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**Report to USAID**  
**Midterm (3<sup>rd</sup> semi-annual) Report on the RCPA Project:**  
**“Capacity Building in Regional Climate Prediction and Applications**  
**for the Greater Horn of Africa”**  
**AID AOTG 00990017900**

**Period covered: September 2000 - February, 2001**

## **1. Introduction**

This report summarizes progress made during the first half of the second year of the USAID-funded project entitled “Capacity Building in Regional Climate Prediction and Applications for the Greater Horn of Africa” (AID AOTG 0099001790). After a rather slow start, the project is now well underway and a number of accomplishments are reported here.

## **2. Implementation progress**

### **2.1 Objective 1: Implementation of the Regional Seasonal Climate Prediction System (RSCPS) at the DMCN**

2.1.1 Acquire Equipment: All of the equipment to be purchased under the project has now been acquired and installed. This includes the IBM RS 6000 Model 44P, including required network cabling and system software, four IBM PC 300 GL computers for data processing and support, and a large format Hewlett Packard Color LaserJet 8500N printer, all installed at the DMC Nairobi. Additionally, the matching IBM RS 6000 has been installed at the IRI and is being used by the down-scaling trainees to develop the regional climate model.

2.1.2 Implementation of RSCPS Software: Under the direction of IRI climate model specialists, Liqiang Sun, Neil Ward, and Matayo Indeje, the regional climate model has been installed on the IBM at the IRI. Boundary conditions representing a domain covering the whole of the Greater Horn of Africa and surrounding region has been successfully installed and the two DMC trainees are in their third month of training. The regional model is now running and corrections to the code and model physics are being identified and addressed.

### **2.2 Objective 2: Extended Training of DMCN personnel at the IRI**

2.2.1 Train DMC personnel and develop forecasting system: Two regional climate scientists, Teferi Dejene from Ethiopia, and Joseph Matayo from Kenya, arrived in January 2001 and have been participating in a three month training course on downscaling here at the IRI. Mid-term progress reports by the trainees revealed excellent progress on their successful adaptation of the regional model to the domain covering the Greater Horn. Each trainee is focusing on detailed analysis of the rainy season of greatest importance to their respective countries. They are now in the last few weeks of the course and will be prepared to return to the DMCN in April and begin setting up the climatological simulations necessary for producing routine forecasts. We are currently in the process of remotely installing the regional model on the IBM in Nairobi. A regional model specialist from the IRI will accompany the trainees back to Nairobi to oversee finalization of the model installation, and assist in setting up initial simulations there.

2.2.2 Host the DMC applications specialist: The applications specialist from the DMC, Simon Gathara, visited the IRI for one month from mid-October to mid-November 2000. While at the IRI, Mr. Gathara contributed substantially to the development of a user's workshop which was later run in Tanzania at the 7<sup>th</sup> Regional Climate Outlook Forum and to ideas for the module on communications skills at the Met Services to be included in the pre-forum capacity building at the DMC. Additionally, he participated in routine applications activities and attended lectures at the IRI. Plans for his return to the IRI in May are in progress.

### **2.3 Objective 3: Workshops for Applications of Climate Forecasts**

The four workshop themes are detailed in the RCPA Work Plan: Improving Communications Skills at the Met Services; National-level Climate Forum; the Role of the Media; and Downscaling of Seasonal Forecasts.

2.3.1 WS Theme I - Improving Communications Skills at the National Met Services: A half-day module on communicating with users of forecast products was run at the Drought Monitoring Center in Nairobi on Feb 6<sup>th</sup>. Ten representatives of National Met Services were in attendance. Issues discussed were development of data sets displaying tercile boundaries of rainfall for specific sites in each country, other ways of communicating the concepts "above normal", "normal" and "below normal", interacting with the media, and developing sector specific products. An issue brought up by the Met Service representatives was charging for services. Other concerns included misinterpretation of the forecast by users, and subsequent blame of "wrong" forecasts.

2.3.2 WS Theme II – National-level Climate Forum: Prototype for a Meeting between Users and Producers of Climate Forecast Products: In our last report, we indicated that a proposal from the Rwandan Meteorological Service, partnering with Burundi, would be supported in order to run the prototype National Climate Forum. Since then, diplomatic relations between the two countries has broken down, and the idea of a collaborative effort between the countries was removed from the table. We are now in discussions with the DMC regarding providing support towards the series of national-level meetings they are funding through the WMO-component of the project.

However, a workshop on “Understanding and Using Seasonal Climate Forecasts” was developed and tested at the last Climate Outlook Forum that took place in February in Tanzania. The workshop was conducted in the context of the pre-COF Users’ workshop, and is intended as a prototype for use at National-level meetings. The goal of the materials is to improve comprehension and interpretation of climate forecast products among the user community. Concepts regarding climatology, mean versus median seasonal rainfall, rainfall distribution, and probabilities are explored in a decision-making context. With additional funds from the IRI and Columbia University’s Earth Institute, we were able to involve a specialist in cognitive psychology and decision making from Columbia University, a post-doctoral researcher from the IRI working on communications, and three additional assistants in the development of materials and in conducting the workshop over two-half days. Approximately 80 participants joined in the exercises. Evaluation materials collected during and after the exercises are now being analyzed and improvements incorporated in the module.

### 2.3.3 WS Theme III: The Role of the Media in disseminating forecast information:

Now that the decision has been made to hold the next COF in Uganda, we have agreed to hold the media workshop at the same location, in advance of the COF. The Uganda Meteorological Service has agreed to facilitate the meeting. Approximately 3 journalists from each country in the region will attend this two-day meeting in early August of 2001. The director of the Drought Monitoring Center Harare has requested that some participants from Southern Africa be invited.

### 2.3.4 WS Theme IV – Methods in Downscaling Seasonal Climate Forecasts:

The major downscaling workshop that is being conducted here at the IRI this spring has proved useful in formulating the content of the one-week downscaling workshop that will be conducted in Nairobi in September of 2001. Plans are now being made for the workshop content to be presented to the representatives from each country in the Greater Horn to introduce them to the concepts of high resolution forecast products, and methods of producing them. The two trainees from the GHA who participated in the 3-month course at the IRI will assist in running the workshop in Nairobi, under the direction of the Dr. Sun and Dr. Matayo.

## **2.4 Objective 4: Applications Projects**

### 2.4.1 Institutional survey:

The institutional survey tested during November and December is now well under way. A total of 124 questionnaires were mailed out to different institutions (governmental & non-governmental) within the GHA on January 9<sup>th</sup>. An additional 20 were sent by e-mail. The response rate has been reasonable, and follow-up by telephone has now begun. Data is being summarized under the direction of Dr. Robinson Ngugi at the University of Nairobi. An intern from Columbia University will assist Dr. Ngugi and Simon Gathara from the DMC in the analysis of the responses. Plans are in place for Mr. Gathara and the Columbia University assistant to travel to approximately three capital cities in the region to conduct follow-up interviews with a selection of institutions for additional information.

2.4.2 Household-level survey: Under the direction of Dr. Ngugi, the household-level survey work for all of the 6 sub-locations in Machakos District, Kenya, is complete. Data entry is nearing completion, using the statistical package SPSS for the analysis at the University of Nairobi. A final report on the household survey is expected by Mid-May.

A meeting was held at the last Climate Outlook Forum of the participants in the Network on Climate Applications in Rural Africa, CARA, the Network of household surveys formed under this project to extend the geographical range of information gathered, with funds from other sources. The two additional survey teams in Uganda and Mombassa, Kenya, have begun their surveys and will coordinate with Dr. Ngugi on the analysis. An additional team focusing on pastoralists in northern Kenya/southern Ethiopia has also agreed to join our efforts. A questionnaire was developed in collaboration with us and they are now in the field surveying 400 households on uses of climate forecast information in livestock management. Reports from all groups will be coordinated into a final single document on applications of forecasts at the household level.

### **3. Timing of activities**

Due to a number of conflicting activities at the DMC over the next six months, the final workshop on Methods in Downscaling Seasonal Climate Forecasts (see section 2.3.4) is planned for September of 2001. Therefore, the expected project completion date is later than the original end date of August 31, 2001. A request for a no-cost extension of the project is therefore being requested under separate cover.