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# Coastal City Adaptation Project (CCAP) Agreement No. AID-656-C-14-00001

**FY2014 Annual Report**



**October 2014**

The following presents a brief summary of project activities and accomplishments during FY 2014.

### *CCAP's objectives and geographic focus*

The Coastal City Adaptation Project (CCAP) works primarily with municipal governments to increase their understanding of urban adaptation issues and promote the application of management options for urban adaptation. CCAP also works with other local government agencies, universities, civil society organizations, and as a principal target group, the communities themselves. With this broad set of stakeholders, CCAP seeks to increase climate awareness and the technical expertise of future urban planners and municipal authorities, to increase the resilience of the target coastal cities, and to facilitate the adoption of adaptive measures at the local level. These interventions aim to accomplish three objectives: (1) to improve the provision of climate-resilient urban services by municipalities; (2) to increase the adoption of climate resilience measures by communities, civic and community organizations, including civil society, NGOs, and faith-based organizations; and (3) to increase the capacity to potentially implement economic risk-management tools for at-risk urban infrastructure and livelihoods.

From a geographic perspective, CCAP focuses its intervention on the most vulnerable coastal cities that are not currently receiving significant support from other donors. In the first phase, the priority cities are Pemba and Quelimane. In subsequent phases the project will work in additional cities implementing activities that have proven to be successful and that are readily scalable. In some cases, the impact of the intervention may go beyond the city limits, when it is cost effective to do so, when other agencies that will cover the additional cost of expanding the coverage, and/or because the mandate of the partner organization involved in its implementation, requires it. This is particularly the case of the Early Warning System (EWS), as discussed below.

### *Starting operations*

A week following contract award CCAP deployed a short-term start-up team that focused on office set-up and hiring staff. Chief of Party Carlos E. Quintela mobilized to post in mid-January and shortly thereafter led a work planning workshop with participation from USAID, Eduardo Mondlane University (EMU), municipal planning firm Vedor Lda, and subcontractor Human Network International (HNI), in addition to the CCAP staff and members of the Project Management Unit (PMU) for CCAP that traveled to Maputo to assist with project start-up. By March 2014, the Maputo-based office was set up, equipped and staffed, with municipal advisors arriving at their posts in Pemba and Quelimane in June.

Integral to the technical start-up activities was the preparation of an institutional assessment, as well as a gender and youth assessment. These two tasks were subcontracted with two local firms, Vedor Lda and Blid *Consultoria e Serviços*, respectively. These assessments provided a clear picture of the challenges facing the Municipalities of Pemba and Quelimane and their communities. They also provided a framework for the development of the implementation approach that CCAP has used during its first year of operations.

### *Building partnerships*

The process of preparing these assessments allowed the project to engage with many local actors through a series of working sessions over a period of six months with the technical teams of the municipalities, the leaders of the communities (secretaries of the neighborhoods, religious leaders, and teachers) and key government agencies, such as INGC. These working sessions varied in size, with in some there were 100 participants, in others it involved technically

intensive sessions with a few key local experts. This process helped define CCAP's approach for its first phase of designing interventions. Specifically, these sessions advanced four key project priorities: (1) share and validate the draft work plan prepared during project start-up; (2) establish and launch of the EWS; (3) select the focal neighborhoods in which to initiate field activities; and (4) select the priority interventions in those focal neighborhoods.



Meeting of municipal staff and community leaders to validate CCAP's work plan in Pemba.

One of the main benchmarks of this outreach and partner engagement process was the formal launching of the project in July in both Quelimane and Pemba. It served to formalize the commitment of USAID through CCAP to work with local partners to increase the resilience of these coastal cities, and confirm as well, the commitment of the communities, the municipalities and INGC to join this partnership. USAID Mission Director Alex Dickie reinforced this message by visiting with Mayor Manuel Araujo Quelimane's Icídua neighborhood, and with Acting Mayor Marques Naba Pemba's Paquitequete neighborhoods. The mayors confirmed the conclusions of the extensive consultation process that identified these neighborhoods as priorities for their respective municipalities.

### *Strengthening the municipalities and local government agencies*

Of all the things that are needed to help municipalities and local government agencies address the challenges of climate change adaptation in coastal cities, CCAP began by focusing on two practical tools that would provide immediate benefits: an enhanced early warning system, and a vulnerability map for each municipality.

### Early Warning System

The early warning system (EWS) that CCAP is developing with INGC and the municipalities is an enhanced tool because, while most early warning systems are one-way information delivery platforms, CCAP's EWS also has the capability to receive information from the field in real time. It is a two-way, mobile network solution that performs four critical emergency response and preparedness functions: (1) it provides status updates of the proximity of storms and instructions to the population; (2) it collects critical information during the most severe period of the storm; (3) it engages the community in post-disaster response activities by extending their involvement in data collection; and (4) it provides free and easy access to information about adaptation and resilience measures, disaster preparedness, and eventually on a wide variety of topics ranging from health to agriculture throughout the year. These functions are described in more detail below.

- **Warnings and preparedness instructions.** Its most elemental component is the early warning per se. When it is fully implemented it will complement existing early warning systems that use radio and television. The EWS obtain information from the National Weather Agency (Instituto Nacional de Meteorologia – INAM) and INGC and will disseminate it by SMS to the network of participants in the EWS. It will send follow up messages updating the community leaders about the status of the approaching storm and instructions for preparedness actions. The platform for the operation of this component of the EWS is already in place. CCAP is currently working on the procedures

and protocols to engage with INAM and the INGC to make it operational.

- **Rapid response.** The lack of information during the most intense period of a storm, usually the first 72 hours after the landfall of a cyclone, often makes it extremely difficult to make decisions that could reduce the loss of life, health and property. Typically, information is gathered by dispatching the staff of emergency response agencies and institutions, but in reality the challenges of gaining access to most affected areas cause decisions to be made without much reliable data. CCAP's EWS relies on a network of participants that provide critical information about the immediate situation. Currently, CCAP has trained over 150 participants in both cities and we are working to expand their number. During this phase, participants will provide INGC with data by submitting answers to 12 critical questions, such as the number of people missing, injured and dead; status of access roads and health facilities; and the most pressing service, equipment and supply needs. With this information INGC can more effectively distribute resources and coordinate the actions of the many agencies involved in emergency response. This part of the EWS is operational and CCAP is currently working on expanding the system and training INGC to take full control of the platform.
- **Post-disaster response.** Following the storm, the EWS will continue to operate providing INGC with the relevant information for the post-disaster phase. There is a standard INGC questionnaire with close to 30 questions for this phase of the cycle that participants can respond to via EWS platform. As in the rapid response phase described above, the EWS participants not only provide valuable and timely information, but ensure the effective engagement of the communities through their recognized—formal and informal—leadership structure. The training conducted to date with the EWS participants has not focused on this phase, but the protocols and interface are very familiar to all. These adjustments are planned for the coming months.
- **Information dissemination, the 3-2-1 Platform.** To complement the functions above, we in the initial phase of developing an on-demand Information service (the 3-2-1 platform) that will be accessible on simple mobile phones to anyone in Mozambique. This system will not be restricted to the cities where we work. Using their own simple mobile phones, callers will be able to call in and listen to public service information in the local language anytime, anywhere, free of charge. In a series of "listen and choose" steps, callers use their telephone keypad to select a pre-recorded message. Our partner HNI, who is implementing the EWS is in advance negotiations with local mobile network operator (MNO) Movitel for the implementation of this system. We expect that the system will be operational early next year.

To perform these functions, the EWS relies on four elements. First, the rapidly expanding number of cell phone users and increasing coverage by the MNOs. Second, a very simple user interface that is already very familiar to all cell phone users, the Short Message Service, or SMS. Any basic, inexpensive cell phone will work, as long as it can send and receive SMS, which is a common feature of most cell phones. Third, a simple to operate, yet robust data management platform that functions in the background, which is fully operational now and will be managed entirely by INGC by the middle of next year. Fourth and most important, is the network of participants that provide the data collection and serve as the backbone of the system. These participants are community leaders—neighborhood secretaries, members of INGC's local disaster response committees, religious leaders, school teachers, local health workers—who CCAP has been training since March on the operation of the system. Although the data entry protocols are very simple, training is fundamental so that data collection during the storm can be done effectively, and so that their role and responsibilities toward the community they serve, can be routinely reinforced.

To make the system more accessible to the growing number of EWS participants, we have subcontracted with an SMS aggregator that receives the SMSs from users registered to any of the mobile networks, toll free, and delivers them to the data platform. This is essential because it increases the breadth of the system by receiving messages from all MNOs in Mozambique, and allows for the greater number of network participants, regardless of cell phone service provider, all at no cost to the participant.

As innovative as the technical approach for the EWS is, its real strength rests on its reliance on community engagement. This makes the system more robust because the community leaders that drive the EWS assume, in very tangible ways, responsibility for the people they lead and whose trust has been placed in them. CCAP started working within the formal organization of the neighborhoods with the neighborhood secretaries and local disaster management committees. Now, we are also engaging religious leaders and local teachers and principals in this process, providing them with the training needed to support the EWS. This diverse leadership structure is an important aspect of the community and they are in the best position to provide the interface between the community they represent and the emergency response teams when natural disasters occur.

At INGC's request, we are currently reviewing the expansion of the coverage of the EWS to the district and the province levels. For INGC this is important because their mandate exceeds the municipal jurisdictions. For CCAP it would be important that the EWS is adopted nationally so that it can benefit all the coastal cities in Mozambique. In the coming weeks we will be analyzing the cost implications and cost-sharing arrangements with INGC and other donors.

### Vulnerability mapping

The process of developing the vulnerability map is in its early stages. We have held two consultation sessions in Pemba and Quelimane to identify the relevant variables. We are currently in the data collection phase and expect to have a draft map by the end of the year.

### *Increasing the resiliencies of vulnerable communities*

The interactions with the communities had multiple objectives. Two of them were paramount for the definition of follow up activities. First, select the focal neighborhoods and second, identify the priority interventions. We needed to agree with all the stakeholders where we would start working and what we would do to help them become more resilient.

Through an involved process of consultation with the communities and the municipality, two neighborhoods in each city were selected based on their perceived vulnerability. In both cities the mayors themselves confirmed the findings of the consultation process. In Quelimane, Icídua and Manhaua were selected, but work this year will start in the former. In Pemba, Paquitequete and Cariacó were selected, and likewise, work this year will start in the former.



Neighborhood of Icídua (lower right from central Quelimane) is located in an open flood plain that was previously protected by mangrove stands, which were cleared to create salt flats.

The same consultation process served to identify the priority interventions. Although solutions that will be appropriate for Icídua will differ from those of Paquitequete because their location, topography, population density, among other variables, the problems identified were the same.



Neighborhood of Paquitequete, Pemba, is located at the tip of the peninsula in a densely populated area subject to tidal flooding.

- **Sanitation.** Open defecation continues to be a major concern in both neighborhoods. Provision of latrines alone will not be sufficient. We will address this problem by adapting the Community Lead Total Sanitation (CLTS) methodology to urban settings and proceed from there to design and build in close collaboration with the municipality and the community, latrines that are appropriately adapted to the local conditions and preferences of the communities.
- **Solid waste.** Collection and removal of garbage has been identified as a major concern of the municipality. We will design with the municipalities and the neighborhoods a solid waste management approach that involves interventions that range from changes in local behavior to the construction of waste collection centers, and procedures for its removal to the municipal landfill.
- **Potable water.** Access to potable water is limited, particularly in Icídua because it more distant from the center of the city. Water is obtained from community wells, some of them not close enough to homes, and from water vendors who deliver them in 25 liter jugs on bicycles. We are reviewing options for rainwater harvesting systems that are cost effective to construct and easy to maintain.
- **Resilient housing.** We are finalizing a partnership with UN Habitat to design low-cost yet resilient housing and train local contractors to build them, and working with local financial institutions to finance them. We will approach this process in an integrated manner, including into the design considerations the sanitation and potable water needs of the families in the target neighborhoods.
- **Green infrastructure.** Much of the increase vulnerability of both cities in general, and the target neighborhoods in particular, has to do with the destruction of the natural habitats that created a buffer from tides, floods and storm surges. We are establishing a partnership with UniLúrio to first, conduct rapid assessments in Icídua and Paquitequete of the green infrastructure needs. From the preliminary review that we conducted with UniLúrio scientists, we have concluded that mangrove restoration is the priority for Quelimane, and that dune stabilization is the priority for Pemba. This finding was confirmed for Quelimane by a field assessment conducted by consultants affiliated with UniLúrio. The next step is to share this assessment with the relevant government and community organizations and to lay out a plan for implementing the recommendations of the assessment and the consultations. A similar field assessment for Pemba will take place in the coming months.