



CLIMDEV-AFRICA SPECIAL FUND

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ABBREVIATIONS

AAI	Africa Adaptation Initiative
ACMAD	African Centre of Meteorological Application for Development
ACPC	African Climate Policy Center
AfDB	African Development Bank
AGRYHMET	Agrometeorology and Hydrology Regional Centre
AHAI	Agriculture and Agro-Industry Department
AUC	African Union Commission
CCDU	Climate Change and Desertification Unit
CDA	ClimDev Africa
CDSF	ClimDev-Africa Special Fund
ClimDev-Africa	Climate for Development Program in Africa
COP	Conference of the Parties
CSO	Civil Society Organization
DRM /DRR	Disaster Risk Management/Disaster Risk Reduction
DRSLP-2	Multinational: Program for Strengthening the Resilience to Food Insecurity in the Horn of Africa Phase 2
EC	European Commission
GCF	Green Climate Fund
HPC	High Performance Computers
ICPAC	IGAD Climate Prediction and Application Centre
IGAD	Intergovernmental Authority for Development
M&E	Monitoring and evaluation
MTR	Mid-Term Review
NDF	Nordic Development Fund
NGO	Non-Governmental Organization
NMHS	National Meteorologically and Hydrological Services
PCR	Project Completion Report
PECG	Climate Change and Green Growth Department
P2RS-2	Strengthening the Resilience to Food Insecurity in the West and Central Africa Sahel Program Phase 2
RCC	Regional Climate Centers
RCOF	Regional Climate Outlook Forums
SAWIDRA	Satellite and Weather Information for Disaster Resilience
SC	Steering Committee
SEK	Swedish Krona
SIDA	Swedish International Development Agency
UN	United Nations
UA	Units of Account
UNECA	United Nations Economic Commission for Africa

EXECUTIVE SUMMARY

The Clim-Dev Africa Special Fund (CDSF) 2019 Annual Report presents the Fund's activities and achievements in 2019 as part of the reporting obligations of the CDSF Operational Procedures approved in 2009. The Fund was established with Euro 20 million contribution from the Intra-Africa, Caribbean, and Pacific (Intra-ACP) Program, Euro 5 million from the Nordic Development Fund and Swedish Kronor 105 million from the Swedish International Development Agency. The CDSF has been effective in carrying out its work program for 2019. The Fund disbursed €7.1 million for the year, bringing cumulative disbursements to almost €13 million out of the €25 million in committed project funds, which corresponds to a disbursement rate of 52%.

The Fund has made significant investments in building the capacity of the Africa's Climate Centers and Hydromet Institutions in numerical weather prediction (NWP). The Climate Centers received training in NWP and were provided with the software required to run improved regional weather prediction for the Hydromet Institutions. **All five centers are now able to provide improved regional weather prediction against the end-of-program target of 3.** Moreover, 24 additional Hydromet Institutions can now develop downscaled climate projections with high-resolution data against an **end-of-program target of 30.**

During the reporting period, the Climate Centers produced over 500 droughts, floods, and extreme weather forecast bulletins. These bulletins are for the benefit of National Meteorological and Hydrological Service Institutions (NMHS), Disaster Risk Reduction (DRR) agencies, food crisis management agencies, and other end-users at both international and national levels. The bulletins include weekly and monthly forecasts, nowcasts and long-term sub-seasonal and inter-seasonal forecasts, weekly vigilance, vigilance cards, decadal of Humidex, and policy and technical bulletins. Special issues of the bulletins dedicated to the outcomes of the Regional Climate Outlook Forums (RCOF) organized by the Centers were also produced during the reporting period.

The Climate Centers also provided in-depth training in NWP, Weather Research Forecasting (WRF), modeling, and meteorological service systems (MMIS). This included training provided by Central Africa's Regional Climate Center to its technical staff on precipitation predictors in Central Africa, the influence of KELVIN waves on precipitation, and the methodologies for forecasting short, medium, long term, and seasonal precipitation. It also included a one-month training of trainers' course led by West Africa's Regional Climate Center for specialists from 12 Hydromet Institutions in the region. The training sessions covered the NWP process from end to end, including model setup, data assimilation, model verification, and visualization of the forecast products.

As a result of this ongoing training, 24 Hydromet Institutions in the Eastern and Southern African Regions can now interpret NWP model output and prepare information for DRR agencies and communities. These Hydromet Institutions were provided with terminals to receive and visualize the NWP model output. Twenty-seven (27) Hydromet Institution specialists received training on the use of the terminals and the appropriate information for disaster risk management; further training will be provided in 2020.

Procurement for the Regional Advanced Retransmission Service (RARS) Africa network was completed during the year. The RARS antenna will enable the centre to have real-time access to data from polar-orbiting meteorological satellites. The antennas will be installed in Kenya, Gabon, Niger, and South Africa during the first quarter of 2020.

The Fund financed the acquisition of High-Performance Computers (HPC) capable of running detailed models that can accurately predict severe weather events, including droughts, floods, and hurricanes for all the Climate centers. It also enabled the procurement of power storage for the operationalization of the HPCs given the energy shortages faced by many of the centers.

The CDSF supported the organization of Regional Climate Outlook Forums across the continent. RCOFs produce consensus-based, user-relevant climate outlook products. The Fora brings together all stakeholders, including experts from the Climate Centers, Hydromet Institutions, DRR agencies, as well as representatives of farmers associations, universities, research institutions, and regional and international organizations engaged in climate prediction and applications, amongst others. The RCCs organized thirteen (13) RCOFs during the year with the participation of over 100 DRR experts.

Other achievements during the reporting period include the ongoing support for the operationalization of Central Africa's Regional Climate Center, the renovation of the East Africa Regional Climate Center into a state-of-the-art and fully solar-powered hub for East Africa's climate information services, as well as the graduation of seventeen (17) students from the the West Africa Regional Climate Center sponsored by CDSF.

Six new pipeline projects were identified in 2019, four of which require additional resources of up to € 9 million, not provided for in the current budget. An estimated amount of € 5 million will be needed to support the recovery of climate and weather observation systems devastated by two tropical cyclones in Mozambique, Zimbabwe and Malawi. Given the vulnerability context of the Lake Victoria Basin, the Fund conducted an appraisal for a € 2 million project that would strengthen the climate and weather infrastructure for adaptive management of water resources in the Basin, which has been experiencing unprecedented flooding. In addition, € 2 million is needed to prepare the climate services components of the *Multinational: Program for Strengthening the Resilience to Food Insecurity in the West and Central Africa Sahel Program Phase 2*, which covers 17 countries in the Sahel region and the *Multinational: Program for Strengthening the Resilience to Food Insecurity in the Horn of Africa Phase 2*, which covers ten countries in the Horn of Africa region. Both projects will be presented to the Green Climate Fund for financing in 2021.

The Fund Secretariat participated in important knowledge events, strategically aligned with its mandate and geared towards promoting the use of climate information for development planning and disaster risk management. These events included the 18th World Meteorological Congress, COP 25, the AfDB Climate days and a workshop on ensuring the sustainability of the Satellite and Weather Information for Disaster Resilience (SAWIDRA) Program implemented by the CDSF

The Fund's primary focus for 2020 is to mobilize resources to secure a second phase. In so doing, the CDSF will be able to continue supporting the use of climate information services for climate resilient development and disaster risk management. The Fund will continue to ensure the successful implementation of its project portfolio. It will also invest in capturing and reporting on project and operational achievements and lessons learned through the annual reports and the CDSF website. The Fund will also organize an internal workshop to share with Bank staff, donors, and other stakeholders the results achieved by the CDSF to-date and the lessons learned along the way. A similar workshop mainly focused on the SAWIDRA projects will be organized in collaboration with the Climate Centers.

1. INTRODUCTION

1.1. The purpose of this report is to present the Clim-dev Africa Special Fund (CDSF) activities and achievements in 2019, in compliance with the reporting obligations described in the CDSF Operational Procedures approved in 2009. The overall goal of the Fund is to contribute to sustainable development and poverty reduction by implementing climate-resilient development programs that mainstream climate change information at all levels in Africa.

1.2. Hosted by the African Development Bank's (AfDB), the CDSF is the financing facility of the Climate for Development in Africa (CDA) Program, a joint initiative of the AfDB, the African Union Commissions (AUC) and the United Nations Economic Commission for Africa (UNECA). The Fund was established with Euro 20 million contribution from the Intra-Africa, Caribbean, and Pacific (Intra-ACP) Program, Euro 5 million from the Nordic Development Fund and Swedish Kronor 105 million from the Swedish International Development Agency. The Fund seeks ways of overcoming the lack of necessary climate information, analysis, and options required by policy and decision-makers to take action to promote climate resilient development. The CDSF results-based logical framework focuses on three short-term outcomes:

- Generation and wide dissemination of reliable and high-quality climate information in Africa;
- Capacity enhancement of policymakers and policy support institutions to integrate climate change information into development programs; and
- Implementation of pilot adaptation and community based solutions and practices that demonstrate the value of mainstreaming climate information into resilient development.

1.3. These short-term outcomes feed into a medium-term objective of *“Strengthening the institutional capacities of national and sub-regional bodies to formulate and implement effective climate sensitive policies,”* which in turn feed into the long-term goal of *“Contributing to sustainable development, and in particular, poverty reduction by implementing climate-resilient development programs that mainstream climate change information into development planning at all levels in Africa.”*

1.4. The Fund has made significant investments in strengthening the capacity of government institutions, private sector, civil society, and communities across Africa, to address climate change vulnerability and disaster risk reduction (DRR). These include providing substantial support to Africa's Regional Climate Centers (RCC) and its continental climate center. The CDSF is working with African countries to mainstream policies for climate-related risk management by investing in the use and application of weather data and information from the network of centers and programs under ClimDev support to develop and refine weather-based risk transfer programs. The Fund is also working with the World Bank, World Meteorological Organization (WMO), and other partners to help African countries invest in improved hydrometeorological systems to mitigate climate-related risks and disasters.

1.5. The Annual Report comprises an Executive Summary and seven chapters. After the introduction, Chapter 2 presents an overview of the CDSF's portfolio since its inception. The third chapter summarizes the Fund's 2019 project results. The fourth chapter reports on 2019 operational achievements. Chapter 5 examines the challenges and mitigating actions, Chapter 6 is a concluding chapter that summarizes and presents planned activities for 2020. The CDSF Financial Report is in Chapter 7.

2. CDSF PORTFOLIO OVERVIEW

2.1 The CDSF is a demand-driven instrument that builds its project pipeline through two methods: (i) Competitive calls for proposals; (ii) Proposals submitted directly by eligible recipients that address gaps and needs as identified by the Coordination Unit and the results of the Climdev Africa Work Program.

Figure 1: CDSF Project Portfolio



Source: CDSF Secretariat

2.2 The CDSF has to-date launched one call for proposals in 2014 out of which 17 projects were approved for over € 26 million. As of 31 December 2019, 15 projects were ongoing, two projects were completed and in the process of being closed, and six were at different stages of preparation. CDSF projects are categorized into three groups: (i) The Satellite and Weather Information for Disaster Resilience in Africa (SAWIDRA) projects. (ii) Multi-country projects; and (iii) Country-based projects.

3. CDSF PROJECT RESULTS

3.1 Satellite and Weather Information for Disaster Resilience

3.1.1 The CDSF contributes to achieving ‘Result 3’ of the European Union’s (EU) Intra-Africa, Caribbean, and Pacific (Intra-ACP) Program. The CDSF received € 20 million from Intra-ACP to implement activities that contribute to these objectives within the framework of the SAWIDRA program. SAWIDRA is implemented by the continental African Centre of Meteorological Application for Development (ACMAD) and four RCCs, namely: (i) the Agro Meteorology and Hydrology Regional Centre (AGRHYMET); (ii) the IGAD Climate Prediction and Application Centre (ICPAC), (iii) the Centre d’Application et de Prévision Climatologique de l’Afrique Central (CAPC-AC) and (iv) the Southern African Development Community Climate Service Centre (SADC-CSC). The key results of the SAWIDRA program in 2019 are summarized below.

3.1.2 *Investing in climate and weather observation networks and High-Performance Computers (HPC)*

3.1.2.1 The procurement activities for the acquisition of four Regional Advanced Retransmission Service (RARS) antennas to collect data from polar-orbiting meteorological satellites were concluded. The RARS antenna will enable the centre access real-time data from polar-orbiting meteorological satellites. The antennas will be installed in Kenya, Gabon, Niger, and South Africa during the first semester of 2020.

- 3.1.2.2 The procurement activities for the acquisition of High-Performance Computers capable of running detailed models that can accurately predict severe weather events like hurricanes and floods were concluded. Procurement was also concluded for the acquisition of power storage for the operationalization of the HPCs, given the energy shortages faced by many of the Centers.
- 3.1.3 *Investing in data and climate information services*
- 3.1.3.1 The five SAWIDRA projects provided an additional 14 Hydromet Institutions with terminals to receive and visualize Numerical Weather Prediction (NWP) model output, **bringing the total number of agencies who have received the terminals to 24 out of an end-of-program target of 25.** The five climate centers supported by SAWIDRA also trained specialists from Hydromet Institution in 27 countries on the use of the terminals and the appropriate information for disaster risk management; further training will be provided in 2020. Moreover, ICPAC and SADC-CSC installed and operationalized the NWP Weather Research Forecasting (WRF) model in their regional high performance computing clusters. The model now enables the centers to run medium range forecasts with higher resolution.
- 3.1.4 *Building capacity in weather forecasting to reduce the human and material loss from disasters*
- 3.1.4.1 Over 500 droughts, floods, and extreme weather forecast bulletins were produced by the Climate Centers during the year. These bulletins are for the benefit of Hydromet Institutions, DRR agencies, food crisis management agencies, and other end-users at both international and national levels. The bulletins include weekly and monthly forecasts as well as nowcasts and long-term sub-seasonal and inter-seasonal forecasts. They also include weekly vigilance, vigilance cards, decadal of Humidex, policy, and technical bulletins. Lastly, special issues of the bulletins are dedicated to the outcomes of the Regional Climate Outlook Forums (RCOF) organized by the centers. Details on the bulletins produced during the reporting period include:
- A total of 389 NWP bulletins drawn up and disseminated in real-time to the 11 Hydromet Institutions in the ECCAS region
 - 26 climate reports produced by CAPC and distributed in real-time to the 11 Hydromet Institutions
 - Alert for severe weather events produced by ICPAC and sent to DRM agencies across the East African region. These alerts include those related to the heavy rain that caused flash flooding across 16 out of 18 states in Sudan in June 2019
- 3.1.4.2 Training in NWP was provided to the Climate Centers along with the software required to run improved regional weather prediction for the Hydromet Institutions. **All five centers are now able to provide improved regional weather prediction against the end-of-program target of 3.**
- 3.1.4.3 Thanks to the Fund's support, 24 Hydromet Institutions in the Eastern and Southern Africa regions are now able to develop downscaled climate projections with high-resolution data. Hydromet Institutions in the Central and West African regions have received training, but they do not have the servers to access the data for projections.
- 3.1.4.4 The RCCs conducted in-depth training in NWP, WRF, modeling, and meteorological service systems (MMIS) for all their NWP experts. **Training in weather forecasting has been provided to 200 specialists from across the continent to-date.** As a result of this ongoing training, 24 Hydromet Institutions in the Eastern and Southern African Regions can now interpret the NWP model output and prepare information for DRR agencies. Details of the training undertaken in 2019 are provided below:

- CAPC trained its technical staff on precipitation predictors in Central Africa. This included information on the influence of KELVIN waves on precipitation and the methodologies for forecasting short, medium, and long-term seasonal rainfall.
- AGRHYMET conducted a one-month-long Training of Trainers (TOT) course for specialists from 12 Hydromet Institutions in the West African Region. The training sessions covered the NWP process from end-to-end, including model setup, data assimilation, model verification, and visualization of the forecast products.
- ICPAC conducted two TOT workshops for specialists from both the center and Hydromet Institutions from the East Africa Region. ICPAC trained a total of 42 people throughout three workshops (2 in 2019 and 1 in 2018).
- ICPAC organized a pilot workshop in Sudan for Hydromet Institutions experts and representatives of the private sector and national and private radios to deliberate on how to improve the dissemination of severe weather information.

3.1.4.5 The Fund supported the organization of Regional Climate Outlook Forums across the continent. RCOFs produce consensus-based, user-relevant climate outlook products. The Fora brings together all stakeholders, including experts from the Climate Centers, Hydromet Institutions, DRR agencies, as well as representatives of farmers associations, universities, research institutions, and regional and international organizations engaged in climate prediction and applications, amongst others. The centers organized 13 RCOFS during the year with the participation of over 100 DRR experts.

3.1.4.6 The CDSF supported the renovation of the ICPAC into a state-of-the-art and fully solar-powered hub for East Africa's climate information services. It also continued to provide support for the operationalization of CAPC as the first regional climate center for the Central Africa region. Lastly, the Fund sponsored seventeen (17) young men and women to pursue degrees in hydrology.

3.2 Multi-Country Operations to Strengthen Climate and Weather Services

The CDSF has three ongoing multi-country projects. The 2019 results for these operations are presented below.

3.2.1 *The Bridging Climate Information Gaps to Strengthen Capacities for Climate Informed Decision-making* project implemented by the African Technology Policy Studies Network seeks to strengthen the capacities of relevant development stakeholders to understand and deploy appropriate climate information and best practices to inform decision-making. The project covers five countries namely—Cameroon, Kenya, Malawi, Nigeria, and Tunisia. It is implemented in partnership with ICPAC, AGRHYMET, Stockholm Environment Institute Africa Centre, *l'Observatoire du Sahara et du Sahel*, and the Regional Centre for Mapping Resource for Development. Project achievements for 2019 include:

- Completion of the climate information and needs assessment for Cameroon, Malawi, Tunisia, Kenya, and Nigeria;
- Development of a web-based Interactive Collaborative Environment (ICE) platform consisting of knowledge repositories, a virtual market for expert skills, a collaborative working environment, an e-training platform, and key performance indicators; and
- Development and publication of French and English versions of a training manual on the use of the LandInfo mobile app was for extension agents and contact farmers.

3.2.2 *The Satellite-Based Water Monitoring and Flow Forecasting System in Niger River Basin*, implemented by the Niger Basin Authority (NBA), seeks to improve knowledge of water resources for disaster risk reduction, food security, and the protection of the ecosystems of the Niger basin. The project supports the NBA in

hydroclimatic data collection, capacity building, and the establishment of a system for monitoring water resources and forecasting flows by satellite. It covers the following countries: Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Guinea, Mali, Niger, and Nigeria. During the year under review, the project achieved the following results:

- Reception and installation of 10 new hydroclimatic stations with automatic transmission to strengthen the observation network in the Basin;
- Five experts and two technicians trained on the installation and use of data from the new stations;
- Integration of rating curves to generate water heights provided for all stations in the large-scale hydrological model;
- Production and dissemination of rainfall maps, drought indices, and flow forecasts and alerts;
- Four workshops held to sensitize decision-makers and evaluate training for end-users in Côte d'Ivoire, Guinea, Mali, and Niger;
- Maintenance and update of the satellite image reception system;
- Energy supply secured for the reception and treatment of satellite data; and
- Dissemination of climate products and services on the project's web and FTP sites.

3.2.3 Lastly, the *Climate Data Rescue and Database Enhancement for Improved Climate Information Services in Djibouti, Swaziland, Uganda, and Zambia project* seek to contribute to improved climate data availability for climate change analysis and adaptation for improved climate services and food security. The project, which is being implemented by the WMO Office for Eastern and Southern Africa, was launched at the end of the year in Kampala, Uganda, and will commence activities in 2020.

3.3 Country-based Operations to Improve Climate and Weather Networks.

3.3.1 In addition to its multi-country operations, the Fund also has seven country-based projects, five of which are ongoing and two that have completed activities and are in the process of closing. The country operations seek to build national capacity in weather and climate services for disaster risk management and sustainable development. Project results for 2019 are provided below.

3.3.2 *Through its Amélioration de la résilience des populations par un meilleur accès à l'information climatique*, the Fund is helping the government of Côte d'Ivoire build resilience to climate change by improving access to and use of climate information for decision-making to promote pilot adaptation practices. Project achievements for the reporting period include:

- Procurement and installation of six automatic weather stations (AWS) for the Bagoué, Bélier, Iffou, Poro and Tchologo regions of the country;
- Procurement of servers for Cote d'Ivoire's Airport, Aeronautics, and Meteorological Development and Exploitation Agency (SODEXAM); and
- Procurement of laptops and desk computers for the weather stations and data analysis at SODEXAM.

3.3.3 The CDSF-funded *Projet d'amélioration de la qualité des données et des informations climatiques et météorologiques pour le renforcement de la résilience des communautés au Sénégal* seeks to build resilience to climate change through: improved access to climate information, better monitoring of rainfall to increase food security; the reduction of loss of life and material due to flooding and other climate-related disasters. In 2019, the project:

- Procured 26 AWS with General Packet Radio Services (GPRS) for Senegal's National Agency for Civil Aviation and Meteorology (ANACIM);
- Procured 100 rain gauges with GPRS for ANACIM;

- Procured scanning equipment and software for the development of geographic information systems for ANACIM.
- 3.3.4 The Fund's *Institutional Support for Climate and Seasonal Weather Information for Adaptation Planning in Northern Tanzania* seeks to enhance the institutional capacities of Kilimanjaro's drought-prone Mwanga and Same districts to manage climate impacts and reduce the vulnerability of rural communities. During the year, the project:
- Commenced the construction of two mini-water supply schemes in two drought-prone villages (Makuyuni and Jipe) of the Mwanga district. The schemes will benefit 15,000 men and women
 - Prepared contract bidding documents for the installation/rehabilitation of six automatic weather observation stations by Tanzania Meteorological Agency (TMA); and
 - Commenced the rehabilitation of 1800 m of unlined traditional irrigation channel at Mabilioni Village in the Same district.
- 3.3.5 The Mali *Amélioration du réseau d'observations météorologiques afin de renforcer la résilience face aux changements climatiques* seeks to build resilience to climate change by strengthening the institutional capacity of the National Meteorological Agency of Mali (MALI-METEO). Project results for this period include:
- Procurement of 400 rain gauges;
 - Rehabilitation of five weather stations;
 - Establishment of a complete and reliable climatological database for the development of meteorological and climatological products; and
 - Training of four (4) senior technicians in climatology and maintenance of meteorological equipment.
- 3.3.6 With support from the Fund, the *Benin Reinforcement of investments for development resilient to climate change* seeks to increase access to reliable climate information and build the capacity of decision-makers and communities to take account of climate risk in planning. The project's achievement for the period include:
- The establishment of a climate information management platform;
 - Training on climate risk assessment and mainstreaming provided for 280 users and 44 local experts;
 - Updating of two municipal contingency plans.

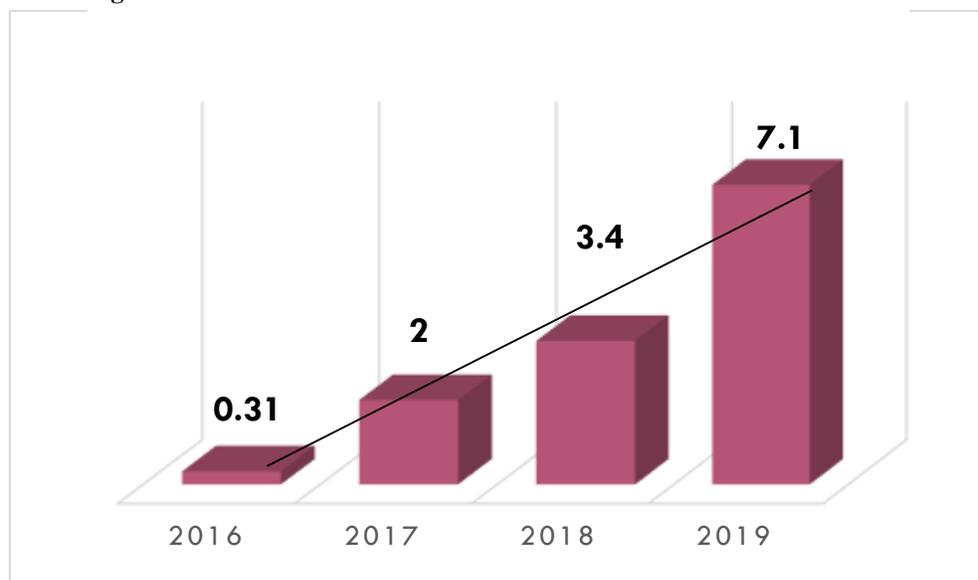
4. CDSF OPERATIONAL ACHIEVEMENTS

The CDSF Secretariat's 2019 Work Program and Budget was prepared and approved by both the CDSF Steering Committee and the AfDB Board. A budget of € 1.4 million was approved to cover CDSF's administrative costs. An amount of € 0.75 million equivalent to 53.57% of the administrative budget was utilized in 2019. The lower than projected budget utilization is attributed to the cancellation of certain events and meetings planned for 2019, namely the CDSF day, which was ultimately incorporated into the Bank's climate day and fully covered by the Bank; the CDSF side event at COP25; and the CDSF Steering Committee Meeting. In addition, there were delays in staff and consultant recruitment: the M&E officer joined the Fund only during the last quarter of the year, and the climate change and communication consultants were recruited later than expected. Lastly, the number of missions undertaken were lower than budgeted.

4.1 Disbursement Performance

As of 31 December 2019, the Fund had disbursed € 7.1 million for the year, bringing cumulative disbursements to almost € 13 million out of the €25 million in committed Funds (see figure 5). This translates to a cumulative disbursement rate of 52%.

Figure 2: CDSF Cumulative disbursements 2016-2019 in € millions



Source: CDSF Secretariat

4.2 Project Identification

The CDSF identified six new projects in 2019:

1. Liberia: *Improving Weather and Climate Services*
2. Mozambique: *Support Post Cyclone Disaster Recovery for Climate and Weather Services*
3. Multinational: *Climate Services for Adaptive Water Resources Management in the Nile Basin*
4. Multinational: *Program for Strengthening the Resilience to Food Insecurity in the West and Central Africa Sahel Program Phase 2 (P2RS-2)*
5. Multinational: *Program for Strengthening the Resilience to Food Insecurity in the Horn of Africa Phase 2 (DRSLP-2)*
6. Sierra Leone: *Improving Weather and Climate Services*

4.3 Project Appraisal

Appraisal missions were undertaken for the Liberia and Sierra Leone projects. In addition, the Ghana: *'Climate Information Made Available to Entrepreneurial Farmers'* project was reappraised during the year. The appraisals for the DRSLP-2, Nile basin, and P2RS-2 projects are planned for the first semester of 2020.

4.4 Monitoring and Supervision

4.4.1 The CDSF successfully managed its portfolio in 2019. All the Fund's ongoing operations were subject to continuous desk supervision. In addition, one launching mission, six field supervisions, and one midterm review were undertaken to ensure a healthy project portfolio that delivers expected results.

4.4.2 A launching mission was held for the *Climate Data Rescue and Database Enhancement for Improved Climate Information Services in Djibouti, Swaziland, Uganda, and Zambia project*. The mission was undertaken in

partnership with the respective countries' Hydromet Institutions and the United Kingdom Meteorological Office (UK MET). The project will contribute to improved climate and weather data availability for climate services, adaptation and food security in Djibouti, Eswatini, Uganda, and Zambia

4.4.3 CDSF undertook supervision missions for the following projects:

- i. Cote d'Ivoire : *Amélioration de la résilience des populations par un meilleur accès à l'information climatique*. The project was granted a no-cost extension to complete the training of weather information end users
- ii. Niger-ACMAD: *Severe Weather Forecasting in Support of Disaster Resilience in Africa*. Discussions were held to engage the service provider to complete the installation and commission of the regional antenna in 2020
- iii. Niger: *Satellite-Based Water Monitoring and Flow Forecasting System in Niger River Basin*. Agreement was reached on the project's closure and on an audit in 2020
- iv. Niger-ACMAD: *Satellite Derived Information for Disaster Risk Reduction in West Africa*. Issues related to the adjudication process for the HPCs were discussed and an agreement reached.
- v. SAWIDRA-SADC: *Climate Information Services for Disaster Resilience Development in Southern Africa*. Issues related to the delays in project execution were discussed and action plan put in place to expedite procurement.
- vi. Tanzania: *Institutional Support for Climate and Seasonal Weather Information for Adaptation Planning in Northern Tanzania*

A mid-term review was also undertaken for the Tanzanian project, where recommendations were made to fast track the procurement of the two weather stations under the Meteorological Authority and to complete the installation of water saving irrigation channels and water harvesting infrastructure for drought mitigation for communities in the Same and Mwanga Districts.

4.5 Project Completion

The CDSF undertook project completion missions for two (2) operations below. Project completion reports (PCR) are being prepared for each as required by the Fund's rules and procedures. The PCRs will be completed, peer-reviewed, approved, and posted during the first semester of 2020.

1. Ethiopia: *Strengthening Climate Information and Early Warning Systems for Climate Resilient Development and Adaptation to Climate Change*
2. Kenya: *Flood Disaster Risk Reduction in Bunyala, Busia County*

Achievements for the two projects are presented in the table below.

Table 1: Key Achievements of the Ethiopia: Strengthening *Climate Information and Early Warning Systems for Climate Resilient Development and Adaptation to Climate Change* and Kenya: *Flood Disaster Risk Reduction in Bunyala, Busia County* projects

Ethiopia	Kenya
<ul style="list-style-type: none"> ▪ Establishment of weather and climate monitoring system, forecasting, early warning and advisory services. ▪ Installation of 18 AWS that enabled the agency to monitor the weather and provide location-specific climate services over 18-Woreda (districts). ▪ Procurement of three-vehicles fitted with AWS calibration instruments that enabled NMA to enhance its capacity to inspect stations frequently; check and correct instrument failures; and collect quality data, which in turn improves the quality of the early warning services. ▪ Improvement of the data rescue and the data quality control, which helped NMA to access additional historical data. This data has been beneficial to carrying out climate change trend analysis studies and identifying climate extreme hotspot areas in Ethiopia 	<ul style="list-style-type: none"> ▪ Acquisition of software for flood risk mapping (MIKE FLOOD and IDRIS) ▪ Establishment of flood risk database for the flood-prone Nzoia Basin ▪ Mobilization of Bunyala Catchment Area Water Resources Users Association (BUCAWRUA) and dyke management committee for the Flood Early Warning and Early Action. ▪ Components of Indigenous Traditional Knowledge identified and documented. Integrated into the Local Risk Knowledge for Flood Risk Management in Budalangi Community

4.6 Audits

The CDSF undertook the audits following audits in 2019:

1. Niger: *Severe Weather Forecasting in Support of Disaster Resilience in Africa*
2. Niger: *Satellite-Based Water Monitoring and Flow Forecasting System in Niger River Basin*
3. Kenya: *Generation of Severe Weather Forecast to Support DRM in Eastern Africa*
4. Kenya: *Bridging Climate Information Gaps to Strengthen Capacities for Climate Informed Decision-making*

4.7 Reporting

The CDSF Secretariat produced and facilitated the board approval of the CDSF 2018 Annual Report and ensured its approval by both the CDSF Steering Committee and the AfDB Board of Directors. Highlights of the report included project disbursements and achievements, outcomes of the impact evaluation of Phase 1 of the CDA Program, CDSF policy support and outreach activities, and resource mobilization efforts.

4.8 CDSF Staffing

- 4.8.1 The CDSF currently has a staff complement of four (4) (excluding the Coordinator). This includes a Principal Disaster and Risk Specialist, a Senior Finance and Administration Officer, a Monitoring and Evaluation Specialist (M&E) Officer, and a Team Assistant. The M&E Officer was recruited in 2019. An additional staff, will be recruited in 2019 to cover the increasing number of projects in need of close monitoring of implementation, outputs and results on the ground.
- 4.8.2 The Fund Coordinator who served from 2015 retired in May 2019. The Bank recruited a new Coordinator who reported in December, 2019.

- 4.8.2 The Fund also relies on support from specialized consultants as needed. In 2019, the Fund had three consultants: A Climate Change Sector Expert, A Communication Specialist, and a Team Assistant.
- 4.8.3 In 2019, the Fund continued to receive the support from regular Bank Staff in the Agriculture and Agro-Industry and Climate Change and Green Growth Departments. The staff mainly assisted in the management of the projects' operations as well as supported appraisals, supervisions and mid-term reviews. Similarly, the Fund continued to receive support from the Financial Management and Fiduciary Divisions of the Bank to ensure compliance with the Bank's financial and procurement regulations.

4.9 Policy Support and Outreach

- 4.9.1 The CDSF Secretariat participated in important knowledge events, strategically aligned with its mandate and geared towards promoting the use of climate information for development planning and disaster risk management. This included the 18th World Meteorological Congress: Development Partnerships Events' held in Geneva, Switzerland, from June 10-12, 2019. During the workshop, the Fund contributed to a special session on scaling up development partnerships for reliable forecasts, early warning systems, and climate services.
- 4.9.2 The CDSF participated in the 25th United Nations (UN) Climate Change Conference (COP 25) held in Madrid, Spain from December 2-13, 2019. The Fund co-organized a knowledge event with the Green Climate Fund (GCF) and the Africa Adaptation Initiative (AAI) on vulnerability to extreme weather events in Africa, with a focus on small island developing states. During COP25, the CDSF participated in the launch of the Alliance for Hydromet Development, a partnership of 12 international organizations, including the AfDB who have committed to unite efforts to strengthen the delivery of hydromet services in developing countries. Hydromet services include high-quality weather forecasts, early warning systems, and water, hydrological, and climate services; they underpin resilient development by protecting lives, property, and livelihoods.
- 4.9.3 Lastly, the CDSF participated in the Post-SAWIDRA Workshop, held from 11 to 13 December 2019 at the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) Headquarters, in Darmstadt, Germany. The workshop provided an opportunity for the Fund to share its experience in the preparation, appraisal, and management of the SAWIDRA Program. Representatives of the Fund also participated in developing a concept note and road map for post-SAWIDRA activities, as well as brainstorming on a resource mobilization strategy required for the second phase.

4.10 Communication & Visibility

- 4.10.1 The CDSF recruited a consultant to provide strategic communications support and raise its visibility. The consultant is working on creating a website for the CDSF. She is working with the technical staff and partners from the Climate Centers to create knowledge products on climate information services. She is also working on media products to highlight the Fund's work with the Climate Centers, and its support to national hydrological and meteorological services.
- 4.10.2 The CDSF participated in the African Development Bank's Climate Change and Green Growth Day held on 27 May 2019 at the Bank's Headquarters in Abidjan. The event provided a platform for the Fund to showcase its work in disaster risk management and climate information services.
- 4.10.3 Per the goal of raising its visibility, the CDSF is organizing a climate information service and disaster risk reduction workshop in 2020 with the participation of AfDB experts and key stakeholders, including the Fund's donors and partners. The workshop seeks to take stock of the weather and climate information tools

and product needs of the Bank's sector departments to inform the design and implementation of climate resilient programs and operations. The event will also provide a forum for the Bank and CDSF to engage with donors on planning for the second phase of the Fund and its projects.

5 CHALLENGES AND MITIGATING ACTIONS

- 5.1 A significant challenge faced by the Fund in 2019 relates to the essential components of the projects centered on the procurement of specialized weather equipment. Case in point, under the SAWIDRA Program, nearly half of the grant amount of Eur 20 Million is for the procurement of equipment. A specialized and technically adept Agency must verify the technical specifications of the equipment before ordering and purchasing, and further inspections must be undertaken upon installation and commissioning. The procurement process has taken longer than anticipated for most equipment. For example, the purchase and installation of the RARs have a 5-month contractual period to allow for the installation, testing, and commissioning of the antenna. At the current pace, the procurement process will run-up to May 2020, which is beyond the current project end date of January 2020.
- 5.2 The Bank is working on fast-tracking the work of the technical agencies to facilitate the procurement processes. The CDSF is also requesting a second no-cost extension from the EU for a period of 5 months, up to June 2020 to allow for the completion of the procurement, installation testing and commissioning of the equipment.
- 5.3 In addition, all the Fund's projects have capacity-building components that include medium to long-term(1 to 3 years) training. Additional time is required to enable the candidates selected from the Hydromet Institutions and DRM agencies to complete their training curricula in Numerical Weather Models and Severe Weather Forecast.

6 CONCLUSIONS & WAY FORWARD

- 6.1 The CDSF has achieved substantial project results that will significantly contribute to both ensuring the use of weather and climate information for sustainable development and building the resilience and adaptation to the adverse impacts of climate change for the most vulnerable communities. The Fund also developed essential learning products and tools that should be disseminated, thus necessitating the recruitment of a communication consultant to provide strategic communications support for the Fund.
- 6.2 In view of the depleting resources and the imminent closure of the first phase of CDSF, the Fund's primary focus for 2020 is to mobilize resources to secure a second phase. In so doing, the CDSF will be able to continue supporting the use of climate information services for sustainable development and disaster risk management. The CDSF will undertake an evaluation of the first phase of the Fund to enable it to take stock of achievements, results, and lessons learned to inform the second phase.
- 6.3 The Fund will continue to ensure the successful implementation of its project portfolio. In addition to the ongoing close collaboration with the project implementation entities, desk supervisions, supervision and MTR missions are planned for CDSF projects. Completion missions will also be undertaken for which PCRs will be produced, shared with donors, and disseminated via the website.
- 6.4 The CDSF will invest in capturing and reporting on project and operational achievements and lessons learned through the annual reports and the CDSF website. The Fund will also organize an internal workshop to share with Bank staff, donors, and other stakeholders the results achieved by the Fund to-date and the lessons learned along the way. A similar workshop primarily focused on the SAWIDRA projects will be organized in collaboration with the Climate Centers.

6.5 The CDSF Secretariat will participate in important climate events, including the 19th World Meteorological Conference, COP 26, and the Ninth Conference on Climate Change and Development in Africa (CCD-9), to advance the dialogue on the importance of climate information services to economic growth and DRM.

7 CDSF FINANCIAL REPORT

7.1 Financial Analysis

The financial statements of the Fund are prepared on a modified cash basis. The accounts of the Fund are in Euro. Disbursements in currencies other than the Euro are converted to the Euro using the cross rates prevailing between the currencies, the Bank's Unit of Account (UA), and Euro on the date of the transaction. For accounting purposes, the UA is deemed to be equivalent in value to one Special Drawing Right (SDR) of the International Monetary Fund (IMF).

7.2 Summary of Financial Situation

Table 1 below summarizes the financial position of the ClimDev Africa Special Fund in terms of funds available and commitments between 31 December 2018 and 2019. Table 2 provides an overview of the change in disbursements between December 2018 and December 2019.

Table 2: CDSF Financial status as of 31 December 2018 and 2019 (Amounts in EUR)

Designation	31 December 2019 (Unaudited)	31 December 2018
A - NET FUNDS AVAILABLE		
Contributions from Donors to date	33,852,261	33,852,261
Bank charges & Negative interest	(353,271)	(266,394)
Total funds available	33,498,990	33,585,867
Disbursement (*)	(16,824,178)	(8,857,246)
Net funds available	16,674,812	24,728,621
Total funds available	33,498,990	33,585,867
Commitments	(32,263,895)	(27,169,580)
Total funds uncommitted	1,235,095	6,416,287

Source: CDSF Secretariat

Table 3: CDSF Disbursements 31 December 2019 and 31 December 2018

(*) Disbursement	31 st December 2019 (Unaudited)	31 st December 2018	Variation
- Projects	12,993,392	5,880,091	7,113,301
- Policy and Partnerships	613,240	506,050	107,190
- Administrative Expenses	3,217,546	2,471,105	746,441
Total	16,824,178	8,857,246	7,966,932

Source: CDSF Secretariat

7.3 Status of Contributions from Donors to the Fund

Table 4 below shows CDSF donors contribution to the Fund. Since 2013, the CDSF has received contributions from three donors for a total amount EUR 33,852,262.

Table 4: Donor Contributions to CDSF as of December 2019

Donor	Amount Pledged	Amount Received in Euro	Balance in Euro
European Commission	Euro 20,000,000	17,999,700	2,000,300
Nordic Development Fund	Euro 5,000,000	5,000,000	0
SIDA (Sweden)	SEK 105,000,000	10,852,562	0
TOTAL (in Euro)	-	33,852,262	2,000,300

Source: CDSF Secretariat

NDF and SIDA pledges contribution have been fully received by 31 December 2019. There is a committed amount of EUR 2,000,300 not yet received from the European Commission on its pledge of EU 20,000,000.

7.4 Disbursements

Table 5 presents an overview of cumulative disbursements to CDSF Project disbursement. The cumulative amount of disbursements as of December 2019 is € 12,993,392.00.

Table 5: CDSF Project Disbursements

	Country	Applicant	Approved amount	Cumulative Disbursement as at December 2019	Available amount in 2019
1	Niger	ACMAD	4,950,000.00	2,410,073.00	2,539,927.00
2	Niger	AGRHYMET	3,704,500.00	2,652,970.00	1,051,530.00
3	Kenya	ICPAC	2,349,686.00	1,683,985.00	665,701.00
4	Botswana	SADC	2,811,550.00	1,747,828.00	1,063,722.00
5	Cameroon	ECCAS	3,016,388.00	1,422,417.00	1,593,971.00
	Regional Climate Centers - Subtotal		16,832,124.00	9,917,273.00	6,914,851.00
6	Ethiopia	National Met. Agency (NMA)	1,000,000.00	628,913.00	371,087.00
7	Senegal	ANACIM	999,409.00	152,080.00	847,329.00
8	Zimbabwe	Zimbabwe National Water Authority	387,628.00	112,844.00	274,784.00
9	Tanzania	Div. of Environment - VPO	445,000.00	89,099.00	355,901.00
10	Kenya	ATPS	399,360.00	303,750.00	95,810.00
11	Mali	Mali Meteo	1,000,000.00	61,181.00	938,819.00
12	Niger	NBA	1,000,000.00	640,675.00	359,325.00
13	Kenya	Maseno University	995,000.00	701,430.00	293,570.00
14	Benin	PNE BENIN	495,340.00	61,262.00	434,078.00
15	Côte d'Ivoire	PLCC	400,000.00	298,498.00	101,503.00
16	Kenya	WMO	348,387.00	26,387.00	322,000.00
17	Somalia	Inter-Government Authority on Development	344,300.00	0.00	344,300.00
18	Ghana	Canadian Feed the Children	320,000.00	0.00	320,000.00
	Country /Multi-Country Projects SubTotal		8,134,424.00	3,076,119.00	5,058,305.00
	TOTAL		24,966,548.00	12,993,392.00	11,973,156.00

7.5 CDSF Annual Audit

The financial audit of the Fund for fiscal year 2018 was carried out in June 2019 by the Bank's External Auditors who gave their unqualified opinion on the CDSF Financial Statements.

ANNEX 1: CDSF PROJECT PORTFOLIO AS OF DECEMBER 31ST 2019

#	Country	Applicant	Project Title	Amount Approved (Euros)	Approved date	Agreement Sign	End Agreement	First No Cost Extension Date	Second No Cost Extension Date	Disburse	Disb Rate
1	Ethiopia	National Meteorological Agency (NMA)	Strengthening Climate Information and Early Warning Systems	1,000,000	12/17/2014	6/22/2015	6/30/2017	6/30/2018	12/31/2018	628,913	63%
2	Kenya	Maseno University	Flood Disaster Risk Reduction in Bunyala, Busia County, Kenya	995,000	5/7/2015	7/30/2015	12/31/2017	7/31/2018	12/31/2018	701,430	70%
3	Mali	Mali Meteo	Meteorological Observation Network Improvement in Mali	1,000,000	12/22/2016	3/2/2017	12/31/2019			61,181	6%
4	Niger	NBA	Sattelite Based Water Monitoring and Flow Forcasting System in Niger River Basin	1,000,000	12/22/2016	3/17/2017	12/31/2019			640,675	64%
5	Senegal	ANACIM	Improved Climate and Weather Information to Senegal Communities	999,409	12/2/2016	5/12/2017	12/31/2019			152,080	15%
6	Cote d'Ivoire	PNCC	Amélioration de la résilience des populations par un meilleur accès à l'information climatique	400,000	3/2/2017	9/18/2017	10/31/2018	10/31/2019		298,498	75%
7	Kenya	ATPS	Bridging Climate Information Gaps to Strengthen Capacities for Climate Informed Decision-making	399,560	3/30/2017	6/16/2017	4/30/2019	31/09/2019	4/15/2020	303,750	76%
8	Tanzania	Vice President's Office	Institutional Support for Climate and Seasonal Weather Information in Northern Tanzania	445,000	8/18/2017	4/5/2018	9/30/2019	12/31/2019		89,099	20%
9	Benin	PNE - Benin	Renforcement des investissements pour un développement résilient au changement climatique (RICC-BENIN)	495,340	11/21/2017	3/7/2018	2/28/2020			61,262	12%
10	Zimbabwe	Zimbabwe Water Authority (ZINWA)	Enhancement of Data Collection and Sharing for Effective Water Related Disaster Management in Zimbabwe	387,628	12/26/2017	1/15/2019	12/4/2020			112,844	29%
11	Kenya	WMO	Climate Data Rescue and Database Enhancement in Djibouti, Swaziland, Uganda and Zambia	348,387	4/16/2018	10/26/2018	8/30/2020			26,387	8%
12	Kenya / Somalia	ICPAC SOMALIA	Disaster Risk Assessment and Climate Change Adaptation in Somalia	344,300	12/14/2018	Ongoing				0	0%

Subtotal Approved & uncommitted National Climate Centers & Institutions				7,814,624						3,076,119	39%
13	Niger	AGRHYMET-Regional Climate Centre	Satellite Derived Information for Disaster Risk Reduction in West Africa	3,899,500	7/7/2016	11/24/2016	12/31/2019	1/31/2020		2,652,970	68%
14	Niger	ACMAD-Continental Climate Centre	Severe Weather Forecasting in Support of Disaster Resilience in Africa	5,790,000	12/14/2016	3/23/2017	12/31/2019	1/31/2020		2,410,073	42%
15	Kenya	ICPAC- Regional Climate Centre	Generation of Severe Weather Forecast to Support DRM in Eastern Africa	2,467,170	12/16/2016	4/7/2017	8/31/2020	1/31/2020		1,683,985	68%
16	Botswana	SADC-Regional Climate Centre	Climate Information Services for Disaster Resilience Development in Southern Africa	3,198,600	4/6/2017	8/11/2017	8/31/2020	1/31/2020		1,747,828	55%
17	Cameroon	CEEAC- Regional Climate Centre	Capacity Building on Meteorology and Hydrology	3,430,000	10/4/2017	2/5/2018	12/31/2020	1/31/2020		1,422,417	41%
Subtotal Approved & uncommitted RCC Projects				18,785,270						9,917,273	53%
Total of Projects				26,599,894						12,993,392	