initiative Activity Report 2018–2019

This activity report summarizes activities of Result Area 5, also known as the ADRF Initiative, from July 1, 2018 to June 30, 2019. The report provides an overview of the achievements to date.

The ADRF Initiative was officially launched on November 17, 2015 in Addis Ababa during the Understanding Risk and Finance (URF) conference.<sup>1</sup> It supports African countries in developing national risk financing tools and strategies that have the potential to significantly reduce disaster losses, speed recovery, and build resilience to natural hazards. So far, the ADRF Initiative has achieved positive results in supporting governments by strengthening their capacity to design and implement risk financing policies, instruments, and strategies at regional, national and local levels.

1 The URF was financed by the ADRF Initiative and organized in Addis Ababa on November 17-20, 2015. For more information, see the links to:  
The URF page: <https://understandrisk.org/event/understanding-risk-finance-conference/>  
The conference materials: <http://www.gfdrr.org/sites/default/files/publication/URF%20Proceedings.pdf>

## ACRONYMS AND ABBREVIATIONS

<b>ACP</b>	Africa Caribbean and Pacific
<b>ADRF</b>	Africa Disaster Risk Financing Initiative
<b>AfDB</b>	African Development Bank
<b>ARC</b>	African Risk Capacity
<b>AUC</b>	African Union Commission
<b>Cat-DDO</b>	Catastrophe Deferred Drawdown Option
<b>DfID</b>	United Kingdom's Department for International Development
<b>DPL</b>	Development Policy Loans
<b>DRF</b>	Disaster Risk Finance
<b>DRM</b>	Disaster Risk Management
<b>DRR</b>	Disaster Risk Reduction
<b>EC</b>	European Commission
<b>EDF</b>	European Development Fund
<b>EU</b>	European Union
<b>GDP</b>	Gross Domestic Product
<b>GFDRR</b>	Global Facility for Disaster Reduction and Recovery
<b>GRADE</b>	Global Rapid Post-Disaster Damage Estimation
<b>GRiF</b>	Global Risk Financing Facility
<b>HSNP</b>	Kenya Hunger Safety Net Program
<b>IBRD</b>	International Bank for Reconstruction and Development
<b>IDA</b>	International Development Agency
<b>IRM</b>	Immediate Response Mechanism
<b>KCSAP</b>	Kenya Climate Smart Agriculture Project
<b>KLIP</b>	Kenya Livestock Insurance Program
<b>KSEIP</b>	Kenya Social and Economic Inclusion project
<b>MoF</b>	Ministry of Finance
<b>NAIS</b>	Rwanda's National Agriculture Insurance Scheme
<b>NDMA</b>	Kenya National Drought Management Authority
<b>NIEMP</b>	Seychelles National Integrated Emergency Management Plan
<b>NUSAF 3</b>	Northern Uganda Social Action Fund 3
<b>OpenDRI</b>	Open Data for Resilience Initiative
<b>PoA</b>	Program of Action
<b>PSC</b>	Program Steering Committee
<b>SCTP</b>	Social Cash Transfer Program
<b>SIDA</b>	Swedish International Development Agency
<b>SFDRR</b>	Sendai Framework for Disaster Risk Reduction
<b>UAIS</b>	Uganda Agriculture Insurance Scheme
<b>UN</b>	United Nations
<b>UNDRR</b>	United Nations Office for Disaster Risk Reduction
<b>URF</b>	Understanding Risk and Finance Conference
<b>USAID</b>	United States Agency for International Development
<b>WB</b>	World Bank
<b>WFP</b>	World Food Programme
<b>WRC4</b>	World Reconstruction Conference

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# 1. Introduction

Tropical cyclone Idai, which made landfall in March 2019 near the port city of Beira in Mozambique was the most severe natural disaster to affect southern Africa in over three decades, causing catastrophic damages in towns and rural areas in Mozambique, Malawi and Zimbabwe. The same region was affected a few weeks later by tropical cyclone Kenneth, causing more damages and further affecting these populations. Tropical cyclones Idai and Kenneth are a reminder of the vulnerability of Sub-Saharan African countries to disaster events. It is also a reminder of the need to find innovative and sustainable solutions to tackle the impact of natural disasters, including by developing specific instruments for risk management and financing of disaster shocks.

Launched in 2015, the ADRF Initiative is one of the first Program in Sub-Saharan Africa to focus on the Disaster Risk Financing (DRF) agenda. Activities have now been undertaken in over 20 Sub-Saharan African countries to develop and implement financial protection policies and instruments which are tailored to the local context and that can help these countries quickly respond to disasters while building resilience to future events.

In 2018-2019, the ADRF Initiative has continued to carry-out activities related to gathering and developing disaster risk information, which is a critical step to inform governments' assessments and decisions when developing DRF policies and instruments. A practical application of this work was also demonstrated when risk data created under the ADRF Initiative was used to conduct rapid assessments in Mozambique and Malawi following tropical cyclone Idai, helping to inform the post-disaster and recovery process.

Engagements to support policy dialogue and capacity building on DRF have continued, and are generating best practice examples through wide-ranging activities and in a variety of sectors, from designing national DRF strategies, developing financial protection policies and instruments, supporting agriculture insurance programs, to building shock-responsive safety nets. This technical assistance implemented under the ADRF Initiative has also led to further investments from the World Bank and other donors on DRF and Disaster Risk Management (DRM) in several Sub-Saharan African countries, underscoring the added-value and long-lasting impact of this Program.

Furthermore, as interest about DRF continues to grow in Sub-Saharan Africa, it has become increasingly important to collect and share lessons learned, and to enable capacity building opportunities on this topic. The ADRF Initiative has continued to organize knowledge exchanges and trainings which contribute in building DRF capacity among governments of Sub-Saharan Africa. Over 80 of such knowledge exchanges and trainings have been organized since Program inception. In addition, the regional knowledge sharing activity Open Cities Africa supported by the ADRF Initiative continued to contribute in 2018-2019 to building a cross-continental community of practice on open risk data which has materialized into meaningful actions and results.

After several years of implementation, the ADRF Initiative highlights the sustained demand for support and drive by Sub-Saharan African countries to work on the DRF agenda. This Activity Report sets-out how the ADRF Initiative has continued to implement important DRF activities and to work with Sub-Saharan African countries in finding innovative solutions to meet their DRF needs in a variety of sectors and contexts.

## 2. About the Africa Disaster Risk Financing Initiative

The EU and ACP Group of States established the Intra-ACP cooperation Program ***Building Disaster Resilience in Sub-Saharan Africa***,<sup>2</sup> financed under the 10<sup>th</sup> European Development Fund (EDF), which has the overall objective of **strengthening the resilience of Sub-Saharan African regions, countries and communities to the impacts of natural disasters**. These include the potential impacts of climate change to reduce poverty and promote sustainable development.

To achieve this objective, five Result Areas were identified, to be implemented by several partners, including the African Development Bank (AfDB), the African Union Commission (AUC), the United Nations Office for Disaster Risk Reduction (UNDRR) and the WB-managed GFDRR. These are as follows:

**R1**

Extended Program of Action (PoA) for the implementation of the Africa regional strategy for Disaster Risk Reduction (DRR). Implemented by the AUC and the UNDRR;

**R2**

African Regional Economic Communities (RECs) have DRR coordination, planning and policy advisory capacities operational to support their respective member states and regional and sub-regional programs. Implemented by GFDRR;

**R3**

Core capacities of the specialized national and regional climate centers are improved to meet the needs of DRM agencies and socio-economic sectors for effective use of weather and climate services and community-focused and real-time early warning systems. Implemented by the AfDB;

**R4**

African countries have improved knowledge of risks through the compilation of historical disaster-related data to inform the assessment and modelling of future risks. Implemented by the UNDRR;

**R5**

**Multi-risk financing strategies are developed at regional, national and local levels to help African countries make informed decisions and to mitigate the socio-economic, fiscal and financial impacts of disasters. Implemented by GFDRR.**

As noted above, GFDRR is responsible for the implementation of R2 and R5. This report specifically focuses on R5 achievements.

<sup>2</sup> More information on the Building Disaster Resilience in Sub-Saharan Africa Program can be found at <https://www.preventionweb.net/resilient-africa/>.



The ADRF Initiative catalyzes the uptake of innovative risk identification, assessment and financing tools within the development agendas and policy frameworks of several middle and low-income African countries.

***The ADRF's overall objectives are:***

- to support the development of multi-risk financing strategies at regional, national and local levels to help African countries make informed decisions;
- to improve financial response capacity post-disaster; and
- to mitigate the socio-economic, fiscal and financial impacts of disasters in African countries.

***It achieves these objectives through three operational components:***

- A. Creating the enabling data environment for risk financing;
- B. Supporting countries in developing risk financing strategies; and
- C. Facilitating regional risk financing and knowledge sharing initiatives.

***The expected results of the ADRF Initiative are:***

- Strengthening capacity to generate, access and use disaster risk information to conduct risk assessments that support the development of DRM strategies, such as financial protection and risk reduction investment programs;
- Strengthening capacity to incorporate disaster and climate risk information in decision-making;
- Developing strategies to increase financial resilience against natural hazards; and
- Facilitating knowledge sharing and best practices on risk financing solutions relevant to the needs of African countries

Activities under the ADRF Initiative support and align with the strategic approach articulated by AUC's PoA,<sup>3</sup> and the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015–30.<sup>4</sup> The PoA was presented and adopted during the 6<sup>th</sup> session of the Africa Regional Platform<sup>5</sup>, hosted by the government of Mauritius in November 22–25, 2016.

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3 See [https://www.unisdr.org/files/13655\\_POAinEnglishadoptedinNairobi16April%5B1%5D.pdf](https://www.unisdr.org/files/13655_POAinEnglishadoptedinNairobi16April%5B1%5D.pdf).

4 This includes SFDRR's predecessor at the time of launch, the Hyogo Framework for Action 2005-15.

5 The Africa Regional Platform is a biennial forum that brings together African Member States, intergovernmental organizations and development partners to review progress in the implementation of the continental and global disaster risk reduction frameworks. See: <http://www.unisdr.org/conferences/2016/afrp>.

## 3. Highlights

### Creating the enabling data environment for risk financing

- National risk profiles have been completed for 8 countries: **Cabo Verde, Ethiopia, Kenya, Malawi, Mali, Mozambique, Niger** and **Uganda**<sup>6</sup>. Furthermore, a city-level risk profile has been developed for the city of **Beira, Mozambique**<sup>7</sup>, evaluating pluvial and coastal flood risks, and exploring the effectiveness of interventions such as upgrading drainage, coastal defense and early warning. In addition, a technical report and guidance note was published which provides direction for effective drought hazard and risk assessments<sup>8</sup>.
- Following tropical cyclone Idai in March 2019, rapid assessments were conducted in **Malawi** and **Mozambique** using data generated under the ADRF Initiative. This data was subsequently uploaded on local spatial data platforms<sup>9</sup>, informing recovery and reconstruction priorities.

### Supporting countries in developing risk financing strategies

- Engagements in the development of DRF policies, instruments and strategies have continued. Activities have been undertaken in 21 countries: **Benin, Cabo Verde, Eswatini, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritania, Mozambique, Namibia, Niger, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Uganda, Zambia, and Zimbabwe**.
- An analysis has been undertaken highlighting how ADRF Initiative activities and technical assistance in DRF have laid the groundwork for further investments in risk financing. This analysis has underlined the leveraging of an additional **\$516.27 million** from the World Bank or other donors for building disaster resilience.

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6 The national risk profiles are available at: <https://www.gfdrr.org/en/disaster-risk-country-profiles>.

7 The city-level risk profile is available at <https://bit.ly/2U369vi>.

8 The report can be accessed at <https://bit.ly/2XLpRSj>.

9 The data for Mozambique is available at <https://geonode.ingc.gov.mz/> and for Malawi at <http://www.masdap.mw/>.

### Facilitating regional risk financing and knowledge sharing initiatives

- The ADRF Initiative has continued with the implementation of the regional knowledge sharing activity **Open Cities Africa**, which scales up the use of innovative data collection and mapping in 11 cities, builds capacity in the use of mapping tools, and creates local knowledge exchange networks. Initial results include the mapping of over 500,000 geographic features, and an engagement with over 1,000 community members in a participatory mapping process.
- The ADRF Initiative supported the organization of the *RIFT 2018 - Regional Seismic Risk and Resilience Workshop* in Nairobi, Kenya, enabling the participation of 35 officials from **Kenya, Uganda, Mozambique, Malawi, Ethiopia, and Tanzania**<sup>10</sup>.
- Capacity building and knowledge sharing in DRF was enhanced during several regional and international conferences, including the *Regional Forum on Climate Risks and Food Security Resilience* in Lusaka, Zambia in October 2018, the *Africa Climate Resilient Investment Summit* in Johannesburg, South Africa in March 2019, and the *Fourth Edition of the World Reconstruction Conference (WRC4)* in Geneva, Switzerland in May 2019.

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10 The final summary report for the RIFT2018 workshop can be accessed at <https://bit.ly/2lc1eG6>.

## 4. Overview of activities

From July 2018 to June 2019, the ADRF team focused on building upon activities conducted since the launch of the ADRF Initiative<sup>11</sup>, and on accelerating and deepening engagement in Sub-Saharan African countries to develop DRF policies, instruments and strategies. Activities and areas of engagement for each component of the ADRF Initiative are outlined below. In parallel with the implementation of these activities, coordination has also continued with the Program's partners, including the EU, mainly through the EU Delegation to the African Union in Addis Ababa.

### 4.1. Creating the enabling data environment for risk financing

One of the objectives of the ADRF Initiative is to create an enabling data environment for risk financing. To achieve this, specific activities have continued to build understanding and awareness of disaster and climate risks in selected Sub-Saharan African countries, providing inputs to the development of DRF policies, instruments, and strategies.

#### *National risk profiles*

National risk profiles have been completed for 8 countries: **Cabo Verde, Ethiopia, Kenya, Malawi, Mali, Mozambique, Niger** and **Uganda**. The profiles have been formatted and are available in high- and low-resolution.

The risk profile for **Senegal** has not been published, as it was superseded with newer information produced by the World Bank. However, the data and underlay produced under the ADRF Initiative has been published on the ThinkHazard!<sup>12</sup> platform.

11 For more information, please see the previous ADRF Initiative Activity Reports for the period of August 2014 to June 2016 in English (<https://bit.ly/2Vjw6ci>) and French (<https://bit.ly/2pUla9D>), for the period of July 2016 to June 2017 in English (<https://goo.gl/fziz5j>) and French (<https://goo.gl/xchCpU>), and for the period of July 2017 to June 2018 in English (<https://bit.ly/2manozr>) and French (<https://bit.ly/2kMZ8mZ>).

12 <http://thinkhazard.org/en/report/217-senegal>.



An article was published<sup>13</sup> in July 2018 on the online Flows platform, describing the work undertaken by the ADRF Initiative to develop national disaster risk profiles. This article outlines the context and importance of this activity, as well as the method, accuracy and the first applications achieved through the development of the risk profiles.

### City-level risk profile



Overview of Beira.  
Source: World Bank

The generation of a simplified city-level risk profile has been explored using the available data from the completed national risk profiles as much as possible, as well as with other open-source data. In **Beira, Mozambique**<sup>14</sup> the first pilot for a city-level risk profile evaluates the pluvial and coastal flood risks, and explores the effectiveness

of interventions, such as upgrading drainage, coastal defense and early warning. The first results of this pilot show the added value of the development for strategic decision-making. An extension of this work is currently under preparation to other cities in Sub-Saharan Africa



Africa Works! Workshop  
in Rotterdam on  
8-9 April 2019  
Photo credit: GFDRR

The city-level risk profile for Beira was presented with the involvement of delegates from the Mozambican Embassy at the *Africa Works!*<sup>15</sup> workshop in Rotterdam, The Netherlands in April 2019. This workshop was an opportunity to promote and disseminate the use of these data for further understanding, and reducing risks in African cities such as Beira.

13 The article can be accessed at <https://bit.ly/2SULYRj>.

14 The report for Beira is available at <https://bit.ly/2U369vi>.

15 For more information, please see: <https://www.africaworks.nl/>.

### Use of risk data

The data developed under the city-level risk profile for Beira was used to undertake the assessment of flood damage in Mozambique in January 2019. Furthermore, the ADRF team used the analytics produced as part of the risk profile development to understand the impact Cyclone Idai in **Mozambique** and **Malawi**. The rapid damage assessments, which use many of the data produced under the ADRF Initiative, have informed early recovery priorities following this event. All of the data has been uploaded to the local spatial data platforms in Mozambique<sup>16</sup> and in Malawi<sup>17</sup>. For more information, see the “In Focus” section on page 11.

### Drought Risk Assessment

During the development of risk profiles and related financing instruments, the accurate assessment of drought risk was identified as a bottleneck. To address this, the ADRF team worked with a specialized consortium of firms to produce a global inventory of drought risk models and tools, that have been made available online<sup>18</sup>. Available models were then compared in a few countries to assess their performance for drought management and financing questions. A technical report and guidance note entitled *Assessing Drought Hazard and Risk* was finalized and published<sup>19</sup> following inputs gathered during a workshop held at the World Bank in March 2019. This document is based on the extensive inventory of drought models and tools mentioned above, and provides direction for effective drought hazard and risk assessments.



Woman walking on a street in Zambia  
Source: iStockphoto

16 The data for Mozambique is available at <https://geonode.ingc.gov.mz/>.

17 The data for Malawi is available at <http://www.masdap.mw/>.

18 The global inventory of drought risk models and tools is available on the [www.droughtcatalogue.com](http://www.droughtcatalogue.com) platform.

19 The report can be accessed at <https://bit.ly/2XLpRSj>.

### Poverty Risk Profile

A new model was developed for socioeconomic resilience at the sub-national level in **Malawi**, built upon GFDRR's *Unbreakable* flagship report<sup>20</sup>. This analysis includes riverine flooding, earthquakes, and drought hazards, and models reconstruction dynamics at the household level to measure the link between chronic poverty and natural disaster exposure in Malawi. The modeling of floods and earthquakes has been completed and the model of drought exposure and consumption impacts is under development. Results from this modeling exercise are being used to measure the socioeconomic and distributional dimensions of disaster risk in Malawi, and to inform prior actions and results indicators related to a Catastrophe Deferred Drawdown Option (Cat-DDO)<sup>21</sup> line of credit. *For more information, see the update on Malawi in section 4.2 of this report.*

### Using phone interviews to obtain flood impact information from households in Tanzania

In April 2018, Dar es Salaam and other parts of Tanzania experienced heavy rain that caused floods in large parts of the city. Floods are common in Dar es Salaam, but information on how many people they affected and how they were impacted remains scarce, especially for the high frequency, low intensity flooding that do not get much attention, but interfere immensely with people's lives.

To evaluate the impacts of the April 2018 flood, the ADRF team conducted a phone survey in September 2018. 701 households were reached using phone numbers collected in a household survey implemented in December 2017 as part of the World Bank *Tanzanian Urban Resilience Program*.

Initial findings indicate that far more households were affected than official numbers suggest. Based on the phone survey findings, extrapolated to a city level, between 550,000 and 1,040,000<sup>22</sup> people were affected directly by either having their house flooded or losing valuable assets. Affected households lost on average 23.5 percent of annual income due to the flood. Furthermore, 77 percent of losses were caused by asset losses, 17 percent were due to house repairs, 4 percent to health expenditures and 2 percent of losses were to missing days of work. The results will be compiled in a report which will support the ongoing activities of the World Bank *Tanzanian Urban Resilience Program*.

20 The report is available at <https://goo.gl/CkUrVS>.

21 A Cat-DDO is a contingent credit line that provides immediate liquidity to countries in the aftermath of a natural disaster: <http://pubdocs.worldbank.org/en/563361507314948638/product-note-cat-ddo-ida-english-2018.pdf>

22 The range is based on assumptions made the representability of the sample. The details of the methodology will be made available in the full report once published.

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## In Focus: Response to Cyclone Idai

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**A view of Beira, Mozambique following the impact of tropical cyclone Idai in May 2019.**  
Photo credit: Dominic Chavez/World Bank (accessible at <https://bit.ly/2AWZews>)

On 14 March 2019, tropical cyclone Idai made landfall near the port city of Beira in Mozambique. The cyclone moved across Mozambique and then inland, affecting parts of Malawi and Zimbabwe. The powerful storm brought widespread flooding and destruction. It had a devastating impact on both urban and rural areas, destroying water, electricity, communication, transport and social infrastructure as well as homes and agricultural property. To date, about 3 million people have been affected, with near total damage in the worst impacted areas. This disaster was followed a few weeks later by tropical cyclone Kenneth, affecting the same region and causing more damages and further affecting these populations.

Rapid assessments were conducted in Malawi, Mozambique and Zimbabwe using the Global Rapid Post-Disaster Damage Estimation (GRADE) methodology. In **Mozambique**, the evaluations were conducted using data generated under the ADRF Initiative, specifically from the national risk profile for Mozambique and from the city-level risk profile for Beira. All of the data has been uploaded to the local spatial data platform at <https://geonode.ingc.gov.mz/>. The report on the data analysis for Beira conducted prior to Idai is available at <https://bit.ly/2U369vi>. A similar approach was applied in **Malawi**, where the rapid assessment used existing data generated for the development of the national risk profile under the ADRF Initiative. The data was also uploaded to the local spatial data platform at <http://www.masdap.mw/>.

In addition to generating data for informing post-disaster assessments, ADRF Initiative risk financing dialogue over the past years has been instrumental in unlocking critical financing for disaster response following tropical cyclone Idai. In **Mozambique**, a \$90 million Program-for-Results operation approved in March 2019 was prepared with technical support financed by the ADRF Initiative. Technical assistance also funded by the ADRF Initiative helped to strengthen the governance of the government's Disaster Management fund. In **Malawi**, the approval of a \$70 million Cat-DDO in June 2019 highlights how technical assistance from the ADRF Initiative has enabled the advancement of important policy reforms, and the establishment of financing instruments that strengthen financial resilience to natural disasters.



## 4.2. Supporting countries in developing risk financing strategies

The key objective of the ADRF Initiative is to assist countries in developing financial decision-making tools and integrated national risk financing strategies to enhance their post-disaster response capacity, from resource mobilization ex-ante to resource execution post-disaster, using a three-phased approach:

- **Phase 1:** Identifying country needs and priorities.
- **Phase 2:** Formulating these priorities into strategies for action by building elements of disaster risk financing strategies.<sup>23</sup>
- **Phase 3:** Designing and implementing disaster risk financing policies, instruments and strategies.

Between July 2018 and June 2019, ADRF activities focused on all three Phases and have been ongoing in 21 countries: **Benin, Cabo Verde, Eswatini, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritania, Mozambique, Namibia, Niger, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Uganda, Zambia,** and **Zimbabwe**. Depending on country demands, engagements have focused on:

- the development and implementation of contingency funds and/or contingent loans or grants;
- the exploration and piloting of sovereign-level insurance solutions;
- the development of financial risk management approaches to help build shock-responsive social protection systems;
- the development of financial risk management approaches to help build agriculture insurance markets;
- assistance to mapping existing response mechanisms and costs, across government, humanitarian, and development actors; and
- the design of DRF strategies or instruments led by the Ministry of Finance (MoF) of the given country.

The ADRF Initiative has so far succeeded in covering a wide number of countries with technical assistance to support policy dialogue and capacity building on DRF. Demand from Sub-Saharan African countries to support their DRF agendas has been growing, leading to many activities in the agriculture, social protection, and financial sectors.

<sup>23</sup> These can include reviewing existing budget instruments and expenditure frameworks; assessing current response tools and funding sources; exploring the potential of establishing contingency funds and the use of contingent loans or grants; assessing the use of sovereign-level insurance contracts; and strengthening delivery mechanisms like social protection systems, cash transfers funded by contingency funds or insurance solutions.

Over the past few years, discussions on Development Policy Loans (DPL)<sup>24</sup> with Cat-DDO have provided a solid foundation for engagement in support of Ministries of Finance in conceiving and designing country-driven DRF strategies, and exploring contingent financing options. So far, the ADRF Initiative has enabled the development of Cat-DDOs in **Cabo Verde, Kenya** and **Malawi**, with others under preparation in **Benin** and **Madagascar**. In addition to providing contingency funds, one of the value-added of this instrument is that it also provides an opportunity to strengthen legal, policy, and other institutional aspects of the DRM policy framework in these countries.

The ADRF Initiative is also supporting countries in establishing shock-responsive safety nets, which rapidly deliver emergency assistance to vulnerable households in the event of a disaster. This type of engagement has been initiated in **Kenya, Malawi, Niger, Sierra Leone** and **Uganda**. Activities have also included the integration of DRF planning into agricultural risk management, supporting agricultural risk assessments in **Lesotho** and **Zimbabwe**. In addition, ADRF technical assistance focused on agriculture insurance programs, which have been initiated in **Kenya, Rwanda** and **Uganda**, unlocking critical access to credit for low-income farmers.

ADRF Initiative activities have laid the groundwork for further investments in risk financing, taking concrete form through the leveraging of additional funding from the World Bank or other donors. These investments build on ADRF technical assistance, and demonstrate the sustainability and country ownership of ADRF activities, which require long-term country leadership. An analysis undertaken by the ADRF team highlights the leveraging of an additional **\$516.3 million** from the World Bank and other donors through this Program. These leveraged operations are being implemented in several areas of engagements including contingency mechanisms, shock-responsive social protection systems or agriculture insurance programs. *For more information, see the "In Focus" section on page 38.*

The current levels of demand, country needs and priorities, and activities undertaken per country are summarized in Table 1, and subsequently elaborated.

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24 A Development Policy Loan provides budget support to governments or a political subdivision for a program of policy and institutional actions to help achieve sustainable, shared growth and poverty reduction.

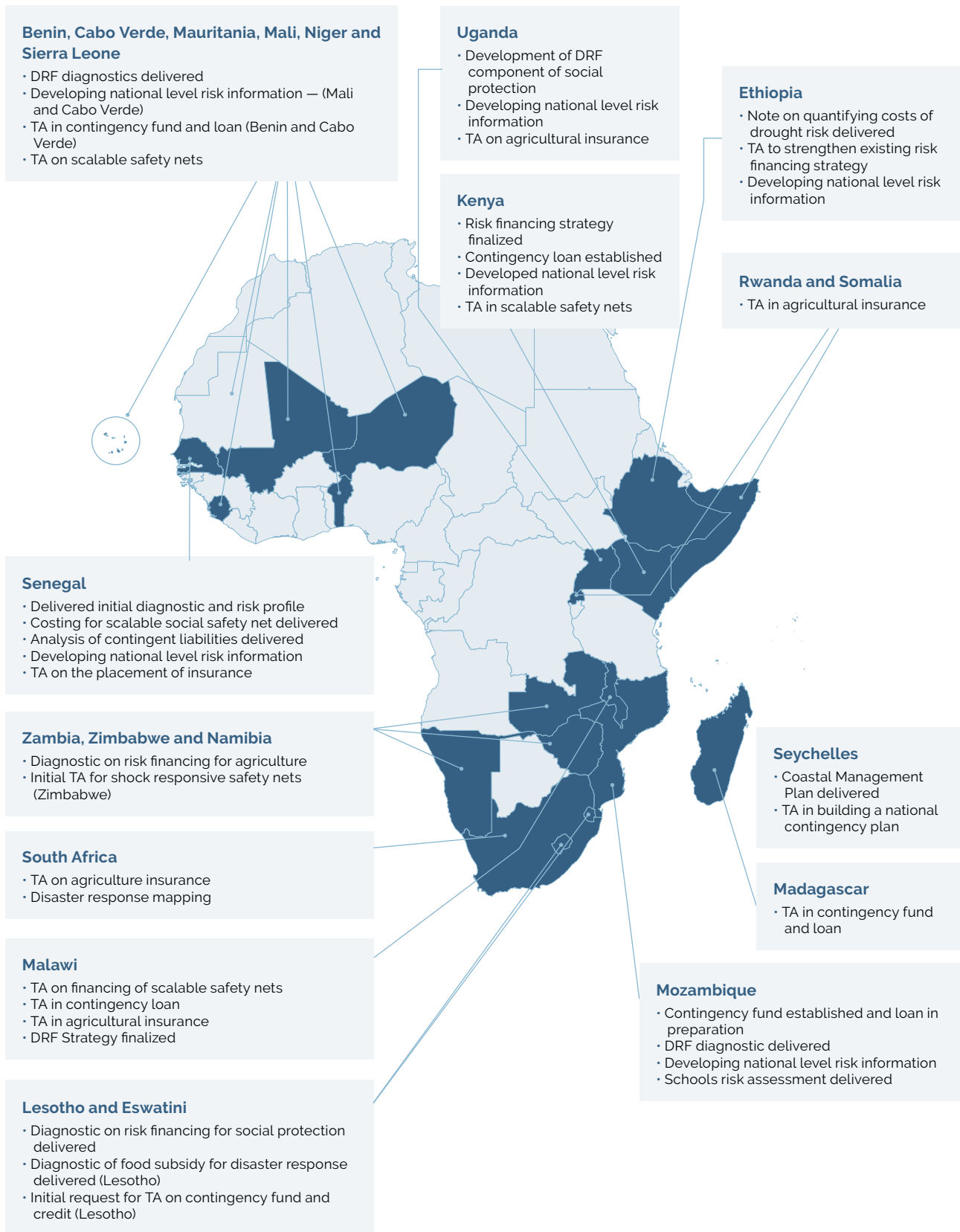
**Table 1. Summary of priority areas of support currently requested by countries**

Key findings for Component B are summarized below for each country where engagement has been undertaken.

	Benin	Cabo Verde	Ethiopia	Eswatini	Kenya	Lesotho	Madagascar	Malawi	Mali <sup>25</sup>	Mauritania	Mozambique	Namibia	Niger	Rwanda	Senegal	Seychelles	Sierra Leone	Somalia	South Africa	Uganda	Zambia	Zimbabwe
Development of contingency funds and/or contingent loans/grants	•	•	•		•	•	•	•			•					•				•	•	
Exploration of sovereign level insurance solutions					•		•				•					•						
Financial risk management approaches to help build shock-responsive social protection systems	•		•	•	•	•		•	•	•			•		•		•			•		•
Financial risk management approaches to help build agriculture insurance markets					•			•						•				•	•	•	•	•
Assistance mapping existing response mechanisms and costs (across government, humanitarian, and development actors)		•		•	•	•			•	•	•		•		•					•		•
Design of MOF-led Disaster risk financing strategies or instruments	•	•	•		•						•	•										

25 Engagement in Mali was undertaken in previous years and not reflected in the next section of the report.

## MAP: Technical Assistance Pipeline for Disaster Risk Financing



 Active projects

*Key activities are summarized below for each country where engagement has been undertaken.*





## Benin

### *National DRF agenda:*

In March 2019, the ADRF Initiative developed a draft DRF Diagnostic for Benin, which revealed that the average annual loss from disasters in the country is estimated at \$19.45 million, equivalent to 0.23 percent of Benin's 2015 Gross Domestic Product (GDP). The diagnostic outlines the government's existing ex-ante risk financing instruments, such as the disaster contingency budget allocation for sectorial ministries and a recently-introduced special account for prevention and management of disasters. It also highlights the need to improve the coherence and efficiency of these financial instruments.

The preliminary results of the diagnostic were presented in March 2019 during a consultative workshop with 23 representatives from the MoF, the National Treasury, the Ministry of Planning and Development, and the National Civil Protection Agency. 23 participants from the directorates of the same Ministries also attended a half-day session for the sharing of international best practices and lessons learnt on disaster response funds, in the context of the assistance for the establishment of a National Disaster Fund and its regulations (see below).

The ADRF Initiative is also providing technical assistance to strengthen financial planning and the current ex-ante DRF approach in Benin, inter alia through (i) the establishment of a national emergency fund, which will enable the government to meet post-disaster financing needs and implement rapid and effective disaster response and complement their ex-ante instruments; and (ii) developing a DRF strategy that will set out specific principles and a systematic approach to enhance the government's ability to mobilize and optimize a pool of complementary financial instruments for effective and adequate disaster response, led by the Budget Department in MoF.

Following the workshop in March 2019, a technical paper was prepared at the government of Benin's request on different design options for emergency funds. The government is finalizing a decree to establish the fund and the regulations for its management; this is expected to be approved by the end of 2019. The government will consider the DRF strategy on the basis of the risk financing diagnostics findings. The ADRF team will support the authorities in defining the key pillars and ambition of the strategy, which will be developed through a consultative process primarily with key government stakeholders. It is expected that the strategy will be approved by the Cabinet of Ministers in September 2019.

The ADRF Initiative also supported the government of Benin with technical assistance to improve effective and systematic quantification of the fiscal and socioeconomic impacts of natural disasters, informing broader fiscal risk management in the country, led by the Economic department in the MoF. The ADRF team has contributed to the drafting of terms of reference and a decree to establish the institutional arrangements for this new mandate, that requires quantification and integration of disaster-related fiscal impacts into the country's fiscal risk management. It is expected that the decree will be approved by the authorities in late 2019, after which the ADRF team will provide training to MoF on quantifying disaster risks and in related areas, in support of this new policy directive.

#### ***Shock responsive safety nets:***

Following interest from the government of Benin, ADRF Initiative technical assistance has started to improve the performance and responsiveness of the current social protection program, making it more shock-sensitive, and able to provide post-disaster assistance to the poor and vulnerable households. In January 2019, the ADRF team started working with the newly-established National Social Protection Agency to re-affirm the government's interest and commitment. A forum will be organized in Cotonou in the second half of 2019 to support the government in disseminating its reform achievements and efforts to improve the country's DRM systems<sup>26</sup>.



## **Cabo Verde**

#### ***National DRF agenda:***

The ADRF Initiative provided technical support to the Cabo Verde MoF on two main activities: (i) the operationalization of the National Emergency Fund, established by decree in the government's 2019 budget, by allocating 0.5 percent of tax revenues to the fund; and (ii) the establishment of the Risk Management Unit within the MoF. These two activities laid the groundwork for the preparation of the \$10 million DPL with Cat-DDO, which was approved by the World Bank Board in June 2019<sup>27</sup>. The ADRF team will continue to support the implementation of the Cat-DDO operation, in particular aspects of it related to the National Disaster Fund effectiveness and the establishment of the Risk Management Unit within the MoF.

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26 This Forum will be co-financed by the ACP-EU Natural Disaster Risk Reduction Program. For more information, please see: <https://bit.ly/2JIEz9n>.

27 For more information, please see the World Bank Press Release here: <https://bit.ly/2J5mUnD>.



## Eswatini

### ***Shock responsive safety nets (co-financed by the Swedish International Development Agency, SIDA):***

The ADRF team closely collaborated with the government of Eswatini on a study that reviews the existing social protection programs in the country, and the potential for developing a shock-responsive safety net. This study included actuarial analysis on the costs of disasters in Eswatini, considering different return periods. Using data for people affected by disasters from 2003 to 2018, it was estimated that the annual average costs of disasters in Eswatini is around \$18.2 million. Based on the study, a policy note focusing on key recommendations was also drafted. The report and policy note have been circulated with relevant country stakeholders for comments, and are undergoing World Bank internal quality review before official publication.



## Ethiopia

### ***Shock responsive safety nets:***

The ADRF team, in collaboration with the World Bank's social protection team, provided support to the government of Ethiopia in the further development of a shock-responsive social protection system for the country. A request for proposals was launched in early 2019, with the aim of financing an assessment of drought models and information management tools in support of the system.



## Kenya

### ***National DRF agenda:***

The ADRF team continued to support the government of Kenya in the ongoing Cat-DDO lending operation, which had been approved in June 2018. The financial protection pillar of the operation has progressed well, with the government of Kenya on track to achieve all the results indicators. The engagement with National Treasury through the Cat-DDO operation has been critical in facilitating a dialogue between the relevant line ministries and the Treasury about support for other disaster response programs, including the Hunger Safety Net Program (HSNP) and the crop and livestock insurance programs.

***Shock-responsive safety nets (co-financed by SIDA):***

The ADRF Initiative supported the design of the *Kenya Social and Economic Inclusion project* (KSEIP), which was approved by the World Bank Board in November 2018, entailing a \$250 million International Development Agency (IDA) loan with a \$94 million grant financed from the United Kingdom's Department for International Development (DfID). The ADRF team is primarily focusing on one of the three components of the project that seeks to develop and institutionalize a financing plan for the scalability mechanism of the HSNP, which responds to drought. In this light, the approved project includes \$72 million of results-based indicators for DRF, \$45 million of which is funded by DfID. This is a key milestone for the ADRF Initiative and the first time a World Bank project uses results-based financing to drive the DRF agenda. It is expected that around 200,000 households - around 1.2 million people - will have benefitted from this mechanism in 2019.

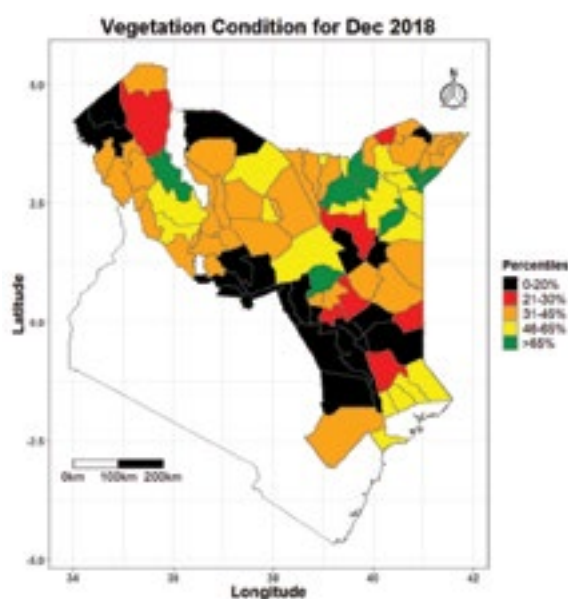
In the implementation of the KSEIP, the ADRF Initiative supported the government of Kenya with key activities, including: (i) an institutional capacity assessment of the two implementing agencies; (ii) an economic analysis of the KSEIP to justify the investment and analyze the economic benefits; and (iii) support for the development of a robust Monitoring and Evaluation framework.

The ADRF team also focused on securing additional budget for the National Drought Management Authority (NDMA) to deliver disaster assistance to vulnerable households in a timely manner under the HSNP, thereby achieving set targets within the KSEIP. The NDMA adopted a financing plan for HSNP scalability moving forward, and held discussions on the plan with the National Treasury to ensure adequate financing in future budgets. The plan proposes to use a risk layering approach to finance HSNP scalability, including a contingency fund and insurance.

The ADRF Initiative also provided technical assistance which enabled the finalization of a recertification strategy for the *National Safety Net Program* (which includes the HSNP) as well as the drafting of the *Enhanced Social Registry Strategy*, which will guide the roll-out of a social registry for safety net programs in Kenya. The ADRF team will facilitate further discussions on the details around the financing plan with National Treasury.

### ***Agricultural insurance (co-financed by the United States Agency for International Development, USAID):***

The ADRF team continued to provide technical assistance to the Kenyan Ministry of Agriculture, Livestock, Fisheries and Irrigation to implement two insurance schemes, one for crops and the other for livestock, supporting the government in the development of an insurance policy framework and a plan for upscaling the schemes. Both insurance schemes show a positive impact on helping vulnerable farmers manage production shocks.



Areas in Kenya which experienced severe drought with the black color representing where insurance triggered a payout.

Source: World Bank

Under the crop insurance scheme, the ADRF team provided technical assistance to the World Bank-funded *Kenya Climate Smart Agriculture Project (KCSAP)* to improve agriculture statistics. In the 2018 crop season, the number of farmers insuring their crops remained above 300,000 in 20 counties – or 17 percent of the goal of 2 million farmers. The ADRF team held discussions with relevant ministries and other stakeholders in

September 2018 to strengthen agriculture insurance data collection and quality under the KCSAP. Poor agriculture statistics, historical data, and the collection of current data have all posed challenges to scaling up the crop insurance scheme. Quality of information is being addressed to accelerate the achievement of targets set by the government.

The *Kenya Livestock Insurance Program* (KLIP) is currently in its fourth cycle and has seen an increase in the number of farmers covered, with the government having procured insurance cover for 18,000 pastoral households in eight counties for the 2018/2019 cover period. The government intends to provide livestock insurance cover to fourteen Arid and Semi-Arid Lands counties where pastoralism is predominant. In December 2018, the ADRF team in partnership with International Livestock Research Institute completed a report on the suitability of KLIP product for the remaining six counties. Two of the six counties examined are suitable for KLIP under current design and will be included in the 2019/2020 KLIP cycle. The remaining four require further investigation into whether the Normalized Difference Vegetation Index product would be appropriate. The ADRF team also continued to support the national and county government engagements to increase funding to KLIP. Accordingly, the ADRF Initiative sponsored and participated in a workshop in December 2018 to explore the potential to fund KLIP, attended by 22 participants from eight counties. County government officials who attended the workshop made financial commitments to pay the premium for more households.

During the short rainy season which ended in January 2019, Kenya experienced below average precipitation, resulting in moderately poor vegetation performance in some of the counties. The depressed rainfall affected pasture conditions, triggering payouts from the KLIP in most affected areas. Over 6,000 households received payouts totaling \$870,000, or 87 million Kenyan shillings, representing 27 percent of the total households insured. The livestock insurance product continues to help interpret drought conditions accurately and to make payouts to households which are adversely affected, showing strong evidence that a risk transfer mechanism can be an effective tool for managing weather shocks. Farmers facing drought shock have been paid on time, and the government is convinced that it is possible to end drought-related emergencies with insurance. The focus is now shifting to scaling-up to reach more farmers through increased coverage. Counties have been trained and sensitized to contribute financially to expanding the number of households covered under the KLIP from 18,000 households currently to at least 300,000 households, and the number of Tropical Livestock Units from 110,000 to 1.5 million in the next three years. In this context, the ADRF team will continue discussions with the government to support the scaling-up of KLIP.





## Lesotho

### ***National DRF agenda:***

In light of the dialogue with the government of Lesotho in implementing a DRF strategy and the role of DRF to support fiscal stability, the ADRF team finalized a draft DRF Diagnostic for the country in June 2019. The diagnostic finds that natural disasters can have a large fiscal impact for Lesotho. A statistical simulation analysis was conducted, looking at the historical cost of disaster response in Lesotho in an attempt to estimate a range of what this cost could be. Based on this analysis, the average cost of disaster response was estimated at \$19.3 million each year. This, however, can be higher for more severe and infrequent shocks. The main results from the study were presented in a meeting with the MoF in June 2019. Before finalizing the diagnostic, feedback from the government will be incorporated and reviewed internally for quality purposes.

### ***Shock-responsive safety nets (co-financed by SIDA):***

The ADRF team worked closely with government counterparts on a study that reviews the existing social protection programs in Lesotho and the potential for scale-up. As part of this study, an actuarial analysis on the costs of disasters in Lesotho was included, considering different return periods. Using data for people affected by disasters from 2003 to 2018, it was estimated that the annual average costs of disasters in Lesotho is around \$18.4 million. Following the conclusion of this study, the ADRF team developed a policy note focusing on key recommendations. Results from this work were presented to relevant stakeholders during a workshop in Lesotho in December 2018, attended by 20 people from government, civil society, the humanitarian sector, and development partners.

### ***Agricultural risk financing:***

An agricultural sector risk assessment and financing diagnostic for Lesotho has been prepared. The study covered the major agricultural risks, risk drivers, and losses associated with the risks, as well as strategies to manage the risks. The study found drought, severe frost, excessive rainfall and pests and disease outbreaks as key production risks, with average annual losses of \$28 million, corresponding to 2 percent of Lesotho's GDP. Production shocks have considerable impacts on household and national food security, and an overall macroeconomic destabilizing effect. The study also highlights the role of institutions and financing for better managing risks and strengthening resilience in the country. The study will be finalized once reviewed by government counterparts and World Bank experts, and then disseminated through appropriate media.



## Madagascar

### **National DRF agenda:**

The ADRF team, together with the French Development Agency (*Agence Française de Développement*) have engaged in a dialogue with the government of Madagascar on the design of a disaster reserve fund. A timeline and terms of references for technical work were developed and agreed with the government aiming to (i) review the potential legal forms that a disaster reserve fund could take under Madagascar's legal framework; and (ii) develop inputs for a draft decree for establishing a disaster reserve fund.

A feasibility study has also been initiated, and the ADRF team has been providing support in reviewing the potential legal framework for the fund, and in developing a decree. The design of the potential disaster reserve fund included (i) the scope of the fund in terms emergency preparedness and response, rehabilitation and reconstruction; (ii) the governance structure; and (iii) potential financing sources. Different options were illustrated with examples of such funds from other countries. The Ministry of Economy and Finance has been working in coordination with the DRM agencies (*Bureau National de Gestion des Risques et des Catastrophe*, and *Cellule de Prevention et Gestion des Urgences*) on the scope and status of the fund, and a draft decree has been finalized. It is expected that the decree will be approved by the end of September 2019. Further support will be provided to develop a fund operations' manual and detailed regulations.



## Malawi

### **National DRF agenda:**

In June 2019, a \$70 million development policy operation with a Cat-DDO was approved by the World Bank Board, of which \$30 million are deferred and available for draw-down after a declaration of disaster over the next three years<sup>28</sup>. The Malawi Cat-DDO highlights how technical assistance from the ADRF Initiative has been leveraged to advance important policy reforms and set-up financing instruments that strengthen financial resilience to natural disasters, including the development of a DRF strategy that was approved by MoF in March 2019. The DRF strategy marks an important step in Malawi's efforts to strengthen financial protection against disasters, and spells out the government's key DRF policy priorities in an official document. Previously, the ADRF team had provided support for two government workshops in October 2018: (i) a national consultation workshop on the DRF strategy which was attended by 39 people; and (ii) a national validation workshop during which the final draft of the DRF strategy was presented for final comments and validation.

28 For more information, please see the World Bank press release here: <https://bit.ly/2LuQEvk>.

***Shock-responsive safety net (co-financed by SIDA):***

The ADRF team continued to support the government of Malawi in the introduction of a shock-responsive safety net financing component to a potential social protection lending operation. Priority activities have included (i) a review of potential financial instruments to cover the costs of scaling-up a social protection program, the *Social Cash Transfer Program* (SCTP), and the potential application of contingent financing tools; (ii) technical support for a social registry to advance the agenda around data on socio-economic resilience; and (iii) SCTP program review and advisory on preparedness for its scale-up. On the final point, the ADRF team has crowded in technical capacity from the World Bank's Climate and DRF team who will deliver the technical work on triggers for scaling-up the SCTP. Using data from 2010 to 2018, the estimated average costs of providing assistance through the SCTP would be \$7.2 million per year. Activities for this work and information on the fundamentals of shock-responsive social protection were presented to the government in March 2019. In addition, the team launched a selection process to hire a firm to take stock of available household, weather, and agricultural yield data in Malawi that could inform the design of a shock-responsive component, as well as to trigger it in times of crisis.

***Agricultural insurance (co-financed by USAID):***

Following a request from the government of Malawi to expand the agricultural insurance market in the country, the ADRF Initiative started to develop a feasibility study for the potential for both crop and livestock insurance in Malawi, jointly with the World Bank Global Index Insurance Facility<sup>29</sup>. Results from the study will provide guidance to the government of Malawi on how to expand the agricultural insurance market in the country. A draft of the feasibility study was submitted in June 2019 and will be finalized following an internal World Bank review as well as an external government review.

**Mauritania*****National DRF agenda:***

The ADRF team has been working with the World Bank's social protection team to support the government of Mauritania in strengthening the early warning system for food security. This work is being implemented in coordination with the World Food Program (WFP) and other development partners. Work started on a policy note on financing for food security risk to cover response needs associated to climate-related shocks, with a focus on drought conditions in a first phase. The ADRF team will present the policy note to the government once finalized.

<sup>29</sup> For more information, please see <https://bit.ly/2AQRH2q>.



## Mozambique

### *National DRF agenda:*

In March and April 2019, Mozambique was hit by two major tropical cyclones: Idai and Kenneth. The hazard, exposure and risk analytics developed under the ADRF Initiative in the response to the tropical cyclones were made available for government and development partners through the GeoNode<sup>30</sup> for various applications in the immediate response phase. *For more information, see the "In Focus" section on page 11.*

In the aftermath of tropical cyclone Idai, the *Disaster Risk Management and Resilience Program* in Mozambique, prepared with support from the ADRF Initiative, was approved by the World Bank Board in March 2019<sup>31</sup>. The total funding for the program and the accompanying Investment Project is \$132.27 million, of which \$90 million is IDA financing, \$6 million is from the Global Risk Financing Facility<sup>32</sup> (GRiF), and \$36.27 million is counterpart funding from the government of Mozambique. The ADRF team also leveraged another \$2 million from the GRiF to finance technical assistance in Mozambique over the coming five years. This project represents the first time the World Bank has used the Program for Results instrument for the DRM agenda, and is the first World Bank project in Africa to support a government in purchasing a risk transfer product. Following the approval of this project, activities have been accelerated to ensure that the government of Mozambique can have quicker access to additional funds to effectively respond to emergencies such as cyclones Idai and Kenneth. As part of program implementation, technical support from the ADRF Initiative enabled the development and adoption by the government of a detailed Administrative and Financial Procedures Manual for the Disaster Management Fund, based on international best practices. The government has also complied with its obligation of allocating 0.1 percent of its budget into the Disaster Management Fund. Together with the establishment of a Fund Management Unit with key staff mobilized, and the development of a financial management system, this represents a key outcome of the overall DRF support and a milestone in advancing the financial protection agenda in Mozambique. In addition, the ADRF team started reviewing tropical cyclone models covering Mozambique in order to assess their adequacy as a basis for the development of a risk transfer instrument.

30 GeoNode is a web-based application and platform for developing geospatial information system and for deploying spatial data infrastructure. See <http://geonode.org/>.

31 For more information, please see the World Bank press release here: <https://bit.ly/2Gl27Ld>.

32 For more information, please see <https://bit.ly/2LS7G6u>.

Furthermore, the ADRF team started working on the preparation of a payment integration system for disaster compensation payments in areas impacted by tropical cyclone Idai. This included technical activities between the government's single treasury account, two commercial banks and two mobile money operators. The ADRF team also conducted financial literacy and awareness raising workshops in the Maputo Province, with 5 sessions reaching more than 180 participants over 3 days. Payments will begin via the electronic delivery of stipends to 108 social protection program coordinators in Sofala Province. This will in turn inform the delivery of disaster compensation payments to social protection beneficiaries in a subsequent phase of project implementation.

In 2019, the ADRF team also began to provide support for the development of a DRF strategy for Mozambique. In April 2019 initial consultations were held with relevant stakeholders, including the Ministry of Economy and Finance, the National Disaster Management Agency, the Ministry of Agriculture and Food Security, the National Institute for Meteorology, and the Insurance Regulator. A first draft of the strategy is expected in late 2019.



## Namibia

### *National DRF agenda:*

Together with the World Bank agriculture team, the ADRF team started carrying out scoping work for an agriculture and disaster risk assessment in Namibia. This work is part of a broader analysis of the impacts of shocks and risk to the country's agriculture sector. The first draft of the assessment is planned for the end of 2019.



City of Cape Town,  
South Africa  
Source: iStockphoto



## Niger

### ***Shock responsive safety nets (co-financed by SIDA):***

The ADRF Initiative provided technical support to the government of Niger to integrate a DRF component in the \$80 million World Bank *Niger Adaptive Safety Nets 2* lending operation which was approved by the World Bank Board in January 2019. The DRF component is dedicated to the development of a drought-responsive cash transfer program. It follows a sequential approach, with a limited pilot program planned for implementation during the 2020 lean season. An inter-ministerial Steering Committee has been formed and has started work on identifying both appropriate scalability triggers and a suitable target zone for the pilot. To inform the process, a series of studies were commissioned: (i) the ADRF team finalized a study on humanitarian finance in Niger to better understand financing volumes, flows and timelines; and (ii) another study on the relationship between climate data and drought impact felt on the ground, the results of which will be available by August 2019 and presented to the inter-ministerial Steering Committee at a workshop in September 2019.



## Rwanda

### ***Agriculture insurance (co-financed by USAID):***

Following an official request by the government of Rwanda, the ADRF team has finalized the review of Rwanda's *National Agriculture Insurance Scheme (NAIS)*. The NAIS is an initiative led by the government of Rwanda to make agriculture insurance available to smallholder farmers, comprising the majority of farmers in the country.

Through NAIS, the government is focusing on two schemes, one targeting crop-growing farmers and another for livestock keepers. The government launched livestock insurance in 14 districts in April 2019 and is planning to launch crop insurance in the next planting season. A technical report providing detailed analysis of the scheme has been finalized by the ADRF team. Accompanying it is a policy note that summarizes the policy options the government could pursue in supporting agriculture insurance. The finalized report was shared for comments with the government of Rwanda in June 2019.



In addition, the ADRF team supported the government of Rwanda in the design of an agriculture de-risking facility. The objective is to coordinate all investments in the agriculture sector to reduce risks, enhance the productivity of farmers, and stabilize farm income. The de-risking facility aims to attract investment in the agriculture sector by reducing risk in agriculture value chains and facilitating the extension of agricultural finance. The finalized concept note on the de-risking facility, drafted by the ADRF team, was sent to the cabinet of Ministers for review and approval in June 2019.



## Senegal

### ***National DRF agenda and shock responsive safety nets (co-financed by SIDA):***

In April 2019, The ADRF team finalized an analysis of Senegal's contingent liabilities. It includes a drought financial risk assessment for the whole country, based on a combination of actual historical loss reported (*Cadre Harmonisé* over 2014-2017) and a hybrid satellite index for rainfall and moisture, used to extrapolate that dataset for the period 1992-2018. The results provide more robust insight into the potential financial losses faced by the government of Senegal in case of drought events. The analysis was internally approved by the World Bank in June 2019, and key results and recommendations will be presented to the government in late 2019.

The ADRF team supported regular technical exchanges with the government of Senegal on the role and benefits of scalable safety nets backed by ex-ante financial instruments to respond to drought crises. More than 40 professionals from the government and humanitarian agencies attended a two-day event, entitled *Adaptive social protection and financing strategies for an effective response to food insecurity* in Dakar in October 2018. Delegates attended a presentation of the ADRF work on a shock-responsive safety nets scenario-based costing analysis, and received training on the Fundamentals of DRF analysis and financing instruments. They also discussed the preliminary design of DRF strategies.

Following the Senegalese Presidential elections of February 2019, the ADRF team started working with the new government on the need for a comprehensive DRF strategy to address drought-related financial losses, including through the development of a scalable safety net mechanism. In June 2019, a workshop was held at the World Bank office in Dakar, co-led by the MoF and the ADRF team with government counterparts, the African Risk Capacity (ARC) and humanitarian partners. 20 delegates received an update on: (i) the latest drought risk assessment work; (ii) the cost-benefit analysis of financial instruments; and (iii) a set of optimum DRF strategies to best respond to the contingent liabilities faced by the scalable safety net under development. There was also a discussion and interest from the MoF in refining and finalizing a DRF instrument. This work will be undertaken in close collaboration with ARC, including on the modelling and pricing of the risk transfer layer. The workshop also provided an opportunity for the ADRF team and the government to discuss the need to integrate the risk financing framework into the broader DRM agenda and the current flood risk financing work in the country.

The ADRF will continue to support the government of Senegal, by (i) further refining the technical risk analysis, with inputs from ARC as well as technical risk management participants and experts; and (ii) identifying the optimal combination of instruments to finance the scalable safety net mechanism, planned for late 2019.



## Seychelles

### ***National DRF agenda:***

The ADRF team finalized the *Seychelles Coastal Management Plan*, which summarizes economic risks and priority investments in coastal resilience, and was presented in June 2019 to the Cabinet and President of the Seychelles<sup>33</sup>. The President met with then-World Bank Chief Executive Officer Kristalina Georgieva to discuss the Plan and options for financing its implementation priorities<sup>34</sup>. The United Nations (UN) Secretary General also received a hard-copy of the plan from the President of the Seychelles<sup>35</sup>. Possible strategies for the financing of the investment plan to strengthen Seychelles' climate resilience are being explored.

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33 The report is accessible at <https://bit.ly/2RHd8e2>.

34 Please see a press article here: <https://bit.ly/2KU5UTg>.

35 Please see a press article here: <https://bit.ly/2xn01oP>.

In addition, the ADRF team provided technical support to the government in the development of the *National Integrated Emergency Management Plan (NIEMP)*<sup>36</sup>. A paper entitled *Scaling-up Seychelles Readiness to Multi-Hazard Events* was presented to the Cabinet, and included a timeframe for action with the key next steps for the development of the NIEMP. The timeframe was approved by the Cabinet and expected to be completed by the end of 2019. The ADRF team also supported the Ministry profiling exercise, which detailed the role of the different Ministries, Departments and Agencies involved with emergencies, and the inventory of resources they need to perform their tasks. Some contingency plans have been updated for the Health, Tourism and Education sectors. The Red Cross Society of Seychelles and the Seychelles Fire Rescue Service Agency contingency plans have also been finalized and approved. In addition, the ADRF team provided technical support to the local government Department and the five districts that were prioritized by the Permanent Secretary to advance their protocols for emergency preparedness and response based on the Districts Contingency Plans from 2008.



## Sierra Leone

### ***Shock responsive safety nets (co-financed by SIDA):***

A new administration in Sierra Leone was voted into office in March 2018, putting an emphasis on restructuring government institutions to respond to shocks and provide better leadership for DRM. The ADRF team supported the government in building on its experience of responding to Ebola and mudslides through its social safety nets project. Specifically, the ADRF team provided technical assistance to improve the ability of the core delivery systems to scale-up in response to shocks, focusing on the management information system, the payment systems and potential sources of financing. The government led a review of the legislative and institutional landscape related to DRM to provide a response which specifically considers an institutionalized role for social safety nets. This is complemented by analytical work led by the ADRF team, including a detailed assessment of the experience of responding to shocks to inform the World Bank *Social Safety Nets Project*. This analysis provides innovative recommendations on building scalable safety nets, backed by contingency financing, in post-conflict, fragile states. Building on the findings of this assessment, the government of Sierra Leone requested additional financing for the World Bank *Social Safety Nets Project*, that would include a DRF component to support the government of Sierra Leone in developing and financing the shock-responsive safety net.

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36 This works was co-financed by the ACP-EU Natural Disaster Risk Reduction Program (<https://www.gfdrr.org/en/acp-eu>).



## Somalia

### *Shock responsive safety nets:*

With the growing interest in supporting pastoralist and nomadic livelihoods from weather-related shocks in Somalia, the ADRF team received a request from the government of Somalia to explore the technical, operational and financial feasibility of a livestock insurance scheme. A study was finalized which aimed to (i) identify specific social and economic characteristics to assess the impact of weather-related shocks on households; (ii) identify private sector capacity to develop and offer appropriate insurance products; and (iii) understand the existence of demand of livestock insurance products at government and household level. The study also informs the potential roll-out of a livestock insurance scheme in the Horn of Africa countries - Djibouti, Eritrea, Ethiopia, Kenya and Somalia.

The draft feasibility study was validated by 150 stakeholders drawn from the government, the six Somali states and private sector actors during a workshop that took place in Mogadishu in June 2019. The results indicate it is technically, operationally, and financially possible to launch a livestock insurance scheme in Somalia. This work is expected to continue with the publication of the feasibility study, the design of livestock insurance products and with support for both government and private sector actors in developing a business plan to guide the implementation of the scheme.



Participants attending livestock insurance feasibility study Validation Workshop in Mogadishu, Somalia on 19 June 2019  
*Source: World Bank*



## South Africa

### *Mapping response mechanisms:*

In October 2018, the ADRF team finalized a report to (i) assess the impacts of the el Niño crisis on the agribusiness space of the South African economy; and (ii) analyze and quantify the public and private sector responses to this crisis. The report found that the impact of the el Niño crisis was notable, especially in the agriculture, forestry and fishing sectors which contracted by 6.1 percent and 7.8 percent in 2015 and 2016 respectively. The grains sector was affected worst, leading to a food insecurity situation where 1.75 million tons of maize was imported in 2015/2016, and subsequent prices for maize increased by 90 to 150 percent. To respond to this crisis, the government of South Africa mobilized over \$600 million between 2016 and 2019. The report also found that from the perspective of the private sector, farmers were innovative in deploying coping mechanisms, including borrowing, re-financing, or sowing drought resistant crops. In addition, the findings of the report have fed into the South African Country Private Sector Diagnostic.

### *Agriculture insurance:*

The government and the South African Insurance Association have been working on the implementation of agricultural index insurance to cover smallholder farmers in the country. To support this effort, and following the request of the government of South Africa, the ADRF team conducted a demand assessment for agricultural index insurance in October 2018, and has also identified potential distribution channels in agricultural value chains that could be used to distribute agricultural index insurance. This report was presented in the last quarter of 2018 to representatives of the National Treasury, the Department of Agriculture, Forestry and Fisheries, the South African Insurance Association, and insurance companies. Stakeholders deemed the report valuable in guiding the setup of an agricultural index insurance pilot that will provide information on provinces that could be included, hazards to be covered, and potential demand from crop and livestock farmers.

Local stakeholders were engaged in March 2019, including the National Treasury, the Land Bank, FinMark Trust and the Department of Agriculture, Forestry and Fisheries on the concept of carrying out an agricultural finance and insurance diagnostic. A consulting firm was recruited to implement a survey of financial service providers and to organize a set of focus group discussions among small and medium-scale farmers to inform the diagnostic. The survey of major service providers is expected to provide data and insights that would complement available data from regulators. The focus group discussions are expected to provide demand-side data and insights. In June 2019 the ADRF team met with a wide variety of stakeholders from both the public and private sectors to brief them on the diagnostic, and obtain their insights on the availability of financial services for the target group and the challenges in expanding them. Moving forward, the findings of the desk analysis, the consulting firm survey and in-country interviews will be used to draft and finalize the agricultural finance and insurance diagnostic. The diagnostic is intended to inform the upcoming World Bank economic update, planned for late 2019, and to inform the National Treasury in refining their policy priorities for supporting risk management in the agricultural sector.



## Uganda

### ***Agricultural insurance (co-financed by USAID):***

The ADRF Initiative provided technical assistance to the government of Uganda in improving financing for the agriculture sector. The team supported the government in conducting a stock-take and review of the *Uganda Agriculture Insurance Scheme* (UAIS) to improve product quality and increase the number of farmers accessing insurance.

In January 2019, the ADRF team finalized the review of the UAIS, handing over a technical report and policy note to the government of Uganda. It recommended that two large schemes be considered, one targeting crop growing farmers and another for livestock keepers. The team worked closely with both public and private stakeholders to evaluate UAIS, engaging them to review the product offering and operational processes. The ADRF team had previously presented preliminary findings of the UAIS to the government and other stakeholders through a workshop held in Kampala, Uganda on 6 November 2018. The workshop was attended by 40 people. The policy note was presented and endorsed at a senior management meeting at the MoF, chaired by the Minister, and attended by 30 participants.



Based on the review of UAIS, the government has started to position its recent efforts in expanding agriculture finance and insurance in the broader agriculture transformation agenda. In addition to the review of UAIS, the government has requested support to explore a more comprehensive framework to de-risk agriculture and crowd-in private financing. The ADRF team will review the government-sponsored, subsidized line of credit and partial credit guarantees, and provide advice on how they fit into the broader agriculture transformation agenda. The government also sought the ADRF team's views on the draft agriculture finance policy that is intended to improve the enabling environment for enhancing farmers' access to finance.

#### ***Shock-responsive safety nets (co-financed by SIDA):***

The mid-term review of the *Northern Uganda Social Action Fund 3* (NUSAF 3) took place after three years of project implementation. The government presented the impact of the DRF component on the livelihoods of the poor households in Karamoja. The impact evaluations demonstrated that the DRF component increased meal frequency, the savings achieved, and reduced the extent of the population's negative coping. The government recognized the DRF component as one of their flagship projects. During the review, both the government and the ADRF team agreed to scale-up the DRF mechanism to expand the drought coverage to additional sub-regions, and to expand the scope of the mechanism to cover other hazards including flooding. Based on this, \$7 million was reallocated to the DRF component within the NUSAF 3 project to cover the costs of scale-ups in the coming two years.



Women in the bus,  
Uganda  
Source: iStockphoto

In addition, the ADRF team drafted a chapter for the Uganda social protection public expenditure review report, which will be published by December 2019. This chapter explores the potential to expand shock-responsive safety nets in Uganda and provides an indicative costing analysis for doing this.



## Zambia

### ***Agricultural insurance:***

The ADRF team has been supporting the delivery of an agriculture finance and insurance diagnostic in Zambia. The objective of the study is to assess key opportunities and constraints to the development of commercially viable agriculture finance and insurance markets in the country, and to present policy recommendations to the government.

The report's preliminary findings are that (i) outreach to financial services has significantly increased in recent years through e-money; (ii) the Zambian banking sector is highly oriented to the agriculture sector, but most of the financing (over 90 percent) goes to large commercial farms and; (iii) there has been an exponential increase in agricultural insurance outreach in 2017-18 through an electronic subsidy program, which will have to be substantially improved to sustain the scale-up.

Key preliminary recommendations of the report that relate to insurance are the following: (i) strengthen the design and implementation of the *Farmer Input Subsidy Program* with weather index insurance schemes; (ii) undertake an in-depth fiscal and market assessment of options for supporting agricultural insurance markets; and (iii) build technical capacity of key public and private actors.

The report was presented in October 2018 during a workshop to over 40 people to elicit feedback and guidance from key stakeholders. Following this, the diagnostic was revised to incorporate inputs received from the Zambia Pensions and Insurance Authority, the Financial Sector Deepening Zambia, the German Development Agency (*Deutsche Gesellschaft für Internationale Zusammenarbeit*) team in Zambia, and the Rural Finance Expansion Program. The finalization and dissemination of the report is expected in late 2019.

### ***Shock-responsive safety nets (co-financed by SIDA):***

The ADRF team mobilized international expertise on an innovative payment system that allows social protection beneficiaries to choose their providers as a means of overcoming gaps in the coverage of payment providers. The payment system is the first of its kind in Africa and offers the potential to rapidly scale-up the provision of safety net support in response to droughts. The payment system will be piloted within the country's largest cash transfer program.



## Zimbabwe

### ***National DRF agenda:***

Building on an agriculture sector risk assessment mentioned below, the ADRF team continued its dialogue with the MoF on risk financing, and explored interest in carrying out a DRF diagnostic. Discussions also included the insurance regulator and the UN Food and Agriculture Organization. The team will continue this dialogue during the DRF executive education program<sup>37</sup>, to which the Minister of Finance of Zimbabwe has been invited.

### ***Shock responsive safety nets:***

The ADRF team has been working with the World Bank social protection team on policy engagement efforts with the government to review and reform the *Zimbabwe Cash Transfer Flagship Program*. There is a strong interest from government and partners to address financing and implementation challenges, as well as expanding the resilience-building component for ultra-poor households. In this context, the ADRF team supported capacity-building activities such as deepening knowledge and preparedness around resilient information systems, technical work to support risk and vulnerability assessments, and strengthening understanding of contingent financing, including cross-country exchanges.

### ***Agricultural Risks Financing:***

Together with the World Bank Agriculture Global Practice, the ADRF team finalized the report entitled *Zimbabwe Agriculture Sector Risk Assessment*<sup>38</sup>. This report presents an assessment of Zimbabwe's agriculture sector disaster risk and management capacity. The findings indicate that Zimbabwe is highly exposed to agricultural risks and has limited capacity to manage risk at various levels. Specifically, the report shows that Zimbabwe loses approximately \$126 million each year due to production risks. The report recommends the need to adopt an integrated risk management strategy including (i) building resilience at the farm level; (ii) improving government capacity to finance and deliver timely disaster response; and (iii) promoting risk transfer (or insurance) mechanisms at the sovereign level as well as for farmers.

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37 The ADRF team is planning to deliver the DRF executive education program at the Stellenbosch University in South Africa on September 2 to 6, 2019.

38 The report can be accessed at <https://goo.gl/TDuPp2>.

## Coordination with ARC

A joint World Bank and ARC workshop was organized in March 2019 in Nairobi to agree on a workplan for collaboration. The workshop was considered by both organizations to be successful, and resulted in a concrete action plan of activities. The teams will collaborate under the DRF executive education program in September 2019 at Stellenbosch University in South Africa. Furthermore, regarding country engagements, the ARC and World Bank teams are jointly working on a tropical cyclone risk model for Mozambique, and each agreed to engage with the government of Kenya to improve their knowledge of the benefits of risk layering and risk transfer instruments for drought risk management.

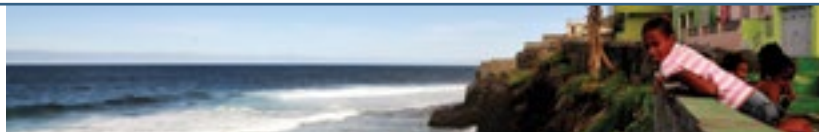


**Busy street in Benin**  
Source: iStockphoto

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## In Focus: Financial leveraging of the Africa Disaster Risk Financing Initiative

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Children looking to the ocean, Carbo Verde. Source: iStockphoto

Since its launch, the ADRF Initiative has progressively engaged with over 20 Sub-Saharan African governments to develop DRF policies, instruments and strategies. ADRF activities support the strengthening of institutional, technical, and financial capacity in these countries to manage the impact of natural hazards, and to improve fiscal resilience. This has led to concrete results, with countries changing or adopting new DRF policies, shifting budget allocations, and improving their own disaster-related fiscal capacity.

The ADRF Initiative's activities have also laid the groundwork for further investments in risk financing, taking concrete form through the leveraging of additional funding from the World Bank or other donors. The ADRF Initiative has strengthened the DRF focus of additional operations in varying degrees, by either enabling or informing, which can be defined as follows:

- **Enabling:** ADRF technical assistance directly supports the design or implementation of a development investment, for example through the direct involvement of ADRF activities in the design of an operation, or the integration of a DRF component into a larger operation.
- **Informing:** ADRF resources lay the ground work for conceiving a larger investment, for example through a knowledge or analytical product or a diagnostic, among others.

Based on this, the ADRF Initiative has recorded a total leverage of **\$516.3 million** from World Bank and other development partners. These investments have materialized by building on ADRF technical assistance. Given that these operations require long-term country leadership, they demonstrate the sustainability and country ownership of the activities supported through the ADRF Initiative. These leveraged operations are being implemented in the following ADRF areas of engagement:

- **Contingency mechanisms:** this includes several instruments, such as the Cat-DDO, which offers countries technical support to strengthen legal, policy, and other institutional aspects of their DRM policy framework. Following country demand, a \$200 million Cat-DDO has been prepared and approved for **Kenya**, one for \$10 million has been approved in **Cabo Verde**, and one for \$70 million in **Malawi**. In addition, through a \$90 million World Bank Program-for-Results, the ADRF Initiative responded to an official request from the government of **Mozambique** to provide technical assistance to the government to operationalize and capitalize its Disaster Management Fund (the operation totals \$134.3 million as it also includes counterpart funding from the government and from the GRiF). The ADRF Initiative also supported a \$13 million immediate response mechanism in **Niger** to support recovery measures and reconstruction following drought.
- **Shock-responsive social protection systems:** Another pillar of ADRF activities involves developing financing strategies which enable social protection systems to rapidly respond to shocks. In the frame of these activities, World Bank operations have been informed by the ADRF Initiative in **Kenya, Niger** and **Uganda**. These operations have mobilized \$12 million under the NUSAF 3, \$5 million under the Niger Safety Net Project, and \$72 million under the KSEIP project, of which \$45 million included co-financing from DfID as part of the financing strategies to meet the cost of shock response.



### 4.3. Facilitating regional risk financing and knowledge sharing initiatives

From July 2018 to June 2019, the ADRF Initiative continued to facilitate a number of knowledge sharing activities on risk assessment and risk financing solutions, in collaboration with other development partners. A summary of these activities can be found below.

#### East Africa Rift Valley Regional Seismic Risk and Resilience Workshop



Participants during a site visit in Nairobi's Parliament Tower organized as part of the RIFT 2018 – Regional Seismic Risk and Resilience Workshop

Source: World Bank

In September 2018, the ADRF team supported the organization of the RIFT 2018 - *Regional Seismic Risk and Resilience Workshop* in Nairobi, Kenya, facilitating the participation of 35 officials from **Kenya, Uganda, Mozambique, Malawi, Ethiopia, and Tanzania**. The workshop raised awareness on seismic risk in the East Africa region, and laid out specific options for policy and investment, enabling action to strengthen institutional and policy frameworks for risk management, and building the capacity of selected national and local governments in the East African Rift Valley. Participants deepened their

understanding on the key themes of (i) Seismic Risk Identification and Hazard Mapping; (ii) Implementation of Seismic Risk Reduction in the Built Environment; and (iii) Resilient Infrastructure. Through the workshop, participants recognized that even an earthquake with a magnitude of between 5.0 and 6.0 can cause devastating losses in the Rift Valley, due to the inherent vulnerability caused by the low quality of the building stock and the concentrations of urban poor. During the workshop, participants developed challenge and opportunity plans to explain their efforts to map seismic hazards and implement appropriate regulatory policies. Local and international experiences from Colombia and Jamaica were highlighted, enabling participants to identify methodologies that could be deployed to support their ongoing and future projects. A summary report of the workshop was finalized following the event.<sup>39</sup>

<sup>39</sup> The final report can be accessed at <https://bit.ly/2lc1eG6>.



### Regional Forum on Climate Risks and Resilience

The Common Market for Eastern and Southern Africa in collaboration with the World Bank hosted the Regional Forum on *Climate Risks and Food Security Resilience* in Lusaka, Zambia in October 2018.

During the Forum, the ADRF team moderated a plenary session which focused on innovations in Climate Risk Finance. The session highlighted (i) ARC's drought risk product; (ii) the maximizing finance for development and digital payment approach of the government of Kenya in protecting pastoralists from drought under the KLIP, which uses satellite data, private sector insurance capital and mobile money to rapidly deliver insurance payouts to vulnerable households in Northern Kenya; and (iii) how the government of Mozambique coordinates with humanitarian agencies to protect the poorest households from the impacts of shocks. The presentations were well received, particularly the one from ARC, which stimulated interest from multiple countries on how drought insurance can complement existing risk financing instruments. This session led to a discussion on the role of drought risk transfer as part of a broader DRF strategy. The proceedings of the Forum were published following the event.<sup>40</sup>



Participants of the Regional Forum on Climate Risks and Food Security Resilience in Lusaka, Zambia, 25-26 October 2018  
Source: Proceedings report

40 The proceedings are available at <https://goo.gl/xAERmx>.

### Africa Climate Resilient Investment Summit

The ADRF team moderated a panel session at the *Africa Climate Resilient Investment Summit*, which took place in Johannesburg in March 2019, organized by the World Bank Environment and Natural Resources Global Practice. The panel session focused primarily on the bankability of investment opportunities and projects which build resilience. Key take-aways included:

- Financing climate resilience is a new and emerging area. Multilateral Development Institutions and other banks are grappling with how to fully integrate targets and results indicators into their strategies, lending and monitoring platforms.
- Tranching of risk in a debt structure can crowd in private sector finance, with higher tranches of risk being borne by those with a higher risk tolerance - such as Multilateral Development Banks - and lower layers by the private sector.
- Capacity development is critical, to support potential lenders develop bankable projects. It is critical to empower target groups such as women and the youth.
- Blending concessional finance with commercial finance can be an effective way to leverage public sector funds and crowd in private sector capital into financing climate resilience. This is a new and evolving space which has not yet matured or been mainstreamed.

### Fourth edition of the World Reconstruction Conference (WRC4)



Panel discussion during the WRC4 session on Financing Mechanisms for More Inclusive Recovery  
Source: UNDRR

In May 2019, the WRC4<sup>41</sup> took place in Geneva, Switzerland, on the margins of the *Global Platform for Disaster Risk Reduction*. The ADRF Initiative enabled the participation of Ms. Stella Sengendo, DRF Coordinator within the Office of the Prime Minister of Uganda, to present during the session entitled *Financing Mechanisms for More Inclusive Recovery*. She presented the latest update on

the NUSAF 3 project and on shock-responsive safety nets in Uganda. The session explored current and potential future mechanisms for financing risk in the context of recovery, focusing on the most vulnerable people and contexts. It also focused on what the international community and national actors need to do in preparation for and to improve the recovery options and outcomes.

41 More information can be found at <https://www.gfdrr.org/en/WRC4>.

## Open Cities Africa

The ADRF Initiative has continued to implement activities under Open Cities Africa<sup>42</sup>, which engages local government, civil society, and the private sector in developing the information necessary to meet disaster resilience challenges. Through the ADRF Initiative, Open Cities Africa supports projects in 11 cities in Sub-Saharan Africa, including: Accra, **Ghana**; Antananarivo, **Madagascar**; Brazzaville, **Republic of Congo**; Kinshasa, **Democratic Republic of Congo**; Monrovia, **Liberia**; Ngaoundéré, **Cameroon**; Pointe-Noire, **Republic of Congo**; Saint-Louis, **Senegal**; Kampala, **Uganda**; Victoria, **Seychelles**; and Stone Town, **Zanzibar**. *For more information, see the "In Focus" section on page 45.*

### Regional events and engagements

Consortia of local government and innovation teams from Open Cities Africa totaling 45 delegates convened in Tanzania in August 2018 for the second *Open Cities Africa regional meeting*<sup>43</sup>. Through workshops in user-centered design, teams learned techniques to develop information tools that are relevant, accessible, and useful for governments and vulnerable communities. In Open Cities technical clinics, delegates met with experts from Humanitarian OpenStreetMap<sup>44</sup> Team, Mapillary, and Open Data for Resilience Initiative (OpenDRI) to gain advanced training and instruction in validation, quality assessment and quality control, drones and other Unmanned Aerial Vehicles, and data collection tools.



Participants during the second Open Cities Africa regional meeting in August 2018 Source: World Bank

<sup>42</sup> <https://opencitiesproject.org/>

<sup>43</sup> <https://opendri.org/open-cities-africa-second-regional-meeting/>

<sup>44</sup> <https://www.openstreetmap.org>

Several other events were held during the Open Cities Africa regional meeting, including the *Free and Open Source for Geospatial*<sup>45</sup>, the *Understanding Risk Tanzania conference*<sup>46</sup>, and the *Humanitarian OpenStreetMap Summit*<sup>47</sup>, where teams engaged on geospatial governance, inclusion, diversity, capacity building and civic engagement. In Zanzibar City, Mapbox hosted an extended web mapping training<sup>48</sup> session, also held in August 2018. These in-person trainings complement the Open Cities online course in assessment, mapping, development, and sustainability, which teams have completed.

During the week of events outlined, city teams convened with key stakeholders in target cities. These stakeholders included city governments, community associations, DRM agencies, urban planning and Geographic Information Systems (GIS) departments, internal affairs ministries, women's organizations, universities, and World Bank teams, among several others, to determine target areas and data priorities. In the development phase of the Open Cities Africa program, each city team identified four of their organization's core stakeholders as "users" of their ultimate data product.

### ***Specific Open Cities Africa projects***

Open Cities Africa teams follow a user-centered design process to tailor their data products to the needs of their government beneficiaries. As mentioned above, a series of five learning modules on this topic was developed and made accessible to the teams through the Open Cities online learning platform<sup>49</sup>. Teams worked to finalize their data products (e.g., paper atlases, web applications, etc.) so that local government leaders can easily access and interpret risk information to inform decision-making on such topics as urban flooding, coastal erosion, slum upgrading and solid waste management.

Data collected in Pointe-Noire, **Republic of Congo**<sup>50</sup>, in collaboration with local neighborhood leaders, local government, and Open Cities implementers including students, GIS experts, and community engagement experts, is already being used by the City of Pointe-Noire and consulting firms to design and implement urban upgrading. Through the project, an OpenStreetMap community of over 50 members has been established in Pointe-Noire to sustain and build on future local mapping efforts.

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45 <https://2018.foss4g.org/>

46 <https://understandrisk.org/event/urtz2018/>

47 <http://summit2018.hotosm.org>

48 <https://opendri.org/building-web-maps-in-zanzibar/>

49 <https://opencitiesafrica.course.tc/>

50 The work in Pointe-Noire has also been co-financed by the ACP-EU Natural Disaster Risk Reduction Program. For more information, please see: <https://bit.ly/2JIEz9n>.

In Monrovia, **Liberia**, maps developed are now being used as basic tools for local planning by the Monrovia City Council for improving connectivity, locating garbage collection points, and locating community centers. The Open Cities Monrovia project was implemented through a collaboration between the Humanitarian OpenStreetMap Team, an international non-governmental organization, and iLab Liberia, a local technology hub. The success of this partnership and the project team has enhanced working relationships between community organizations, as well as national and local political entities. It has also contributed to the establishment of an engagement platform for the design and delivery of subprojects under the World Bank *Monrovia Integrated Development Project*.

The project in Ngaoundéré, **Cameroon**, has benefited from the enthusiasm of the local government and university-based implementer. Between remote mapping, field surveying in flood risk and geomorphological risk zones, and drone imagery captured along key sites, 390 square kilometers of land area has been digitized. The team prepared a draft atlas, which was presented to stakeholders at the Ngaoundéré City Council, the Ministry of Housing and Urban Development and the Geomatic's Lab of the University of Ngaoundéré for feedback. Stakeholder feedback will be used by the team to develop the final atlas.

In addition, some teams held several data collection campaigns simultaneously: in Victoria, **Seychelles** for example, three parallel week-long "mapathons" were hosted in August 2018 across three islands of the archipelago.

#### ***Larger impact and follow-up work on Open Cities Africa projects***

After piloting their methodologies, Open Cities projects are now extending efforts into larger project areas. As city teams wrap-up data collection and validation, they are designing and developing tools and products from the data, including atlases, mobile apps, and data geoportals, in collaboration with stakeholders. All data is uploaded and freely available on the OpenStreetMap platform. Cities that will continue participatory mapping efforts include **Accra, Monrovia, Kinshasa, Pointe-Noire** and **Saint-Louis**. Teams in Accra and Monrovia will use cutting-edge technology such as 360 cameras to capture StreetView images that can then be used by computer algorithms to extract crucial exposure information faster and for wider areas. This innovative approach supports the testing of the use of Machine Learning to facilitate the greater production of disaster risk information in Africa.



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## In Focus: Open Cities Africa – Main achievements and initial results

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**Open Cities teams working on digital cartography and with drones.**

**Source: GFDRR**

Under the Open Cities Africa initiative, most teams have developed their final tools and data products and shared them with local government counterparts. While final project reports are being completed, **initial results of the Open Cities Africa** initiative include:

- Over 500,000 geographic features mapped;
- Over 30,000 km of road mapped;
- Over 500 young adults in Africa trained in digital cartography;
- Over 1,000 community members engaged in the participatory mapping process;
- Over 1,000 people given an improved understanding of local resilience challenges;
- An average of 8 stakeholder groups consulted in the development of data products per city;
- Several hundreds of square kilometers of drone imagery captured.

In addition, Open Cities Africa incorporates **Gender Analyses** in each of its project cities. By taking this initial step, teams can better understand how men and women are affected differently by disaster risks in their communities, and incorporate the needs of both men and women into their final data tools or products. Gender disparities in community mapping is addressed by having all teams identify barriers to women's participation locally, and select several of these barriers to address through their projects. Field data collection is implemented through a participatory approach, with community members applying basic field mapping techniques using paper and mobile apps, in partnership with technical mappers.

More information on Open Cities Africa can be found below:

- The Open Cities Africa website is at <https://opencitiesproject.org/index.html>.
- A Results in Resilience story was published on Open Cities Africa and available at <https://bit.ly/2WD8qDw>.
- The Open cities video is available at <https://www.youtube.com/watch?v=MPwVz1B5MUg>.



## 5. Governance

### ADRF team:

A dedicated GFDRR team in Brussels manages the ADRF Initiative, ensuring day-to-day coordination with the European Commission (EC), mainly through the EU Delegation to the AUC, the ACP Secretariat, implementing partners of the ACP-EU Program *Building Disaster Resilience in Sub-Saharan Africa*, and other relevant stakeholders. The GFDRR Brussels team also ensures effective Program visibility and coordination of the ADRF work plan and activities, which are jointly-implemented by three teams within the World Bank:

- The World Bank Africa DRM team, which is part of the World Bank Urban, Disaster Risk Management, Resilience and Land Global Practice, leads the dialogue on DRM with African countries;
- The GFDRR Innovation Lab<sup>51</sup> leads the work on creating the enabling environment for risk financing and on facilitating regional risk sharing and knowledge sharing initiatives;
- The Disaster Risk Financing and Insurance Program,<sup>52</sup> a joint partnership of the World Bank Group's Finance, Competitiveness and Innovation Global Practice and GFDRR, leads the dialogue on DRF with government stakeholders.

### Coordination:

To ensure efficiency and avoid overlaps, ADRF activities are closely coordinated with ongoing programs developed by the EU (through EU delegations), UN agencies, WB/GFDRR and other development partners. Particular attention is given to the coordination between the different result areas of this Program through bi-annual Program Steering Committee (PSC)<sup>53</sup> meetings, and proactive coordination between GFDRR and the implementing partners of R1 (AUC and UNDRR), R2 (World Bank-GFDRR), R3 (AfDB), and R4 (UNDRR).

51 The GFDRR Innovation Lab supports the use of science, technology and open data in promoting new ideas and the development of original tools to empower decision makers in vulnerable countries to strengthen their resilience. See <https://www.gfdr.org/innovation-lab>.

52 The Disaster Risk Financing and Insurance Program was established in 2010 to improve the financial resilience of governments, businesses, and households against natural disasters. See <http://www.worldbank.org/en/programs/disaster-risk-financing-and-insurance-program#1>.

53 The following organizations are part of the PSC: the AUC, the African RECs (the Economic Community of West African States, the Intergovernmental Authority on Development, the Economic Community of Central African States and the Southern African Development Community), AfDB, UNDRR, GFDRR & WB, the ACP Secretariat, and with observer status, the EU, the Host government, the African Center of Meteorological Application for Development, The European Organization for the Exploitation of Meteorological Satellites and representatives of the Regional Climate Centre of the region where the meeting is being hosted.

Specific attention has been given to R4 and R5 coordination to ensure complementarity of activities on improving access to risk information. Coordination among GFDRR/World Bank, AUC and UNDRR has been undertaken to ensure monitoring and reporting on progress for the overall Program.

Coordination across the different activities implemented by partners was also enhanced at the 13<sup>th</sup> session of the African Working Group on DRR<sup>54</sup>, which took place in September 2018, in Yaoundé, Cameroon. The meeting was chaired by the AUC, and was attended by representatives from the AUC, African RECs, and other member organisations including the AfDB, the EU Delegation to the African Union, UNDRR, and the World Bank/GFDRR. The 14<sup>th</sup> session of the Africa Working Group on DRR took place on 3-4 April 2019 in Hawassa, Ethiopia.

## Steering Committee:

The ADRF Initiative, as part of the *Program Building Disaster Resilience to Natural Hazards in Sub-Saharan African Regions, Countries and Communities*, reports to the PSC meeting to ensure that all result areas follow the strategy as guided by the Financing Agreement and subsequent agreements and amendments. The PSC seeks to oversee and validate the overall strategic direction and policy guidance of the Program. Two Steering Committee meetings were held between July 2018 and June 2019:

- The 6<sup>th</sup> Steering Committee meeting<sup>55</sup> took place on 6 September 2018 in Yaoundé, Cameroon, in the margins of the 13<sup>th</sup> Africa Working Group on Disaster Risk Reduction (4-5 September).
- The 7<sup>th</sup> Steering Committee meeting took place on 5 April 2019 in Hawassa, Ethiopia, in the margins of the 14<sup>th</sup> Africa Working Group on Disaster Risk Reduction (3-4 April).

54 The Africa Working Group on Disaster Risk Reduction, established through a Ministerial Declaration, provides technical support to the African Union Commission, RECs, Member States and partners for coordination and implementation of the Africa Regional Strategy for Disaster Risk Reduction.

55 The 1<sup>st</sup> Steering Committee meeting took place in Addis Ababa on 18 February 2016, the 2<sup>nd</sup> one took place in Livingstone on 27 October 2016 the 3<sup>rd</sup> took place in Addis Ababa on 9 March 2017, the 4<sup>th</sup> took place in Mombasa, Kenya on 28 September 2017, the 5<sup>th</sup> in Bahir Dar, Ethiopia on 15 March 2018. The Program Steering Committee is made up of the AUC, the RECs, AfDB, UNDRR, the World Bank-GFDRR, and the ACP Secretariat as well as the EU, African Center of Meteorological Application for Development, The European Organization for the Exploitation of Meteorological Satellites and the hosting Government.

## Annex 1 – Communication and Visibility Outputs



### ***ADRF Initiative 2017-2018 Activity Report***

The ADRF Initiative Activity Report for July 2017 to June 2018 gives an overview of the ADRF Initiative's achievements and highlights for the period. The report is accessible in English at <https://bit.ly/2manozr> and in French at <https://bit.ly/2kMZ8mZ>.



### ***2018 Annual Report for the Building Disaster Resilience to Natural Hazards in Sub-Saharan African Program***

The second Annual Report covering 2018 for the Building Disaster Resilience to Natural Hazards in Sub-Saharan African Program was published, highlighting activities of all result areas, including the ADRF Initiative. The report is accessible at <https://bit.ly/2B7jR9s>



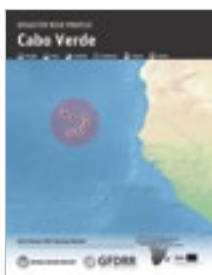
### ***ADRF Initiative video***

A video was developed outlining the ADRF Initiative's main objectives, activities and results so far. The video is accessible at <https://youtu.be/mS950xRLfek>



### ***World Bank Feature Story - Across Africa, Disaster Risk Financing is putting a resilient future within reach***

A World Bank Feature Story was published titled Across Africa, Disaster Risk Financing is putting a resilient future within reach. The Feature Story outlines the objective of the ADRF Initiative and specific examples of activities and results under its three operational components. The Feature Story is accessible at <https://go.gl/XNYCB6>



### **National Risk Profiles**

The generation of 8 national risk profiles has been completed for Cabo Verde, Ethiopia, Kenya, Malawi, Mali, Mozambique, Niger and Uganda, and are available at:

- Cabo Verde: <https://bit.ly/2JKOGG8>.
- Ethiopia: <https://bit.ly/2y49Ubu>.
- Kenya: <https://bit.ly/300ccYo>.
- Malawi: <https://bit.ly/2GltLHq>.
- Mali: <https://bit.ly/2XT4nDU>.
- Mozambique: <https://bit.ly/32JvDU0>.
- Niger: <https://bit.ly/2y1aUwX>.
- Uganda: <https://bit.ly/2M6EDg4>.



### **Article on the ADRF national disaster risk profiles**

An article was published describing the work undertaken by the ADRF Initiative to develop the national disaster risk profiles. This article outlines the context and importance of this activity, as well as the method, accuracy and the first applications achieved through the development of the risk profiles. The article can be accessed at <https://goo.gl/sYjir3>.



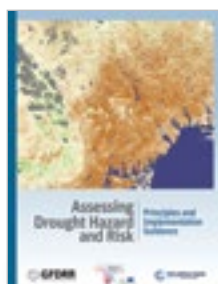
### **Rapid screening and evaluation of flood risk reduction strategies**

A first pilot for a city-level risk profile has been completed for Beira, Mozambique. The profile evaluates the pluvial and coastal flood risks, and explores the effectiveness of interventions, such as upgrading drainage, coastal defense and early warning. The report can be accessed at <https://bit.ly/2U369vi>.



### **Report on the Mozambique multi hazard risk assessment for the school sector**

The report is a multi-hazard risk assessment for seismic hazard, coastal flooding, river flooding, cyclones and landslides of the school Infrastructure in Mozambique. It also includes a cost-benefit analysis of retrofitting options for each identified building typology. The report is available at <https://bit.ly/2G3EFka>.



### ***Assessing Drought Hazard and Risk***

This guidance document provides direction to effective drought hazard and risk assessments. It is based on a new extensive inventory of drought models and tools, made available through a specific platform ([www.droughtcatalogue.com](http://www.droughtcatalogue.com)), and a technical evaluation of these models on a set of case studies.

The report can be accessed at <https://bit.ly/2XLpRSj>.

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### ***Zimbabwe Agricultural Sector Disaster Risk Assessment***

This report presents an assessment of Zimbabwe's agriculture sector disaster risk and management capacity. The report can be accessed at <https://goo.gl/TDuPp2>.

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### ***Seychelles Coastal Management Plan***

The Seychelles Coastal Management Plan aims to enhance understanding about the risks associated with climate change and development pressures around the coastal zones in Seychelles. The Plan takes into consideration existing studies that focus on coastal hazards relating to overtopping, sea level rise, and flooding along the shoreline in Seychelles. The report can be accessed at <https://bit.ly/2RHd8e2>.

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### ***World Bank article - Tackling the drivers of East Africa's surprising earthquake risk***

An article was published on the World Bank website titled Tackling the drivers of East Africa's surprising earthquake risk. It highlights the ADRF Initiative's work on seismic risk in the East Africa Rift Valley, including the organization of the RIFT2018 - Regional Seismic Risk and Resilience Workshop in Nairobi from 19-21 September. The article is available at <https://goo.gl/o5YfSa>.



### ***East Africa Rift Valley Regional Seismic Risk and Resilience Workshop***

This report summarizes the key priorities and findings discussed during the Regional Seismic Risk and Resilience Workshop in Nairobi from 19-21 September 2018. Representatives from the six East African Rift countries, together with technical experts from development institutions and academia, convened in Nairobi, Kenya, to assess the risks and enable action to strengthen institutional or policy frameworks for seismic risk management and to build the capacity of selected national and local Governments in Sub-Saharan Eastern Africa in the East African Rift Valley. The report can be accessed at <https://bit.ly/2lc1eG6>.

### ***Open cities Africa***

Open Cities Africa teams have developed blogs, conference presentations, and other media of their methodologies, accomplishments, challenges, and lessons learned. These insights contribute to a more robust information in these urban areas and regionally across sub-Saharan Africa.

- The Open Cities Africa website is available at <https://opencitiesproject.org/index.html>.
- A Results in Resilience story was published on Open Cities Africa. The story is available at <https://bit.ly/2WD8qDw>.
- Open cities video: <https://www.youtube.com/watch?v=MPwVz1B5MUg>.
- A Blog on Seychelles is available at <https://bit.ly/2VdPGWz>.
- A Blog on Brazzaville is available in French at <https://goo.gl/7YBGS6>.
- A Blog on Antananarivo, Madagascar is available in French at <https://goo.gl/RegUDo>.
- In the frame of the second Open Cities Africa regional meeting organized in Tanzania in August 2018, an article was published which is available at <https://goo.gl/89yK84>. A video was also produced during this event, available at [https://www.youtube.com/watch?v=Q\\_pdgn5q8k](https://www.youtube.com/watch?v=Q_pdgn5q8k).
- The media for Pointe-Noire, Republic of Congo is available at <https://goo.gl/v12TFK>.
- The media for Kampala, Uganda is available at <https://goo.gl/wdgp4q>.
- The media for Monrovia, Liberia is available at <https://goo.gl/abkFEC>.
- The media for Accra, Ghana is available at <https://goo.gl/t9eudY>.
- The media for Ngaoundéré, Cameroon is available in French at <https://goo.gl/LN5Gpo>.



## About the Global Facility for Disaster Reduction and Recovery

The Global Facility for Disaster Reduction and Recovery (GFDRR) is a global partnership established in 2006 to support developing countries in understanding, managing, and ultimately reducing risks stemming from natural hazards and climate change. GFDRR's mission is to facilitate implementation of the Sendai Framework for Disaster Risk Reduction and to contribute to the achievement of the Sustainable Development Goals and the Paris Agreement by ensuring that development policies, plans, and investments—including post-disaster reconstruction—are designed to minimize disaster risks and build the resilience of people and economies to climate change. GFDRR provides grant financing, technical assistance, training and knowledge sharing activities to mainstream disaster and climate risk management in policies and strategies. For more information, please visit <http://www.gfdr.org/>.

The GFDRR Innovation Lab supports the use of science, technology and open data to promote new ideas and develop original tools that empower decision makers in vulnerable countries and strengthen their resilience. See <http://www.gfdr.org/innovation-lab>.

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## The Disaster Risk Financing and Insurance Program

The Disaster Risk Financing and Insurance (DRFI) Program helps countries ensure that their populations are financially protected in the event of a disaster. Through funding and expertise, DRFI supports countries to develop and implement tailored financial protection strategies that increase the ability of national and local governments, homeowners, businesses, agricultural producers, and low-income populations to respond more quickly and resiliently to disasters. See <http://www.worldbank.org/en/programs/disaster-risk-financing-and-insurance-program#1>

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## The World Bank's Africa Disaster Risk Management Program

The World Bank Africa Disaster Risk Management Program (AFR DRM) supports countries and communities in Sub-Saharan Africa in building climate and disaster resilience for sustainable development. Through its investment and technical assistance operations, the AFR DRM team develops effective synergies with other initiatives such as the various Result Areas of the ACP-EU Building Disaster Resilience in Sub-Saharan Africa Program and other ACP-EU initiatives.









City of Cape Town, South Africa  
Source: iStockphoto





Aerial view of the city of Dar es Salaam, Tanzania  
Source: iStockphoto

## Building Disaster Resilience in Sub-Saharan Africa Program—Result Area 5

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