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November 5, 2015

CIRDA Progress on 2015 AWP

General

- CIRDA's annual work plan envisioned a target of USD 1.6 million for 2015.
- The budget contemplated two regional trainings; in country support missions to all 11 partner countries; the development of a multi country market study; a publication; support on the identification and procurement of innovative technologies for expanding national observing systems; an assessment of digitization needs and capacities; and increased engagement with partner countries and donors through its communication strategy.

Technology and Innovation (LTA Support)

New technologies with lower capital costs and reduced maintenance requirements have emerged that make it possible for African LDCs to modernize their hydromet services and early warning systems and transform them into an essential element of adaptation planning. CIRDA experts have been assisting partner countries in identifying this equipment in response to their demand for support in the acquisition of meteorological observation systems for their climate information and early warning systems.

While long term agreements (LTAs) exist-under a past World Food Programme Project- for the acquisition of traditional AWS for synoptic scale climate information, these are not as cost effective nor operationally efficient for the field as some of the recently developed and equipment that has been developed. The Programme has looked to partner countries and their needs to assure these tools are enabled for the national programs and consistent with WMO's approach towards local observation systems.

- CIRDA experts, in turn, developed a request for proposals (RFP) to provide the national projects with access to this modern technology and operating environment through the establishment of two new LTAs that have recently been awarded. The LTAs provide for a comprehensive array of installation, training, operations, and maintenance services that can bolster current NMHS staffing where it is currently insufficient.
- Specifically, these offer the following:
 - A denser array of more cost effective automatic weather stations allowing more measurements to be taken near vulnerable populations at the same cost,
 - A network of remote sensing lightning detection sensors that can provide national scale early warnings of severe weather to save lives and precipitation measurements for flood warnings,
 - Access to more than 500, 10-day village forecasts per country providing extremely detailed information at the village level rather than the more basic regional forecasts currently provided by the NMHS,



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- Display systems for the NMHS and other government agencies that provide situational awareness for developing meteorological disasters as they occur,
- Access to advanced, cloud-based computing facilities that provide the consistent power and internet services required for the provision of these essential services.

Partner countries have also requested expert support in the acquisition of hydrological observation systems for their climate information and early warning systems. To offer countries a comprehensive set of hydrological observation tools and information products, an LTA on hydrology is also being developed and will be ready to use before next summer.

- With this LTA, we attempt to offer countries a cost-effective, innovative hydrological observation solution, data of which can be integrated with existing CI and EW systems. The system will include a maintenance, technical support and training plan and will consist of:
 - Satellite altimetry for near real-time river level measurements;
 - A small number of in-situ river level gauges, with wireless data transmission, for calibration and quality control purposes;
 - A number of in-situ level gauges, with wireless data transmission, for flash flood early warnings in high risk areas;
 - An option for groundwater level gauges with wireless data transmission;
 - Satellite derived soil moisture mapping, to be used as model input;
 - A hydrological model to integrate satellite and in-situ data, and to provide input for early warning and climate information systems;
- The impact through this LTA will be seen in reduced costs of both the equipment and maintenance without a sacrifice of quality.
 - The use of satellite remote sensing will significantly reduce the cost of the hydrological observation network, and provide a much better spatial coverage than conventional river level gauge networks.
 - The reduced maintenance cost of the proposed system is greatly reduced compared to conventional networks, thus increasing the sustainability of the network.

Private Sector Strategy

The private sector strategy is an essential component in the Programme in that it complements the emergence of new technology by identifying additional revenue and business support to the NHMSs via the development and marketing of tailored weather information services of high value to weather sensitive businesses such as agriculture, insurance, shipping, and mining.

- Key objectives in the past year have been to more fully articulate the vision for a private sector strategy; inform the country programs of the elements of such a strategy to identify the most promising countries to implement the vision; make initial contact with cell phone companies and potential business users of tailored weather information services; and identify and reach out to potential partners able to help advance the vision, such as the International Finance Corporation (IFC).



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- In March in Kampala, the Programme held a **workshop** on public private partnerships that was attended by 100 participants. This included government representatives from both NHMS as well as finance and other planning ministries, a diverse range of private sector representatives (telecom, aviation, energy, technology, etc.), as well members from the international development community. The success of the workshop led to an upcoming publication and various blog posts. It also created successful matchmaking relationships from the diverse sectors.
- A multi country **market study** has been commissioned and is being developed to provide critical baseline information and help further develop the Programme's private sector strategy. The market study will also identify the most promising countries for PPPs. One possibility that has emerged is that countries with very little current capacity may prove least resistant to trying innovative approaches. The market study will present its final results by December 2015, with a final presentation to be made to partner countries in March 2016.
- **Outreach to the private sector** has also been ongoing. Missions to Malawi, Burkina Faso, Uganda, Tanzania, and Zambia have led to meetings with mobile phone companies and other potentially interested businesses. Valuable contacts have been made with several large and small cell phone companies including Airtel, Vodafone and Telecel Faso; South African Airways and a major bank; two major cell phone tower companies with extensive presence in Africa; and representatives of major private vendors of weather information services.

Country Support Missions

The Programme provides on the ground support to partner countries to assist and provide guidance on the implementation of the national climate information early warning projects.

- In 2014, the Programme arranged 4 missions providing support to Malawi, Tanzania, Ethiopia, Uganda and meeting with national implementers to gauge their concerns.
- In May 2015, four country support specialists were hired to provide assistance on meteorology, hydrology and innovative technologies. These specialists are tasked with visiting all 11 partner countries to provide hands-on support, as well as through e-mail and skype calls, as per the countries' requests.
- Country support specialists have been deployed to Burkina Faso (June), Benin (October), Ethiopia (August), Zambia (August) and Uganda (March and June). There are also plans to visit: Liberia (November), Sierra Leone (November), Tanzania, the Gambia and Malawi.
 - **Benin:** Provided guidance on the specifications for their required computing capacity and the end-user specifications of the early warning systems. Participated in a project steering committee meeting.
 - **Burkina Faso:** Burkina's needs were inventoried and specifications for hydrological equipment were established. Meetings with a mobile provider (Telecel Faso) were made. They have recently requested support on the procurement of hydrological equipment, and the need for an LTA on Hydrology.
 - **Ethiopia:** Meetings were held with the Ethiopian National Meteorology Agency and the Ethiopian Directorate of Hydrology and Water Quality. Ethiopia has recently requested a



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follow up country support mission to review the standards of installation of their newly installed hydrological and meteorological equipment, and to offer support on data treatment and product development.

- **Uganda:** Extensive discussions with the Uganda National Meteorological Authority took place, where the UNMA stated their interest to use the full solution option (equipment, products and services) offered under the LTA. Meetings with mobile telephone providers were also held. A follow up country mission has been planned, to help in the LTA procurement exercise (December).
- **Liberia:** The mission will focus on assessing the current status of the observation networks, and identifying what is needed for the development of CI and EW systems.
- **Sierra Leone:** The mission will focus on the current status of the observation network, and to get an idea of what is needed to establish CI and EW systems.
- **The Gambia:** Country mission planned to help the country in its procurement. Amongst others, the country has asked for support on aeronautical meteorological information systems.
- **Tanzania:** Country mission planned to review meteorological and hydrological installations (mission to take place once the installation of equipment has been finalized).
- **Malawi:** Country mission planned to review meteorological and hydrological installations (mission to take place once the installation of equipment has been finalized)
- **Zambia:** Country mission to coincide with the CIRDA workshop, which will be held in February 2016 in Livingstone, ZM

Digitization

Climate data in a digital format allows practical climate analyses and reduces the time required for NMHS to provide information and services. During the Programme's Inception Workshop, the lack of access to digitized data was highlighted by NHMSs as a key obstacle in their efforts to develop decision-relevant products and communicate climate information to end users.

- In 2014, CIRDA sent all partner countries an initial survey to assess national interest and needs to for digitization support. Uganda, Tanzania, the Gambia, Sierra Leone, Malawi, Zambia demonstrated the most interest.
- Two experts were commissioned by CIRDA to travel this year to Uganda, Tanzania, the Gambia, Sierra Leone, Malawi, Zambia to discuss digitization needs with key ministries and agencies in each country. The experts provided a detailed assessment of needs and an estimated budget. The visit demonstrated a desire by most NHMSs to digitize information relevant to agriculture, fishing and flood management (rainfall, temperature, salinity, wind speed etc.)
- A plan to address these needs within the scope of the programme will be designed in the remainder of the year. Prioritization will be made based on most urgent needs and potential impact on adaptation and planning.



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Communications

Integrated communications are an essential component of the CIRDA Programme to allow for improved collaboration and knowledge sharing between the projects as well as for the scaling up and replication of the innovative approaches supported through the Programme.

- In June, the Programme hired a senior communication specialist to support in refining the CIRDA narrative, create a consistent storyline, and expand its communication products and outreach.
- Currently the Programme's **communications strategy** is being refined to ensure engagement with all stakeholders and external actors. This includes developing new platforms such as communication toolkits, social media engagement, a journalist training event, and knowledge management tools such as google list serv.
- The **CIRDA newsletter** format and distribution model was recently professionalized and updated with html formatting, compliance to international CAN-SPAM laws and a widened distribution strategy. This has allowed it to transition from a limited distribution within the projects to a larger to 735 current subscribers, including the community of practice, donors and UNDP. The open-rate for the July newsletter was 39.3 percent (non-profit industry average is 23.2 percent), click rate was 6.8 percent (industry average 2.5%).
- The Programme's **blog** was also updated for user-interface, style, creation of tagging.
- A [weekly training, news and resources brief](#) has also been developed. This weekly email (which will eventually be shared with projects via the google group) captures training materials from COMET, AMS, EUMETSAT and other online resources, along with relevant news from partner country MET agencies and general climate change news.
- **Communication toolkits** for country partners are also being prepared to support country climate information early warning projects to communicate clearly and efficiently their goals within the context of planning and overall development.
- A **publication** on private engagement and the potential for establish public private partnerships to provide life- saving climate information is also being developed and will be available by early next year.

Trainings

- In 2015, CIRDA organized two regional training events focused on enhancing national capacities for the implementation of the CI/EWS projects: Public Private Partnerships (March, 2015), Project Manager Workshop (August, 2015)
- Support was provided to representatives from Tanzania to attend a workshop in Burkina Faso on rain fade technology (April, 2015)
- Representatives from Uganda, Tanzania and Zambia traveled to the Philippines for a South-South Exchange on the use of cost effective innovative technologies to enhance national observing networks. The exchange was led by the Weather Philippines Foundation (WPF) and was based on their own experiences to increase their local network through 1000 additional AWS.
- A workshop on application development to reach the last mile is being developed by the CIRDA Experts. The event will have two side events including a Hackathon for application development and



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a Journalist Training Workshop. The event is focused on helping NHMS communicate and create services appropriate for adaptation planning and to reach end users.