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# CLIMATE CHANGE RESILIENT DEVELOPMENT

## QUARTERLY IMPLEMENTATION REPORT

JULY 2012 – SEPTEMBER 2012

**October 10, 2012**

This report was produced for review by the United States Agency for International Development (USAID). It was prepared by International Resources Group (IRG).



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### **DISCLAIMER**

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# ACRONYMS

AGU	American Geophysical Union
ALM	Adaptation Learning Mechanism (website)
AMEs	Associations des Mères-Elèves
AP	Adaptation Partnership
APEs	Associations des Parents-Elèves
CCAFS	CGIAR Research Program on Climate Change, Agriculture and Food Security
CCRD	Climate Change Resilient Development Task Order
CEQ	Council on Environmental Quality
CIMPACT-DST™	Climate Impacts Decision Support Tool
COMESA	Common Market for Eastern and Southern Africa
CoP	Community of Practice
CSP	Climate Services Partnership
DCHA	Bureau for Democracy, Conflict and Humanitarian Assistance
DL	Data Library
E3	Bureau for Economic Growth, Education and the Environment
EGU	European Geosciences Union
ELI	Environmental Law Institute
EGAT	Bureau for Economic Growth, Agriculture and Trade (USAID)
E.O.	Executive Order
FCCM	Forest Carbon, Markets, and Communities Task Order
FY	Fiscal Year
GCC	Global Climate Change
GFCS	Global Framework for Climate Services
GLOF	Glacial Lake Outburst Flood
GM	Grants Manager
GPR	Ground penetrating radar studies
GUC	Grants Under Contract
HMGWP	High Mountain Glacial Watershed Program

HQ	Headquarters
ICCS2	(Second) International Conference on Climate Services
ICF	ICF Incorporated, LLC
ICIMOD	International Centre for Integrated Mountain Development
ICT	Information and Communication Technology
IQC	Indefinite Quantities Contract
IRG	International Resources Group
IRI	International Research Institute for Climate and Society
ISSET	Institute for Social and Environmental Transition
IUCN	International Union for Conservation of Nature
IQC	Indefinite Quantities Contract
KACC	Khumbu Alpine Conservation Council
KM	Knowledge management
M&E	Monitoring and evaluation
NAP	National Adaptation Plan
NEPAD	The New Partnership for Africa's Development
NGO	Non-governmental organization
PMP	Performance Management Plan
RFA	Request for Applications
SAC	Senior Advisory Committee
SIWW	Singapore International Water Week
SOW	scope of work
TMA	Tanzania Meteorology Agency
TMI	The Mountain Institute
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USG	U.S. Government
UT	University of Texas at Austin
V&A	Vulnerability and Adaptation
WASH	Water, sanitation and hygiene

Water II IQC	Integrated Water and Coastal Resources Management Indefinite Quantities Contract
WG	Working Group
WMO	World Meteorological Organization

# A. INTRODUCTION

This report summarizes the activities undertaken by the consortium led by International Resources Group (IRG)/Engility during the quarterly reporting period, June 2012 – September 2012 under the Integrated Water and Coastal Resources Management Indefinite Quantities Contract (Water II IQC) Climate Change Resilient Development (CCRD) task order. The report covers project management and implementation activities undertaken and/or completed during the reporting period. The CCRD quarterly financial report and quarterly Performance Management Plan (PMP) report are provided as Annexes. The remaining sections are divided into four sections: 1) Project Management; 2) Objective 1 activities; 3) Objective 2 activities; and 4) Objective 3 activities.

The report includes updates on activities and tasks described in the CCRD Year One Work Plan Revised Draft:

## ***Project Management, Planning, and Evaluation:***

Task PM-1 Develop Year Two Work Plan

Task PM-4 Conduct Advisory Committee Meetings

Task PM-6 Develop & Disseminate CCRD Knowledge Management (KM) Products

Task PM-7 Implement Grants Under Contract Program

## ***Objective 1: Support for USAID Missions and Bureaus***

Task 1.1.1 Revise Vulnerability and Adaptation Manual

Task 1.1.2 Develop Climate Briefs and Annexes

Task 1.1.3 Develop Lessons Learned on Mainstreaming Climate Adaptation

Task 1.1.4 Prepare Case Studies to Demonstrate the Mainstreaming Guidance

Task 1.2.1 Understand USAID Bureau and Mission Needs for Climate Change Adaptation Tools

Task 1.2.3 Operate the United Nations Development Programme (UNDP) Adaptation Learning Mechanism Website

Task 1.3.3 Support Development of USAID's Federal Agency Climate Change Adaptation Plan

## ***Objective 2: Coordinate with Other U.S. Government (USG) Agencies to Support Mainstreaming***

Task 2.1.1 Conduct Adaptation Partnership Workshops

Task 2.2.1 Facilitate Adaptation Partnership Communities of Practice (CoPs)

Task 2.2.2 Develop Adaptation Partnership Materials

## ***Objective 3: Identify and Respond to Emerging Issues and Fill Gaps***

Task 3.1.1 Support Preparation of National Adaptation Plans (NAPs)

Task 3.2.2 Develop the High Mountain Glacial Watershed Program (HMGWP)'s CoP

Task 3.2.3 Design and Conduct the Climber-Scientist Competitive Solicitation

Task 3.2.4 Implement CoP Pilot Projects and Research

Task 3.3.2 Coordinate Activities of the Climate Services Partnership

Task 3.3.3 Compile and Disseminate Current Climate Services Knowledge

Task 3.3.4 Conduct Case Studies and Assessments of Climate Services

Task 3.3.5 Economic Valuation of Climate Services

Task 3.3.6 Climate Information Guide

Task 3.3.7 Pilot National-Level Climate Services Analysis

A CD-ROM is provided with this report and contains all reports and presentations drafted and/or finalized during the Fourth Quarter of FY 2012. In addition, performance indicators and achievements for the reporting period are provided in Annex I, and an organizational chart is provided in Annex II.

## B. PROJECT MANAGEMENT, PLANNING, AND EVALUATION

Project management activities during the fourth quarter of Fiscal Year (FY) 2012 focused on drafting the Year Two Work Plan, planning for the upcoming fall Senior Advisory Committee (SAC) meeting, developing and launching web pages and sites related to CCRD and the Adaptation Partnership and Communities of Practice, issuing small grants awards, and hiring a CCRD Project Administrator and Research Associate.

### **TASK PM-1 DEVELOP YEAR TWO WORK PLAN**

During the fourth quarter, CCRD staff solicited additional comments from USAID and partners on the draft Year Two Work Plan, edited the existing draft based on comments, and submitted a revised draft. Because CCRD has a rolling Work Plan and per USAID's request, the Year Two Work Plan covers the period of September – December 2012.

### **TASK PM-4 CONDUCT ADVISORY COMMITTEE MEETINGS**

Planning for the fall Senior Advisory Committee Meetings, scheduled for October 18-19, 2012, was conducted during this reporting period. CCRD prepared the agenda and disseminated this to USAID and partners. The fall SAC will be forward-looking. The first day is devoted to specific technical areas, most of which are already featured in the CCRD work plan, while the second day is designed to examine opportunities for undertaking cross-cutting issues. During both days, the goal is to identify options for increasing the value of CCRD's current activities and adding new stand alone or complementary activities. In developing the agenda for this meeting, USAID urged CCRD to draw more heavily on Senior Advisors in exploring new directions for CCRD. As a result, senior advisors are requested to prepare two-page papers and PowerPoint presentations to support the two-page papers. These papers should succinctly describe current/recent work (by CCRD, USAID, and other donors/non-governmental organizations (NGOs)), assess the value added of this work, if CCRD activity; explore opportunities for CCRD; and describe potential linkages with other CCRD, USAID, donor, or NGO activities. The main thrust of PowerPoint presentations should be on opportunities and linkages.

### **TASK PM-6 DEVELOP AND DISSEMINATE CCRD KNOWLEDGE MANAGEMENT PRODUCTS**

During the fourth quarter, CCRD continued to upgrade and add content to the Adaptation Partnership website, using the site as a tool to make available workshop resources, grant solicitations, and award notifications, and updates to community members. CCRD also spent considerable time designing and launching the Climate Services Partnership (CSP) site ([www.climate-services.org](http://www.climate-services.org)) and conceptualizing the CCRD project page. UNDP's Adaptation Learning Mechanism (ALM) website is detailed under Objective 1, Task 1.2.3.

The CCRD KM Team worked closely with the International Research Institute for Climate and Society (IRI) to design and launch the CSP site, which was presented at the Second International Conference on Climate Services in September 2012. A new work plan for the future of the site is being developed by IRI to ensure that the site is used to its full potential by the CSP community.

The next major communications tool that CCRD worked on in the fourth quarter, and will continue to devote time to in the first quarter of FY 2013, is the CCRD project web page. A logo and wireframes are being designed by the CCRD KM Team, and a list of possible URLs is being researched. The KM

Team will propose a content framework and timeline for web page completion early in the first quarter of FY 2013.

## **TASK PM-7 IMPLEMENT GRANTS UNDER CONTRACT PROGRAM**

This quarter, CCRD awarded 11 small grants under the High Mountain Glacial Watershed Program. The estimated cost of Climber-Scientist small grants is approximately \$649,432.13 as opposed to the original \$500,000. IRG will provide a summary of Grants Under Contract (GUC) activities during the next reporting period.

In this reporting period, CCRD received seven proposals to implement activities that strengthen adaptive capacity in the agricultural sector in Central America. The proposals were evaluated by a technical review panel. Three proposals were accepted and will be awarded during the next quarter. The estimated cost of these grants is approximately \$456,475.02 divided among three NGOs as opposed to the original \$400,000 in light of the strength of proposals.

Additionally, the CCRD Grants Manager (GM) participated in the review process of grantee proposals, assisted international and domestic grantees with proposal budgets, developed decision memos, and simplified grant agreements for the 14 small grants mentioned above. The CCRD GM is currently working on developing a system to monitor grantee spending, reporting, and payments, and to monitor all grant activities for compliance with program Grants Manual and USAID regulations.

# C. OBJECTIVE I: SUPPORT FOR USAID MISSIONS AND BUREAUS

Objective I of CCRD is to provide support for USAID Missions and Bureaus. During the fourth quarter of FY 2012, CCRD worked on the climate mainstreaming guidance and supporting annexes, conducted discussions with USAID on decision and tool typologies, finished the first draft of a lessons learned paper on infrastructure, completed the Water, Sanitation, and Hygiene (WASH) case study in Iloilo in the Philippines, and developed the USAID Climate Change Adaptation Plan for extensive review.

## **TASK I.1.1 REVISE VULNERABILITY AND ADAPTATION (V&A) MANUAL**

During the fourth quarter, in collaboration with USAID, CCRD revised the draft of the guidance on vulnerability and adaptation, referring to it as Programming Guidance for Climate-Resilient Development. The guidance has been distributed for revision within USAID by the Global Climate Change (GCC) Office. Based on the comments collected and with USAID guidance, CCRD will make necessary edits, and prepare a final draft. CCRD partner ICF Incorporated, LLC (ICF) developed a first draft of a technical annex on climate vulnerability assessment, for review next quarter.

## **TASK I.1.2 DEVELOP CLIMATE BRIEFS AND ANNEXES**

CCRD staff made progress during the quarter on four annexes, and a series of infrastructure factsheets. A draft final version of the Water Annex was formatted for external review and the remaining three annexes were at an advanced level of development. The infrastructure factsheets and a synthesis paper on infrastructure and climate change were submitted for USAID review during the quarter.

### **Water Annex**

During this quarter, CCRD staff sent the draft guidance out for review. Upon receiving that review, Jason Vogel and Joel Smith revised the document to accommodate the reviewer comments. A phone conference was organized with the CCRD team and USAID staff to discuss the review comments and next steps. Jason Vogel developed a spreadsheet of all reviewer comments to track the review and began work on further revisions and development of an executive summary.

### **Coastal and Marine Annex**

CCRD staff member Yoon Kim and IRG Consultant Maria Haws have finalized the outline for the Coastal Annex with USAID, and have reviewed drafts of all of the adaptation actions. Next quarter, the adaptation action write-ups will be finalized and the body of the Coastal Annex will be drafted and reviewed by USAID.

During this quarter, the Stratus team received review comments and revised Coastal Adaptation Action 1: Protecting and Maintaining the Functionality of Marine and Coastal Ecosystems and Coastal Dynamics and Coastal Adaptation Action 9: Marine Fisheries. Adaptation Action 1 was revised by Jason Vogel and Aaron Ray and Adaptation Action 9 was revised by Michael Carney and Joel Smith.

### **Identifying and Reducing Vulnerability to Climate Change for Disadvantaged Populations Annex**

CCRD staff members Deborah Tepley and Rosamund Mische John prepared a draft of the Annex, based on the annotated outline, and requested inputs from ICF and Manoff. An internal review of the draft was conducted, and the annotated outline was revised based on feedback from this review. During the next quarter, the draft Annex will be revised and sent to USAID.

### **Governance Annex**

During this quarter, Jessica Troell and Bruce Myers (Environmental Law Institute or ELI) and Marc Cassidy (Engility/IRG) worked with USAID staff to finalize the outline of the Annex and began drafting the text for the document. Desk research continued as the drafting process began, and the members of the team have been following up with USAID staff to vet specific issues and clarify and continue to identify case studies to highlight throughout the Annex. A draft of the Annex should be completed by the end of October and circulated to USAID and others for comment.

During this Quarter, Jessica Troell traveled to the Philippines as the co-lead of the water security assessment team for CCRD. During this trip, Ms. Troell vetted portions of the Annex with relevant stakeholders and is also drawing lessons from the assessment to include in the Annex. Additionally, Ms. Troell co-convened a session at the World Water Week in Stockholm on behalf of USAID/CCRD titled: Bridging Boundaries through Multilevel Governance for Climate Adaptation. This session convened a number of experts from around the world to discuss governance challenges and opportunities facing the water sector at the local, national, and transboundary levels. Lessons from this session and materials from co-conveners and expert panelists are being incorporated into the Annex.

### **Infrastructure Fact Sheets and Synthesis Paper**

The purpose of this task is to develop materials for USAID mission staff that will: a) raise awareness about the potential impacts of climate change on infrastructure, b) provide basic information to missions on these impacts and the range of adaptation options available to address them, and c) promote the use of CCRD resources and technical support to help missions incorporate climate considerations into their programs and investment decisions.

During this quarter, updated versions of the 12 fact sheets were sent to geographic and functional bureau staff for review. After incorporating interim feedback from some USAID staff, the fact sheets and overview were compiled and produced as a single draft document for circulation at the Urban Adaptation Partnership meeting held in Bangkok in July. USAID staff introduced the draft document to participants and solicited input. Members of the CCRD team held individual conversations with participants and met with USAID/RDMA staff to discuss the materials. At the end of the quarter, comments from regional bureaus, the USAID GCC and Urban Offices, and some workshop participants had been received. The CCRD team met with the GCC Office to discuss this feedback. The CCRD team began work to finalize the fact sheets based on CCRD direction.

In the next quarter, the CCRD team will finalize the fact sheets and work with the CCRD develop outreach strategies as directed.

## **TASK 1.1.3 DEVELOP LESSONS LEARNED ON MAINSTREAMING CLIMATE ADAPTATION**

The CCRD team revised the approach and outline for the infrastructure lessons learned report. Based on comments received, the CCRD team developed a revised approach that moves away from “lessons learned” and toward a document of “good practices.” The team also proposed a number of substantive changes, including changing the primary audience of the report to include the international development community; renaming some of the practices to make them more descriptive; providing more detail on a limited number of case studies; and revamping some descriptions to make them more specific to infrastructure.

## **TASK 1.1.4 PREPARE CASE STUDIES TO DEMONSTRATE THE MAINSTREAMING GUIDANCE**

The CCRD team conducted the WASH Case Study in Iloilo, Philippines. Jenny Frankel-Reed from GCC, Jessica Troell (ELI), Joel Smith (Stratus Consulting), Jason Vogel (Stratus Consulting), and Phil Brown traveled in Manila and Iloilo July 7-21, 2012. The team met with USAID staff and interviewed Philippine national government officials and academics in Manila. The team went to Iloilo where they interviewed provincial and municipal officials as well as representatives from the business and NGO community. Joel Smith drafted the trip report. It was reviewed by the team and following was submitted to USAID.

Vogel, Smith, Brown, Troell, and Jeff Oxenford of Stratus Consulting began researching and writing the report on options for Iloilo. Jason Vogel led the effort to significantly revise the collected work for the full trip report.

IRG/Engility's John Kim also participated in the mission and worked with Ms. Frankel-Reed and a local videographer to produce a video on water security and management issues in Iloilo. In advance of the trip, he worked with Ms. Frankel-Reed to "storyboard" the video that would be filmed during the mission. The video will be edited and finalized during the next quarter along with the case study.

## **TASK 1.2.1 UNDERSTAND USAID BUREAU AND MISSION NEEDS FOR CLIMATE CHANGE ADAPTATION TOOLS**

The CCRD team is using consultations with USAID staff to understand decision-making needs. The information collected during the consultations will be used to frame and develop CCRD's knowledge management and communication strategies and future work plans.

During this quarter the CCRD team finalized the consultation process, which was used to collect information about decision-support needs within USAID Headquarters (HQ), with the core GCC adaptation team. This process focused on understanding (1) the diverse set of decisions and/or activities undertaken by USAID HQ staff, (2) the information that is needed for these decisions/activities, and (3) the tools that are used to support these decisions/activities. The process has helped to identify any gaps in process, activities, information, and/or tools related to adaptation decision-making.

Upon completion of these consultations, the CCRD finalized and submitted a summary report. The purpose of this report is to summarize CCRD's Year One activities related to decision support. The report first provides a brief overview of the development of the decision and tool typologies and tables containing the typologies. Second, the report provides an overview of the purpose and approach for the initial round of consultations. Third, the report describes initial findings from the consultations, providing an overview of the needs and programmatic insights from interviewees. The CCRD team will perform consultations with additional USAID mission and bureau staff as the occasion arises.

## **TASK 1.2.3 OPERATE THE UNITED NATIONS DEVELOPMENT PROGRAMME ADAPTATION LEARNING MECHANISM WEBSITE**

CCRD, USAID, and UNDP have come to an agreement on the first wave of changes that will be made to the ALM site. Following a detailed review of the site by the CCRD KM Team, USAID and UNDP were presented with four recommendations for how to better organize the content on the site and encourage users to visit and contribute to the site. Now that the recommendations have been approved, CCRD is in discussions with Aten Design Group, the website design and production firm that implemented the existing site, to establish a timeline and quote for completion of the work.

### **TASK 1.3.3 SUPPORT DEVELOPMENT OF USAID'S FEDERAL AGENCY CLIMATE CHANGE ADAPTATION PLAN**

The purpose of this task is to provide support for the development of USAID's Federal Agency Climate Change Adaptation Plan, under Executive Order (E.O.) 13514, Federal Leadership in Environmental, Energy, and Economic Performance.

During this reporting period, the Adaptation Plan was under review by the Council on Environmental Quality (CEQ). In addition, USAID mission and regional staff reviewed the 25 country vulnerability profiles. The CCRD team consolidated these comments and revised the fact sheets to incorporate input. The team maintained a comment spreadsheet that tracked all comments received and how they were addressed. The CCRD team developed a PowerPoint presentation summarizing the Adaptation Plan for use by the GCC Office for internal briefings. The CCRD was asked by CEQ to present the Adaptation Plan to an interagency meeting as an example of best practice in developing Federal Adaptation Plans.

Throughout the development of deliverables, the CCRD team communicated and met with USAID staff as necessary to ask and answer questions, update and maintain the schedule, and discuss products and processes.

In the coming quarter, CCRD will finalize and produce the country profiles, incorporating all USAID input, and provide CCRD with a consolidated spreadsheet documenting all comments and responses. At CCRD's direction, the team will work to develop dissemination and communication strategies related to the Adaptation Plan and country vulnerability profiles. When CEQ comments are received, the CCRD team will support the GCC Office in reviewing and responding to these comments if requested by USAID.

# D. OBJECTIVE 2: COORDINATE WITH OTHER US GOVERNMENT AGENCIES TO SUPPORT MAINSTREAMING

Objective 2 activities, which entail coordinating with other USG agencies to support mainstreaming, focused during the reporting period on support for the Adaptation Partnership (AP), including the convening of one workshop in Bangkok, planning activities for one additional workshop in Washington DC, the expansion of three existing Communities of Practice, and developing and finalizing two workshop reports.

## TASK 2.1.1 CONDUCT ADAPTATION PARTNERSHIP WORKSHOPS

One Adaptation Partnership Workshop was convened during the fourth quarter of 2012 with assistance and financial support from the State Department and USAID, in July and August (Bangkok, Thailand). The Adaptation Partnership workshops have attracted over 150 participants from more than 20 developing countries. Planning for one workshop is underway, to take place in October/November 2012.

### **Adaptation and Monitoring & Evaluation (Bonn)**

The final report for this workshop was completed in July 2012, with input from CCRD and USAID. The report was added to the Adaptation Partnership Web site. Workshop presentations and other materials are on the workshop Web site ([http://www.bonn-perspectives.de/en/dialogue-events/archive/tracking\\_adaptation.html](http://www.bonn-perspectives.de/en/dialogue-events/archive/tracking_adaptation.html)); a link to the site is included on the Activities page of the AP site.

### **Building Urban Climate Change Resilience in Asia (Bangkok)**

The Building Urban Climate Change Resilience in Asia workshop took place in Bangkok, Thailand July 31 – August 2, 2012. The objectives of the workshop were to: 1) increase capacity to understand best thinking in the field and explore available models and practices that address planning for climate change resilience; 2) create a community of practice around cutting edge approaches to resilience planning; and 3) generate practical follow-up steps for the Community of Practice. Seventy-four people attended the workshop, including regional and global actors in resilient urban climate change adaptation, key stakeholders and champions from national level and mid-sized cities in the region, and members of the donor community. The final report for this workshop is under review by USAID and the State Department.

### **Climate Change and Security (Washington, DC)**

On October 30 – November 1, 2012, approximately 40 professionals in the fields of climate change, climate and security, and peacebuilding will come together at the Woodrow Wilson International Center for Scholars in Washington, DC to discuss the relationship between climate change adaptation and peace and security. The Woodrow Wilson Center will take the lead on organizing the workshop, with technical input from the Institute for Security Studies in Ethiopia.

## **TASK 2.2.1 FACILITATE ADAPTATION PARTNERSHIP COMMUNITIES OF PRACTICE**

During the fourth quarter, discussions have been held with The Mountain Institute (TMI) on how best to expand activities related to the High Mountain Glacial Watershed Program Community of Practice. A quarterly newsletter is now being written for and disseminated to the CoP, and CCRD is working on a plan to improve traffic to the CoP website. The HMGWP CoP and the Central American Climate Resilient Agriculture CoP were tapped to solicit applications for CCRD's Grants Under Contract program (see Task PM-7), and the Climate Services Partnership CoP continued to engage with its members at the Second International Conference on Climate Services in September 2012 (see Task 3.3 for more on CSP).

## **TASK 2.2.2 DEVELOP ADAPTATION PARTNERSHIP MATERIALS**

During this reporting period, CCRD finalized and produced the report for the Adaptation Partnership Workshop held in Bonn, Germany, May 7-8, 2012, entitled "Tracking Successful Adaptation – Smart Monitoring for Good Results." CCRD also prepared the report summarizing the workshop in Bangkok, Thailand, entitled "Building Urban Climate Change Resilience in Asia," which took place July 31 – August 2, 2012. This report will be finalized and produced during the next quarter. During this reporting period, CCRD prepared a report for the State Department on the accomplishments of the Adaptation Partnership Communities of Practice, to support a proposal for an event at the 18th session of the Conference of the Parties for the United Nations Framework Convention on Climate Change (UNFCCC), taking place in Doha November 26 – December 7, 2012. This report included information on the HMGWP, CSP, and Central American CoPs.

# E. OBJECTIVE 3: IDENTIFY AND RESPOND TO EMERGING ISSUES AND FILL GAPS

Progress was made on the three activities under Objective 3, identifying and responding to emerging issues and filling gaps. A workshop in Jamaica and a High Mountain Glacial Watershed Program Nepal field visit were conducted, and the Climate Services Program made considerable progress on multiple activities and Year 2 planning.

## **TASK 3.1.1 SUPPORT PREPARATION OF NATIONAL ADAPTATION PLANS**

CCRD, in collaboration with USAID and the Government of Jamaica, organized a workshop in July in Kingston to feed into the process of developing an integrated policy framework that incorporates climate considerations. CCRD staff members Glen Anderson, Deborah Tepley, Lyly Njinga, Yoon Kim, Peter Schultz, Charlotte Mack, and Joe Casola, together with members of USAID's GCC Office, John Furlow, Mike Hanowsky, and Nora Ferm, traveled to Jamaica in July to set up and facilitate a two-day stakeholder workshop. The workshop was attended by over 150 participants from several government ministries, Agencies, and other entities within the Government of Jamaica; relevant NGOs; academia; the private sector; and international development partners. A number of high-level speakers opened the event including: Dr. Conrad Douglas, Chairman of the Climate Change Advisory Committee; Honorable Robert Pickersgill, Minister of Water, Land, Environment and Climate Change; Dr. Honorable Peter Phillips, Minister of Finance and Planning; and Ms. Denise Herbol, Mission Director of USAID/Jamaica. Pursuant to the workshop, discussions have been carried out between USAID and the Government of Jamaica regarding next steps, which will be firmed up in the next quarter. The summary report will also be finalized early in the following quarter.

## **TASK 3.2.2 DEVELOP THE HMGWP'S COMMUNITY OF PRACTICE**

### **CoP Membership/Expectations**

CoP members and interested persons were emailed on July 30, 2012 announcing the beginning of the organizational process for the next International Workshop to be held in Peru in July 2013 (Peru2013\_Concept Note.docx). The CoP currently has a mailing list of 97 persons interested in the program with 56 active CoP members (Participant List\_August2012.xlsx). The results of the June 18, 2012 CoP survey were analyzed to further refine member background/interests, and to determine the services and outputs that would be most valuable for CoP members. This input is currently being used to inform future newsletters, webinars, and the 2013 Peru workshop training modules.

### **CoP Platform**

The CoP platform continued to be developed by the technical team at IRG after a May 2012 launch. A supplementary website is in development through mid-October 2012, and full functionality is expected by the end of the next quarter. Website template design is being developed with the guidance of National Geographic Society Fellow and professional photographer/social media specialist Chris Rainier, and content will include links to Community of Practice, Research Expedition News, Workshops, Knowledge Library, "From the Field" Expedition Logs, and Contact information (current draft of website design: LiveBooks Website Design Outline.docx).

### **CoP Services/Expansion**

Based on responses from the HMGWP CoP Survey, further activities and services are being developed and implemented. The second quarterly community newsletter has been developed and is in final review by USAID staff (Newsletter 2\_Summer 2012\_v6.docx). A webinar will be developed and presented in Fall 2012 with a goal of renewing ties with other members, sharing best practices, demonstrating tools/approaches, highlighting a CoP member's current work, learning from other members, finding opportunities to collaborate to advance the field of high mountain studies, etc. Potential topics for webinars include: "Introducing the HMGWP," "Introduction to the Climber-Scientist Small Grants Program," "Conducting Technical Glacial Lake Surveys: GPR [ground-penetrating radar] and Bathymetry Tools," and "Conducting Vulnerability and Adaptation Trainings with Local Communities." The first webinar will be completed by the end of November 2012.

### **CoP Meetings**

During fieldwork in July 2012, Dr. Alton Byers, Dr. Daene McKinney, Dr. Jorge Recharte, and Kate Voss began to conceptualize the 2013 Peru expedition and workshop, which will be the third CoP meeting. Byers, McKinney, Recharte, and Voss discussed the potential format as a "living laboratory" with several instructional modules and a trek to Lake Palcacocha, one of the most dangerous glacial lakes in the Cordillera Blanca; and/or other instructional field excursions. As the workshop undergoes initial planning in Fall 2012, funding details will be determined and potential co-financers will be identified. Discussions with the Unit of Glaciology, Peru's National Water Authority, CARE International, and the University of Zurich are underway to further coordinate a "Month of Glaciology" in Peru. This will enable all organizations to coordinate several events, including the Unit of Glaciology's research symposium (proposed for the first week of July 2012), the HMGWP's third international workshop, and a photo display for the public in Huaraz's central plaza.

### **CoP Outreach and Services**

The inaugural newsletter was produced and distributed at the end of June/early July 2012 and covered HMGWP events for the Spring (HMGWP\_NEWSLETTER\_revised\_Aug\_23.pdf). The newsletter featured an overview of the HMGWP, stories from the Spring 2012 fieldwork in Nepal, and brief notices about upcoming events, including the HMGWP-sponsored session at the Fall 2012 American Geophysical Union Annual Meeting. The Summer Newsletter featured an interview with Jesus Gomez, a core partner in Peru, stories from the field from the Summer 2012 fieldwork in Peru, an overview of the vision for the vulnerability and adaptation training in Nepal, and the announcement of the Climber-Scientist Grant recipients (Newsletter2\_Summer2012\_v6.docx). Future newsletters will continue to include news, updates, case studies, stories from the field, best practices, tools, and funding opportunities, and upcoming events. Content is continuously collected and posted to the CoP platform. The 2011 Andean-Asian Glacial Lake Expedition and Conference Proceedings were finalized and the PDF was uploaded and circulated to all CoP members. During May 2012 fieldwork in the Hinku and Khumbu valleys, a daily blog was maintained and posted on the CoP platform to inform CoP members and stakeholders about the progress of the fieldwork and relevant stories from the field. HMGWP videos were screened, publications were distributed, and new funding opportunities were pursued at the 2012 National Geographic Society's Annual Explorers Symposium in June 2012. Other documents from the HMGWP, including the Glacial Lake Control and Management Manual (to be published in Summer 2012), High Mountain-Glacial Watershed Issues Paper (to be published Winter 2012), and Cordillera Blanca Glacial Lake Risk Perception Study, will be uploaded to the CoP platform and distributed to CoP members once they are ready to be published. Additional content from CoP members, including published articles, current news stories, grant solicitations, etc. will be uploaded to the CoP platform as they are received. An initial solicitation for content (specifically peer-reviewed articles) was sent in June 18 to the initial CoP participants along with the HMGWP CoP Survey. During a meeting on June 19, Kate Voss and the IRG technical staff discussed the best option for updating CoP members of new content.

### **CoP Presence at Workshops/Conferences**

A session specifically related to the HMGWP was developed and accepted for the annual American Geophysical Union (AGU) meeting in San Francisco in December 2012. The session is the Global Environmental Change Focus Group session on Glacial Mountain Watersheds. The session will feature four

talks, and interested CoP members will be able to submit abstracts for the accompanying poster session. The session was organized, chaired, and convened by CoP members Daene McKinney, Bryan Mark, Richard Armstrong, and Jeff La Frenierre. The HMGWP played a lead role in the coordination of a USAID-UNDP-ICIMOD-Kathmandu University one-day workshop on October 8 on Imja Lake Glacial Lake Outburst Flood (GLOF) Risk Reduction, which discussed and consolidated the current state of knowledge of Imja Lake from both a technical and community point of view. The workshop was also intended to encourage greater communication, sharing, and networking among the project's various partners, which was found to be lacking during the April – May 2012 fieldwork in Nepal (see previous quarterly report). The conference was held in collaboration with the UNDP Imja Lake GLOF Risk Reduction Project. In addition, there will be a UNDP inception workshop in January 2013, which will begin to outline the potential options to reduce the GLOF risk at Imja Lake.

### **TASK 3.2.3 DESIGN AND CONDUCT THE CLIMBER-SCIENTIST COMPETITIVE SOLICITATION**

TMI and University of Texas (UT) at Austin developed inputs to the climber-scientist small grants solicitation, including a list of funding priorities and criteria for judging proposals. Thirty-three proposals were submitted (one incomplete) to CCRD and the CCRD Grants Manager provided 32 proposals to TMI and UT on June 28. TMI's Alton Byers and UT's Daene McKinney provided technical review of the 33 proposals submitted to CCRD by mid-June. Each proposal was reviewed and ranked using guidelines that included assessment of proposal research methods, impact, replicability, project investigator qualifications, and other factors. Of the 32 proposals reviewed, six individual and five institutional grants were selected by the CCRD Review Committee. Successful and non-successful applicants were notified of the status of their proposals in July 2012.

### **TASK 3.2.4 IMPLEMENT CoP PILOT PROJECT AND RESEARCH**

Under this task, field work was undertaken in Nepal and Peru, and detailed planning for a 2013 CoP workshop and field expedition in Peru commenced. Longer-term plans for a 2014 workshop in Tajikistan were also initiated. In addition, USAID representatives presented a poster at the Singapore International Water Week (SIWW).

#### **Nepal**

Between July and September 2012, HMGWP organized and led a range of priority project development and research activities in the Kathmandu and the Everest National Park of eastern Nepal. They included:

- Dr. Glen Anderson and Ms. Meghan Hartman conducted a training-of-trainers workshop for TMI staff in Kathmandu, Nepal (July 5-9, 2012). Ang Rita Sherpa, Dambar Thapa, Bheem Rai, and Phurba Sherpa were trained in V&A methods during the week-long session, and began to develop the workshop posters, flipcharts, and training materials required for the September community consultations in Sagarmatha (Mt. Everest) National Park, Nepal. Ang Rita Sherpa and Phurba Sherpa then spent 10 days in the United States in August working with Meghan Hartman to finalize materials for the September consultations.
- Organized a one-day workshop on Imja Lake GLOF Risk Reduction and current State of Knowledge in Kathmandu, Nepal designed to increase communications between all UNDP project partners (October 8, 2012); and briefing to USAID and UNDP staff in Bangkok, Thailand (October 11, 2012)
- Conducted community consultations and V&A training with Khumbu communities in Phakding (September 11-12), Namche Bazar (September 14-15), and Dingboche (September 18-19)
- Conducted photographic, video, and webpage design workshop for Kathmandu NGOs (September 4) and Khumbu communities (taught and co-financed by Chris Rainier of the National Geographic Society's Enduring Voices Program)

- Updated the Khumbu Alpine Conservation Council (KACC) on results of May GPR survey at Imja Lake and conclusions for the Imja Lake GLOF project in a community consultation workshop (September 20, 2012) (see report document: HMGWP\_Imja\_GPR\_26Aug12 c.docx ; presentation document: Imja - GPR Data - 23Aug2012 .pptx )
- Prepared and delivered an Imja Lake informational panel on GPR survey results illustrating the thickness of the ice in the terminal moraine to KACC in Dingboche (September 20, 2012)
- Began development of the outline of the Khumbu Adaptation Management Plan
- Began development of the Glacial Lake Risk and Adaptation Options in the Mt. Everest Region Case Study
- Prepared the presentation of “Applied Research and Action Projects” (Byers) at Tribhuvan University/Hokkaido University Mountain Conference (October 9, 2012)
- Prepared the presentation of “Glacier Lake Outburst Flood Risks and Analysis” (McKinney) at the Tribhuvan University/Hokkaido University Mountain Conference (October 9, 2012)
- Collaborated with Italian researchers at the EVK2 Pyramid research facility in Lobouche to obtain detailed topographic information of the Khumbu region for updated GLOF models and vulnerability analysis (September 30-October 1, 2012)
- Continued updating Imja GLOF model based on new data
- Performed bathymetric survey at Imja Lake (September 24-26, 2012).
- Performed additional GPR survey at Imja Lake (September 21-23, 2012).  
Prepared and presented technical report of Imja Lake GPR survey to UNDP Imja Lake GLOF Risk Reduction project partners

TMI also managed a subcontract from ADAPT/Asia, supervised by AECOM, to Ing. Cesar Portocarrero to assess the technical work completed to date for the UNDP Imja lake management project by the International Centre for Integrated Mountain Development (ICIMOD) and Kathmandu University. TMI was also instrumental in encouraging UNDP to promote more and regular communication between all project partners that has been largely absent, and played the lead role in the preparation of an October 8, 2012 partners workshop in Kathmandu, Nepal, where all participating institutions reported out on their various activities within the engineering and social components of the project. Byers and McKinney provided regular input to the development and implementation of scope of work (SOW) components for this activity, much of which has a direct impact on HMGWP activities at Imja Lake.

## Peru

Activities that commenced during the reporting period include the following:

- **Glacial Lake Handbook:** Ing. Cesar Portocarrero completed a handbook describing examples of Peru’s successful control of potentially dangerous glacial lakes since the 1950s, following devastating floods in the 1940s that killed over 10,000 people in the Cordillera Blanca region. The handbook is intended to be a catalogue of engineering control methods, from the simplest of drainage canals (e.g., Laguna Cohup) to the engineering wonder at Laguna Paron, where a tunnel was drilled through 1,000 m of solid rock and fitted with lake level control valves. Approximately 18 case studies are included. TMI is working with Engility/IRG to complete any necessary editing, and formatting, and for the final publication and distribution of the handbook.
- **Risk Perception Study:** Dr. Jorge Recharte and Ing. Gabriela Lopez completed this activity in the rural and urban areas historically impacted by a Palcacocha lake glacial lake outburst flood in the 1940s, and which continues to represent a major threat today. Interviews with key informants in three communities located below Palcacocha Lake (Unchus, Llupa y Marian) were analyzed, including mapping of institutional stakeholders in the city of Huaraz, and review of secondary literature. Results yielded information risk perceptions posed by Palcacocha Lake. The final report was completed and submitted to Engility/IRG in August 2012.

- **High Mountain Glacial Watershed Issues Paper:** Dr. Jack Ives provided a detailed outline for an HMGW Issues Paper that covers high mountain geography, physical and social attributes and characteristics, contemporary problems, research gaps, and resource bibliography. The outline was completed on July 11, 2012 and provided to IRG and USAID. Dr. Don Alford has been recruited to write the full paper using the Ives conceptual piece as a general guideline. He will be assisted by Alton Byers, Jack Ives, Martin Price, Dirk Hoffman, Jorge Recharte, Andrew Taber, and Daene McKinney. Once the draft has been completed, TMI anticipates working with Engility for the final editing, layout, publication, and distribution.
- **Ground Penetrating Radar surveys:** GPR surveys were conducted at Pastaruri glacier in collaboration with the Huascarán National Park and the Municipality of Catac in order to map the thickness of glacial ice in the quickly retreating glacier. The results will be used in an exhibition of the impact of climate change on the regions glaciers and the impact on the tourism economy in July 2013. Additional GPR surveys were conducted at Arteson glacier in collaboration with the Glaciology Unit of Peru in order to map the thickness of glacial ice in the quickly retreating glacier Arteson glacier. The results will be used to determine the future evolution of a potentially dangerous glacial lake forming at the base of the glacier and upstream of Artesoncocha Lake and the critically important Lake Paron. A GPR survey was also conducted at the site of the 1942 breach in the moraine of Lake Palcacocha to determine the remaining depth of moraine material at that dangerous glacial lake.
- **International Workshop, Peru, July 2013:** Planning was begun on the next International Workshop to be held in Peru in July 2013 in the Cordillera Blanca of Peru, since the region is a “living laboratory” of high mountain projects and research in both the social and physical sciences. Invitees will include existing CoP members; a contingent of Central Asians and Mongolians; Climber-Scientist grant awardees; various 2011 Andean-Asian Glacial Lake Expedition participants; prominent high mountain social and physical scientists; and selected government and NGO representatives. The workshop will include a number of all-day, field-based training courses that include V&A, community water quantity and quality projects, GPR training, bathymetric survey training, and others. A Central Asian Workshop and Field Expedition Planning Group will be assembled with the objective of beginning the preliminary planning and logistics necessary to host workshop, field visit, and pilot project(s) in Tajikistan in 2014.

### **TASK 3.3.2 COORDINATE ACTIVITIES OF THE CLIMATE SERVICES PARTNERSHIP**

During this quarter, the CSP Coordinating Group held two teleconference calls (July 3 and August 1, 2012), and met in person in conjunction with the second International Conference on Climate Services (ICCS2) in Brussels, September 4-7, 2012. Call reports are included as attachments.

The primary CSP focus of the period was preparation and facilitation of the ICCS2, and an associated one-day Development Day workshop. The ICCS2 represents the second of what we expect to be annual flagship conferences of the CSP. This year’s focus included a review of the initial CSP collaborative activities in knowledge capture and dissemination, working group on economic evaluation, and program linkages (to Global Framework for Climate Services (GFCS), UNFCCC and other platforms); and also a more in-depth look at climate services in several key sectors (financial services, water, agriculture/food security, energy) including public-private institution roles and interactions. The Development Day event was initiated by discussions among the CCRD team, to build on the Adaptation Partnership sponsored workshop last year in New York, bringing together a broader group of development agencies and practitioner groups to focus on current progress, prospects, and needs for investment in development-focused climate services. The final agendas for Development Day, and for ICCS2 are included in Appendix 2 and 3, respectively. Preparations for these meetings involved development of agendas, wide consultations, recruiting of speakers and participants, communications, and media outreach. ICCS2 resulted in bringing a considerably wider audience

together around climate services – approximately 200 participants from 40 countries; discussion of several key issues that motivate subsequent work to be developed for the CSP, much of which is of direct relevance to CCRD. Several members of the CCRD team attended ICCS2, including Haresh Bhojwani, Simon Mason, Ángel Muñoz, Madeleine Thomson, Cathy Vaughan, and Steve Zebiak from IRI, Glen Anderson and Fernanda Zermoglio from Engility/IRG and Janet Clements from Stratus Consulting. A preliminary draft of conclusions and next steps, which also includes the principal outcomes of Development Day, is attached.

Steve Zebiak and Cathy Vaughan (IRI) also attended the annual meeting of the European Meteorological Society, in Lodz, Poland, where a special one-day conference on climate services was organized. Cathy Vaughan presented results from the analysis of CSP case studies undertaken over the past six months; Steve Zebiak presented the CSP in a segment on the coordination of climate services. This venue provided the opportunity to expose CSP to a broader meteorological community in Europe, and to initiate several bilateral discussions with interested groups/institutions.

Consultations with several organizations, including World Bank, Department for International Development (UK), German Development Agency (GIZ), Red Cross Climate Center, Climate Systems Analysis Group (South Africa), United Nations Environment Programme Financial Initiative, and Sustainable Business Institute, were undertaken this period. All were focused on fostering a more active collaboration, engagement, and program alignment in the climate services-for-development arena.

During this period the CSP secretariat coordinated a set of network discussions and responses to the draft Implementation Plan for the United Nations (World Meteorological Organization or WMO)-led Global Framework for Climate Services. In August, we also provided feedback on the proposed Governance plan for the Framework, again vetted through the Partnership at large, where we identified opportunities for the CSP to contribute to the effective implementation of the GFCS. A copy of the latter communication is attached.

Plans are developing for a joint workshop, with the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), USAID, and WMO on “Farmer-Focused Climate Information and Advisory Services in Africa and South Asia: Scaling Up Good Practice,” now to be held in early December in Dakar, Senegal. This venue allows the conference to build on the previous USAID West Africa workshop sponsored through the Adaptation Partnership. The finalized workshop concept note is attached.

The CSP Secretariat, working with the Coordinating Group, completed the initial membership statement for the Partnership. This provides a sense of shared vision and principles, as well as anticipated activities and benefits of membership. The new statement was circulated at ICCS2 and will be utilized over the coming months to formalize and record those to be identified as members, going forward. A copy of the membership statement is attached.

### **TASK 3.3.3 COMPILE AND DISSEMINATE CURRENT CLIMATE SERVICES KNOWLEDGE**

The CSP website was launched shortly before ICCS2. The site, [www.climate-services.org](http://www.climate-services.org), presents introductory information, including:

- A description of climate services
- Basic information on the secretariat and the CSP coordinating group
- Information on how to join the CSP

It details CSP activities, including:

- CSP updates
- Collaborations
- International conferences

- Working groups

A document library lists CSP resources, including:

- Case studies
- Evaluations
- Guidance documents
- An interactive map

### **TASK 3.3.4 CONDUCT CASE STUDIES AND ASSESSMENTS OF CLIMATE SERVICES**

Twenty-eight case studies are currently available on the CSP website; another seven will be completed and added to the site in the near-term. In September, an initial analysis of the case studies was presented at the second International Conference on Climate Services, and at the annual meeting of the European Meteorological Society. Combining the case studies we have available with those produced by the WMO, we will synthesize and summarize these documents and present the results at the WMO Extraordinary Congress in October 2012.

Evaluations are being conducted in Mali and India. The IRI finalized its analysis of the climate science used under the Mali Agrometeorological project and submitted its report entitled “Assessment of Climate Science Used by Direction Nationale de la Météorologie du Mali for provision of Agrometeorological Information to the Rural Community” to the Mali Met service for review and comment. Mali Met has provided their comments and IRI is currently working to revise the report.

Tom Hodgson from Stratus Consulting worked on developing a data entry application for group survey forms as well as a way for data entry users in Mali to open individual surveys that contain errors so that they could correct them using the existing user forms. Carolyn Wagner and Fiona Garvin from Stratus Consulting worked on the codebook to accompany the group survey data.

### **TASK 3.3.5 ECONOMIC VALUATION OF CLIMATE SERVICES**

Under Task 3.3.5, Engility/IRG and Stratus Consulting carried out the work described below and engaged in discussions on future efforts related to the economic valuation of climate services.

#### **Literature Survey and Synthesis Paper on Valuing Climate Services**

Janet Clements and colleagues at Stratus Consulting completed their review of journal articles and reports on the economic valuation of climate services. More than 180 documents were reviewed and summarized in a matrix. In addition, Glen Anderson, Janet Clements, and Aaron Ray (Stratus Consulting) prepared a draft paper entitled, “The Value of Climate Services for Economic and Public Sectors: A Review of Relevant Literature.”

#### **Meeting at WMO in Geneva, September 3, 2012**

Glen Anderson, co-chair of the Working Group (WG) on the Economic Valuation of Climate Services, participated in three meetings at the World Meteorological Organization on September 3 in Geneva, Switzerland focused on opportunities for WG collaboration with WMO and the World Bank. The main idea that emerged from these discussions was a workshop to bring together practitioners to discuss methodological issues and develop a primer or guidance related to the design of valuation studies and the communication of the results to decision-makers and users. It was proposed that the WG prepare a concept note for the workshop for review by WMO, the World Bank, and USAID. The concept paper will be drafted in the next reporting period.

#### **International Conference on Climate Services in Brussels**

ICCS2 was held September 5-7 and attracted more than 150 participants. The Economic Valuation Working Group organized a one-hour session on September 5 that included three presentations: 1) Overview of WG

activities and next steps (Glen Anderson); 2) Valuating Climate Services for Health Applications (Wendy Marie Thomas, National Oceanic and Atmospheric Administration); and The Value of Climate Services across Economic and Public Sectors: A Review of Relevant Literature (Janet Clements, Stratus Consulting).

### **TASK 3.3.6 CLIMATE INFORMATION GUIDE**

During the current period further queries were made to the WMO Commission on Climatology, which has a similar concept to the Climate Information Guidebook under development. Subsequently, further consultations have suggested that it may be preferable to advance this initiative within CSP, independent of the WMO connection, and then provide the output to WMO as a contribution that could be adopted or adapted for use as part of the GFCS. Consultations undertaken at ICCS2 and Development Day are suggesting that additional stakeholder consultation be done to help in designing the Guidebook and establishing demand. This will now be taken up as a task within the CCRD Year 2 Work Plan.

### **TASK 3.3.7 PILOT NATIONAL-LEVEL CLIMATE SERVICES ANALYSIS**

The IRI Data Library (DL) software was installed at the Tanzania Meteorology Agency (TMA) in Dar Es Salaam, Tanzania from July 4-July 14, 2012. During this period, John del Corral (IRI) coordinated with TMA staff to set up TMA DL server and integrate it with the TMA local area network and provided training to TMA's Information and Communication Technology (ICT) Department on general maintenance of the TMA server, how to update and add datasets, and modify Maprooms (including adding translations). He also delivered two backup disks for the Data Library server and added gridded TAMSAT satellite rainfall estimates, merged satellite and gauge rainfall estimate, maximum temperature, and minimum temperature datasets to the TMA DL server. Moreover, he installed Maprooms for Climate Analysis Climate Monitoring, and Climate and Health on the TMA server and added Swahili versions of some of the Maprooms. He developed a guidance document that summarized the training content that could be used by TMA as a reference.

In following up on these activities, a national training on the maintenance, use and development of the DL was conducted at the TMA in Dar Es Salaam, Tanzania from July 21-August 5, 2012. The training was led by Remi Cousin (IRI) and was conducted in two segments. The first segment trained two members of the TMA ICT Department on DL maintenance and the development of new Maprooms with specific topics including Ingrid, HTML, and Postgres programming, Linus OS, DL interface, and statistics and climate science refresher. The second session trained the larger community of scientists (11 people total) at TMA on the creation of datasets and development of new Maprooms to help them with their climate analysis and application of this information.

The IRI DL software was also installed at AGRHYMET in Niamey, Niger from August 18-27, 2012. During this period, John del Corral (IRI) coordinated with AGRHYMET staff to set up the Data Library server as a system that boots from the bootable USB disk and integrated it with the AGRHYMET local area network. He also provided training to AGRHYMET on general maintenance of the server, how to update and add datasets, and modify Maprooms (including adding translations). Furthermore, he delivered a backup disk and data disk for the Data Library server and added gridded TAMSAT satellite rainfall estimate, merged satellite and gauge rainfall estimate, and added portions of the MODIS, LST, TRMM, CMORPH, KAPLAN, and CFSv2 datasets to the AGRHYMET DL server. He developed a guidance document that summarized the training content that could be used as a future reference. During his trip he also delivered a more current version of the DL to ACMAD and update their FEWS rainfall estimate dataset.

In parallel to these activities, IRI organized capacity building workshops for AGRHYMET. The training was led by Remi Cousin (IRI) and was conducted in two segments. During the week of July 16-20, 2012 two members of AGRHYMET visited the IRI in New York and were trained on DL maintenance and the development of new Maprooms with specific topics including Ingrid, HTML, and Postgres programming, Linus OS, DL interface, and statistics and climate science refresher. The second session was conducted at

AGRHYMET's offices in Niamey, Niger during the week of August 18-27, 2012 and the training targeted a larger group of AGRHYMET scientists (seven people total) on the creation of datasets and development of new Maprooms to help them with their climate analysis and application of this information.

# ANNEX I. CCRD PERFORMANCE INDICATORS AND ACHIEVEMENTS

During Fiscal Year (FY) 2012, implementation activities supported five of the 11 performance indicators specified in the CCRD Performance Management Plan. Below: a summary of CCRD performance indicator achievements is provided, followed by a summary table.

## **Indicator #1: Number of people with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance (mandatory for Adaptation funding)**

**Adaptation Partnership follow-on activities and the Jamaica V&A training contributed to this indicator as follows (57 people, 48 men, 9 women):**

- Support to three communities in the Khumbu region of Nepal resulted in increased capacity of local community members, the Sagarmatha National Park, the Khumbu Alpine Conservation Council, and one private lodge owner to prepare an adaptation and disaster risk plan for the Khumbu region (15 people, 13 men, 2 women)
- Staff at AGRYMET developed capacity to provide seasonal forecasts to West African farmer (12 men)
- Staff in the City of Hue, Vietnam and the local university developed capacity to carry out urban adaptation planning tool – assistance provided by Cascadia Consulting Group through CCRD (25 people, 20 men, 5 women)
- Government of Jamaica staff and consultant have increased capacity to integrate climate concerns into the country's national development strategy as a result of the Jamaica V&A workshop and technical assistance provided by CCRD (5 people, 3 men, 2 women)

## **Indicator #2: Number of people receiving training in climate change supported by USG assistance (Person-hours of training completed in climate change supported by USG assistance)**

Support for Indicator #2 (and #5) resulted from three types of activities: 1) Adaptation Partnership Workshops, 2) Adaptation Partnership follow-on training workshops organized under the Climate Services Partnership and High Mountain Glacial Watershed Program, and 3) the Jamaica Workshop on Mainstreaming Climate Change into Development (524 people, 376 men, 148 women; 10,649 hours of training, 7913 hours of training for men, 2736 hours of training for women).

Four Adaptation Partnership Workshops were convened with CCRD support during the fiscal year:

- Western Indian Ocean Workshop for Coastal and Marine Protected Areas in Cape Town, South Africa
- Assessing Vulnerability and Building Resilience in Key Agricultural Sectors to Promote Economic Development and Food Security in San Jose, Costa Rica
- Monitoring and Evaluation workshop in Bonn, Germany
- Building Urban Climate Change Resilience Workshop in Bangkok, Thailand

Under the leadership of the International Research Institute for Climate and Society (IRI), training workshops on the use of IRI's data library and climate services applications were convened, including: 1) Training on Data Library (DL) software in Dar Es Salaam, Tanzania, 2) Training on DL software in Niamey, Niger, and 3) Training on variability and predictability of agrohydroclimatic characteristics of the West-African rainy season in Niamey, Niger. IRI also organized the Climate Services Partnership Development Day in Brussels, Belgium.

IRG staff conducted a training-of-trainers workshop on climate change adaptation for The Mountain Institute (TMI) and other local organizations in Nepal. This workshop was followed by three climate adaptation stakeholder meetings in three communities in the Khumbu region of Nepal (Phakding, Namche and Dingboche), led by TMI staff who had received training from IRG.

**Indicator #3: Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change officially proposed, adopted, or implemented as a result of USG assistance**

No activities during the fiscal year.

**Indicator #4: Amount of investment leveraged in U.S. dollars from private and public sources, for climate change as a result of USG assistance**

CCRD benefitted from the financial contributions of numerous public and private organizations for Adaptation Partnership workshops and follow-on activities. Not all organizations providing leverage have been forthcoming in sharing cost information. In those instances, an estimate of the value of leverage is provided based on CCRD's experience in convening similar events such as international conferences and workshops.

Source of leverage related to the Adaptation Partnership are presented below in two groups: Adaptation Partnership workshops and follow-on activities (\$440,000 in total):

***Adaptation Partnership workshops (\$350,000):***

- Climate-Smart Agriculture Program Design Workshop, Nairobi, Kenya, October 2011 – Co-financing by COMESA (Common Market for Eastern and Southern Africa), the World Bank, and NEPAD (The New Partnership for Africa's Development – a program of the African Union). Estimated value of leverage for four-day workshop is 50,000.
- International Conference on Climate Services, New York, October 2011 – Co-financing provided by NOAA, the Earth Institute's International Research Institute for Climate and Society, the German Climate Services Center, and the UK Meteorological Office. Estimated value of leverage for three-day workshop and one-day meeting on developing countries – \$100,000.
- Adaptation Partnership Workshop on Climate Adaptation, Monitoring and Evaluation, Bonn, Germany, April 2012 – Co-financing by GIZ and Bonn Perspectives (funded by the City of Bonn and the European Union). Estimated value of two-day workshop is \$50,000.
- Second International Conference on Climate Services, Brussels, Belgium, September 2012 – Co-financing provided by the German Climate Services Center, the German Meteorological Service, UK Meteorological Office, GIZ, NOAA, the National Center for Atmospheric Research, IRI, and the World Bank. Estimated value of leverage for 3-day workshop and one-day meeting on developing countries – \$150,000.

### ***Adaptation Partnership follow-on activities (\$90,000):***

- Equipment to support testing of glacial lake outburst flood potential under the High Mountain Glacial Watershed Program, Nepal, May 2012 and September 2012 – University of Texas at Austin. This equipment is owned by the University of Texas and would not otherwise be available for rental for use in foreign country. “Rental” value (assumed to be 1/5 of purchase price) and cost of consumables is estimated to be \$20,000,
- Equipment to support glacial volumetric calculations by Ohio State University under the High Mountain Glacial Watershed Program, Ecuador, June 2012 – UNAVCO (University-governed consortium supporting geoscience research, Boulder, Colorado) provided the equipment and a technician to carry out the measurements and train Ohio State graduate student, Jeff La Frenierre. Estimated rental value (1/5 of purchase price) and labor costs for the UNAVCO technician is \$40,000.
- Preparation of a Guidance Note for Investment in Hydromet and Climate Services – The World Bank. Cost of consultancy to prepare note in support of The Climate Services Partnership (CSP) is \$30,000.

### **Indicator #5: Number of institutions with improved capacity to address climate change issues as a result of USG assistance**

See discussion for Indicator #2.

### **Indicator #6: Number of days of USG funded technical assistance in climate change provided to counterparts or stakeholders**

Technical assistance was provided for Adaptation Partnership follow-on activities related to the High Mountain Glacial Watershed Program, the Climate Services Partnership, in support of the Adaptation Partnership workshop on Building Urban Climate Change Resilience Workshop in Bangkok, Thailand, the Jamaica V&A workshop, and the Benin Integration Pilot, including (171 days):

- Technical assistance to the Government of Nepal and UNDP on the assessment of glacial lake outburst flood risks at Imja Lake in the Khumbu (Everest) region, and lakes in the Hinku and Hongu Valleys – Assistance provided by University of Texas at Austin and The Mountain Institute through CCRD (60 days)
- Technical assistance to AGRYMET on the calculation of the onset of the rainy season in West Africa and preparation of rainy season forecasts for farmers – Assistance provided by IRI (10 days)
- Technical assistance to the City of Hue, Vietnam in the development/tailoring of a urban adaptation planning tool – Assistance provided by Cascadia Consulting Group through CCRD (60 days)
- Technical assistance to the Government of Jamaica on mainstreaming climate change into the nation development strategy, Vision 2030 – Assistance provided by IRG and ICF (36 days)
- CCRD provided technical assistance to the USAID/Benin Mission in support of their GCC Integration Pilot focused on the problem of flooding’s disruption of school operations (5 days)

### **Indicator #7: Number of climate adaptation tools, technologies and methodologies developed, tested, and/or adopted as a result of USG assistance**

CCRD supported the testing of four tools and technologies including:

- Urban adaptation planning and the assessment of climate change impacts on glaciers and glacial lake risks. Cascadia Consulting Group conducted a pilot of its climate impacts tool in the coastal city of Hue, Vietnam. This pilot is expected to lead to extensive use of the tool in Vietnam in the next fiscal year.
- Under the High Mountain Glacial Watershed Program, three tools were tested.
  - Ohio State graduate student, Jeff La Frenierre, used terrestrial laser scanning, which applies similar principles as LIDAR (light detection and ranging optical remote sensing), to estimate glacial ice volumes for debris-covered glaciers in Ecuador.
  - In Nepal and Peru, the University of Texas at Austin tested the use of ground penetrating radar to characterize the floors and terminal moraines of glacial lakes. Combined with the bathymetric survey of Imja Lake in Nepal, these tools provide data to help determine how to manage Imja Lake to avoid devastating glacial lake outburst floods.

CCRD also supported the testing of two V&A methodologies:

- Mainstreaming climate into development planning in Jamaica – CCRD assisting Government of Jamaica to develop policy framework to facilitate climate resilient planning for the national development plan, Vision 2030, and sector plans.
- Testing of the V&A approach for water in Iloilo, Philippines – CCRD applied the methodology in the Water Annex to the assessment of climate and non-climate stressors in Iloilo province.

#### **Indicator #8: Number of climate vulnerability assessments conducted**

CCRD supported five vulnerability assessments during the fiscal year, including a desktop review of climate vulnerability for the USAID/Peru Mission, assessment for USAID's Federal Agency Climate Change Adaptation Plan, a vulnerability assessment of water security issues in Iloilo, Philippines in support of the USAID/Philippines Mission, a V&A stakeholder process in Jamaica, and V&A stakeholder processes in three communities in the Khumbu region of Nepal.

#### **Indicator #9: Number of people registering to participate in adaptation-related communities of practice**

Two of the communities of practice established with support from CCRD – The High Mountain Glacial Watershed Program and Central America agriculture registered members during the fiscal year. The Climate Services Partnership website, which began operations in late August is expected to register members in the next year.

#### **Indicator #10: Number of people logging on to/accessing the adaptation-related websites supported with USG assistance**

CCRD monitored visits to the Adaptation Partnership website, including the three communities of practice, and the new Climate Services Partnership website.

#### **Indicator #11: Number of adaptation financing proposals benefitting from USG assistance**

No activities during the fiscal year.

### CCRD Performance Indicators and Achievements

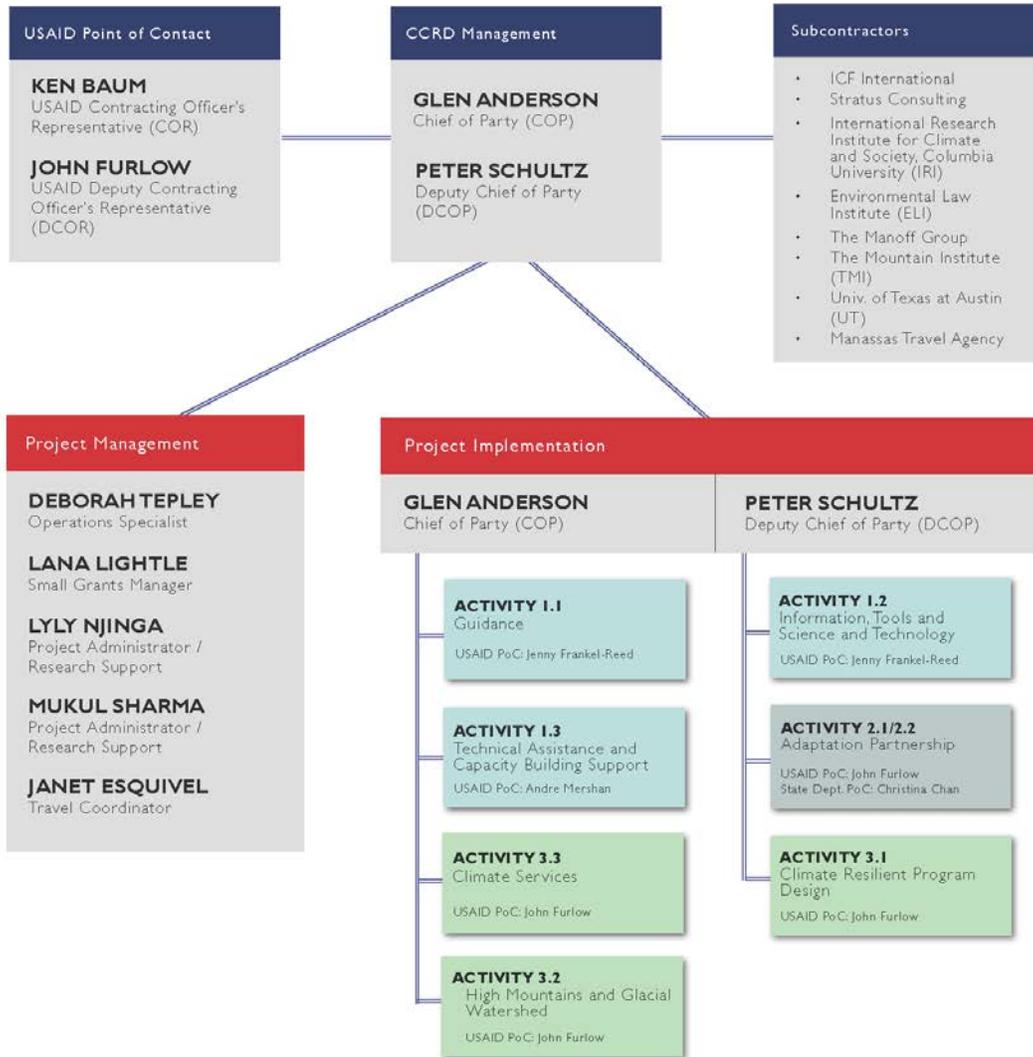
#	Indicator	Unit	FY 2012 Target	Achievement – FY 2012				Remarks	Cumulative
				QTR 1	QTR 2	QTR 3	QTR 4		
1	Number of people with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance (mandatory for Adaptation funding) <b>MEN</b>	number				32	16	AGRYMET capacity building on climate services (Qtr 3) Hue, Vietnam urban adaptation tool development (Qtr 3) Nepal capacity building on adaptation (Qtr 4) Jamaica V&A (Qtr 4)	48
	Number of people with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance (mandatory for Adaptation funding) <b>WOMEN</b>	number				5	4		9
2	Number of people receiving training in climate change supported by USG assistance (Person-hours of training completed in climate change supported by USG assistance) <b>MEN</b>	number/ hours		20/ 160	69/ 1656	55/ 1606	232/ 4491	Adaptation Partnership Workshops: New York (Qtr 1), South Africa and Costa Rica (Qtr 2), Germany (Qtr 3), and Thailand (Qtr 4) Community of Practice Workshops/Trainings: Climate Services – Tools and IRI Data Library Training: US (Qtr 3), Niger (Qtrs 3 and 4), Tanzania (Qtr 4) Climate Services: Development Day at ICCS 2: Belgium (Qtr 4) V&A Training: Jamaica (Qtr 4), Nepal training of trainers and 3 stakeholder meetings (Qtr 4)	376/7913
	Number of people receiving training in climate change supported by USG assistance (Person-hours of training completed in climate change supported by USG assistance) <b>WOMEN</b>	number/ hours		9/ 72	29/ 696	6/ 168	104/ 1800		148/2736

#	Indicator	Unit	FY 2012 Target	Achievement – FY 2012				Remarks	Cumulative
				QTR 1	QTR 2	QTR 3	QTR 4		
3	Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change officially proposed, adopted, or implemented as a result of USG assistance	number							
4	Amount of investment leveraged in U.S. dollars from private and public sources, for climate change as a result of USG assistance	dollars		150k		100k	190k	Climate-Smart Agriculture Program Design Workshop (Qtr 1) Adaptation Partnership Workshop, New York (Qtr 1) Adaptation Partnership Workshop, Germany (Qtr 3) Adaptation Partnership Workshop, Thailand (Qtr 4) Piloting of assessment tools in Nepal (Qtr 3 and 4), Ecuador (Qtr 3) and Peru (Qtr 4) WB note on investment and climate services (Qtr 4)	\$440,000
5	Number of institutions with improved capacity to address climate change issues as a result of USG assistance	number		28	81	21	142	See Indicator #2 Remarks	272
6	Number of days of USG-funded technical assistance in climate change provided to counterparts or stakeholders	days				119	52	AGRYMET capacity building on climate services (Qtr 3) Hue, Vietnam urban adaptation tool development (Qtr 3) Nepal glacial lake outburst flood assessment (Qtr 3 and 4) TDY Mission to support Benin	171

#	Indicator	Unit	FY 2012 Target	Achievement – FY 2012				Remarks	Cumulative
				QTR 1	QTR 2	QTR 3	QTR 4		
								Integration Pilot project design (Qtr 3) Jamaica V&A support for policy framework (Qtrs 3 and 4)	
7	Number of climate adaptation tools, technologies and methodologies developed, tested, and/or adopted as a result of USG assistance	number				3	3	<b>Tools:</b> Cascadia (Qtr 3); Ohio State (Qtr 3); University of Texas at Austin (Qtrs 3 and 4) <b>Methodologies:</b> Jamaica mainstreaming (Qtr 4); Philippines water V&A (Qtr 4)	6
8	Number of climate vulnerability assessments conducted	number		1		1	3	USAID/Peru Desktop Study (Qtr 1); USAID Federal Agency CC Adaptation Plan (Qtr 3); Iloilo, Philippines (Qtr 4); Jamaica (Qtr 4); Khumbu, Nepal (Qtr 4)	5
9	Number of people registering to participate in adaptation-related communities of practice	number				50	30	High Mountain Glacial Watershed Program (Qtrs 3 and 4) Central America climate resilient agriculture CoP (Qtrs 3 and 4)	80
10	Number of people logging on to/accessing the adaptation-related websites supported with USG assistance	number			2,095	3,502	2,090	Qtr 2: Adaptation Partnership Google Diagnostics data Qtr 3: Adaptation Partnership Google Diagnostics data. 1,303 out of the 3,502 visitors were viewers for the HMGWP page. Qtr 4: Adaptation Partnership Google	7687

#	Indicator	Unit	FY 2012 Target	Achievement – FY 2012				Remarks	Cumulative
				QTR 1	QTR 2	QTR 3	QTR 4		
								<p>Diagnostics data for period. 248 out of the 2,090 visitors were viewers for the HMGWP page. 113 out of the 2,090 visitors were viewers for the CSP page. 171 out of the 2,090 visitors were viewers for the Central America COP page</p>	
II	Number of adaptation financing proposals benefitting from USG assistance	number							

# ANNEX II. ORG CHART



**PROJECT MANAGEMENT**

GLEN ANDERSON

WORK PLAN	G.ANDERSON / KEN BAUM
FMP	G.ANDERSON / K. BAUM
STRATEGIC PLANNING /SAC	G.ANDERSON / JOHN FURLOW
REPORTING	DEBORAH TEPLEY / K. BAUM
COMMUNICATIONS, OUTREACH, AND COMMUNITIES OF PRACTICE (CoPs)	ROSAMUND MISCHÉ JOHN / JENNY FRANKEL-REED
POC FOR SUBCONTRACTORS/CONSULTANTS	D.TEPLY / K. BAUM
SMALL GRANTS	LANA LIGHTLE / K. BAUM

**PROJECT IMPLEMENTATION**

GLEN ANDERSON / PETER SCHULTZ

<b>ACTIVITY 1.1: GUIDANCE</b>	G.ANDERSON / J.FRANKEL-REED		
<b>1.1: GUIDANCE, BRIEFS, AND ANNEXES</b>	YOON KIM / J.FRANKEL-REED	<b>1.1: CASE STUDIES</b>	G.ANDERSON
REVISE V&A MANUAL	YKIM / J.FRANKEL-REED	CASE STUDIES TO DEMONSTRATE THE MAINSTREAMING GUIDANCE	G.ANDERSON
WATER ANNEX	BOB RAUCHER / J.FRANKEL-REED	WASH CASE STUDY	J.TROELL
COASTAL AND MARINE ANNEX	YKIM / JONATHAN COOK		
DIFFERENTIATED VULNERABILITIES ANNEX	D.TEPLY / ANDRE MERSHON		
GOVERNANCE ANNEX	JESSICA TROELL / J.COOK		
DEVELOP LESSONS LEARNED ON MAINSTREAMING CLIMATE ADAPTATION INFRASTRUCTURE LESSONS LEARNED PILOT	MIKE SAVONIS / J.FRANKEL-REED		
YEAR 2 KM / ROLLOUT OF NEW GUIDANCE	M.SAVONIS / K.BAUM		
YEAR 2 V&A 201 TRAINING	A.MERSON		
YEAR 2 DRR CLIMATE GUIDANCE BRIEF	A.MERSON		
YEAR 2 LEDS GUIDANCE BRIEF	NORA FERM		
YEAR 2 SECURITY/CONFLICT GUIDANCE BRIEF	ASHLEY ALLEN		
YEAR 2 URBAN INFRASTRUCTURE GUIDANCE BRIEF	J.FURLOW		
YEAR 2 RISK MANAGEMENT (INCLUDING DRR) GUIDANCE BRIEF	K.BAUM / N.FERM		
YEAR 2 HEALTH GUIDANCE BRIEF	N.FERM		
YEAR 2 PROJECT DESIGN & MANAGEMENT (INCLUDING FINANCING AND M&E) GUIDANCE BRIEF	J.FRANKEL-REED		
	J.COOK		
<b>ACTIVITY 1.2: INFORMATION, TOOLS AND SCI AND TECH</b>	P.SCHULTZ / J.FRANKEL-REED		
UNDERSTAND USAID BUREAU AND MISSION NEEDS FOR CC ADAPTATION TOOLS	P.SCHULTZ / J.FRANKEL-REED		
MAINTAIN GCC OFFICE HELP DESK	A.MERSON		
UNDP ALM WEBSITE	R.MISCHE JOHN / J.FRANKEL-REED		
<b>ACTIVITY 1.3: TECHNICAL ASSISTANCE AND CAPACITY BUILDING SUPPORT</b>	G.ANDERSON		
PROVIDE CAPACITY BUILDING SUPPORT ON MAINSTREAMING V&A	G.ANDERSON / A.MERSON		

<b>ACTIVITY 2.1/2.2: ADAPTATION PARTNERSHIP</b>	P.SCHULTZ	<b>2.2: ADAPTATION PARTNERSHIP CoP</b>	R.MISCHE JOHN
<b>2.1: ADAPTATION PARTNERSHIP</b>	R.MISCHE JOHN	FACILITATE ADAPTATION PARTNERSHIP CoP	R.MISCHE JOHN
CONDUCT ADAPTATION PARTNERSHIP WORKSHOPS	R.MISCHE JOHN	DEVELOP AP MATERIALS	D.TEPLY / N.FERM
CLIMATE CHANGE AND SECURITY WORKSHOP	R.MISCHE JOHN		

<b>ACTIVITY 3.1: CLIMATE RESILIENT PROGRAM DESIGN</b>	P.SCHULTZ		
SUPPORT PREPARATION OF NATIONAL ADAPTATION PLANS (NAPS)	Y.KIM		
<b>ACTIVITY 3.2: HIGH MOUNTAINS AND GLACIAL WATERSHEDS</b>	P.SCHULTZ		
<b>3.2: HIGH MOUNTAINS AND GLACIAL WATERSHEDS</b>	MEGHAN HARTMAN		
DEVELOP THE GLOBAL HIGH MOUNTAIN - GLACIAL LAKE PARTNERSHIP CoP	CoP SECRETARIAT - THE MOUNTAIN INSTITUTE / UNIVERSITY OF TEXAS AT AUSTIN		
DESIGN AND CONDUCT THE CLIMBER-SCIENTIST SMALL GRANTS COMPETITION	CoP SECRETARIAT - TMI/UT		
ESTABLISH THE CLIMBER-SCIENTIST SMALL GRANTS COMPETITION	TMI/UT		
IMPLEMENT CoP PILOT PROJECTS AND RESEARCH	TMI/UT		
NEPAL RECONNAISSANCE	TMI/UT		
PERU RISK PERCEPTION ASSESSMENT	TMI/UT		
COP WORKSHOP PLANNING	TMI/UT		
PREPARATION OF MAINSTREAMING PAPER	M.HARTMAN		
<b>ACTIVITY 3.3: CLIMATE SERVICES</b>	G.ANDERSON		
<b>3.3: CLIMATE SERVICES</b>	FERNANDA ZERMOGLIO		
COORDINATE ACTIVITIES OF THE CLIMATE SERVICES PARTNERSHIP	STEVE ZEBIAK		
COMPILE AND DISSEMINATE CURRENT CLIMATE SERVICES KNOWLEDGE	INTERNATIONAL RESEARCH INSTITUTE FOR CLIMATE AND SOCIETY STAFF		
CONDUCT CASE STUDIES AND ASSESSMENTS OF CLIMATE SERVICES	IRI STAFF		
ECONOMIC VALUATION OF CLIMATE SERVICES	G.ANDERSON		
CLIMATE INFORMATION GUIDE BOOK AND TRAINING	IRI STAFF		
PILOT NATIONAL-LEVEL CLIMATE SERVICES ANALYSIS	S.ZEBIAK		



**U.S. Agency for International Development**

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

**[www.usaid.gov](http://www.usaid.gov)**