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CLIMATE CHANGE RESILIENT DEVELOPMENT

YEAR THREE WORK PLAN DRAFT

September 2013

This report was produced for review by the United States Agency for International Development (USAID). It was prepared by International Resources Group (IRG) along with inputs from the CCRD consortium of partners.

CLIMATE CHANGE RESILIENT DEVELOPMENT

YEAR THREE WORK PLAN DRAFT

IQC Contract No. AID-EPP-I-00-04-00024

Task Order No. AID-OAA-TO-11-00040

September 2013

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government

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ACRONYMS AND SPECIAL TERMS

AACIFI	UNEP Financial Initiative
AAG	Association of American Geographers
ACMAD	African Centre of Meteorological Application for Development
ADB	Asian Development Bank
AgMIP	Agricultural Model Intercomparison and Improvement Project
AGRHYMET	Centre Regional de Formation et d'Application en Agrométéorologie et Hydrologie Opérationnelle
ALM	Adaption Learning Mechanism
ANACIM	Senegal National Agency of Civil Aviation and Meteorology
AP	Adaptation Partnership
APSIM	Agriculture Production Systems Simulator
AR5	Fifth Assessment Report
CARDI	Jamaica/Caribbean Agricultural Research and Development Institute
CCAFS	Climate Change, Agriculture and Food Security
CCRD	Climate Change Resilient Development (short title for Task Order)
CCSR	Center for Climate Systems Research's
CDCSs	Country Development Cooperation Strategies
CEQ	Council on Environmental Quality
CG	Coordinating Group
CIMH	Caribbean Institute for Meteorology and Hydrology
CLIN	Contract Line Item Number
CMIP5	Coupled Model Intercomparison Project Phase 5
COP	Chief of Party
CoP	Community of Practice
COR	Contracting Officer's Representative
CRIS	Climate Resilient Infrastructure Services Program
CRLEDS	Climate Resilient Low Emissions Development Strategies
CRM	Climate Risk Management
CRRH	Regional Committee for Water Resources
CSP	Climate Services Partnership
DCOP	Deputy Chief of Party
DHM	Nepal Department of Hydrology and Meteorology
DSSAT	Decision Support System for Agrotechnology Transfer
E.O.	Executive Order

EbA	Ecosystem-based adaptation approaches
ENACTS	Enhancing National Climate Services
EWS	Early warning system
FTI	Fast Track Implementation
GCC	Global Climate Change
GEF	Global Environment Facility
GenDev	Office of Gender Equality and Women's Empowerment
GFCS	Global Framework for Climate Services
GIS	Geographic Information System
GLOFs	Glacial lake outburst floods
GOJ	Government of Jamaica
GON	Government of Nepal
GOP	Government of Peru
GPR	Ground Penetrating Radar
GUC	Grants Under Contract
HiMAP	High Mountain Adaptation Program
HMGWP	High Mountain Glacial Watershed Program
ICCS	International Conference on Climate Services
ICF	ICF Incorporated, LLC
IDB	International Development Bank
IEDRO	International Environmental Data Rescue Organization
IPCC	Intergovernmental Panel on Climate Change
IQC	Indefinite Quantities Contract
IRAP	Integrating Climate Information and Decision Processes for Regional Climate Resilience
IRG	International Resources Group
IRI	International Research Institute for Climate and Society
KACC	Khumbu Alpine Conservation Committee
KHM	Kazhydromet
KM	Knowledge Management
LAPA	Local Adaptation Programme of Action
LOE	Level of Effort
M-BRACE	Mekong – Building Climate Resilient Asian Cities
M&E	Monitoring and evaluation
MIT	Massachusetts Institute of Technology
MODIS	Moderate Resolution Imaging Spectoradiometer
MPA	Marine Protected Area

NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NDVI	Normalized Difference Vegetation Index
NGO	Non-governmental organization
NOAA	National Oceanic and Atmospheric Administration
NSI	National Space Institute
OMB	Office of Management and Budget
PEAR	Post-event Assessments of Resilience
PMP	Performance Management Plan
POC	Point of Contact
PSIMS	Parallel System for Integrating Impacts Models and Sectors
RCP	Representative Concentration Pathways
RFAs	Requests for applications
RFTOP	Request for Task Order Proposals
SINAGERD	Sistema Nacional de Gestión del Riesgo de Desastres
SMEs	Small and medium-sized enterprises
SPI	Standardized Precipitation Index
SSMI	Special Sensor Microwave Imager
TMA	Tanzania Meteorological Agency
TMI	The Mountain Institute
UA	University of Arizona
UNDP	United Nations Development Programme
UNEP	UN Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USC	University of South Carolina
USG	U.S. Government
UT	University of Texas at Austin
V&A	Vulnerability and adaptation
VDC	Village Development Committee
WASH	Water, sanitation and hygiene
WFP	UN World Food Programme
WIOMSA	Western Indian Ocean Marine Science Association
WMO	World Meteorological Organization
WVI	World Vision International

PROJECT TEAM AND CONTACT INFORMATION

Project Team

International Resources Group (Prime Contractor) – Washington, DC

Private Sector Partners:

ICF Incorporated, LLC – Fairfax, VA

Stratus Consulting – Boulder, Colorado

The Manoff Group – Washington, DC

Cascadia Consulting Group – Seattle, WA

Travel Solutions Group (TSG) – Beltsville, MD

Universities, Research Institutes, and Non-Governmental Organizations (NGO):

Environmental Law Institute – Washington, DC

International Research Institute for Climate and Society (Columbia University) – Palisades, NY

The Mountain Institute – Washington, DC

University of South Carolina – Columbia, SC

University of Texas at Austin – Austin, TX

Contact Information

USAID CCRD Contracting Officer's Technical Representatives (CORs):

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DCOR – John Furlow: jfurlow@usaid.gov

CCRD Management Team:

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Deputy Chief of Party – Peter Schultz, ICF Incorporated, LLC: pschultz@icfi.com

Operations Manager – Deborah Tepley, IRG: deborah.tepley@engilitycorp.com

Grants Manager – Lana Lightle, IRG: lane.lightle@engilitycorp.com

Project Administrator – Mukul Sharma, IRG: mukul.sharma@engilitycorp.com

CCRD Office:

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INTRODUCTION

On August 5, 2011, the United States Agency for International Development (USAID) awarded International Resources Group (IRG)¹ a Task Order under the Integrated Water and Coastal Resources Management Indefinite Quantities Contract (Water II IQC), titled “Increasing the Global Climate Change Team’s Technical Support Capacity to Global Climate Change, Adaptation, and Development Issues: The Nexus between Water Resources and Climate Change” (IQC Contract No. AID-EPP-I-00-04-00024). By agreement with the Contracting Officer’s Representative (COR), the Task Order is referred to as Climate Change Resilient Development or simply, CCRD. The CCRD consortium has completed activities for Year Two. As specified in the CCRD contract, IRG has prepared a draft Year Three Work Plan. This work plan is structured similarly to the Year One and Year Two Work Plans and includes a discussion of the strategic vision for CCRD in support of USAID’s Climate Change Strategy and elaboration of the three CCRD objectives. The presentation of activities and tasks is organized into two parts:

1. Year Two progress – Description of deliverables drafted and/or finalized
2. Year Three activities – Description of tasks and subtasks proposed for Year Three (August 2013 – August 2014) and summary tables describing team composition, milestones, schedule and deliverables

STRATEGIC VISION FOR CCRD

USAID programs seek to help developing countries achieve their national economic and sector goals through a range of proactive programs featuring investments in infrastructure and technology, capacity building and institutional strengthening, and policy reform. The design of all USAID programs and projects follows a logical process, even if slightly different words are used to describe the steps. First, there must be a clear articulation of the program’s objectives. These objectives provide the benchmark against which activities are assessed in the design process and monitored and evaluated during implementation. Second, it is important to understand existing constraints or barriers that can attenuate the potential benefits of the program. An understanding of them will help USAID design measures to address or minimize their potential negative impact on program or project success. Third, programs and projects are designed taking into account the information from the first two steps, followed by implementation, monitoring, and evaluation. Long-term programs and projects can be managed adaptively with program elements adjusted on the basis of evaluation.

The centerpiece of CCRD is a new guidance on mainstreaming climate change concerns into the design and implementation of development programs and projects. This approach represents the logical convergence and merging of climate adaptation planning with development program and project problem diagnosis and design. In 2007, USAID’s Global Climate Change (GCC) Office released guidance on the assessment of climate vulnerability and the identification, evaluation, selection, implementation, and evaluation of adaptations (referred to as the Vulnerability and Adaptation [V&A] approach) at the project level. As USAID and its partners tested the V&A approach, it became apparent that: (1) problem diagnosis was limited to a narrow focus on a vulnerability assessment of climate “stressors” and (2) adaptation design to reduce climate vulnerability had two fundamental limitations. First, by emphasizing the screening and assessment of climate vulnerability, the V&A approach ignored the role that non-climate stressors can play in determining the potential success of adaptation programs and projects. Second, the V&A approach did not adequately account for financial, technical, organizational, and capacity constraints. At both the sector and project levels, adaptation programming competes with other development investments affecting capacity building, policy reforms, and technology adoption.

¹ As of July 18, 2012, IRG is a fully-owned subsidiary of Engility Corporation and will be referred to as IRG.

Thus, the new guidance for successfully mainstreaming climate change seeks to encourage USAID Bureaus and Missions to assess climate stressors jointly with other development constraints and barriers during program design activities. Consequently, mainstreaming guidance will propose several incremental changes to the design process for development programs and projects, including but not limited to:

1. Identifying climate stressors that can be expected to occur in the timeframe of the strategy, plan, program or project
2. Assessing vulnerability of climate stressors to people, their livelihoods, natural resources, and infrastructure
3. Considering a broad range of program or project activities that will address non-climate and/or climate stressors
4. Recognizing that it will be difficult to attribute program or project performance to individual adaptations or development measures once they are bundled and implemented in an integrated way

By incorporating incremental changes in program design, USAID will be better able to achieve improved development outcomes by increasing project and program outcomes and resilience to climate change impacts. CCRD is positioned to support USAID Bureaus and Missions to make these changes through the provision of general and sector-level mainstreaming guidance, the development of a variety of tools and knowledge to facilitate use of the new guidance, and technical assistance and capacity building as appropriate. Second, in support of the GCC Office, CCRD will coordinate with other U.S. Government (USG) (e.g., Department of State, National Oceanic and Atmospheric Administration – NOAA) agencies to promote innovations in mainstreaming of climate adaptation. Third, in collaboration with the GCC Office, CCRD will identify and respond to emerging climate change issues and provide knowledge management (KM) assistance for design, planning, and implementation of climate resilient development programming. Exhibit 1 on the next page describes the strategic framework for CCRD and links long-term strategic objectives of the GCC Office to CCRD's project goals, objectives, and activities.

The CCRD strategic vision also provides the benchmark for evaluating new program areas and tasks for inclusion in the Work Plan. A concerted effort will be made to ensure that all new activities and tasks as well as small grant solicitations are both consistent with the mainstreaming framework and promote climate resilient development.

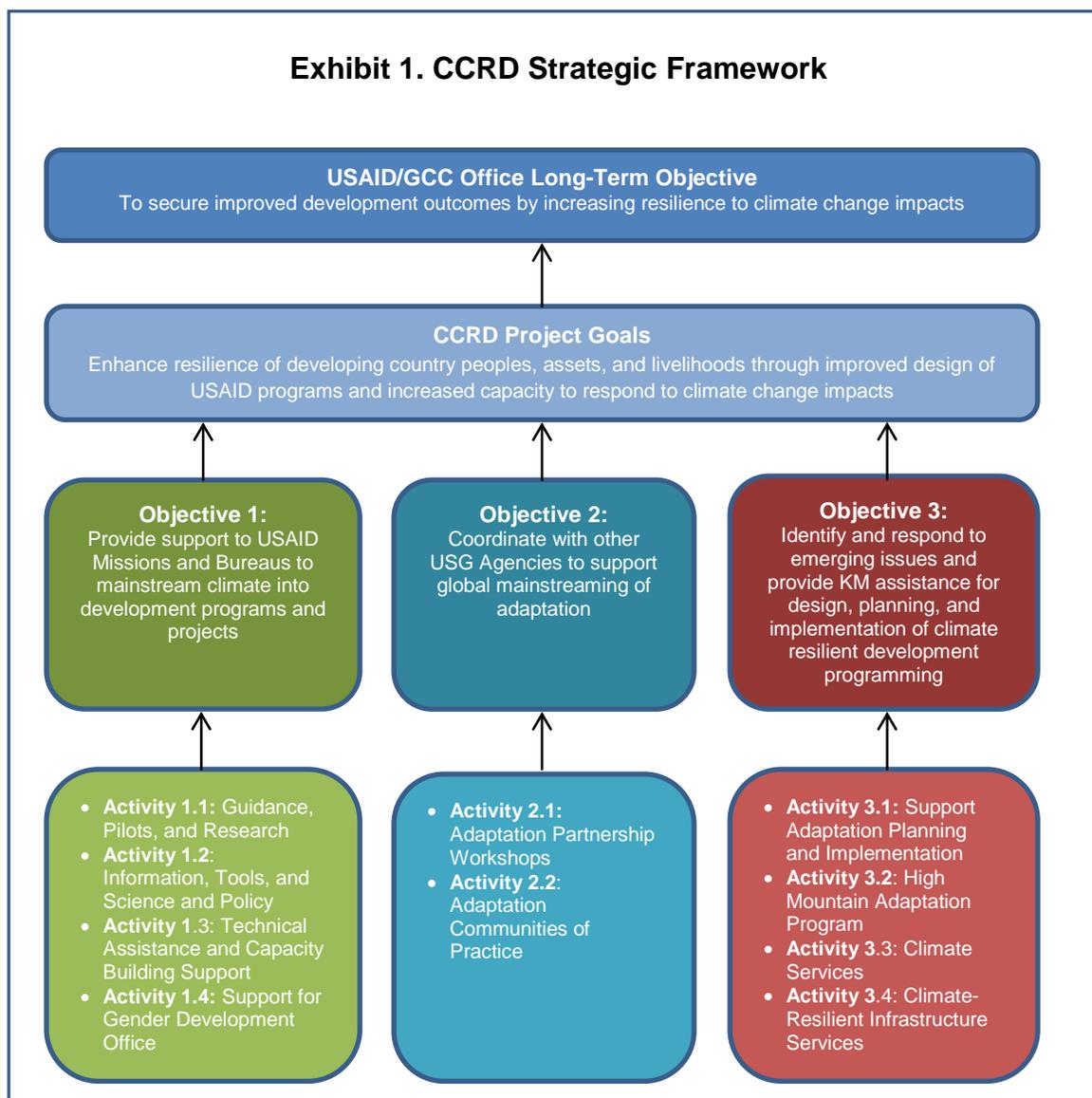
WORK PLAN APPROACH

The remainder of the Year Three Work Plan is organized into four sections. The next section describes the tasks required for project management. The following three sections describe activities and tasks designed to address the three project-level objectives (see Exhibit 1). A timeline for Year Three and a level of effort (LOE) chart are provided in Annexes 2 and 3. A draft Year Three Budget will be provided as a separate document.

To facilitate financial tracking of CCRD expenditures, project management and activities are assigned Contract Line Item Numbers (CLINs) and account for expenditures by source of funding (e.g., core funding and buy-ins). IRG has set up 10-digit accounting codes. The first four digits (5010) refer to the Task Order number IRG has assigned for its internal accounting purposes. The next three digits refer to the source of funding. "001" is used to designate core funding, "002" is used to designate the first buy-in from the U.S. Department of State to support the Adaptation Partnership (AP), and "003" is used to designate the second buy-in from USAID's Office of Gender Equality and Women's Empowerment (GenDev). Subsequent buy-ins will be assigned numbers of 004, 005, etc. The last three digits of the accounting code are used to designate CLINs, starting with "000" for CLIN 1. For example, 5010.001.000 designates CLIN 1 activities funded by core funding, and 5010.002.004 designates CLIN 7 activities funded by the State Department buy-in.

Work Plan activities are organized according to activities corresponding to eight CLINs approved by the COR, listed below:

- Project Management, Planning, and Evaluation – CLIN 1 (5010.001.000)
- Activity 1.1: Guidance, Pilots, and Research – CLIN 2 (5010.001.001) and CLIN 4 (5010.001.003)
- Activity 1.2: Information, Tools, and Science and Technology – CLIN 3 (5010.001.002)
- Activity 1.3: Technical Assistance and Capacity Building Support – CLIN 6 (5010.001.005)
- Activity 1.4: Technical Assistance to the Office of Gender Equality and Women's Empowerment – CLIN 8 (5010.003.006)
- Activities 2.1 and 2.2: Adaptation Partnership– CLIN 5 and CLIN 7 (5010.001.004 and 5010.002.004)
- Activities 3.1, 3.2, 3.3, and 3.4 – Emerging Issues – CLINs 5 and 7 (5010.001.004 and 5010.002.004)



PROJECT MANAGEMENT, PLANNING, AND EVALUATION

This activity covers all project management, planning, and evaluation tasks related to implementation of the Task Order. It also includes tasks related to strategic planning, internal and external communications, KM, and implementation monitoring, evaluation, and reporting.

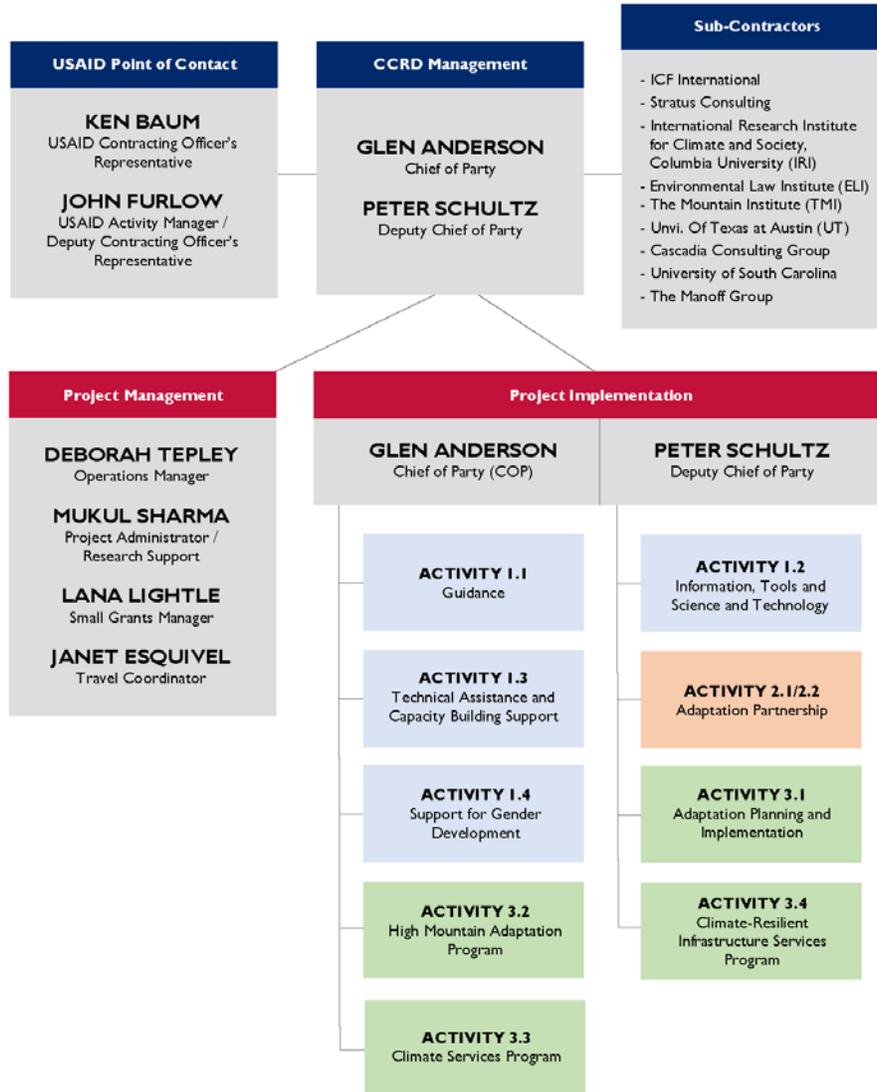
In addition to the project management tasks described in this section, CCRD implementation activities are proposed for three objectives, 10 activities, and 30 tasks. To ensure effective oversight, review, and coordination of activities and tasks, CCRD has divided responsibility for oversight between the Chief of Party (COP) and Deputy Chief of Party (DCOP) and designated coordinators for each implementation activity and for several of the project management tasks. In addition, USAID has identified points of contact (POCs) for each activity. Exhibit 2 on the next two pages summarizes CCRD organizational structure and the assignment of responsibilities.

TASK PM-I: DEVELOP YEAR THREE WORK PLAN

Draft prepared and submitted August 2013; Final draft submitted September 2013

Task PM-I Summary	
Staff:	Glen Anderson (COP), IRG, and Peter Schultz (DCOP), ICF
Schedule:	Draft August 2013; Final September 2013
Milestones:	Draft Year Three Work Plan prepared; final Year Three Work Plan submitted; updates prepared (ongoing)
Deliverables:	<ul style="list-style-type: none">• Draft Year Three Work Plan• Final Year Three Work Plan• Year Three Work Plan Updates

Exhibit 2. Organization Chart



PROJECT MANAGEMENT ----- GLEN ANDERSON

WORK PLAN G. ANDERSON / KEN BAUM
 PMP G. ANDERSON / K. BAUM
 STRATEGIC PLANNING/SAC G. ANDERSON / JOHN FURLOW
 REPORTING DEBORAH TEPLEY / K. BAUM
 COMMUNICATIONS, OUTREACH AND COMMUNITIES OF PRACTICE MICHAEL COTE / JENNY FRANKEL-REED
 POC FOR SUBCONTRACTOR/CONSULTANTS D. TEPLEY / K. BAUM
 SMALL GRANTS LANA LIGHTLE / K. BAUM

PROJECT IMPLEMENTATION ----- GLEN ANDERSON / PETER SCHULTZ

1.1 ACTIVITY: GUIDANCE G. ANDERSON / J. FRANKEL-REED
1.1 GUIDANCE, BRIEFS AND ANNEXES YOON KIM / J. FRANKEL-REED
 CLIMATE RESILIENT DEVELOPMENT FRAMEWORK Y. KIM / J. FRANKEL-REED & JONATHAN COOK
 DIAGNOSIS ANNEX P. SCHULTZ / J. FRANKEL-REED & J. COOK
 COASTAL AND MARINE ANNEX JASON VOGEL / J. COOK
 DIFFERENTIATED VULNERABILITY ANNEX ED CARR / ANDRE MERSHON
 GOVERNANCE ANNEX JESSICAL TROELL / J. COOK
 CLIMATE INFORMATION GUIDE P. SCHULTZ / J. FRANKEL-REED
 NEW DIRECTIONS IN PILOTS AND RESEARCH P. SCHULTZ / J. FURLOW

1.2 ACTIVITY: INFORMATION, TOOLS AND SCI AND TECH P. SCHULTZ / J. FRANKEL-REED
 UNDP ADAPTATION LEARNING MECHANISM WEBSITE M. COTE / J. FRANKEL-REED

1.3 ACTIVITY: PROVIDE CAPACITY BUILDING SUPPORT ON MAINSTREAMING G. ANDERSON
 SUPPORT DEVELOPMENT OF USAID'S FEDERAL AGENCY CLIMATE CHANGE PLAN MICHELLE COLLEY / NORA FERM
 SUPPORT FOR USAID INTEGRATION PILOT IN KAZAKHSTAN G. ANDERSON / J. FRANKEL-REED
 SUPPORT FOR CLIMATE RESILIENT LOW EMISSIONS DEVELOPMENT STRATEGIES CHARLOTTE MACK / J. FURLOW

1.4 SUPPORT FOR GENDER DEVELOPMENT
 TECHNICAL ASSISTANCE TO THE OFFICE OF GENDER EQUALITY AND WOMEN'S EMPOWERMENT E. CARR / A. MERSHON

2.1/2.2 ACTIVITY: ADAPTATION PARTNERSHIP P. SCHULTZ
2.1 ADAPTATION PARTNERSHIP ROSAMUND MISCHÉ JOHN
 CONDUCT URBAN ADAPTATION PARTNERSHIP WORKSHOP C. MACK / N. FERM
 CONDUCT CLIMATE AND SECURITY ADAPTATION PARTNERSHIP WORKSHOP MUKUL SHARMA / J. FURLOW
 CONDUCT TRAINING ON MAINSTREAMING FOR MARINE PROTECTED AREA MANAGERS Y. KIM / J. COOK

3.1 ACTIVITY: SUPPORT ADAPTATION PLANNING AND IMPLEMENTATION P. SCHULTZ
 SUPPORT PREPARATION OF NATIONAL ADAPTATION PLANS (NAPS) Y. KIM
 DEVELOP AND PILOT FAST TRACK IMPLEMENTATION CONCEPT P. SCHULTZ

3.2 ACTIVITY: HIGH MOUNTAIN ADAPTATION PROGRAM G. ANDERSON
3.2 HIGH MOUNTAIN AND ADAPTATION PROGRAM M. COTE
 DEVELOP THE HIGH MOUNTAIN ADAPTATION PROGRAM CoP SECRETARIAT JOHN HARLIN
 IMPLEMENT COMMUNITY OF PRACTICE PILOT PROJECTS AND RESEARCH TMI / UT

3.3 ACTIVITY: CLIMATE SERVICES PARTNERSHIP G. ANDERSON
3.3 CLIMATE SERVICES FERNANDA ZERMOGLIO
 COORDINATE ACTIVITIES OF THE CLIMATE SERVICES PARTNERSHIP STEVE ZEBIAK
 COMPILER AND DISSEMINATE CURRENT CLIMATE SERVICES KNOWLEDGE IRI STAFF
 CONDUCT CASE STUDIES AND ASSESSMENTS OF CLIMATE SERVICES IRI STAFF
 ECONOMIC VALUATION OF CLIMATE SERVICES G. ANDERSON
 PILOT NATIONAL-LEVEL CLIMATE SERVICES ANALYSIS S. ZEBIAK/IRI
 DEVELOP CLIMATE SERVICES PRODUCT FOR AGRICULTURAL SECTOR IRI STAFF
 CLIMATE SERVICES TECHNICAL BACKSTOPPING OF DEVELOPMENT PROGRAM S. ZEBIAK/IRI
 INTERNATIONAL RESEARCH AND APPLICATIONS PROJECT LISA GODDARD/IRI

3.4 ACTIVITY: CLIMATE RESILIENT INFRASTRUCTURE SERVICES PROGRAM (CRIS) P. SCHULTZ
 PROVIDE CRIS SUPPORT TO PILOT CITIES TO ACCELERATE CLIMATE RISK MANAGEMENT J. POTTER
 DESIGN AND IMPLEMENT A SMALL GRANTS PROGRAM CHRIS EVANS / L. LIGHTLE
 FACILITATE GLOBAL CITY-TO-CITY INFORMATION J. POTTER/ WENDY JAGLOM
 PROVIDE INFORMATION AND TECHNICAL RESOURCES TO USAID STAFF J. POTTER
 EVALUATE CRIS ACTIVITIES AND RECOMMEND NEXT STEPS J. POTTER

J. FURLOW
J. COOK

J. COOK

J. FURLOW

N. FERM

TASK PM-2: UPDATE AND IMPLEMENT PERFORMANCE MANAGEMENT PLAN (PMP)

The Performance Management Plan is an important tool for assessing and reporting progress in achieving the goals of the Task Order. It was developed in parallel with the Year One Work Plan to ensure that implementation milestones and targets were articulated and incorporated into the PMP. The PMP will be revised to ensure that it adequately provides for the monitoring and evaluation (M&E) of all tasks and sub-tasks included in the Year Three Work Plan.

The updates to the PMP will include qualitative analyses that indicate the effect our activities are having in relation to the intended goals of each CCRD task as well as in relation to the broader needs that go beyond the scope or timescale of CCRD.

Task PM-2 Summary	
Task Lead:	Glen Anderson and Mukul Sharma (IRG)
Schedule:	Update prepared and submitted with draft Year Three Work Plan; reporting on a quarterly basis (aligned to fiscal year)
Milestones:	Revised PMP submitted; additional mid-year updates prepared as needed; PMP reports prepared (quarterly)
Deliverables:	<ul style="list-style-type: none"> • PMP revision for Year Three • PMP updates • Quarterly and Annual PMP reports

TASK PM-3: STRATEGIC & IMPLEMENTATION PLANNING

Undertake activities to promote sustainable adaptation work across USAID, with a focus on the legacy of CCRD's work, e.g.:

- Develop well-written and illustrated documentation of highlights of USAID's adaptation work. This document or set of documents will be helpful to the Administrator, the Global Climate Change Coordinator, and the Global Climate Change Office Director as they consider and make the case for adaptation in future USAID programs. This work will highlight key accomplishments and lessons learned from across the agency, packaged in a manner that is accessible and compelling to a lay audience.
- Document case studies specifically focused on projects that moved past the diagnostic stage to illustrate how consideration of climate vulnerabilities has tangibly promoted development outcomes. This set of case studies could be used to identify key factors that helped people/projects move into implementation. These case studies may be drawn from across the breadth of CCRD including from the small grants teams as well as the high mountains, climate services, Climate Resilient Infrastructure Services (CRIS), and Climate Resilient Low Emissions Development Strategies (CRLEDS) projects.

This documentation will help to advance peer-learning and knowledge transfer from CCRD to other activities inside and outside USAID that are promoting climate resilient development. This documentation will help to reinforce CCRD's important contributions. They could set the stage for a routine annual request for information, from across the Bureaus and Missions, on the specifics of their vulnerability assessment and adaptation work. Such an inventory would be a valuable source of information to inform cross-agency collaboration and to promote learning from past experiences.

Task PM-3 Summary	
Task Leads:	Glen Anderson (IRG), Peter Schultz (ICF), and Michael Cote (IRG)
Schedule:	Complete by September 2013
Milestones:	Submission of fact sheets (greatest hits and case studies) to USAID
Deliverables:	<ul style="list-style-type: none"> • CCRD highlights fact sheets • Case studies fact sheets

TASK PM-4: CONDUCT ADVISORY COMMITTEE MEETINGS

Key personnel and senior advisors will meet on an as-needed basis to provide input to help guide the project's future directions, address implementation issues, and/or respond to new requests from USAID. These meetings will be face-to-face and are tentatively scheduled for October 2013 and April/May 2014. The participants in these meetings will include:

- Key Personnel: Glen Anderson, COP; Peter Schultz, DCOP; and Bob Raucher, Senior Water and Climate Specialist
- Advisory Committee: Yoon Kim, IRG; Anne Choate and Randy Freed, ICF; Joel Smith and Jason Vogel, Stratus Consulting; Steve Zebiak, International Research Institute for Climate and Society; and Jessica Troell, Environmental Law Institute (ELI)
- Other CCRD senior staff upon invitation
- USAID COR, DCOR, and GCC Office staff

Task PM-4 Summary	
Task Lead:	Glen Anderson (IRG) and Peter Schultz (ICF)
Schedule:	Quarterly (October 2013, April/May 2014)
Milestones:	Meetings convened and summaries prepared
Deliverables:	<ul style="list-style-type: none"> • Meeting presentations • Summaries of advisory committee meetings

TASK PM-5: REPORTING

IRG will prepare quarterly and annual reports to summarize implementation progress and project expenditures incurred during the reporting period. Per agreement with the COR, these reports will be aligned with USAID's fiscal year rather than the project year. All reports will be submitted electronically to the COR by the tenth business day following the end of the reporting period.

The quarterly reports will: (1) give an update of progress made towards fulfillment of the project's results; (2) identify implementation issues, obstacles encountered, and possible delays, if any, in fulfillment of activities included in the Work Plan and/or achievement of targets set forth in the PMP; (3) set forth proposed changes, if any, to the Work Plan; (4) contain a forecast of activities for the quarterly period immediately following the period being reported; and (5) act as acceptance of CCRD quarterly implementation.

Quarterly financial reports will contain a breakdown of project expenditures by CLIN. PMP reports and Grants Under Contract (GUC) Program reports will be appended to Quarterly Reports. The Annual Report

will be prepared in lieu of a 4th Quarter Progress Report, but will address the four points described in the paragraph above.

Task PM-5 Summary	
Task Lead:	Glen Anderson (IRG), Deborah Tepley (IRG), and Mukul Sharma (IRG)
Schedule:	Ongoing on a quarterly basis, aligned to USAID's fiscal year
Milestones:	Quarterly and annual reports prepared and submitted
Deliverables:	<ul style="list-style-type: none"> • Quarterly Progress Reports • Quarterly Financial Reports • Annual Report

TASK PM-6: DEVELOP & DISSEMINATE CCRD KNOWLEDGE MANAGEMENT (KM) PRODUCTS

Knowledge-sharing and effective communication between CCRD and the USAID GCC Office is integral to the success of the project. Equally important is effective and efficient knowledge-sharing and communication between the wider USAID community, USG partners, development practitioners, policymakers, and community stakeholders to support climate change adaptation and secure better development results.

In Year One, CCRD developed a Communications Plan, redesigned the AP website, designed interactive sites for the High Mountain Glacial Watershed Partnership Community of Practice (HMGWPC-CoP) and the Climate Services Partnership (CSP), began work on the Adaptation Learning Mechanism website redesign, and developed a design for the CCRD website.

In Year Two, CCRD implemented the *Climate Change Resilient Development Communications Plan*. Fact Sheets, newsletters, case studies, and field reports were disseminated for use by stakeholders, key USAID staff, researchers, and USG agencies. With the completion of the HMGWPC-CoP and CSP websites, partners now manage and engage stakeholders and practitioners in user forums, webinars, workshops, and conferences. Partners took on the additional responsibility of writing and managing newsletters.

Objectives of the *Climate Change Resilient Development Communications Plan*

- Communicate guidance on mainstreaming climate adaptation, why adaptation is important for development programs, and the tools that will enable USAID Bureaus, Missions, and partner organizations to more effectively plan, design, and implement climate resilient development programs
- Provide mechanisms for the contractor team members to effectively and efficiently communicate and share information with one another
- Present the project in a consistent and unified manner to promote awareness of the project, and the work of the GCC Office
- Disseminate project products and results to internal USAID and external project stakeholders, and manage/facilitate the use of products (toolkits, guidance, etc.)
- Leverage and support knowledge-sharing activities and CoPs related to AP workshops
- Use KM to enhance and implement learning, training and capacity building
- Develop methods and processes for capturing and responding to stakeholder feedback, changing needs, and innovations

In Year Three there will be a substantial broadening of communications materials. These materials will be developed and disseminated in-line with the increasing volume of deliverables from the various Task Orders. In addition to components and products developed in Years One and Two, communications materials will include high-quality videos, webinars, and conference talks. There will also be high-level, in-depth summaries of field reports, workshops, and other deliverables. There will be a central repository, e.g., the CCRD website, where all materials will be launched.

Climate Change Resilient Development Communications Plan: Stakeholders, Tools, Channels of Communication, and Take Away Messages

Stakeholder	Tools/Channel of Communication	Take Away Message
Internal		
USAID Missions/ Bureaus/other USG USAID Washington Policy, Planning and Learning (PPL) Gender, Health, Disaster, Water, Environment, Energy Offices/Bureaus/ Staff Missions Priority Missions Mission Directors Agriculture Officers Development Leadership Initiative (DLI) Development, Outreach and Communications (DOC) Officers	<ul style="list-style-type: none"> • USAID staff training courses/programs • USAID staff conferences and workshops (e.g. DOC conferences, Mission Directors Conference, Program Officers Conference, regional conferences, etc.) • USAID publications (Impact Blog, Frontlines, Office, Bureau and Mission newsletters) • DLI/New hire orientation and/or training • Project/project related websites • Tools, templates, and good practices/lessons learned • Communications pieces: Videos, documents 	Mainstreaming climate change into problem diagnosis, design, implementation and evaluation of USAID programs supports sustainable economic growth in developing countries. CCRD can help you do this, and here is how
External		
Universities, research institutions and think tanks Donor community (Bi- and multi-lateral, banks) Non-governmental Organizations (NGO) and non-profits Consultant and contractor community Private sector Media organizations and outlets	<ul style="list-style-type: none"> • Project/-project-related web pages, discussions and events (CCRD, AREFS, AP) and ALM • Live conferences, online events (webinars and e-conferences), blogs, meetings, and trainings • Brochures, fact sheets, case studies, success stories, good practices/lessons learned • Research reports and publications • Related news clips • Social media, opportunistically • Communications pieces: videos, documents 	Multiple modalities for knowledge sharing discussions and learning incorporating traditional and online tools to maximize outreach
Government (national, provincial, and local) Private Sector NGOs Civil society	<ul style="list-style-type: none"> • Project/project-related websites (CCRD, AREFS, AP) and ALM • Live conferences, online events (webinars and e-conferences), meetings, and trainings • Brochures, fact sheets, case studies, success stories, 	Multiple modalities for knowledge sharing discussions and learning incorporating traditional and online tools to maximize outreach

Local Universities and research organizations	<ul style="list-style-type: none"> good practices/lessons learned • Related news clips • Social media • Multimedia products • Study tours 	
Congress USG partners: National Oceanic and Atmospheric Administration (NOAA), State Department, United States Department of Agriculture (USDA), Department of Energy (DOE), National Aeronautics and Space Administration (NASA), National Science Foundation (NSF) Local Partners and project grantees	<ul style="list-style-type: none"> • Project/project-related websites (CCRD, AREFS, AP) and ALM • In-person conferences, online events (webinars and e-conferences), meetings, and trainings • Brochures, fact sheets, case studies, success stories, good practices/lessons learned • Related news clips • Social media • Multimedia products 	Multiple modalities for knowledge sharing discussions and learning incorporating traditional and online tools to maximize outreach
Media Expert/trade Mass	<ul style="list-style-type: none"> • Information kits • Press releases • Background briefings • Expert Interviews 	Providing accurate information to the media and messages that educate media in this complex subject

CCRD Communications Platforms and Detailed Activities.

The CCRD project website will provide the technical platform on which knowledge products and activities will be hosted. The website will be complemented by outreach and engagement efforts in order to connect with new audiences and partners, and it will publicize project products and research. Online tools such as webinars, speaker’s corners, and discussion forums will be used to share information about CCRD’s work as well as to engage the adaptation community in sharing information and experiences. Additionally, some suggested activities and products will be delivered via third party applications that are integrated into the website, such as AdobeConnect, online survey, and email newsletter software.

Since a major focus of the project is the development of general and sector-specific mainstreaming climate change guidance, and building Mission and Bureau capacity to implement the guidance through training, tools, and technical assistance, the CCRD website will focus on the following:

- Disseminate information to a broad, geographically diverse audience
- Facilitate collaboration and peer-to-peer learning between USAID colleagues
- Capture good practices, lessons learned, tools, templates, and experiences
- Provide a “feedback” loop as the guidance is adopted and applied
- Provide a platform that can facilitate focused, thematic group collaboration
- Support continuous learning and supplemental training activities
- Link key adaptation resources and activities being developed across USAID

- Ensure responsiveness to audience needs

Additional KM support will be provided through the Adaption Learning Mechanism (ALM) website, and the AP website and Communities of Practice. All three activities, ALM, AP and AP CoPs, will provide opportunities to exchange information and knowledge with practitioners from the broader climate change adaptation community and leverage the KM efforts of partner organizations, academic institutions, and project stakeholders. Activities include:

- Review and upgrade ALM website to improve functionality and usability and narrow the site's focus on the activities with the most value-added
- Contribute new content to ALM and incorporate the information on the site into USAID GCC trainings
- Continue to support CoPs by providing strategic guidance and facilitation support through the CoP websites

The suite of KM tools and activities listed below will be implemented based on the specific objective of a project task or sub-task, and will be tailored to meet the needs of that specific target audience. These activities can be hosted on the CCRD website, AP CoPs, and/or ALM. The tools and activities may include:

- **Working Groups, Learning Networks and/or Communities of Practice:** The website can support thematic, sector, region, and country groups and facilitate tailored knowledge generation and sharing. Working groups can be formed around a specific, time-bound goal, such as the drafting of guidance or policy; Learning Networks can be formed to facilitate continuous learning and exchange between a training cohort or staff sub-set (e.g. DLIs); CoPs can be formed to facilitate collaboration, exchange, and problem-solving between practitioners working in on a specific issue.
- **Expanded/alternative modes of training delivery and capacity building:** Classroom and in-person training is limited in terms of the number of people it can reach and the amount of information that can be conveyed. The CCRD website can supplement and expand instructor-led deliveries through online products and activities that will be developed to complement all of our sector-specific guidance and annexes, including the following:
 - a. Online audio slideshows – prerequisites, updaters modules, overview modules, etc.
 - b. Webinars – instructor-led, virtual training sessions
 - c. Office Hours – instructor-led training can be supported by follow-up sessions with small and medium-sized enterprises (SMEs) during which participants can pose questions about implementation of knowledge learned
- **Online collaboration technologies and activities:** The website will be built to support a variety of collaboration and communication activities, which can be used to facilitate peer-to-peer interaction, push information to site members, provide on-demand answers and information, and discuss and debate new or evolving topics and issues. These activities include:
 - a. Online discussions – Time-bound, asynchronous online discussions moderated by an SME and focused on a specific issue or topic
 - b. Blog – Personal, informal, subjective, and critical. Blogs are an avenue for experts or those with a specific point of view to provide commentary on a topic or issue. Blogs can be used effectively to tease out or elevate an issue/topic that may have been broached, but not fully explored, elsewhere (e.g. during a training course or an online discussion)
 - c. Help/advisory service – Provide support to site members looking for specific information; service will facilitate information/knowledge sharing and generation. Needs to be facilitated

by a “librarian” who can effectively direct advisee to appropriate resources and SMEs who can provide answers.

- d. Frequently Asked Questions (FAQ) – Collection of curated questions and answers, organized by topic/issues and generalized for all site users. FAQs can be categorized as needed (topic, sector, region, etc.) and should be constantly updated and revised
- **Knowledge products and engagement/outreach activities**
 - a. Email Newsletter
 - b. Calls to action – Solicit members to submit case studies or templates to be posted online, highlighted in the newsletter, or incorporated into training
 - c. Podcasts, audio screencasts, videos – Capture live presentations, record expert interviews, etc.
 - d. Media placement
 - e. Social media (Twitter, Facebook)
- **In-person events: Seminars, workshops, brown bag sessions, etc.**
 - a. Identify opportunities to incorporate information about CCRD KM services/activities in relevant trainings, workshops, etc.
 - b. Identify opportunities for CCRD to host brown bag/information sessions on project activities and/or opportunities for CCRD to present project activities at other events. These events should be assessed for capture opportunities – recording presentation, event summaries and report-outs, interviews with presenters, etc. IRG currently hosts bi-monthly Community Adaptation meetings. Community Adaptation Meetings bring together the DC-based adaptation community to present and discuss projects and issues, and share experiences related to climate change adaptation. The meetings are open to anyone interested in adaptation work in the developing world, including NGOs, contractors, and academics.

Task PM-6 Summary	
Task Lead:	Michael Cote (IRG)
Schedule:	Year Three
Milestones:	CCRD KM products reviewed and approved by USAID, and disseminated
Deliverables:	Communications, outreach, and KM products

TASK PM-7: IMPLEMENT GRANTS UNDER CONTRACT PROGRAM

In Year Three, IRG will continue to manage Year One small grant implementation, issue continuations for grantees, and develop new small grant solicitations. CCRD conducted three small grant solicitations in Year Two and will issue new grant agreements for small grants in response to the solicitations that included: (1) the CSP small grants to support the development of climate services based on the good practices identified through CSP case studies and evaluation activities; (2) the CRIS small grants to develop and test approaches that can increase the climate resilience of infrastructure assets – and the services they provide – in developing countries, and (3) the CCRD Climate Adaptation Small Grants Program targeted at academic and research institutions and designed to support physical and social science, and engineering research related to climate change impacts and adaptation, with a focus on supporting good development outcomes despite climate change stress.

During Year Three, a second CRIS small grant solicitation is envisioned and, as resources allow, CCRD will consider a new solicitation focused on applying the Mainstreaming Guidance. This solicitation would be similar in scope to the current academically focused solicitation, but would be tailored to NGOs and other eligible organizations that can demonstrate practical use of CCRD’s mainstreaming framework. In addition, CCRD will consider extension of Year One Climber-Scientist small grants that will be completed in the first two months of Year Three.

In addition, as resources allow, Ms. Lana Lightle, CCRD Small Grants Manager, will continue to coordinate the preparation and solicitation of Requests for applications (RFAs), compile small grant applications, and organize the review of proposals by the technical review panel. A selection meeting will be convened to discuss new applications and recommend award. A decision memo and all supporting material will be submitted to the COR for his approval. Upon COR consent and clearance, IRG will negotiate grant agreements with the new recipients, supervise and monitor grants, and review recipients’ final report and all deliverables specified in the grant agreement. As part of the quarterly and annual reports, IRG will provide a summary of GUC activities during the reporting period.

Task PM-7 Summary	
Task Lead:	Lana Lightle (IRG) (Grants Manager)
Schedule:	Rolling – solicitations organized on an as-needed basis
Milestones:	RFAs issued; selection meetings convened; small grants awarded, implemented, and completed
Deliverables:	<ul style="list-style-type: none"> • RFA solicitations • Decision Memos • Small Grant deliverables and reports • Inputs to CCRD quarterly and annual reports

OBJECTIVE 1: SUPPORT FOR USAID MISSIONS AND BUREAUS

In support of Objective 1, CCRD has been developing guidance, supporting annexes and briefs on mainstreaming adaptation into development planning. These guidance documents are intended to help USAID Missions and Bureaus, and adaptation practitioners to more effectively plan, design, and implement climate resilient development programs. In addition, CCRD will respond to requests from USAID Bureaus and Missions to provide technical assistance related to assessment of climate impacts and vulnerability, support prioritization activities, and help build staff and partner organizational and technical capacity in all facets of climate resilient program and project planning, design, and implementation. Tasks to support Objective 1 are organized under six activities: guidance, information, tools, science and technology, technical assistance and capacity building support, and support for gender development.

ACTIVITY 1.1 GUIDANCE, PILOTS, AND RESEARCH

The USAID GCC Office has pioneered climate adaptation guidance featuring the V&A approach. Guidance manuals were prepared in 2007 (general V&A guidance focused on project-level adaptation) and 2009 (V&A guidance tailored to coastal climate concerns). In Years One and Two, CCRD drafted guidance to emphasize mainstreaming of climate concerns into development planning at multiple scales. In addition, annexes on diagnosis (formerly vulnerability assessment), coasts, water, differentiated vulnerability, and governance were drafted or in progress. Most of these annex drafts have been revised based on comments from USAID, CCRD staff, and outside reviewers. They are scheduled for completion early in Year Three.

TASK 1.1.1: DEVELOP ADDITIONAL MAINSTREAMING GUIDANCE

Year Two Progress and Results: Mainstreaming Guidance complete and approved by USAID; revised draft of Vulnerability Assessment Annex completed

Year Three Activities:

The mainstreaming guidance – Climate-Resilient Development Framework – is expected to be finalized in September 2013. In support of the mainstreaming guidance, CCRD will disseminate guidance awareness and KM products, identify opportunities to organize sessions at international workshops, prepare short papers and/or journal articles, and develop outreach materials on the guidance.

Task 1.1.1 Summary	
Task Lead:	<ul style="list-style-type: none"> Yoon Kim (IRG)
Schedule:	Year Three
Milestones:	<ul style="list-style-type: none"> CRD Framework document finalized; KM products drafted, finalized and disseminated; proposals for workshops sessions prepared and submitted
Deliverables:	<ul style="list-style-type: none"> Final draft of the CRD Framework document KM materials including journal articles

TASK 1.1.2: DEVELOP CLIMATE GUIDANCE BRIEFS AND ANNEXES

Year One and Two Progress and Results: The Water, Sanitation, and Hygiene (WASH) and Health Climate Guidance Briefs were completed. These briefs were prepared by USAID and CCRD is reviewing

them - adding a section on climate services and preparing production versions. CCRD revised and finalized the Water Annex, and prepared draft and near-final versions of the Diagnosis (formerly Vulnerability Assessment), Coasts/Marine, Differentiated Vulnerability, and Governance annexes.

Year Three Activities:

Finalize the Diagnosis, Coasts/Marine, Governance, and Differentiated Vulnerabilities Annexes. *An emphasis of the Year Three work on the annexes will be to ensure their consistency with the main, Climate-Resilient Development guidance document.*

Climate Information Users Guide: A user-friendly guide to climate information for vulnerability assessment and adaptation will be developed. It will be an essential complement to the annexes that have developed. ICF will lead the writing, with inputs and reviews from IRI, IRG, and Stratus. The document will be written in plain English in order to serve the broad audiences that require this information. It will include guidance on how to navigate environmental data, including information about both historical and present climate conditions from *in situ* and remotely sensed observations as well as blends of observations and models. Similarly, it will address future climate conditions from seasons to centuries from a range of model types, ranging in scale from global to local for the range of relevant climate phenomena. The guide will also include a section on key sources of information and approaches for obtaining information, even in situations where data access may be difficult.

Infusion of CCRD Guidance into CCRD Activities. IRG and ICF will work with CCRD’s grantees and CRIS pilot cities to ensure that the *Climate Resilient Development* guidance document and its annexes are fully utilized. Lessons learned from this utilization will be documented in brief notes that will be shared with CCRD partners and the GCC team. Corresponding adjustments to the guidance documents will be drafted.

Task 1.1.2 Summary	
Task Leads:	<ul style="list-style-type: none"> • Diagnosis Annex – Peter Schultz (ICF) • Water Annex – Bob Raucher (Stratus Consulting) • Coastal and Marine Annex – Jason Vogel (Stratus Consulting) • Differential Vulnerability Annex – Ed Carr (USC) • Governance Annex – Jessica Troell (ELI) • Climate Information Users Guide – Peter Schultz (ICF), Fernanda Zermoglio (Engility)
Schedule:	August 2013 – August 2014
Milestones:	<ul style="list-style-type: none"> • Final annex drafts completed; USAID internal review and comment; finalization • Initial draft Climate Info Users Guide; USAID review; finalization
Deliverables:	<ul style="list-style-type: none"> • Final draft versions of the Diagnosis, Water, Coastal/Marine, Differential Vulnerability, and Governance Annexes • Draft and final drafts of Climate Info Users Guide • Publication quality versions of all documents

TASK 1.1.3: DEVELOP LESSONS LEARNED ON MAINSTREAMING CLIMATE ADAPTATION

Year One and Two Progress and Results: Lessons learned on infrastructure and climate change was drafted in Year One and finalized in Year Two. This report was a pilot to help CCRD and USAID review one possible template for future lessons learned reports. CCRD reviewed comments on the infrastructure and climate change lessons learned report, and revised and finalized the report. A template was developed for future lessons learned reports. CCRD management reviewed ideas for lessons learned and good practices papers from CCRD partners and propose to COR and DCOR. Some ideas for papers include risks

management, financing, mainstreaming climate into Country Development Cooperation Strategies (CDCs), and private sector good practices and lessons learned.

Year Three Activities: No activities planned

TASK 1.1.4: PREPARE CASE STUDIES TO DEMONSTRATE THE MAINSTREAMING GUIDANCE

Year One and Two Progress and Results: The Philippines WASH and water security case study in Iloilo began in July 2012 with meetings in Manila with USAID and Philippine national level counterparts. The Philippines WASH case was completed in the first quarter of Year Two.

Year Three Activities: No activities planned

TASK 1.1.5: NEW DIRECTIONS IN PILOTS AND RESEARCH

In the Roadmap for Implementation in the USAID Climate Change & Development Strategy, two of the critical steps suggested to promote integrated approaches are pilots and climate change and development research. In support of pilots, USAID has conducted a competitive process among field missions to fund proposed integration pilots. In addition to the Strategy's discussion of the importance of research, the RFTOP for CCRD identifies research to inform adaptation programming as one of the three priority areas including, illustratively, "background, white, or research papers." Subtasks for pilots and research under CCRD are described below.

Subtask 1.1.5.1 Exploratory small grants and pilots to demonstrate the mainstreaming guidance

Small grant programs and pilots may be developed to support nascent CCRD program concepts or to explore implementation of existing activities or approaches (e.g., the V&A guide and the Vulnerability Assessment appendix). The impetus for a new small grant program or pilot may arise from a variety of sources including the papers described below (subtask 1.1.5.2) and the GCC team, among others. Small grant programs or pilots that are directly associated with a central CCRD program element (e.g., high mountains, urban, etc.) will be administered through that CCRD element, not this one.

An increasing emphasis has been placed on building from the work established in the first two years, including the V&A guidance (and its annexes and appendices) as well as existing and newly developed training materials. The small grants announced in Year Two required applicants to link their research, policy and capacity building proposals to the CRD Framework. In addition to these small grants, CCRD proposes to conduct a climate resilient low emissions development strategy (CRLEDS) during Year Three. This pilot will explore the opportunities of integrating adaptation and mitigation actions and consequences into strategies that have developed in low emissions energy planning and adaptation planning.

Year Three Activities: In Year Three, the team will continue to work with stakeholders to build out the framework for the CRLEDS pilot. The CCRD team will also begin to roll out the pilot(s) in full force. We envision the pilot(s) to include side-by-side technical assistance with stakeholders, and may also incorporate training or other capacity building activities. The exact activities that will be implemented will depend on the framework developed in conjunction with the pilot stakeholders. This will ensure that the pilot(s) are testing CRLEDS concepts and also fulfilling needs of the pilot sites. We suggest that CRLEDS be tested in one location during Year 3 to determine if the methodology, as tested or revised, can be replicated across diverse scenarios and to a wide range of local contexts. The proposed pilot will be conducted in Jamaica, in partnership with the USAID Mission and representatives from central and local government in Jamaica..

Task 1.1.5.1 Summary	
Task Leads:	Peter Schultz (ICF)
Schedule:	Year Three
Milestones:	CRLEDS concept note prepared; background work completed to inform decision on CRLEDS pilot; pilot(s) conducted; report drafted, revised, and finalized
Deliverables:	<ul style="list-style-type: none"> • CRLEDS concept note • Decision memo on CRLEDS pilot selection • Draft and final reports

Subtask 1.1.5.2 Prepare background, white, and research papers

Year Two Progress and Results: The CCRD team received more than 60 concept proposals for background, white, and research papers focused on climate change and development. From these proposals, the CCRD team selected six to be taken forward as white papers. The purpose of the papers is to explore and to articulate the case for ways that CCRD can advance on a range of fronts in an innovative fashion. Six papers completed in Year Two cover the following topics: climate information in data-sparse situations (developed by IRI, Stratus, and ICF), using demographic health surveys to advance climate-resilient development (ICF and IRI), cost-effectiveness of adaptation options (Stratus and ICF), harmonizing the V&A approach with disaster risk management planning (IRG and ICF), private sector engagement (ICF and Stratus), and creating positive incentives for adaptation (Stratus and IRG).

Year Three Activities: The following white papers will be developed and applied during Year Three. Discussions between CCRD team members and the GCC team will be undertaken to consider the use of the ideas in the white papers developed in prior years in CCRD's ongoing activities.

- White paper on pre-planning for post-disaster redevelopment. The draft of this white paper will be circulated for CCRD partner review and finalized.
- Access to climate change data white paper: Draft white paper on practical considerations for municipalities in accessing climate change data and engaging with hydro-meteorological services to inform decision making related to infrastructure services, in collaboration with IRI (second quarter of 2014).
- Principles of peer learning and applications for CRIS white paper: Draft white paper on peer learning best practices in order to determine the peer learning approach for CRIS. This paper will be developed over the third quarter of 2013 (calendar year) and will support Activity 3.4 as well as other CCRD activities.

Task 1.1.5.2 Summary	
Task Lead:	Peter Schultz (ICF), Charlotte Mack (ICF), Molly Hellmuth (ICF)
Schedule:	Third quarter 2013 (calendar year) <ul style="list-style-type: none"> • White paper on peer learning methodologies • White paper on pre-planning for post disaster reconstruction First quarter 2014 (calendar year) <ul style="list-style-type: none"> • White paper on climate change data and met office engagement
Milestones:	Draft and final white papers
Deliverables:	Final white papers

ACTIVITY 1.2 INFORMATION, TOOLS, AND SCIENCE AND TECHNOLOGY

This activity focuses on supporting adaptation assessment and planning capacity by understanding the needs that Bureaus and Missions have for tools to identify and address possible project vulnerabilities and risks posed by climate change impacts. It was initiated in Year One through two key tasks: (1) understanding USAID Bureau and Mission needs for climate change adaptation tools and (2) maintaining the GCC Office’s help desk.

We define “climate tools” quite broadly as knowledge² products that can guide climate risk screening, assessment, and management at organizational levels ranging from individual projects to regional and sectoral programs to whole-agency planning. We define “toolkits” as aggregations of tools. These tools may be manifested in a range of media including print, websites, social media, training, and CDs, and they may include disciplines as diverse as (but not limited to) communication, physical climate, vulnerability assessment, climate impacts, risk management, monitoring and evaluation (M&E), decision analytics, financing, communicating/ educating stakeholders, and governance.

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

Year One and Two Progress and Results: Interviews with USAID staff in Washington were completed and a summary report on interviews prepared. A draft action plan was prepared on how CCRD can support Bureau and Mission staff in providing climate adaptation tools. However, given the tepid response and limited interest in USAID in an adaptation toolkit, CCRD will respond to requests for assistance and opportunities, rather than finalize the action plan and actively build a toolkit.

Year Three Activities: No activities planned

TASK 1.2.2: MAINTAIN THE GCC OFFICE HELP DESK

Year Two: No Activities.

Year Three Activities: No activities planned

² Here, “knowledge” refers to the interpretation or characterization of raw or primary data and information.

TASK I.2.3: SUPPORT THE UNITED NATIONS DEVELOPMENT PROGRAMME ADAPTATION LEARNING MECHANISM WEBSITE

Year One and Two Progress and Results: Conducted meetings with United Nations Development Programme (UNDP) and the UNDP’s website development vendor to discuss giving CCRD administrative privileges, and desired improvements for website. Obtained agreement from UNDP and USAID on a path forward for site redesign. CCRD had begun work with the UNDP website development vendor Aten Design Group to redesign the site. During the development phase, CCRD staff began collecting and uploading content to the existing site (prior to content migration). CCRD will be given Administrative privileges to upload content to the ALM site, allowing USAID to more easily contribute material to the site. CCRD will also work with UNDP to prepare outreach material to popularize the ALM website.

Year Three Activities: Launch website in early November (according to Purchase Order timeline with Aten design group) with existing ALM content in addition to new content collected throughout Year Two. Issue press release, webinar, or other website launch event to attract attention to the new site. Use the ALM as a repository for CCRD specific materials with sub-domain (and tab) USAID.AdaptationLearning.net. Following the launch of the website, the team will continue to build the repository with new studies and technical documents related to adaptation.

Task I.2.3 Summary	
Task Lead:	Michael Cote (IRG)
Schedule:	August 2013 – December 2013
Milestones:	ALM website upgraded; content for ALM vetted by COR and GCC Office; content uploaded to ALM website; launch event
Deliverables:	<ul style="list-style-type: none"> • Upgraded ALM website • ALM launch press release / webinar • Sub-domain for CCRD related docs

ACTIVITY I.3 TECHNICAL ASSISTANCE AND CAPACITY BUILDING SUPPORT

This activity includes tasks, as requested, to support USAID Bureaus, regional and bilateral Missions, and USG, NGO, research, and private sector partners in developing countries. Illustrative tasks that may be undertaken include preparation of background papers on priority vulnerabilities and adaptation options, vulnerability assessments, sector studies, analyses of existing USAID portfolios, side-by-side assistance to national and sub-national adaptation planning efforts, and training and other capacity building.

TASK I.3.1: PROVIDE CAPACITY BUILDING SUPPORT ON MAINSTREAMING V&A

Strategic Objective 2 from the USAID Climate Change & Development Strategy is to “increase resilience of people, places, and livelihoods through investments in adaptation” (2012). A critical aspect of enhancing resilience to climate change and of achieving all three Intermediate Results under Strategic Objective 2 – to improve access to science and analysis for decision-making (2.1), establish effective governance systems (2.2), and identify and take actions that increase climate resilience (2.3) – is strengthening adaptive capacity. This in turn requires building the capacity of USAID as well as of developing country partners to better understand and address climate change impacts in support of climate resilient development.

Capacity has many dimensions, including personnel and financial resources, information, technology, and knowledge. Depending on the type of capacity that is being targeted, different types of activities are required.

In Year Two, CCRD’s capacity building efforts will focus on improving knowledge through technical assistance, training, and other capacity building activities.

Year One and Two Progress and Results: CCRD provided technical assistance to the USAID Mission in Benin as part of a TDY team to assess vulnerability of education infrastructure and identify options for addressing climate concerns. CCRD has already begun to conduct training to support its existing activities. For instance, to complement the work under the High Mountain Glacial Watershed Program (HMGWP), CCRD has already conducted an adaptation training-of-trainers in Nepal and Peru. As CCRD further develops its training component in Year Two, it will seek to build on existing training activities within USAID, with a focus on deepening adaptation-related knowledge in core project areas. In particular, it will coordinate with the Global Climate Change Training Project, which is tasked with providing foundational training to USAID staff to support all three Strategic Objectives in the Climate Change & Development Strategy.

Year Three Activities: CCRD, working with Ms. Nora Ferm, will conduct a training-of-trainers on the USAID Climate-Resilient Development Framework for USAID/Macedonia implementation partner, Milieukontakt, an NGO funded by USAID under the Municipal Climate Change Support Project, and a group of trainers, contracted by Milieukontakt. Milieukontakt is working with 8 municipalities on GHG mitigation and climate adaptation and plans to apply/adapt the USAID adaptation planning approach in conducting stakeholder workshops to discuss climate change impacts, vulnerability, and adaptation options. A key component of the training will be to introduce and apply alternative methods for prioritizing adaptation options. In addition to the stakeholder workshops, Milieukontakt will work side-by-side with municipalities to follow up on the stakeholder workshops.

The training-of-trainers activity will include two days of instruction, followed by side-by-side assistance to Macedonian trainers in preparing for their stakeholder workshops. The trainers will present the agenda and training materials to CCRD and USAID for comments and suggested improvements and finalize the program for first workshop. Milieukontakt will convene the first municipal stakeholder workshop with USAID/CCRD trainers participating both as trainers and small group co-facilitators. A second workshop with CCRD participation may also be scheduled.

Task I.3.1 Summary	
Task Lead:	Glen Anderson and Charlotte Mack
Schedule:	September – November 2013
Milestones:	Agenda drafted and submitted to USAID and Milieukontakt for comments; training materials prepared
Deliverables:	<ul style="list-style-type: none"> • Draft and final agenda • Training materials

TASK I.3.3: SUPPORT DEVELOPMENT OF USAID’S FEDERAL AGENCY CLIMATE CHANGE ADAPTATION PLAN

Year Two Progress and Results: USAID is required to develop an agency climate change adaptation plan under Executive Order (E.O.) 13514, Federal Leadership in Environmental, Energy, and Economic Performance. The E.O. requires each agency to evaluate climate change risks and vulnerabilities in order to manage both the short and long-term effects of climate change on the agency’s mission and operations. The FY 2013 plan, which was submitted to the Council on Environmental Quality (CEQ) and Office of Management and Budget (OMB) in June 2012, must be updated on an annual basis. The COR may request

that CCRD undertake the following activities in order to finalize the FY 2013 and/or FY 2014 Adaptation Plans:

- **Country and regional program vulnerability assessment:** In Year One, a brief assessment of climate risks and opportunities was conducted for 25 USAID Missions in countries and regions where USAID has significant investments. In Year Two, CCRD supported the drafting of the annual Adaptation Plan and revised the country vulnerability profiles.
- **Response to public comment.** Following the release of the USAID Adaptation Plan for public comment, CCRD supported USAID in compiling and responding to public comments..

Year Three Activities: Develop the 2014 Adaptation Plan. The following activities may be required to complete the FY 2014 Adaptation Plan:

- If requested by the COR, CCRD will assist the GCC Office in preparing the annual update of USAID’s Federal Agency Climate Change Adaptation Plan for CEQ. This may require CCRD to conduct background research in order to identify activities that USAID has completed, those they have not completed, as well as those they wish to include in the FY 2014 Plan. The team may also need to respond to comments and update the vulnerability profiles to reflect any requested changes or additions.
- Build on earlier work to develop country vulnerability profiles, either by expanding the countries covered or by publicizing and making country profiles more accessible.
- Provide Additional Support. CCRD will provide additional support to the GCC Office as needed. This may include attending and/or coordinating meetings, providing technical assistance, conducting research, or coordinating the response to public comments, among others.

Task I.3.3 Summary	
Task Lead:	Michelle Colley (ICF)
Schedule:	August 2013 – August 2014
Milestones:	Draft of USAID’s Climate Change Adaptation Plan update for 2014 submitted for review; Final draft of USAID Adaptation Plan for 2014 submitted
Deliverables:	<ul style="list-style-type: none"> • 1st and 2nd drafts of USAID Adaptation Plan for 2014 • 1st draft and final responses to public comments • Final draft of USAID Adaptation Plan for 2014

TASK I.3.4: PROVIDE SUPPORT FOR USAID INTEGRATION PILOT IN KAZAKHSTAN

Year Two Progress and Results: CCRD supported selected activities for the Integration Pilot, titled “Improving the Climate Resiliency of Kazakhstan Wheat and Central Asian Food Security” and referred to as Climate Resilient Wheat (CRW). The integration pilot was submitted by USAID/Central Asia Republics and is being implemented by UNDP. CCRD activities included:

- Participation in start-up activities, including inputs to the Year One Work Plan for CRW
- Organizing and convening four stakeholder workshops for national level stakeholders, farmers, and other local stakeholders. Workshops involved a combination of training on climate impacts and adaptation planning and small group exercises to describe non-climate stressors and rank the most

important problems facing farmers, elicit perceptions of climate change, and identify options for reducing vulnerability to climate change and variability.

- Organizing and convening a roundtable on weather and climate information and services, bringing together US experts in weather, seasonal, and drought forecasts with Kazakh counterparts. This roundtable provided for a technical exchange on the current situation in Kazakhstan and international methods for forecasting and culminated in recommendations for CCRD technical assistance and capacity building support to the three institutional partners of UNDP: Kazagroinnovation, Kazhydromet, and the National Space Institute related to weather and climate forecasting, management of weather and climate data, and the application of crop simulation models.

Year Three Activities: CCRD support for the Integration Pilot is described below and is aligned with the following activities in the CRW Work Plan:

- Activity 1.2 – Improved data collection and dissemination mechanisms (CCRD Subtask 1.3.4.1)
- Activity 1.3 – Development of forecasting models (CCRD Subtasks 1.3.4.2, 1.3.4.3, and 1.3.4.5)
- Activity 2.2 – Mainstreaming wheat climate resilience into relevant climate change adaptation and agricultural strategies and Activity 2.4 – Capacity development and awareness training (CCRD Subtask 1.3.4.4)

Subtask 1.3.4.1 – Improved data collection and dissemination mechanisms

In the CRW/CCRD Roundtable, the National Space Institute (NSI) and Kazhydromet (KHM) indicated in their self-assessments that they wanted to improve the way that weather and climate information is managed and transformed into online products for users. They want to make better use of visualization and mapping products in displaying weather and climate information. In addition, NSI develops forecasts for crop yields and wants to improve the display of this information on their geo-portal.

CCRD will provide short term technical assistance to NSI and KHM to strengthen their management of weather and climate information, assist in revising protocols for determining what information and services will be provided on their respective websites, and for sharing data among researcher in Kazakh institutions, and improve the presentation of on-line information.

This assistance will be organized into two phases. In August 2013, CCRD will field a data and geo-portal specialist, Ms. Fernanda Zermoglio, to Kazakhstan. She will meet with data management and website staff in NSI and KHM, review current management practices and on-line displays, make recommendations to both organizations on improving their management and display of weather and climate information, and prepare a work program. In the second phase, Ms. Zermoglio will work with a data management specialist to be provided by CCRD to make recommended improvement in collaboration with staff at NSI and KHM and train staff in the use of all new programs and software.

Task 1.3.4.1 Summary	
Task Lead:	Fernanda Zermoglio (IRG)
Institutional Partners:	National Space Institute and Kazhydromet
Milestones:	Review of data management systems, dissemination protocols, and website/geo-portal displays completed; data management systems for NSI and KHM improved, new data sharing and dissemination protocols prepared; geo-portal visualization improved; NSI and KHM staff trained in using new data management and display programs and software.
Deliverables:	<ul style="list-style-type: none"> • Review of current NSI and KHM data management and dissemination capabilities • New data sharing and dissemination protocols • Training materials • New geo-portal displays for NSI and KHM websites

Subtask 1.3.4.2 – Weather and climate information and forecasts

One of the major challenges facing wheat growers in Kazakhstan is climate variability. Reliable forecasts are critical in making annual decisions of when to plant and selecting the appropriate varieties of wheat and other cereals and oilseed crops. CCRD will provide technical assistance to KHM in order to improve monthly forecasts for temperature and precipitation and strengthen capacity to prepare drought forecasts. This work will be conducted by experts at the International Research Institute for Climate and Society (IRI) at Columbia University.

Mr. Tony Barnston at IRI will lead work to develop long-term statistical methods of forecasting temperature and precipitation in Kazakhstan with particular focus on the wheat-growing regions of Northern Kazakhstan. Working with long-term forecasting specialists in KHM, Mr. Barnston will assist in introducing the use of a hierarchy of regression techniques to make statistical, probability-based forecasts. He will also assist in exploring the possible use of dynamical climate prediction models that may be available in making the seasonal forecasts. In conjunction with the work on improved forecasting methods, Mr. Barnston will assist KHM in improving the forecast verification system to cover the currently used deterministic analogue system, and both the deterministic and probabilistic versions of the statistical forecast systems to be developed. The work will initially be applied to publicly available gridded surface data sets over Kazakhstan, but could be applied to Kazakh station data, if made available by KHM.

Dr. Bradfield Lyon will lead work on improving the current drought analysis and forecast products. The initial activity will focus on reviewing the current drought indicators used by KHM, and consider the use of the Standardized Precipitation Index (SPI). The possibility of using IRI software at KHM to compute the SPI and other drought indices will be explored. This latter activity will require KHM to provide the mathematical formula used to calculate their drought indicators and to provide information on digital formats used to store the station data required to construct the drought indicators. Dr. Lyon and an IRI software specialist will travel to Almaty to install the software and provide training on its use to construct the SPI and other drought indicators as well as using the software to develop graphics, which can be used to communicate drought forecast information to other Kazakh agencies and users. This latter effort will involve the development of map rooms for the display of current drought conditions and the forecast values of the SPI. Initially, these map rooms will be based on publically available precipitation data. The map rooms can be subsequently upgraded to include information for all meteorological stations in Kazakhstan provided that KHM develops the necessary digitized station data in a format amenable for use by the IRI software.

Task 1.3.4.2 Summary	
Task Lead:	Tony Barnston (IRI) and Bradfield Lyon (IRI)
Institutional Partners:	Kazhyromet
Milestones:	<p>For long term forecasting: Alternative analogue forecasting methods tested; statistical forecasting methods demonstrated; KHM staff trained in improved forecasting methods; forecast verification system improved.</p> <p>For drought forecasting: Drought analysis and forecasting options reviewed; KHM drought index formulas assessed and digital station data formatting reviewed for compatibility with IRI software; IRI software installed in KHM; KHM staff trained in preparing the various drought indicators for analysis of current conditions and in generating SPI forecasts; KHM staff trained in generating associated graphics that can be disseminated to various agencies and users.</p>
Deliverables:	<p>For long term forecasting:</p> <ul style="list-style-type: none"> • Improved statistical forecast systems • Extension of forecast format to include probabilistic forecasts • Improved forecast verification system for both deterministic and probabilistic forecast systems <p>For drought forecasting:</p>

	<ul style="list-style-type: none"> • Review of drought analysis options • Develop an automated drought analysis map room for the display of current drought conditions based on multiple indicators • Develop an automated SPI forecast map room • Provide training on the use of IRI software for drought analysis and forecasting
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Subtask 1.3.4.3 – Demonstration of microwave remote sensing products in developing forecasts and analytical products

One of the major challenges in using traditional remote sensing data in support of forecasting and analysis is that it does not penetrate cloud cover and results in breaks in times series remote sensing maps. Special Sensor Microwave Imager (SSM/I) technology addresses this limitation, albeit at a low resolution level of 30 kilometers. The SSM/I technology is used to develop wetness and temperature products that can be used to support crop yield and drought forecasting and in assessing climate impacts such as desertification, a major concern in Kazakhstan.

The SSM/I technology and weather products are proprietary property of WeatherPredict, which provides these products and analyses based on these products to public and private clients. CCRD will not fund the provision of these products to Kazakhstan, but plans to support demonstrations of the value of these products and forecasts and analytical outputs that are partly or solely based on the SSM/I technology and products. Following these demonstrations, the NSI can decide if it wants to work with WeatherPredict to produce improved soil moisture, drought, and crop yield forecasts. It should investigate the use of SSM/I technology to forecast drought represents an alternative method to those presented above in Subtask 1.3.4.2, providing Kazakhstan with a third method for forecasting drought..

CCRD will support three demonstrations of the SSM/I technology and products. The first activity will involve the development of an automated system of translating SSM/I wetness index into soil moisture measures at various soil depths, according to soil characteristics. NSI conducted an extensive survey of soil moisture measures at various soil depths in 2001. An analysis of this soil moisture data and historical data from SSM/I for the same time period will be conducted to develop functional relationships between wetness and soil moisture. The statistical relationship between wetness and soil moisture will be estimated and the results used to create system for automatically converting SSM/I wetness index into an integrated measure of soil moisture that will be beneficial to farmers and extension agents in assessing planting dates and growing conditions. These soil measures will also be valuable as one of several variables in predicting potential crop yields.

The second demonstration will focus on testing and integration of the SSM/I wetness and temperature products with the Normalized Difference Vegetation Index (NDVI) signal from the Moderate Resolution Imaging Spectroradiometer (MODIS) satellite into a tool for monitoring growing conditions and making yield predictions.in wheat-growing regions of Kazakhstan. The current MODIS-based greenness index only allows for reliable yield predictions after planted vegetation coverage can be observed from remote sensing maps. The new tool, based on statistical analysis of wetness, temperature, and the greenness index for historical crop yields will enable earlier and more accurate wheat yield predictions.

The third demonstration will examine rates, magnitude and spatial structure of desertification in the pasture land across Kazakhstan. The SSM/I instrument provides longer temporal scale and improved fidelity than is currently possible from the MODIS instrument. Moreover, the limited network of stations in the area does not provide a reliable indication of the spatial structure of changes in temperature and precipitation. The team will test the wetness and temperature products in these regions, to determine if they provide insight into the spatial and temporal changes in upper level soil moisture and temperature patterns. Since the SSM/I is largely unimpeded by clouds it can detect these trends over a 25 year period.

Task 1.3.4.3 Summary	
Task Lead:	Alan Basist (WeatherPredict)
Institutional partners:	National Space Institute
Milestones:	<p>For analyzing and monitoring soil moisture: Analysis of soil moisture observations and wetness values completed; transfer functions to relate wetness index to soil moisture formulated; automated system for constructing soil moisture measures developed.</p> <p>For developing yield predictions for wheat: Relationship between SSMI wetness and temperature products and MODIS greenness index assessed; System for early season prediction of spring wheat yields.</p> <p>For analysis of desertification: Time series monthly data obtained for temperature and wetness starting in 1988; analysis conducted; operational system for monitoring desertification developed.</p>
Deliverables:	<p>For analyzing and monitoring soil moisture:</p> <ul style="list-style-type: none"> • Analysis of wetness/soil moisture correlations for 2001 • Set of transfer functions for translating wetness index into soil moisture at different depths • Automated system for calculating soil moisture levels from SSMI wetness product <p>For developing yield predictions for wheat:</p> <ul style="list-style-type: none"> • Report on linking SSMI wetness and temperature to MODIS greenness index • System for monitoring growing conditions and making yield predictions based on SSMI and MODUS products <p>For analysis of desertification:</p> <ul style="list-style-type: none"> • Analysis and report on rate, magnitude and spatial expression of desertification • Operational system to apply SSMI products in monitoring rate of desertification

Subtask 1.3.4.4 – Mainstreaming wheat climate resilience into relevant climate change adaptation and agricultural strategies

CCRD will provide technical assistance and capacity building support related to climate impacts and adaptation options for the wheat sector in Kazakhstan. These activities will include a workshop for national level policymakers and practitioners on climate impacts and adaptation options and preparation of a background paper on USAID’s climate-resilient development framework, diagnosis of climate and non-climate stresses on objectives in the wheat sector, and adaptation options for reducing climate vulnerability in the wheat sector. Participants in the May 22-23, 2013 roundtable expressed interest in building capacity to organize stakeholder processes to identify and prioritize adaptations in the wheat sector. To support this effort, CCRD will prepare training materials and conduct a training-of-trainers for Kazakh experts who would serve as facilitators for stakeholder meetings. CCRD staff will observe the first Kazakh-led stakeholder workshops and provide feedback on strengthening these workshops. CCRD would also collaborate with Kazakh partners to review the results of the stakeholder workshops and the preparation of the report on adaptation priorities. Finally, CCRD will collaborate with Kazagroinnovation on the development of training materials for farmers on climate impacts and adaptation.

Task 1.3.4.4 Summary	
Task Lead:	Glen Anderson (IRG)
Institutional Partners:	Ministry of Agriculture, Kazagroinnovation, Kazhydromet
Milestones:	Workshop on climate impacts and adaptation convened; background paper on climate impacts and adaptation prepared; training-of-trainers organized on stakeholder processes for prioritizing adaptations; training program for farmers on climate adaptation developed.
Deliverables:	<ul style="list-style-type: none"> • Workshop PowerPoints on climate impacts and adaptation • Background paper • Training-of-trainer materials • Training materials for climate adaptation course for wheat farmers

TASK 1.3.5: PROVIDE SUPPORT FOR CLIMATE RESILIENT LOW EMISSIONS DEVELOPMENT STRATEGIES (CRLEDS) IN JAMAICA

Year One and Two Progress and Results: The CCRD team began to scope out the concept of CRLEDS through a series of meetings with stakeholders, preliminary development of a concept paper, and discussions of pilot testing in Jamaica.

Year Three Activities: In Year Three, the CCRD team will complete the CRLEDS concept paper and work with USAID to refine the paper into a functional tool(s) that will be useful to USAID and appropriate stakeholders. The CCRD team will also seek and integrate feedback from a variety of other stakeholders (e.g., mission staff, technical teams, local stakeholders) in order to ensure the concept paper will act as a far-reaching resource. The brief will be modified to respond to the outcomes in the pilot and to stakeholder feedback mentioned below.

The recommendations presented in the concept paper will be tested through a pilot in Jamaica. In Year Three, the CCRD team will continue to work with stakeholders to build out the framework for the pilot. Once it is established the pilot will be rolled out in full force with coordination from the USAID/Jamaica Mission, existing USAID projects in Jamaica (e.g., JaREEACH), the Government of Jamaica, and other important stakeholders. We envision the pilot to include side-by-side technical assistance with stakeholders to develop a community-level climate action plan and/or a sectoral climate action plan (e.g., in coordination with a national Ministry or Department). It may also incorporate training or other capacity building activities and test other CCRD concepts, such as Fast Track Implementation (FTI). The particular activities that will be implemented will depend on the framework developed with the pilot stakeholders. The CCRD team will help to ensure implementation based on the results of the pilot, in part, by engaging donors throughout the process.

The CCRD team plans to coordinate with other groups working on integrating adaptation and mitigation activities, such as UNDP and the LEDS Global Partnership.

Task I.3.5 Summary	
Task Lead:	Charlotte Mack (ICF)
Schedule:	August 2013 – August 2014
Milestones:	Concept paper prepared; pilot framework solidified; stakeholder workshops organized and convened; climate change action plan (community level and/or national sectoral level) prepared; funding obtained for implementation of an element of the climate change action plan.
Deliverables:	<ul style="list-style-type: none"> • Concept paper on Climate Resilient Low Emissions Development Strategies (CRLEDS) • Jamaica pilot framework approach • Trip reports • Stakeholder workshop materials and summary report • Climate change action plan(s)

ACTIVITY I.4 SUPPORT FOR GENDER DEVELOPMENT

TASK I.4.1: TECHNICAL ASSISTANCE TO THE OFFICE OF GENDER EQUALITY AND WOMEN'S EMPOWERMENT

Year Two Progress and Results: Ed Carr of University of South Carolina (USC) completed a literature review focused on gender, adaptation, and development. The literature review was designed to fill a knowledge gap at USAID, helping USAID to understand “gender” as a more complex issue than simply women versus men. The literature review focused primarily on gender issues in agriculture and rural livelihoods. On April 10th, Mary Thompson attended the Association of American Geographers Annual Meeting to present the preliminary framing of the literature and our case studies engaging with the academic community we are drawing from, critiquing, and building on the white paper and literature review, which affords us an initial critical reaction to the paper which can inform final revisions. Case studies on Ghana and Mali were also completed in Year Two.

Year Three Activities: The activities described below are illustrative. CCRD will work with the Office of Gender Equality and Women’s Empowerment and the GCC Office to finalize Year Three activities for this task.

- Coordinate workshop on next steps from the Gender and Adaptation Report – Ed Carr would facilitate a workshop discussion in Washington, DC on how to follow up on report findings and incorporate findings into USAID training and capacity building activities on climate change and gender.
- Review existing vulnerability assessment and other diagnostic tools to identify opportunities to integrate gender/social vulnerability elements and practice
- Coordinate workshop to bring together implementing partners and staff of interested missions to discuss piloting new gender and adaptation tools in vulnerability assessments
- Provide technical support to missions for the integration of gender and adaptation lessons and tools into vulnerability assessments, including mission support
- Produce summary document capturing lessons learned from pilots
- Tentative: Prepare presentation (and perhaps deliver) on gender differences in access to climate and weather information for COP 19 ??

Task 1.4.1 Summary	
Task Lead:	Ed Carr (USC)
Schedule:	Year Three
Milestones:	Workshops organized and convened; technical assistance to USAID missions provided
Deliverables:	<ul style="list-style-type: none"> • Workshop reports • List of opportunities for integrating gender into diagnostic tools • Trip reports • Technical assistance reports

OBJECTIVE 2: COORDINATE WITH OTHER USG AGENCIES TO SUPPORT MAINSTREAMING

The Adaptation Partnership (AP) was created by the Governments of Costa Rica, Spain, and the United States following the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties in Copenhagen, Denmark. The three founding countries have been joined by more than 20 countries to support a series of workshops for donors, developing country governments, NGOs, and international practitioners. In addition to workshops on a range of adaptation issues, the AP supports follow-on research and pilots and facilitates communities of practice among workshop participants. CCRD received a buy-in from the U.S. Department of State in Year One to support AP workshops and other activities. CCRD's roles for different AP activities depend on the proposed role for USAID in planning and convening workshops. Follow-on activities are recommended by workshop participants; decisions on these activities are coordinated with workshop participants and donors and scaled according to the resources available through the State buy-in and co-financing from other donors.

ACTIVITY 2.1 ADAPTATION PARTNERSHIP WORKSHOPS

TASK 2.1.1: CONDUCT ADAPTATION PARTNERSHIP WORKSHOPS

Year One and Two Progress and Results: CCRD provided technical and/or logistical support for AP workshops in Nepal, South Africa, Costa Rica, Bonn, Bangkok, and Washington during Years One and Two.

Although the AP formally ended in December 2012, CCRD committed to support a follow-up to the Washington, DC Climate Change Adaptation and Peacebuilding workshop in October 2012. Planning for the second workshop in Addis Ababa was initiated in Year Two and is planned for October 2013. In addition, CCRD, NOAA, and the Western Indian Ocean Marine Science Association (WIOMSA) have planned a series of follow-up training workshops for marine protected area (MPA) managers. This is a follow-on to the AP workshop on Marine Protected Areas, convened in Cape Town, South Africa in February 2012. The first of three MPA workshops was convened in Year Two and at least one additional workshop will be convened in South Africa in November 2013.

Year Three Activities: Two AP Workshops are tentatively scheduled to take place in Year Three:

1. **Climate Change Adaptation and Peacebuilding in Africa II: Strengthening a New Community of Practice for Policy Development (Addis Ababa).** CCRD will continue to be actively involved in planning the event and shaping the agenda as well as implementing the event, which is proposed to occur in October, weeks before the Africa Climate Conference. The primary goal of the workshop is to raise awareness of the potential linkages between climate and stability in Africa and to extend the concepts related to the nexus between climate change adaptation, climate change security, and conflict. Moreover, it aims to review policies and practices of various sectors and institutions to which conflict-sensitive approaches and other good practices of engagement are incorporated into the policies of these institutions. As a follow-on activity to the AP event in Washington, this workshop hopes to: (1) Influence policy and contribute to efforts focused on improving and implementing Africa's adaption programs/projects; (2) Identify political and capacity constraints faced by the priorities of national adaptation strategies; (3) Strengthen the intellectual capacity of organizations and address the links between climate change and peacebuilding in Africa; and (4) Strengthen communities of practice to support implementation and learning. It will also be an

opportunity to receive feedback on the Climate and Security note prepared by DCHA with CCRD's assistance.

2. **Training workshop on climate change basics for managers of marine protected areas in the Western Indian Ocean region (Grahamstown, South Africa).** This training is a follow-up to the Adaptation Partnership workshop that took place in Cape Town, South Africa from February 8-10, 2012. At the AP workshop, building the capacity of MPA managers to understand and respond to climate stressors was identified as a priority. The training in November 2013 will be a collaborative effort between CCRD, NOAA, and the Western Indian Ocean Marine Science Association (WIOMSA). The approach will be based on USAID's climate resilient development framework as well as NOAA's experience conducting similar trainings for MPA managers in other parts of the world. The training is expected to have approximately 40 MPA managers from the region as participants, and will provide an overview of the science of climate change and potential impacts.

Task 2.1.1 Summary	
Task Leads:	Charlotte Mack (ICF); Mukul Sharma (IRG); and Yoon Kim (IRG)
Schedule:	Year Three
Milestones:	Logistics and planning for AP workshops supported; workshops convened; workshop summaries and other deliverables prepared
Deliverables:	<ul style="list-style-type: none"> • Workshop agenda, invitations, participant list (for each) • Workshop presentations (for each) • Workshop summary (for each)

OBJECTIVE 3: IDENTIFY AND RESPOND TO EMERGING ISSUES AND FILL GAPS

Activities in support of Objective 3 are designed to promote climate resilient development on a global scale. Ideally, they include tasks that add value to USAID programs but also respond to new opportunities or emerging issues in international practice of adaptation. In addition, these activities will typically utilize a teaming approach requiring co-financing from other donors and are expected to be beyond the manageable interests or resources of CCRD, acting alone. Four activities are proposed at this point in the Work Planning process. Activity 3.1 supports the demonstration of mainstreaming of adaptation on a national scale. This represents a large effort that CCRD would support along with other donors and/or regional development banks. Activities 3.2 and 3.3 are responsive to recommendations from the AP workshops in Nepal and New York (as well as an earlier workshop in Dakar, Senegal) for follow-on work related to glaciers and mountains and the role of climate services in adaptation planning and implementation. Activity 3.4 supports building climate resilient infrastructure services.

ACTIVITY 3.1 SUPPORT ADAPTATION PLANNING AND IMPLEMENTATION

This activity is focused on the support of adaptation planning and implementation at the regional, national and sub-national levels. One thrust of this work is on national adaptation plans (NAPs) and demonstrating the benefits of the USAID approach to mainstreaming climate into development planning. CCRD will continue to support the development of a policy framework in Jamaica designed to promote more climate resilient plans, programs, and projects in the context of Jamaica's national development plan – *Vision 2030*. This work will include preparation of a methodological note and lessons learned related to the mainstreaming approach. In addition, CCRD will elaborate and test the concept of fast track adaptation implementation, designed to help communities or countries move quickly to address high climate vulnerability/risk issues.

TASK 3.1.1: SUPPORT PREPARATION OF NATIONAL ADAPTATION PLANS (NAPs)

Year One and Two Progress and Results:

Jamaica: USAID and the Government of Jamaica (GOJ), with support from CCRD, organized a workshop in July 2012 in Kingston to inform the process of integrating climate considerations into Jamaica's national development strategy – Vision 2030. USAID and CCRD staff facilitated 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. The final plenary discussion session focused on identifying important themes that emerged from the workshop and on providing suggestions for next steps in advancing the policy framework. It was noted that although the adaptation plan will be developed under the Ministry of Water, Land, Environment and Climate Change, it will be important for the plan to be integrated and incorporate inputs from diverse stakeholders.

Tanzania: Working with Tanzania's Vice President's Office, USAID/Tanzania, and the University of Rhode Island's Coastal Resources Center, CCRD conducted a coastal-focused workshop in March 2013 to support

and inform Tanzania's national adaptation planning process. The workshop was attended by about 30 people on Day 1 and 25 people on Day 2, with representatives from Government (e.g., Vice President's Office; Ministries of Agriculture, Water, Livestock and Fisheries, Natural Resources and Tourism; Planning Commission), NGOs (e.g., WWF), research institutes (e.g., WIOMSA), and the private sector (a Norwegian oil company). The objectives of the workshop included: vetting USAID's mainstreaming approach with the stakeholder group, eliciting quality inputs on the coastal sector that the government could use as they move their NAP process forward, and stimulating thinking about criteria for evaluating adaptation options. The Coastal Resources Center developed the final workshop report.

West Africa: (Working with the USAID West Africa Regional Mission, ECOWAS, and the University of Rhode Island's Coastal Resources Center (CRC), CCRD organized a regional workshop on coastal adaptation in Accra, Ghana, from June 18 to 20, 2013. The purpose of the workshop was to bring together national and regional leaders in West Africa to focus on national development planning and climate change adaptation in coastal zones, with an emphasis on the NAP process. The workshop included participants from 11 West African countries including Ghana, Senegal, The Gambia, Guinea, Sierra Leone, Liberia, Cape Verde, Cote d'Ivoire, Nigeria, Benin, and Togo. By focusing on methods/approaches for developing NAPs rather than detailed country-specific planning, the workshop helped to inspire and equip leaders with knowledge to return to their countries and design NAP processes that address their country's development priorities in an integrated manner, while also contributing to and benefiting from the regional context. Representatives of key regional institutions also participated in the workshop to highlight regional adaptation challenges and discuss how to support the countries as they move forward with their NAP processes. The Coastal Resources Center, in collaboration with Engility and ICF, developed the final workshop report.

Year Three Activities:

NAP Methodology and Lessons Learned: USAID and CCRD plan to document the NAP experiences in the workshops supported by CCRD to date, linked to the CRD mainstreaming approach. The potential outputs include journal article and shorter papers/brochure-style publications.

Jamaica: Pending success by the GOJ and the GCC team in redirecting the country's climate policy planning process in a constructive direction, CCRD will (1) assist in the development of a new draft climate policy that covers the necessary issues related to ministerial commitment and mainstreaming of climate, without over-specification of potential climate vulnerabilities and adaptation tactics that divert from the central policy objectives; (2) assist the GOJ in mainstreaming the climate policy into key ministries, e.g. through the development of sector-specific action plans; and (3) provide STTA to the GOJ in understanding vulnerabilities, and developing and implementing adaptation.

West Africa: The CCRD team members involved with the workshop will collect and synthesize feedback from participants and adjust the workshop approach accordingly. Following the West Africa workshop, discussions have continued between USAID/E3, USAID/West Africa, ECOWAS, CCRD, CRC on follow-on activities including a second regional workshop in December 2013 or January 2014. If requested, CCRD may support NAP activities at the regional and/or country level in West Africa.

Other STTA: Building on CCRD's NAP work in Tanzania, West Africa, and Jamaica, CCRD will provide short-term technical assistance to other countries or regions as requested by USAID.

Task 3.1.1 Summary	
Task Lead:	Yoon Kim (IRG)
Schedule:	Year Three
Milestones:	<ul style="list-style-type: none"> • NAP experience documented • Jamaica: Draft climate policy; begin working with ministries on mainstreaming approach; STTA as needed • West Africa: Collect feedback; follow-on action as requested
Deliverables:	<ul style="list-style-type: none"> • NAP experience journal article and other papers and brochures • Jamaica Climate Policy • Jamaica trip reports; STTA reports • West Africa: Feedback synthesis report

TASK 3.1.2: DEVELOP AND PILOT FAST TRACK IMPLEMENTATION (FTI) CONCEPT

Year One and Two Progress and Results: FTI represents an important effort to move beyond the diagnostic stage to implementation. The real benefit of USAID’s adaptation work is only realized once the analyses and plans are put into action. FTI is based on the realization that the process of planning and implementing climate resilient development actions can be costly in terms of time and resource commitments, particularly if practitioners commit to a comprehensive and lengthy vulnerability/risk assessment and extensive analysis of adaptation actions. FTI will help to quickly identify high risk/high vulnerability resources, sub-populations, and assets, conduct a rapid vulnerability assessment, and identify adaptations that have attributes that would enable them to be implemented ahead of the longer vulnerability assessment and adaptation process. The FTI concept was discussed at the April 2012 CCRD Senior Advisory Committee and in Year Two involved sequential steps to provide the foundation for fast track implementation. Specifically, CCRD:

- Prepared a short concept note describing the fast track assessment and implementation approach.
- Revised the PowerPoint presentation prepared by ICF to include a case study to illustrate fast track implementation.
- Developed a practical tool for assessing vulnerability for resources, subpopulations, and assets and tested the tool using existing case studies.
- Compiled an inventory of adaptations suitable for fast track implementation in priority areas of coastal management, urban services, water resources, energy, health, and agriculture.
- Developed and managed a 10-week summer internship for four Climate and Society M.A. candidates at Columbia University. Interns diagnosed climate risk and developed corresponding suites of FTI options in the health and agriculture sectors under the guidance of senior staff at the International Research Institute for Climate and Society (IRI).

Year Three Activities:

- Finalize the inventory of adaptation options by bringing together the individual sector matrices, consolidating the information, and ensuring consistency.
- Review suite of deliverables from the IRI summer internship program, and identify proposed FTI options that have strong synergies with existing CCRD projects or goals.

- Identify sites for piloting the FTI approach that build on work already underway (or planned) for CRIS, CRLEDS, or NAPs, thus strengthening linkages between CCRD activities. For example, through work on the CRIS project, several potential sites in Peru have already been identified for consideration. It is important to test the FTI approach in diverse sites in order to ensure that the approach works effectively and that stakeholders can implement the approach independently. Furthermore, the decision support tool is critical to creating a sustainable and useful process.
- For each pilot, CCRD will interact with stakeholders to establish and develop pilot demonstration objectives and a work plan, and test the FTI approach. (Note: Funding for FTI piloting will be drawn from the budgets for the CCRD program elements in which the piloting takes place.)
- Pending the results of the piloting exercise, CCRD will begin to develop an adaptation decision support tool by synthesizing the information in the sector matrices with the experiences and lessons learned through the pilot applications. The tool, to be developed in Year Four. It will facilitate the identification of FTI options that address a wide range of climate risks.

Task 3.1.2 Summary	
Task Lead:	Peter Schultz (ICF)
Schedule:	Year Three
Milestones:	Identify pilot sites and conduct real-life applications to test the FTI approach, building on CCRD work already underway.
Deliverables:	<ul style="list-style-type: none"> • List of pilot sites and selection criteria • Pilot work plans • Lessons learned and evaluation reports

ACTIVITY 3.2 HIGH MOUNTAIN ADAPTATION PROGRAM

The High Mountain Adaptation Program (HiMAP), previously the High Mountain Glacial Watershed Program (HMGWP) was initiated in March 2012, following the AP Workshop and Research Expedition in Nepal in September 2011, as well as discussions with USAID of a concept paper prepared by The Mountain Institute (TMI) and the University of Texas at Austin (UT). HiMAP contains elements to strengthen the scientific, social, and institutional capacity for climate change adaptation and resilient development, as well as disaster risk mitigation and management (especially for dangerous glacial lakes), in high mountain glaciated regions of Peru, Nepal, and elsewhere. It does this by: (1) advancing and building knowledge and capacity, adaptation planning, resilience building, and informing climate-smart development at local levels, particularly for mountain communities; (2) building stronger institutions in developing countries, and fostering the next generation of mountain-scientists and development practitioners, through competitive small grants and mentoring; and (3) building a global Community of Practice for high mountain glacial watershed research, adaptation, and climate-smart development as a platform to build capacity, undertake comparative research and development projects, and share knowledge and lessons learned.

TASK 3.2.1: DESIGN A HIGH MOUNTAIN GLACIAL WATERSHED PROGRAM

Year One and Two Progress and Results: Completed. A concept paper for the HiMAP was developed covering the CoP, KM, research and pilot activities, guidance and capacity building, and outreach and awareness. A detailed Statement of Work, timeline, and budget for the HiMAP, as well as subcontract agreements with IRG, were developed and finalized. One-page descriptions were developed for the HiMAP, a Climber-Scientist Competitive Solicitation under the CCRD Small Grants Program, and the HiMAP CoP.

The 2011 Andean-Asian Glacial Lake Expedition and Conference Proceedings were finalized and circulated to all CoP members. Also, during the inception phase (2011), fieldwork was undertaken in Nepal including a survey of Imja Lake along with community consultations in the Khumbu Valley.

Year Three Activities: None

TASK 3.2.2: DEVELOP THE HIGH MOUNTAIN ADAPTATION PROGRAM'S COMMUNITY OF PRACTICE

Year One Progress and Results: The CoP was established and initial participants joined. A CoP manager (Katalyn Voss) was recruited and began work from the TMI office in Huaraz, Peru. Detailed implementation plans for its launch were developed during the course of fieldwork in Nepal from April-May 2012, by participating members of the CoP. Invitations were sent to over 100 potential candidates of which some 50 indicated interest in joining. CoP membership has since increased to 112. The CoP website was also established (www.adaptationpartnership.org/communities/high-mountain-glacial-watershed-program), and the first and second Quarterly Newsletters were prepared and distributed to CoP members and posted on the website, along with logs of the April-May and September-October Nepal field trips.

Based on the recommendations of CoP members from the September 2012 Nepal expedition, a Climber-Scientist Small Grants, and associated institution building initiative was designed and launched. The small grant solicitation was finalized and distributed to CoP members, international mountain organizations, non-profit organizations, and others. 34 proposals were received by June 22, 2012. TMI and UT reviewed the proposals, and recommendations were forwarded to the Evaluation Committee for final selection. Six individual grants of approximately \$25,000 each were selected from a pool of 15 proposals, and five institutional grants of up to \$100,000 were selected out of a pool of 19. The winning proposals were awarded and are now being implemented.

Year Two Progress and Results: This task was carried out through two sub-tasks, with one focused on fully operationalizing the CoP and another on continuing the small grants program, as follows:

Community of Practice: After a long recruitment effort, John Harlin was selected as CoP coordinator and has since been tasked with establishing a Secretariat to provide coordination, facilitation, and outreach as well as to leverage other donors to support “community”-identified priorities and projects. CoP membership criteria has been evaluated, and active recruitment undertaken to optimize the range of geographic and topical coverage (e.g., expertise in physical, engineering, biological, social, economic, and political sciences; development practice; education; donors, etc.). Steps have been taken to “right-size” the CoP to maximize its efficiency and effectiveness. KM products have and will continue to be developed and shared (e.g., reports, presentations, and videos); and workshops, meetings, online discussions, and webinars have been conducted. John has also organized and identified opportunities for CoP members to participate in workshops, conferences, trainings, and field activities. The signature event of the year was the 3rd International Workshop on Climate Change Adaptation and Risk Management in High Mountain Glacial Watersheds held in Huaraz, Peru in July 2013. Specific Year Two activities include:

- Organized Quarterly Steering Committee meetings (via phone conference, with one annual in-person meeting) to set the CoP's direction, review annual plans, establish membership criteria, and assess progress. The first in-person meeting was held as part of the 3rd International Workshop on Climate Change Adaptation and Risk Management in High Mountain Glacial Watersheds (see below).
- Maintained the HiMAP website (www.highmountains.org) with content including: links to CoP member sites and others of interest; précis on the work of CoP members; an online multimedia library (publications, guidelines, whitepapers, photos, video); a blog and social media for CoP and general high-mountain news, field work, and events; webinars; and other materials of relevance.
- Prepared and distributed quarterly electronic HiMAP Newsletters.

- Planned and executed the **3rd International Workshop** on Climate Change Adaptation and Risk Management in High Mountain Glacial Watersheds in Huaraz, Peru in July 2013.
- Planned and implemented two innovative **webinars** for CoP members and others.
- Produced **fact sheets and policy briefs** (2-4 sides) for the CCRD series (printed and web available) on issues, methodologies, and approaches for enhancing understanding and building climate change adaptation and resilience in high mountain glacial watersheds.
- Prepare a **multi-author manuscript** for submission (in Year Three) to a peer-reviewed (high-impact factor) journal on high mountain watershed climate change adaptation and climate-smart development.
- Released **web/print publication** of use to the CoP and other relevant stakeholders in multiple languages as appropriate, including:
 - *Technical Report: Safety Measures for Dangerous Glacial Lakes in the Cordillera Blanca, Peru* (translated from Spanish)
- Participated in key international, regional, and national conferences and workshops to represent the HiMAP and the CoP; shared knowledge (physical, biological, engineering, social, economic, governance, etc.), development practice, and lessons-learned to broad scientific, technical, policy, and public audiences of relevance to high mountain glacial watersheds; and maximized opportunities to bring in fresh learning, new collaborators, coordination, and donors.

Small Grants: The initial round of Climber-Scientist and Institutional Small Grants was executed during Year Two. Grantees, as appropriate, were assigned mentors from TMI, UT, and other CoP members to provide guidance and monitoring.

Year Three Activities: A vigorous HiMAP CoP, backstopped by a Secretariat, is essential to the active sharing of knowledge internationally between high mountain scientists and practitioners, the undertaking of comparative analyses, implementation of high impact climate change adaptation projects, and influencing high mountain policy. Activities include:

- Identify and develop new partnerships aimed to increase long-term sustainability of the HiMAP program including, partnering with relevant organizations or leading on donor RFP/RFQs, soliciting grants from philanthropic institutions, leveraging seed projects to land new streams of co-financing.
- Continue producing KM products (e.g., reports, presentations, videos, newsletter, webinars, policy briefs, mountain curricula) including *Handbook for Implementing Climate Change Adaptation Community Consultations*, (with comparative case studies from Nepal and Peru, to be published in English, Spanish, and Nepali) (Year Three/Four Completion).
- Evaluating and expanding CoP membership
- Increasing CoP member participation in workshops, conferences, trainings, and field activities
- Identifying, designing, and initiating CoP member collaborative projects developed during the July 2013 Peru workshop

Subtask 3.2.2.1 Summary	
Task Lead:	John Harlin (High Mountation Glacial Watershed Program)
Schedule:	Year Three
Milestones:	<ul style="list-style-type: none"> • New sources of funding securedPublications • CoP evaluated; opportunities for expansion identified • Online webinars planned and convened • CoP participation in conferences/workshops
Deliverables:	<ul style="list-style-type: none"> • Online HiMAP Community Newsletters • New funding source(s) and a summary workplan • Steering committee meeting (conference call) reports • Webinars • Inception plan for 4th international workshop • Fact sheets • Handbook for Implementing Climate Change Adaptation Community Consultations • Report identifying potential topics and sites for comparative applied research and development by CoP members • Report on CoP engagement with donors and other development actors, including host governments.

TASK 3.2.3: IMPLEMENT COMMUNITY OF PRACTICE PILOT PROJECTS AND RESEARCH: NEPAL

Year One and Two Progress and Results: The HiMAP inception field survey in Nepal was completed in August/September of 2011. Further Nepal reconnaissances were undertaken by HiMAP staff and CoP members in April/May 2012 of the Thulagi Glacial Lake, the Dudh Pokhari Lake in the Hinku Valley, and the Tama Pokhari Lake -- a site of a GLOF event in 1998. An additional site visit (IRG's M. Hartman and Harvard's Stephanie Spray) to the Imja Valley was made to assess climate and non-climate stressors, and design the follow-on community consultations, which were undertaken in September 2012. Also, in September 2012 Ground Penetrating Radar (GPR) and bathymetric surveys were undertaken of Imja Lake along with other glacier assessment and monitoring work. CCRD also supported additional risk assessment and mitigation work under USAID's Adapt-Asia Program. The team further coordinated with UNDP on an Imja Lake GLOF Risk Reduction project, funded by the Global Environment Facility (GEF), for which the HiMAP led community capacity building components. Results were presented on mainstreaming glacial lake risk management at the Singapore International Water Week and Durban Climate Change COP, as well as at various venues in the USA including the State Department, Wilson Center, and 2012 National Geographic Society's Annual Explorers Symposium. Presentations were given, videos screened, publications distributed, and new co-funding opportunities investigated.

Year Two activities focused on supporting high-mountain glacial landscape and watershed climate change adaptation, resilience building, and climate-smart development. The focal work area was the Khumbu Valley because of the magnitude of the challenges it faces (e.g., from an Imja Lake GLOF event), its economic importance to Nepal, the vulnerability of the rural population in the area, and downstream communities dependent on the services it provides. This work is described in two subtasks below covering (1) designing, partnering, and initiating a Local Adaptation Programme of Action (LAPA) for the Khumbu Valley; and (2) continued GLOF reconnaissances, risk modeling, and community-based risk mitigation.

Box 1 – Coordination with parallel TMI climate change adaptation related work in Nepal. To provide context, TMI coordinated and shared lessons learned with other parallel TMI- and partner- led climate change adaptation related activities undertaken in Nepal during Year Two. These are supported by various donors and agencies including BMU/Germany, the World Food Program, and Wildlife Works Carbon LLC – as a public-private partnership. This is in addition to broader coordination with other projects, development agencies, stakeholders, and the GON. These non-directly CCRD supported activities include:

- A climate change adaptation project to create economic, ecological and disaster resilience in two impoverished watersheds in Humla District, mid-western Nepal. Amongst activities, we are linking up- and downstream communities to enable coordinated planning and action.
- Climate-smart food security support in western Nepal.
- Climate-smart sustainable agriculture and non-timber forest products, cultivation, and marketing focused on medicinal and aromatic plants (augmenting cash incomes of otherwise impoverished households as much as six-fold).
- A market-based REDD+ pilot project in high mountain forests in far eastern Nepal.
- Advancing Ecosystem-based Adaptation through conservation and restoration of alpine ecosystems – reducing landslide risk and buffering water flow – in various sites.
- Climate change related risk mitigation (e.g., from GLOF threats) for important cultural sites. Pilot project to protect an 11th Century Monastery threatened by recurrent flooding from a poorly understood glacial lake. This provides a learning opportunity at the nexus of climate change impacts and cultural heritage preservation.

Subtask 3.2.3.1 Local Adaptation Plan for Action for the Khumbu Valley

As a complement to its National Adaptation Programme of Action (NAPA) planning process under the UNFCCC, Nepal has developed a national framework for local adaptation plans of action (LAPAs) to integrate climate change adaptation into local development planning and promote climate-smart development. The aim is to (1) enable communities to understand the consequences of climate change and partner with them in determining adaptation priorities, (2) implement flexible climate-resilient adaptation (land and resource use) plans, and (3) inform and catalyze integrated approaches (e.g., for climate-smart development) between sectors and stakeholders, reinforcing the sustainability of the project. Nepal expects that the LAPAs will provide a mechanism to mainstream adaptation in the development agenda of local government bodies. The Government of Nepal's (GON) guidelines state that these processes should address such elements as:

- Promoting community-based adaptation through integrated management of agriculture, water, forests, and biodiversity.
- Building and enhancing adaptive capacity of vulnerable communities through improved systems and access to services for agricultural development.
- Community-based disaster management for facilitating climate adaptation.
- GLOF monitoring and disaster risk reduction.
- Forest and ecosystem management in supporting climate-led adaptation innovations.
- Adapting to climate challenges in public health.
- Ecosystem management for climate adaptation (e.g., Ecosystem based Adaptation).
- Empowering vulnerable communities through sustainable management of water resource and clean energy supply.

- Promoting climate-smart urban settlements.

The GON's seven-step process to produce a LAPA is as follows:

1. Community climate change sensitization (inherent to all steps)
2. Climate vulnerability and adaptation assessment
3. Prioritization of adaptation options
4. Developing and formulating the LAPA
5. Integrating the LAPA into and with other planning processes
6. Implementing the LAPA
7. Assessing progress and learning (inherent to all steps)

During Year Two, HiMAP expanded linkages with local communities and civil society organizations, as well as with local and national government agencies and entities (e.g., Department of National Park and Wildlife Conservation - DNPWC, Buffer Zone Management Committee, Sagarmatha Pollution Control Committee – SPCC, etc.) as a means of enabling, supporting, and facilitating the production of a LAPA for the Khumbu. Guidelines, summation of initial work, and a plan for execution of the LAPA were produced in early 2013, building on the information obtained during the September 2012 community consultations in Phakding, Namche, and Dingboche as well as several follow on meetings in Kathmandu.

The facilitation of the LAPA production process was built on TMI's decades of work in the region, the 2012 community workshops, IRG's training of trainers' workshop in Kathmandu (which engaged local stakeholders in climate change adaptation and development activities and planning), plus various trainings of TMI staff in climate change principles and V&A methodologies. The CoP also offered expertise in local engagement and cross-cultural information exchange, such as local ecological knowledge and western science. It has further capitalized on progress by the HiMAP in advancing plans for adaptation and disaster management in the Khumbu, in partnership with the UNDP *Community-based Glacial Lake Outburst and Flood Risk Reduction in Nepal Project*, being undertaken in consultation with local stakeholders and which was finalized during the January-July 2013 period, providing key knowledge to inform the LAPA development process.

During Year Two the following tasks were undertaken under this subtask:

- Formalized community and other stakeholder partnerships to facilitate the production of the LAPA; also formalized necessary arrangements with the GON (and other entities); and coordinated LAPA priorities with those of other donors investing in the Khumbu region.
- Conducted and documented nested LAPA meetings at the National Park, District Development Committees, and Regional Development Council levels.
- Prepared a plan of action to complete the LAPA, including identification of participants and responsibilities.
- Delivered LAPA Stocktaking report, a mid-term report that summarized the LAPA methodology to date.

Year Three Activities: The Khumbu LAPA is the most thorough and utilitarian LAPA developed to date in Nepal. It directly addresses USAID's development guidance and priorities by being community-driven, multi-sectoral, responsive to GON and Village Development Committee (VDC) input, mainstreamed with VDC development priorities, and implemented through leveraged co-financing from national and international sources. Activities for Year Three include:

- Field, desktop, and rapid quantification of identified priority vulnerabilities (e.g., freshwater, agricultural productivity, emerging glacial lakes, increased landslides)

- Finalize Khumbu LAPA in collaboration with all relevant stakeholders, with (a) priority adaptation activities mainstreamed with local and regional development priorities, through (b) multiple sources of leveraged funding and (c) administered sustainably by relevant stakeholders.
- Continued collaboration with the UNDP *Community-based Outburst Flood and Flood Risk Reduction* project, including implementation of identified and co-financed activities, e.g., community meeting reports, instrumentation in place, micro-hydro socioeconomic study report, risk management training, disaster management plan developed, enhanced Imja Lake models, community-based early warning system (EWS) in place, etc.
- Coordinate with USAID Nepal on applying adaptation research and LAPA methodologies and expanding the Communities of Practice in western Nepal

Subtask 3.2.3.1 Summary	
Task Lead:	TMI/UT
Schedule:	Year Three
Milestones:	Identification of priority vulnerabilities; finalized Khumbu LAPA; continued collaboration and co-financing with the UNDP
Deliverables:	<ul style="list-style-type: none"> • Khumbu Adaptation and Disaster Management Plans Report • Khumbu LAPA • Outputs from collaborative effort with UNDP

Subtask 3.2.3.2 – Khumbu Valley GLOF reconnaissance, risk modeling, and community-based risk management and mitigation

Years One and Two Progress and Results: The HiMAP has distinguished itself through its design and formation of a GLOF Rapid Reconnaissance and Modeling Team capable of obtaining and analyzing glacial lake data of critical importance to outburst flood risk mitigation and management option assessments. This activity breaks with the conventional wisdom that field surveys of high altitude and remote glacial lakes are too challenging to undertake and engineering solutions for risk management infeasible. We are committed to providing research data and technical analysis to local communities to enable them, as the key stakeholders, to best contribute to on-going glacial lake management dialogues, field assessments, and mitigation actions. As lessons are learned, and through the CoP, we aim to be able to provide necessary GLOF reconnaissance expertise where and when needed.

During Year Two we completed various publications and reports based on work undertaken in Year One. Additional fieldwork, community consultation, analysis, fundraising, publications, etc. have begun in coordination and in parallel with a UNDP associated project on Community-based Outburst Flood and Flood Risk Reduction. The implementing agency for this project will be the Nepal Department of Hydrology and Meteorology (DHM), and it will be addressing Imja Lake risk assessment and mitigation. The HiMAP team is seeking to lead, collaborate, and contribute to this project. This collaboration will further CCRD supported work on parallel GLOF related applied research, risk assessment and modeling, and community engagement.

In the case of Imja Lake, field data has revealed it is more dangerous than previously expected, is continuing to grow, and identification and implementation of risk mitigation measures are therefore more complex than anticipated.

Year Two Activities included:

Continued work in advance of the UNDP Imja Lake GLOF Risk Reduction project. HiMAP contributions included:

- Full stakeholder (e.g., local communities, university departments, donors, government, international agencies, etc.) convening and coordination. This was critical for enabling the communication and collaboration needed for risk reduction to be successful.
- Instrumentation for lake/glacier monitoring: flow gauge, glacier mass balance/ablation stakes (to detect movement of glacier and terminal moraine), meteorological system, time-lapse cameras, remote sensing images, etc.
- Preparation of enhanced GLOF model with parameters for debris flow, moraine stability, breach formation, and avalanche wave set-up. (Needed for *Case Study: Glacial Lake Risk and Adaptation Options in the Mt. Everest Region of Nepal* and *Evolution of Imja Lake Mitigation Strategies*)
- Development of a glacial lake hydrology (water balance) model for Imja Lake (Needed for *Case Study: Glacial Lake Risk and Adaptation Options in the Mt. Everest Region of Nepal* and *Evolution of Imja Lake Mitigation Strategies*)
- Continued community-based risk assessment and decision making for the Khumbu region:
- Acquired recent remote sensing data and develop detailed Geographic Information System (GIS) database for Khumbu region for use in GLOF vulnerability analysis. (Needed for *Case Study: Glacial Lake Risk and Adaptation Options in the Mt. Everest Region of Nepal* and *Evolution of Imja Lake Mitigation Strategies*)
- Developed and analyzed future scenarios of Imja Lake growth and GLOF potential. (Needed for *Case Study: Glacial Lake Risk and Adaptation Options in the Mt. Everest Region of Nepal* and *Evolution of Imja Lake Mitigation Strategies*)
- Incorporated scenarios into vulnerability analysis, as well as economic analysis of various risk reduction alternatives. (Needed for *Case Study: Glacial Lake Risk and Adaptation Options in the Mt. Everest Region of Nepal* and *Evolution of Imja Lake Mitigation Strategies*)
- Engaged Khumbu communities in data gathering and risk indicator development. Carry out assessment computations and vulnerability mapping with community members so that results can be fully appreciated by local people. (Needed for *Case Study: Glacial Lake Risk and Adaptation Options in the Mt. Everest Region of Nepal* and *Evolution of Imja Lake Mitigation Strategies*)
- The Risk Assessment findings (undated with new bathymetric and ice thickness data from GPR) were presented to the community, and feedback requested, starting with the Khumbu Alpine Conservation Committee (KACC) and extending to other groups such as the National Park and others. (Needed for *Case Study: Glacial Lake Risk and Adaptation Options in the Mt. Everest Region of Nepal* and *Evolution of Imja Lake Mitigation Strategies*)

Year Three Activities:

- Continued GLOF reconnaissance, risk modeling, and community-based risk mitigation (cost-sharing of 50% required for CCRD to support these activities)
- Continued development of the publication (Year Three completion): *Case Study: Glacial Lake Risk and Adaptation Options in the Mt. Everest Region of Nepal* using results from the V&A training, community consultations, and glacial lake field studies and modeling results. This study will consider the economic benefits and costs of possible Imja Lake risk reduction alternatives.

- Participated in the UNDP project inception workshop in Kathmandu, Nepal (October 2013).
- Developed fundraising plan and implemented strategies. Developed new funding streams by leveraging existing initiatives to help partner with donors, grantors, and organizations.
- Complete the Case Study: Glacial Lake Risk and Adaptation Options in the Mt. Everest Region of Nepal and Evolution of Imja Lake Mitigation Strategies
- Complete and distribute Imja Lake technical studies reports (to inform the UNDP Project and others interested in Imja Lake GLOF risk reduction), including (1)*Ground Penetrating Radar Survey for Risk Reduction*, (2)*Bathymetric Survey* and (3)*Evolution of Imja Lake Mitigation Strategies*.

Subtask 3.2.3.2 Summary	
Task Lead:	TMI and UT
Schedule:	Year Three
Milestones:	Continued GLOF reconnaissance; Case study draft completed, reviewed and finalized
Deliverables:	<ul style="list-style-type: none"> • GLOF reconnaissance data/results • Case Study: Glacial Lake Risk and Adaptation Options in the Mt. Everest Region of Nepal and Evolution of Imja Lake Mitigation Strategies

TASK 3.2.4: IMPLEMENT COMMUNITY OF PRACTICE PILOT PROJECTS AND RESEARCH: PERU

Years One and Two Progress and Results: A Scope of Work was developed for TMI’s Andean Programs to finalize the *Glacial Lake Management Handbook* and *Glacial Lake Risk Perceptions Study*. In addition, GPR surveys were conducted at Palcacocha Lake, the emerging glacial lake at Arteson Glacier, and the quickly disappearing Pastoruri Glacier. Results of these surveys were provided to the downstream municipality of Catac to inform their adaptation and risk planning and management.

Year Two activities were implemented in the Cordillera Blanca region of central Peru following three proposed subtasks: (1) planning and building scientific, social and institutional capacity for climate resilient development and risk management in a key high mountain watershed, (2) evaluating climate change risks and vulnerability for a high-mountain urban area (the city of Huaraz), and (3) pilot projects to understand, address, and mitigate GLOF risk and lake recession impacts.

Box 2 – Coordination with parallel TMI climate change adaptation related work underway in Peru.

To provide context, we coordinated and shared lessons learned with other parallel TMI- and partner- led climate change adaptation related activities being undertaken in Peru during Year Two. This is in addition to broader coordination with other projects, development agencies, stakeholders, and the Government of Peru (GOP). Various agencies, including the Government of Finland, and private foundations support these and other activities; and other funding prospects are being developed.

Ongoing work includes activities related to climate-smart governance (e.g., innovative municipal commonwealth approaches to integrate climate change capacity building, action, and investment over multiple jurisdictions in watersheds), sustainable livelihoods, conservation and restoration of alpine and páramo ecosystems, community-based applied citizen science, and institutional (grassroot NGOs) and individual capacity building.

Of potential direct complementarity to the work proposed in this work plan, TMI is also cooperating with

Peru's Ministry of Environment and the Inter-American Development Bank (IDB) on developing plans to strengthen Peru's regional capacity to adapt to climate change. This cooperation is expected to translate into small grants to implement activities and mobilize political, economic, and technical support from GOP agencies in the region to implement the Quilcay (Palcacocha) Valley and Huaraz Local Adaptation Plan as a pilot case study for high mountain glacier watersheds in Peru.

These projects will provide opportunities to share learning, build broader knowledge, and benefit from efficiencies of scale with the Peru work of the HiMAP.

Subtask 3.2.4.1 - Building scientific, social, and institutional capacity for climate resilient glacial watershed management.

This subtask is focused on the Quilcay Valley located above the city of Huaraz, Ancash, Peru. It includes a variety of knowledge gathering, analysis, and capacity building activities related to the pilot implementation of Peru's National Disaster Risk Management System (SINAGERD) and Regional Climate Change Adaptation Strategy (similarities to the NAPA/LAPA approach in Nepal). The subtask is based on the principles that interventions to reduce climate change related risks in the Cordillera Blanca range require broad vulnerability and adaptation analysis, engaging and convening all relevant stakeholders. SINAGERD is a new normative framework that mandates municipal governments to design disaster risk prevention plans using a watershed approach (TMI has spearheaded commonwealths of municipalities to better enable such whole watershed coordination). Accordingly, Subtask 3.2.4.2 (see below), focused on the downstream city of Huaraz, is also closely integrated for watershed management and GLOF risk abatement approaches to be conducted with rural settlements. This subtask, while it is conducted in a pilot site, will yield innovative tools to support public investment and citizen participation in risk mitigation and integrated glacier watershed management relevant to the whole Cordillera Blanca and other mountain ranges of Peru and globally. A development outcome of the subtask will be the testing and establishment of a multi-agent platform for the design, funding and implementation of climate change adaptation strategies – not only of relevance to high mountain regions.

Activities included:

- Began assisting and supporting local municipalities in the development of a climate change adaptation and risk reduction strategy and plan (to be completed in Year Three/Four) for the Quilcay Valley including GLOF risks, other natural disasters (e.g., landslides), changes in water supply and quality, Ecosystem-based Adaptation options, climate-smart agriculture and livestock management options, etc. as appropriate.
- Built understanding and map local community perceptions of risk and climate change. In Year Two, we used database tools to map local knowledge and perceptions of climate change and risk in glacier watersheds. This will be integrated with a GIS database for use in GLOF risk and vulnerability assessment. Following on Year One work providing data for Palcacocha Lake to the Catac municipality, surveys were expanded to other sites like Pastoruri glacier and Santa Cruz Canyon, and also informed and consulted with downstream communities. These will be useful for local decision makers for planning adaptation strategies, and will be key to enabling local community effective participation in dialogues regarding risk mitigation and adaptation options.
- Trained regional and local governments in the design of public investment projects to implement climate change adaptation and risk reduction activities (Technical support in cooperation with UT and small grant recipients).
- Supported the network of community leaders to improve their understanding of risks and opportunities associated with glacial lakes and glacial watersheds and enhanced their capacity to actively participate in regional and local government budgeting cycles to propose climate resilient development projects.

- Developed an awareness program with teachers on climate change adaptation and risk reduction in both city and rural schools.

Year Three Activities: The Huaraz LAPA will be the most thorough and utilitarian LAPA developed to date in Peru. It directly addresses USAID's development guidance and priorities by being community driven, multi-sectoral, responsive to GOP input, is mainstreamed with departmental development priorities, and implemented through leveraged co-financing from national and international sources (e.g., \$100K leveraged from the Ministry of Environment for activity implementation). Activities for Year Three:

- Community and Local government watershed management platform developed in Quilcay basin (Palcacocha)
- Quilcay watershed and Huaraz city climate change and disaster management plans developed
- Quilcay pilot projects implemented, based on lessons learned re: designing and implementing public investment projects to improve for Quilcay watershed resiliency (e.g., natural hazards, water, agricultural and grassland/soil components).
- Guidelines for public investment projects in integrated glacier watershed management developed
- Teacher training program on high mountain glacier watersheds and climate change (tools and materials) implemented
- GIS database on local perceptions of risk and climate change of Cordillera Blanca developed

Subtask 3.2.4.1 Summary	
Task Lead:	TMI/UT
Schedule:	Year Three
Milestones:	Watershed management plans developed; Quilcay pilot projects implemented; guidelines for public investment developed; teacher training program developed; GIS database developed;
Deliverables:	<ul style="list-style-type: none"> • Community and Local government watershed management platform • disaster management plans • Guidelines for public investment • GIS Database

Subtask 3.2.4.2: Climate change adaptation, risk mitigation, and disaster management capacity building for the high mountain city of Huaraz, Peru

Urban Risk Planning: Huaraz – In close collaboration with the other subtasks in Peru, as well as CCRD’s new urban component, this activity will focus on evaluating risk and vulnerability in urban settings in the Rio Santa watershed as a consequence of changes in water resources from high mountain glacial watersheds and the Cordillera Blanca. This activity will be undertaken in collaboration with the municipality of Huaraz and the regional Civil Defense office. The city of Huaraz is located in the lower section of the Quilcay Valley and therefore this subtask, centered on the city, will be seamlessly integrated with the Quilcay Adaptation Plan (subtask 3.2.4.1). Work will incorporate the following activities to help the community to formulate climate resilient development plans, taking into account the complex dynamics between hydrology, economy, and energy in an urban setting that is under pressure from climate change (Note: this subtask is not currently supported and will be undertaken only if there is significant co-financing from USAID Peru and /or district or national government):

Year Three Activities:

- Evaluate natural hazards resulting from changing hydrology in the region, particularly threats from glacial lakes and specifically that of Lake Palcacocha (this work complements the glacial lake rapid reconnaissance and watershed management tasks).
- Evaluate the potential risks to water security and quality resulting from glacier recession. The water supply of the city depends on Palcacocha, with other sources of water in the Quilcay valley being below standard. Therefore, a GLOF, extreme rainfall events, and the recession of glaciers increasing water acidity all threaten the water supply for this city of over 100,000 inhabitants. Accordingly, understanding water quality, and ecosystem dynamics that affect it, is critical to the city of Huaraz’s climate change adaptation strategy. This activity will be coordinated closely with Climber-Scientist grantee Raul Loayza.
- Evaluate the economic risk that results in urban migration to Huaraz due to limited agricultural opportunities in rural upland areas. Agricultural opportunities are declining for several reasons including: (1) the decreasing values of crops (although home garden medicinal plant production is on the rise), (2) weather pattern shifts have resulted in a decline in productivity, and (3) greater economic opportunities in Huaraz, resulting in less labor availability in the rural uplands. This urban migration is putting new stress on the rural economy of Quilcay Valley (male migration, less local labor and management available, stress on women education and increased female farm labor) and possible, but unknown, ecosystem impacts. Furthermore, there are broader social and cultural implications on this urban migration.
- Results from the evaluations listed above will be coupled with ongoing risk perception studies to evaluate the perspectives of both urban and rural communities with regards to these changes. The linkages between the natural hazard, energy, and economic risks will also be discussed.
- From the risk evaluations and the perception studies, an Urban Risk Planning Strategy will be developed for Huaraz in collaboration with key stakeholders in the region.

Given that we are initiating this task this year, most development products, plans, and outcomes will come in Project Years Three and Four.

Subtask 3.2.4.2 Summary	
Task Lead:	TMI/UT
Schedule:	Year Three
Milestones:	Research, KM, capacity building, and planning activities related to climate change risks from processes in the Cordillera Blanca to the City of Huaraz
Deliverables:	<p><u>Risk Perception</u></p> <ul style="list-style-type: none"> • GLOF training module and awareness building materials developed • Network of community leaders and teachers established • GIS database established <p><u>Urban Mountains</u></p> <ul style="list-style-type: none"> • Urban mountain natural hazard, water, and risk evaluations conducted • Urban risk planning strategy developed and integrated with Quilcay Valley Adaptation Plan

ACTIVITY 3.3 CLIMATE SERVICES

TASK 3.3.1: DESIGN AN ADAPTATION AND CLIMATE SERVICES PROGRAM

Year One and Two Progress and Results: Completed

Year Three Activities: None planned

TASK 3.3.2: COORDINATE ACTIVITIES OF THE CLIMATE SERVICES PARTNERSHIP

Year Two Progress and Results: Ongoing coordination, participation in International Conference on Climate Services (ICCS) 2 in Brussels.

Implemented new partner engagement mechanism, including webinar series and additional topical teleconference exchanges. Facilitated establishment of processes for membership and working procedures of Partnership.

Under the leadership of Steve Zebiak, IRI coordinated activities of the CSP (Secretariat and its Coordinating Group [CG]) and provide oversight and technical support for selected subtasks under CCRD Tasks 3.3.3, 3.3.4, and 3.3.6-3.3.9. The CSP is a platform to connect researchers, providers, users, and funders of climate services, focusing on knowledge exchange, collaboration, evaluation, good practices, and training and education to support the development of effective climate services worldwide, with emphasis on climate resilient development.

Coordination involved monthly conference calls with the CG, supporting the planning of international/regional conferences, and addressing needs and concerns of CG members. The CSP Secretariat helped identify appropriate projects, developed connections, attracted new parties and new funds to the Partnership, and raised the profile of the CSP. Additionally, the Secretariat facilitated the establishment of more formalized membership and operating principles of CSP, consultations and reviews, seminars/webinars and other communications, a sustainability plan, and worked to support CSP regional hubs.

The CSP was represented in a number of international meetings. At these meetings, CSP members connected with new and current members; disseminated information about the Partnership and climate services. Meetings that were targeted in Year Two included the American Geophysical Union annual meeting (San Francisco, California), Partner Dialog/World Meteorological Organization (WMO) Congress for the Global Framework for Climate Services(GFCS) (Geneva, Switzerland), Climate Change, Agriculture and Food Security (CCAFS)/CSP workshop (Dakar, Senegal).

Year Three Activities: The CSP is a platform to connect researchers, providers, users, and funders of climate services, focusing on knowledge exchange, collaboration, evaluation, good practices, and training and education to support the development of effective climate services worldwide, with emphasis on climate-resilient development. Under the leadership of Steve Zebiak, IRI will coordinate activities of the CSP Secretariat and its CG and provide oversight and technical support for CSP inputs to selected CCRD subtasks.

Activities of the Secretariat will include strategic and operational planning for the overall activities of the Partnership; development of a prospectus on CSP organizational structure and consultations with sponsors and partners on sustaining the CSP; consultation and support for the CSP international Coordinating Group (including monthly teleconferences); coordination of international projects/programs undertaken through the Partnership; development or co-development of concept notes and proposals on climate services; authorship or review of white papers on climate services topical issues; management of CSP-wide consultation processes regarding review or input to global programs/platforms (GFCS, UNFCCC, Disaster risk reduction platform, etc); liaising with donor institutions, brokering funded initiatives; outreach to relevant sectoral or regional groups/networks, including financial services community, energy sector; solicitation of new CSP members/contributors; serving on advisory boards for external climate services programs; support for CSP

regional hubs as they may develop; representation of the Partnership at international meetings and symposia, raising the profile of CSP; management of CSP-wide communications; ongoing management of the CSP website and collaboration platform; reporting on Partnership work and progress; leadership of process to develop operating procedures of the Partnership, including membership, working groups, and forums; manage the CSP Knowledge Exchange process, featuring thought and opinion papers, seminars/webinars, and e-discussion forum and other communication tools. In its work to advance the broad goals of the CSP and its members, the Secretariat will also devote time to learning about climate services activities and the work of individual CSP networks and members, with attention to ideas for innovation, linkages, and improvement in climate services.

The Secretariat will support and participate in two new CSP Working Groups that are now planned. The first will deal with ethical considerations of climate services, and the articulation of community standards and guidelines to support climate services development. The second concerns the development of research priorities that respond to the experience in climate services implementation as being shared within the CSP. CCRD will support IRI at the level of 20 days LOE for each WG activity; and will provide travel/workshop funds for each.

The CSP will support the Jamaica Meteorological Service’s effort to host the annual flagship event, the International Conference on Climate Services - 3, to be held in Montego Bay, Jamaica. The Secretariat will lead the organization, planning and execution of ICCS-3, along with the designated Conference organizing team. At the annual meeting, and other thematic or regional meetings CSP may host, participants will connect with new or existing CSP members, exchange information and develop ideas for new initiatives or activities. CCRD will provide support for airfare for 8 participants, and will cover venue and catering costs of the conference (estimated at approximately \$55K – note these expenses, plus airfare for participants will be paid directly by IRG). Note that CCRD funds will be leveraged by additional travel support provided through a NOAA grant to IRI (budget approximately \$72K).

The CSP will be represented in a number of additional international conferences and meetings, potentially including the UNFCCC COP, GFCS forums, the AACIFI program (UNEP Financial Initiative).

Task 3.3.2 Summary	
Task Lead:	Steve Zebiak (IRI)
Schedule:	Year Three
Milestones:	Planning and participation in ICCS 3; development of outreach materials including webinars, white papers, newsletters, etc.; working groups conducted
Deliverables:	<ul style="list-style-type: none"> • ICCS 3 Conducted • CSP organizational and sponsorship prospectus • 4 webinars/white papers • Small grants from IRI write shops • Climate service mapping database • Newsletters • Working group reports

TASK 3.3.3: COMPILE AND DISSEMINATE CURRENT CLIMATE SERVICES KNOWLEDGE

Year Two Progress and Results: CSP knowledge was disseminated, and online discussions and Webinars convened. We solicited feedback, and provided additions/improvements to website organization and functions. The CSP website was developed so as to better serve the CSP mission and its membership and

several updates were made throughout the year to improve its functionality. The IRI also expanded the capacity of the interactive map to better serve as a resource to provide perspective into who is behind what projects and where/when the projects are happening. The map also serves as a launch point that directs site users to other pages throughout the portal.

Year Three Activities: Capturing and disseminating knowledge regarding current efforts allows the international community to learn from previous experience, avoid the duplication of efforts and focus on effective strategies. To facilitate dissemination of CSP knowledge, a CSP website and online KM portal has been designed, and the initial platform was launched, under CCRD support in Year One and was further refined in Year Two. CCRD will continue the CSP website upgrades in Year Three, and will coordinate and develop content regarding upcoming CSP activities. IRI will also continue work on the online searchable database of current climate service activities, including a compendium of experts that can be consulted in cases in which technical backstopping is required. This is being done in conjunction with the German Climate Service Center and the Joint Programming Initiative of the European Union, providing a global resource of climate service capacities.

Subtask 3.3.3.1 CSP Website. Building on activities in previous years, the CSP website will be upgraded so as to better serve the CSP mission and its membership. CSP website upgrades will require coordination between the IRI and Engility, development of content on upcoming CSP activities.

Primary activities will include:

1. continuing to build the repository of resources (including case studies, evaluations, guidance documents, training materials, webinars) and ensuring that this repository is easy to access and use;
2. improving the functionality and design of the site;
3. improving the online searchable database and its mapping feature, so as to better provide information on current climate service activities;
4. continuing to refine features for membership participation in the website, including discussion fora; and
5. building specific pages for CSP activities, as appropriate.

Subtask 3.3.3.2 Online searchable database of current climate service activities.

CCRD will expand the capacity of the interactive map such that it becomes one of the core features of the site. The map should serve as a resource and should give perspective into who is behind what projects and where/when those projects are happening. The map should also serve as a launch point that directs site users to other pages throughout the portal. In Year 3 a compendium of experts will be developed so that stakeholders can reach out to experts for consultation in cases where technical backstopping is required.

Primary improvements will include:

1. Adding new projects, case studies, and evaluations, which are all distinguished from one another by resource type.
2. Making it easier for partners to add projects;
3. Geographically referencing projects to the specific region where they are active
4. Addressing the challenge of presenting information about regional/global project challenge
5. Distinguishing projects on the map by sector and/or by the type of institution that submitted the projects, filtering by the newest projects and longest-lived.
6. Adding a more sophisticated search mechanism that would allow site users to explore the projects/case studies/evaluations in more depth and eliminating the project list at the bottom of the map as well as the project landing pages, so that information was providing when users hovered over projects.

Task 3.3.3 Summary	
Task Lead:	Steve Zebiak (IRI)
Schedule:	Year Three
Milestones:	Website upgrades, additional content added to CSP site
Deliverables:	<ul style="list-style-type: none"> Website updates outlined in quarterly reports Revised climate services interactive map

TASK 3.3.4: CONDUCT CASE STUDIES AND ASSESSMENTS OF CLIMATE SERVICES

Year Two Progress and Results: The CSP completed 10 case studies, completed one component of the Mali Agromet Program assessment, undertook a detailed analysis of case study and evaluation findings, published synthesis results, and initiate a second tranche of more extensive climate services evaluations.

Initial case studies and a few additional case studies were completed focusing on the application of climate services in different sectors and countries. IRI produced a synthesis document of the Year One case studies undertaken by the CSP, and additionally material captured in ~60 case studies solicited by the GFCS. The findings were presented at the World Meteorological Organization (WMO) Extraordinary Congress (October 2012).

The Mali Agromet Program assessment on the climate services science was completed in Year Two. The University of South Carolina continued to work on the Mali Met field assessment, made two presentations on the Mali Met assessment (ICCS 2 and the Association of American Geographers Annual Meeting), oversaw the cleaning of the data from the Mali Met field assessment surveys, analyzed the cleaned data, and began drafting the assessment report.

Following up on the recommendations made during ICCS 2 Development Day, the CSP has worked to develop a methodology for the assessment of climate services. The CSP Secretariat and IRI worked with the principals of the Mali Met program and partners to outline a methodology that could provide information good enough to satisfy minimum evaluation standards but that are still practical and affordable. We identified NGOs and other institutions based in relevant regions to conduct the assessments, with an overview from the Secretariat, using the Small Grants Program of CCRD to support the effort. CSP worked with partners to develop the methodology, develop plans, and identify implementers to undertake several mid-level assessments.

The CSP participated in two evaluation-related workshops, including one focused on providing guidance for identifying socioeconomic benefits to climate, weather, and water information, held in conjunction with the World Bank and the WMO in Geneva, Switzerland April 8-11, 2013. The CSP presented its evaluation activities at the conference. The workshop produced an outline for a book that will be developed over the course of the next year.

The second evaluation workshop took place May 18-25, 2013 in Senegal, where the CSP contributed to the development of a monitoring and evaluation methodology of the agrometeorological project in Kaffrine Senegal. Two months of fieldwork was conducted to develop a nuanced farmer decision model that will help identify the most productive services and means of delivery.

Year Three Activities:

Case Studies – this task will include completion of three to five “mid-level” assessments. The Secretariat and IRI will work with the assessment implementers to advise on the process and report on findings (in one case IRI will serve as implementer). The IRI will also work to develop a synthesis paper of the assessments which will include a finalized methodology for assessments that can be widely distributed. A draft assessment methodology was completed in Year and the CSP would continue to work with partners to refine the methodology, oversee the solicitation and selection of grantees, and collect and edit (as needed) the findings. Following this, the IRI will produce an analysis of what can be learned about minimum standards for evaluation that can be delivered as a CSP resource. The IRI will also produce three new case studies. It is anticipated these case studies will cover the following topics: 1) user experience; 2) institutional analysis; and 3) public private partnerships (supported by 3 interns). The latter will provide grist for a more thorough analysis of the role of the private sector in providing and maintaining climate services.

Mali Met Assessment – USC will continue work on the Mali Met assessment. Data will be gathered on the impact of the Meteo Mali project to capture information on interannual variability of impact and identify conditions under which the program is more or less effective for farmers. The initial field survey will be redesigned, field survey teams retrained, the survey database redesigned (with Stratus Consulting), and new field survey data analyzed. USC will also develop a farmer decision model for each of the four clusters identified in the assessment to allow for interpretation of existing assessment data, baseline data from other sources, and project redesign and disseminate the findings of the Mali Met field assessment.

Kaffrine CCAFS program – CCAFS and CCRD partners will build a farmer decision model based on qualitative fieldwork conducted in Year Two. The farmer decision model will be used to interpret existing baseline data on agriculture and livelihoods in Kaffrine. CCRD will also support CCAFS and ANACIM (Senegal National Agency of Civil Aviation and Meteorology) partners in their efforts to redesign, scale up, and evaluate Senegal’s program of climate services for farmers. assessment work in Kaffrine on baseline data collection and impact assessment. Training for CCAFS/ANACIM partners will be delivered in Senegal in January 2014, and CCRD will support qualitative data collection and interpretation of qualitative data for climate services project design in Kaffrine and other pilot sites in Senegal.

Task 3.3.4 Summary	
Task Lead:	Steve Zebiak (IRI) and Ed Carr (USC)
Schedule:	Year Three
Milestones:	Support CCAFS work in Kaffrine; oversee midlevel assessments; revise/complete synthesis paper; conduct case studies, finalize Mali Met field assessment
Deliverables:	<ul style="list-style-type: none">• Climate Services Impact Report• Deliverables from CCAFS work• 5 mid-level assessments• Case Studies Synthesis Paper• Additional case studies• Final Mali Met field assessment

TASK 3.3.5: ECONOMIC VALUATION OF CLIMATE SERVICES

Years Two Progress and Results: CCRD finalized the synthesis paper on the economic valuation of climate services, drawing on the literature review covering more than 180 articles and reports. CCRD initiated discussions with the World Meteorological Organization (WMO) on the preparation of a primer covering the design of valuation studies and communication of study results. CCRD, WMO and The World Bank organized a meeting on the economic valuation of climate services in Geneva, Switzerland in April 2013. The

outcome of that meeting was a commitment to jointly prepare a primer on the socio-economic benefits of weather, climate, and hydrological services and user groups. Participants in the meeting took a decision to proceed with the preparation of the primer, with CSP and CCRD actively involved as co-editor (Glen Anderson) and contributing authors.

Year Three Activities: Proposed work will focus mainly on the preparation of the primer on the socio-economic benefits of weather, climate and hydrological services, including two drafts and final version. Internal and external reviews of the primer are planned, including a meeting of the Working Group on the Economic Valuation of Climate Services at ICCS 3 and a meeting of all editors and lead authors.

In addition, CCRD will support three regional seminars organized and funded to bring together representatives from meteorological and hydrometeorological services that will be a combination of four activities: 1) a training on designing climate services valuation studies and communicating the results to funding agencies and users; 2) presentation of the working draft of the primer, followed by detailed discussions of content; 3) presentation of climate services case studies featuring examples from respective regions; and 4) discussion of the delivery of climate services.

Task 3.3.5 Summary	
Task Lead:	Glen Anderson (IRG)
Schedule:	Year Three
Milestones:	Complete draft and final primer; develop training materials for WMO seminars; and convene CSP working group at ICCS 3
Deliverables:	<ul style="list-style-type: none"> • Draft final and final versions of the primer • Training materials for WMO seminars • ICCS 3 working group feedback on primer

TASK 3.3.6: CLIMATE INFORMATION GUIDANCE

Years One and Two Progress and Results: Consultations on Climate Information Guidebook; review and input to Guidance note on Hydromet Services commissioned by the World Bank. In Year 2, we worked with the development agencies (The World Bank, Deutsche Gesellschaft für Internationale Zusammenarbeit, UK Department for International Development, USAID, UN World Food Programme, UNDP, Regional Consortium Coordinating Council) to assemble the relevant existing training and guidance materials, and have made these available through the CSP website.

Year Three Activities: In Year Three, IRI will continue to survey the materials, and references therein, to inform a study that identifies the overarching themes, topics addressed, identified needs, gap areas, and possibilities to integrate and build on existing materials. The team will synthesize the results to be shared among all the partners.

Task 3.3.6 Summary	
Task Lead:	Steve Zebiak (IRI)
Schedule:	Year Three
Milestones:	Complete guidance review
Deliverables:	<ul style="list-style-type: none"> • Final guidance summary

TASK 3.3.7: PILOT NATIONAL-LEVEL CLIMATE SERVICES ANALYSIS

Year One and Two Progress and Results

In “Climate Services for Climate Smart Development: A Preliminary Guide for Investment” (IRI, January 2012) an integrated approach to developing effective climate services capacities in developing country contexts was presented. In Year One, IRI, leveraging funds from its Cooperative Agreement with USAID, pursued activities designed to replicate successful activities within this integrated approach model undertaken with partners in Ethiopia (Nat. Met. Agency, and health community). The Year One activities focused on projects in Tanzania and West Africa, working with the Tanzania Met. Service and AGRHYMET to build capacity and develop new high resolution historical climate analyses, together with implementation of data analysis, display, and dissemination technologies (based on IRI Data Library) for product development and delivery.

The activities for Year Two included a number of follow-up activities to the capacity development effort in West Africa as well as a follow-up to the Central America workshop. Furthermore, in Year Two we initiated a significant new activity focused on Jamaica. This activity captured a major opportunity emerging from ICCS 2 to demonstrate a national level climate services scoping, planning, and implementation process, leveraging and linking major World Bank, USAID, and other climate-related programs that are already underway. Finally, in Year Two, CCRD supported a project led by the International Environmental Data Rescue Organization (IEDRO) focused on data rescue – an opportunity to salvage a large amount of historical climate data for the entire African continent, critically important for all climate services in Africa, and currently in danger of being lost. The Year Two effort focused on the capturing of data stored on microfiche to optical images, and was implemented under CCRD via contracts with IEDRO and the African Centre of Meteorological Application for Development (ACMAD).

Year Three Activities:

In Year Three, CCRD will continue capacity development activities in C. America and Jamaica and will expand work in Africa to include development of a climate services community of practice in W. Africa, building new technical capacity in Burkina Faso, and supporting a collaborative project in Tanzania to establish climate services for smallholder farmers. Year Three activities are further documented below.

Subtask 3.3.7.1.a Climate service capacities and communities of practice in West Africa

Between CCRD and the USAID/IRI Cooperative Agreement, significant investments have already been made at AGRHYMET in the development of a database that combines station measurements with satellite proxies, the installation of the IRI Data Library, development of interactive dynamic Map Rooms and tailored products and tools available through AGRHYMET’s web page, and extensive training on how to update and use the data sets. In this regard the IRI has been working extensively with AGRHYMET in Enhancing National Climate Services (ENACTS) at the West African regional level for the CLISS countries (now increased from 9 to 13). In order to advance the awareness, demand, and uptake of climate services at the regional scale CCRD will now work to support the development of a community of practice. In Year Three we envision collaborating with AGRHYMET to convene a user’s group with focus on agriculture and water, and to begin the process of raising awareness about currently enabled climate information products and services, but also the process of articulating needs that can inform more tailored value-added products and services in the future. During Year Three two workshops are planned regarding this activity. The first workshop will serve as an introduction to the available climate information products at AGRHYMET and their specific uses, solicitate feedback and help establish priorities from the participants, as well as facilitate the formation of a community of practice. The second workshop will be a followup on the first workshop and will further engage the communities of practice, focusing more on user feedbacks on the use of existing information products and articulation of needs for more tailored information products and services.

Subtask 3.3.7.1.b Climate service capacities for Burkina Faso

Complementing the regional scale activities, IRI will support a new capacity building effort at the national level in Burkina Faso. Over thirty-year time series of ten-daily rainfall and temperature data will be generated

for every 10 km grid across Burkina Faso by combining station measurements with satellite and other proxies. The IRI Data Library will be customized and installed at the Direction de la Météorologie. The generated data and the IRI Data Library tools will then be used to develop online mapping service providing user-friendly tools for querying, visualization, and accessing information. Training of Direction de la Météorologie is an integral part of each of the three activities, which will increase the technical capacity of the Met Service to provide these services in a sustainable manner.

Subtask 3.3.7.1.c Climate Services for smallholder farmers in Tanzania – at scale

CCRD will undertake a new initiative, in collaboration with World Vision International (WVI), World Vision Tanzania, WMO, CCAFS, the Tanzania Meteorological Agency (TMA), Ministry of Agriculture and other national partners in Tanzania – designed to establish climate services tailored to smallholder farmers. This initiative has potential for very large scale uptake through engaging existing development resources and infrastructure of WVI (60+ field offices, supporting over 4 million persons in rural northern Tanzania), together with existing institutional partnerships with the national agricultural extension service and other agencies. Linkages with WMO, the Met. Agency, CCAFS, and with IRI provide the means by which we can seek to establish both capacities and climate services good practices in information delivery, user dialogue and collaboration, translation, communication, and suitable climate risk management decisions/practices to support more resilient, climate-informed farmer communities. Attention to local tailoring, communications systems (SMS and other) will seek to establish an effective climate service that has truly large reach in a national context... a demonstration that will be relevant internationally. This activity will build on prior IRI work to develop historical climate database and analysis products with TMA.

IRI will work with TMA to develop climate forecast products tailored to subnational scale and will support services development through implementation of the facilities of the IRI Data Library and Map Rooms, already introduced on site.

IRI will contribute to the design of the user interface mechanism, and the curriculum for engaging WVI professional staff and agricultural extension staff, drawing on lessons learned from previous CCAFS work and experiences shared through the CSP. CCARD support for this activity will be greatly leveraged by contributions from CCAFS and from donors being solicited presently by WVI and WMO. IRI will work with WVI to further develop this project as a case study for the CSP and a process to promote wider engagement of the development NGO community in climate services, advanced through the CSP.

Subtask 3.3.7.2 Central America Follow up to Adaptation Partnership Workshop

During Year Three, the IRI will build on the work in Year Two, consisting of stakeholder workshops in Honduras, Guatemala, and Dominican Republic. IRI will host partners from the three countries in NY for a training course designed to help them develop climate information tools for climate risk management in the agricultural sector (October 2013). Following on this, the IRI will work collaboratively with climate information providers, agriculture experts, and decision makers in the development and refinement of climate information tools throughout Year Three.

Subtask 3.3.7.3 South-South Collaboration in Tool Development

The IRI will continue to facilitate south-south collaboration among the various stakeholders developing tools that support climate-informed decision-making (including but not limited to AGRHYMET, Burkina Faso, Honduras, Guatemala, Jamaica, and the Dominican Republic). Given the number of partners' developing/improving tools, there is a significant opportunity to share lessons learned among the various stakeholders as these activities are implemented and efforts evolve. To this end, IRI will organize quarterly conference calls with the tool developing stakeholders to discuss activities and share lessons learned. Following this conference call, the IRI will collect and disseminate a quarterly lessons learned document that outlines ongoing activities, challenges encountered, solutions implemented, what works and what doesn't.

Subtask 3.3.7.4 National-level Climate Services development in Jamaica

CCRD will continue, and extend the activity to develop new climate services capacities and institutional arrangements begun in Year Two. To date progress has been made on several fronts, including the scoping activity, prioritization of climate services needs (agricultural systems; drought), technical review, initial training and capacity building support, and the establishment of an interagency, collaborative platform – the Jamaica Agriculture and Climate Working Group. The latter involves several key partners: Jamaica Met. Service, the Ministry of Agriculture, Policy branch and Agriculture Extension Service, the Jamaica/Caribbean Agricultural Research and Development Institute (CARDI), ACIDI-VOCA (NGO working in agricultural livelihoods, training etc).

During Year Three, IRI will build on these developments and provide support in several areas. IRI will contribute actively to the Working Group, participating in regular (biweekly) meetings and providing advice and technical support.

IRI will provide further technical support, and training, to assist Jamaica Met. Service with the ability to generate seasonal forecast products, including drought forecast products. CCRD will assess potential use of available remote sensing products for monitoring and decision support system development – transferring tools as needed. The team will foster collaboration with existing agricultural climate services in southeastern S. America and support transfer of technology from that setting as appropriate. On the agricultural climate risk management efforts, IRI will contribute to the training curriculum for agricultural extension as well as the farmer forums that are planned for this coming year, working with ACIDI-VOCA and other partners. IRI will review and provide advice on new agricultural service products to be developed, including a farmer advisory bulletin.

IRI anticipates that some of the information system developments will motivate the creation of Map Room facilities, and the transfer of underpinning Data Library to Jamaica partner institutions during Year Three. This will be enabled through staff exchanges and training sessions.

During Year Three IRI will work with partners to develop a policy-oriented forum to engage key institutions within Jamaica (and possibly extend to Caribbean regional scale). This would serve to build awareness and support for the emerging climate services, with a goal to enable and sustain these programs, including establishing appropriate institutional arrangements.

The above areas will all provide reportable results and outcomes that will be presented at ICCS3 in December 2013. The CSP secretariat will work with the local lead institutions to plan and organize the Conference, supporting communications, outreach, program development, logistics, etc.

In support of additional climate services demands identified during the initial consultations, we will provide support for, and contribute to mentoring of students (expected from University of the West Indies-Mona) that will do internships at a few agencies (among the Environment Agency, Fisheries Branch of Agriculture, National Water Agency). These will focus on operational activities, decisions and policies that are climate sensitive, and help identify opportunities for targeted services for these agencies – a subject for subsequent service development.

In 2014 CCRD will continue to work with Jamaica Met and other partners in further developing the agricultural climate services to be developed during 2013, and in the provision of new services for other sectors.

A separate, complementary activity will address analysis of observations and model simulations, to put climate change projections in the context of current variability. The observational analysis will be based on daily meteorological data, proposed in collaboration with local institutions (e.g. the University of the West Indies - Mona campus, the Jamaican Meteorological Department and the Caribbean Institute for Meteorology and Hydrology). It aims to characterize variations and trends in the sub-seasonal character of precipitation, i.e. in frequency and intensity of daily precipitation, and their relation to predictable components of oceanic influence. The analysis of model simulations seeks to interpret projections based on understanding of the role of the oceans in current variability, relying on a literature review augmented by novel analysis as needed.

Subtask 3.3.7.5 Climate Services Small Grants

A small grants solicitation was announced during year 2, responding to the needs and priorities identified in the Saly workshop on Scaling up Climate Services for Farmers in Africa and S. Asia. With support of CCRD several groups were convened for in-region “write-shops” in order to develop ideas for small grants applications, as well as to consider longer-term objectives in establishing farmer-centric climate services. These small grants applications will be evaluated, and it is expected that several small grants will be awarded in Septemeber, 2013. IRI, in conjunction with CCAFS partners, will provide review of proposals and workplans, as well as continuing programmatic technical review and advice to the project teams throughout the small grant projects.

Subtask 3.3.7.1.a Climate service capacities and communities of practice in West Africa	
Task Lead:	Tufa Dinku (IRI)
Schedule:	Year Three
Milestones:	<ul style="list-style-type: none"> • AGRHYMET 1st Workshop • AGRHYMET 2nd Workshop
Deliverables:	<ul style="list-style-type: none"> • Workshop Reports • Trip reports
Subtask 3.3.7.1.b Climate service capacities for Burkina Faso	
Task Lead:	Tufa Dinku (IRI)
Schedule:	Year Three
Milestones:	Met Staff Trained, Merged climate time series available, Data Library installed at Met Service, develop maprooms
Deliverables:	<ul style="list-style-type: none"> • Met workshop report • Trip Reports for staff leading the Data Library installation • Merged climate time series available in Data Library • Map Rooms online
Subtask 3.3.7.1.c Climate Services for smallholder farmers in Tanzania – at scale	

Task Lead:	Steve Zebiak (IRI)
Schedule:	Year Three
Milestones:	<ul style="list-style-type: none"> • CPT-based subnational seasonal forecast system implemented at TMA • Design of training curriculum and user interface mechanism • Map Room prototype for tailored sub-regional forecast products
Deliverables:	<ul style="list-style-type: none"> • Trip reports from staff leading the development of CPT-based subnational seasonal forecast system • Training materials and interface • Map Room online
Subtask 3.3.7.2 Central America Follow up to Adaptation Partnership Workshop	
Task Lead:	Cathy Vaughan (IRI)
Schedule:	Year Three
Milestones:	Central America – Host partners from Honduras, Guatemala, and Dominican Republic to a training event at the IRI, collaborative development of tools for each country
Deliverables:	<ul style="list-style-type: none"> • Honduras, Guatemala, and Dominican Republic Workshop: List of participants for training course • Training plan for capacity building course for Honduras, Guatemala, and Dominican Republic Workshop at IRI • Concept note of the initial plan for climate information tools in Honduras, Guatemala, and Dominican Republic • Report from Honduras, Guatemala, and Dominican Republic training course • Report tools from Honduras, Guatemala, and/or Dominican Republic • Tools from Honduras, Guatemala, and Dominican Republic available online • Trip reports
Subtask 3.3.7.3 South-South Collaboration in Tool Development	
Task Lead:	Remi Cousin (IRI)
Schedule:	Year Three
Milestones:	Conference calls held, online sharing platform developed, lessons learned shared
Deliverables:	<ul style="list-style-type: none"> • Conference calls • Online platform launched • Lessons learned summary report
Subtask 3.3.7.4 National-level Climate Services development in Jamaica	
Task Lead:	Steve Zebiak (IRI)
Schedule:	Year Three
Milestones:	CPT-based precipitation/drought forecasting tool developed, Working Group established, Consultations on S-S collaboration in agricultural Decision Support System, Climate Risk Management (CRM) inputs into training curriculum for extension and farmer groups, Policy and practice engagement; dialogue report, Internships, Data Library and Map Room tools

	developed, Data Library/Map Room training events, and Climate analysis study
Deliverables:	<ul style="list-style-type: none"> • CPT-based precipitation/drought forecasting tool online • Working Group minutes • Trip reports summarizing consultations on S-S collaboration in agriculture decision support system • Training curriculum developed • Policy and practice dialogue report • Internships • Map Rooms online • Data Library/Map Room training report • Climate analysis report
Subtask 3.3.7.5 Climate Services Small Grants	
Task Lead:	Alexa Jay (IRI)
Schedule:	Year Three
Milestones:	Reviews of Small Grants proposals
Deliverables:	<ul style="list-style-type: none"> • Review of project deliverables and recommendations to project teams • Final reports (in most cases, most likely delivered in early Year 4)

TASK 3.3.8: DEVELOP CLIMATE SERVICES PRODUCTS FOR AGRICULTURAL SECTOR

Beginning in Year 2, CCRD has supported work contributing to the international AgMIP project, which aims to improve the characterization of world food security due to climate change and to enhance adaptation capacity in both developing and developed countries. CCRD supports contributions of IRI and the Center for Climate Systems Research (CCSR), based at Columbia University.

Year Two Progress and Results: Work under this task has focused on 1) the development of near-term climate scenarios for agricultural assessment in Sub-Saharan Africa and South Asia and 2) the development of the parallel System for Integrating Impacts Models and Sectors (pSIMS) gridded crop modeling framework. Accomplishments under subtask one include the review and improvement of a preexisting code base that had been applied for hydrological and agriculture simulation in the Western Cape province of South Africa. Furthermore, we have “refactored” the code; this is expected to facilitate future application across new regions, as well as modification of the code itself. Accomplishments under subtask two include the development of a suite of apps to plug in to the pSIMS. These include multiple translation apps for both the DSSAT and APSIM crop model interface that convert from standardized formats into model specific inputs and multiple output parsing apps that convert from model specific outputs to standardized formats. We have started porting APSIM to Unix to better understand and develop scenarios for the model.

Year Three Activities: In Year Three, the IRI and CCSR will continue activities to improve characterization of agricultural systems and the near-term climate scenarios that are likely to stress them. The effort will continue to yield outcomes that will improve capabilities of developing country scientists to simulate major agricultural systems and improved exploration of likely near-term climate impacts by scientists and stakeholders through scenario analysis of decadal-scale climate variability and trends. It also proposes additional work on the development of improved near-term climate scenarios.

Subtask 3.3.8.1 Develop the next generation of Global Gridded Biophysical Model Systems CCSR will finalize its prototype for a harmonized platform that uses multiple crop models and improved climate, soil, and management inputs and provides documentation to ensure results can be fully analyzed and attributed. CCSR will continue efforts to develop modeling tools that improve global assessments of agricultural impacts and aid developing country researchers and stakeholders building adaptive capacity at the national and regional scales. The prototype will be used to demonstrate example global simulations with enhanced analysis for sub-Saharan Africa). The system will contribute to the Agricultural Model Intercomparison and Improvement Project (AgMIP) and support project activities and capacity building for AgMIP Research Teams in sub-Saharan Africa and South Asia. A 3 day workshop will be held in September 2013.

Task 3.3.8.1	
Task Lead:	CCSR
Schedule:	Year Three
Milestones:	<ul style="list-style-type: none"> • Organize kick-off workshop to design gridded database for climate, soils, initial conditions, and crop management data use in gridded simulations of agricultural production responses to climate change scenarios • Operational prototype of gridded database and multi-model interface for DSSAT & APSIM crop models • Mid-term workshop and regional stakeholder engagement in Southern Africa to inform development of regional demonstration project • IRI data library (and possibly map room) interpretation, and recommended use • Analysis of results, draft publication, documentation of harmonized gridded database and simulation tools. • Final workshop to present global and regional demonstration projects; advance planning for expansion of the gridded simulation framework to enable more models and data sources, evaluation and analysis of simulation outputs, visualization tools and broader user capability
Deliverables:	<ul style="list-style-type: none"> • Workshop report • Online links to operational prototype of gridded database and model interface • Mid-term workshop report • Methodology document • Final workshop report

Subtask 3.3.8.2 Develop Near-Term Climate Scenarios for AgMIP IRI and CCSR will continue to develop near-term climate scenarios as needed to inform and engage decision-makers and stakeholders in Sub-Saharan Africa and South Asia through AgMIP. Additionally, IRI and CCSR will develop near-term climate scenarios that could later be piloted in agriculture climate services activities supported through CCRD. This will include the modeling of precipitation occurrence, which has been shown to be more spatially coherent than rainfall amounts. Timing of growing-season onset is another variable of interest, and may have greater impacts on agricultural production than mean seasonal rainfall amounts.

This effort will include analyses of decadal-scale variability and trends in the subject regions, and statistical approaches that capture year-to-year variability of wet and dry spells. The near-term climate datasets developed and associated training will complement ongoing AgMIP activities that link the proposed work to the development of state-of-science climate change scenario data sets based on the Coupled Model Intercomparison Project Phase 5 (CMIP5) simulations with Representative Concentration Pathways (RCP) forcing. They will enable agricultural and economic analysis as well as decision making over coming years to

decades on site-based crop model intercomparisons, regional economic impact assessments, and representative agricultural pathways (linked to the RCPs defined in the IPCC AR5 process).

Task 3.3.8.2	
Task Lead:	Lisa Goddard (IRI)
Schedule:	Year Three
Milestones:	<ul style="list-style-type: none"> • Ensembles of climate/weather time series of historical period for AgMIP focus regions in Sub-Saharan Africa and South Asia. • Ensembles of climate/weather time series that extend to 2030 for same regions • Documentation of data methodology, interpretation, and recommended use • Analysis of agroclimatic impacts driven by near-future ensemble of climate time series
Deliverables:	<ul style="list-style-type: none"> • Online links of ensembles of climate/weather time series • Methodology document • Analysis report

TASK 3.3.9: CLIMATE SERVICES TECHNICAL BACKSTOPPING OF DEVELOPMENT PROGRAMS

Year Two Progress and Results: IRI was engaged by CCRD to attend the USAID/UNDP Climate Project Workshop in Kazakhstan to support climate services development. IRI scientists participated in the Kazakhstan mission from May 21-24, 2013 and presented on the assessment and prediction of drought, including an introduction to the Standardized Precipitation Index (SPI) as a key drought diagnostic measure as well as review the sources and strengths of seasonal climate predictability for the growing season in the main agricultural region in northern Kazakhstan.

Year Three Activities: The Kazakhstan climate services work continues in Year Three under Task 1.3.4.2.

TASK 3.3.10: INTEGRATING CLIMATE INFORMATION AND DECISION PROCESSES FOR REGIONAL CLIMATE RESILIENCE (IRAP)

Year Two Progress and Results: None – This is a new activity.

Year Three Activities: In 2012, USAID and NOAA jointly issued the funding opportunity entitled IRAP: Integrating Climate Information and Decision Processes for Regional Climate Resilience for \$6.5M over five years. The IRI and the University of Arizona(UA) were awarded the project. As part of this interagency collaborative project, CCRD will support a number of IRI activities during Year Three.

The IRAP approach/methodology involves understanding the decision processes in which climate information is used, and the institutional context within which information is provided, accessed, and implemented. A key aspect of our approach is multidisciplinary teams that bind climate, sectoral, and social scientists in collaboration with our regional and national/subnational partners to develop decision support systems in specific contexts; these are referred to as “drill-down” projects. Through our analysis of these, CCRD will assist regional-scale partners to transfer and/or upscale success. Our partners at the UA will complement IRI program activities by performing user needs analyses and vulnerability assessments, supply extension expertise, and add an evaluation component for the entire project. Our work will incorporate observational, modeling, and prediction data from NOAA and other sources, and will include collaboration and strengthening of the NOAA-CPC regional desks for outreach and training.

For the work included in this TO, IRI will focus on the Caribbean region. This region is extremely vulnerable to climate variability, particularly extreme events and stresses on food production, water resources, and coastal hazards. It's continued economic development is threatened by today's climate, and those threats are likely to worsen with future climate change. The effective provision of climate services may help sustain hard-

won development gains and engender climate-resilient societies. To achieve this goal, IRI will coordinate with its partners to develop hydroclimate information at multiple timescales, that can meet identified user needs. The IRI will partner with key regional- and national-scale agencies to address climate risks/needs in the following sectors: a) water resources; b) hazard risk management related to extreme events and other changes; and c) coastal planning and management.

The following IRAP subactivities will be supported under this TO.

Task 3.3.10.a Research and Development on Decision Support Tools. Early warning system: IRI will collaborate with regional partners to develop a disaster EWS. IRI will work with members of the existing “CRM decision and implementation network” in the Caribbean region including the Caribbean Institute for Meteorology and Hydrology (CIMH) or the Regional Committee for Water Resources (CRRH), the National Weather Services, CDEMA, CEPREDENAC, Red Cross, etc. in the development of the system to ensure the information and products reach the needs of organizations or individuals that implement actions of risk management, environmental management, economic investments, or relief at the field level.

Under this task, the IRI will develop dynamic risk maps across scales, layering climate and socio-economic information in GIS-based Google maps form, via IRI’s Data Library and create “Maprooms” across timescales (weather to seasonal) that can help Monitoring and forecasting as the base of an EWS for the region.

The IRI will collaboratively develop climate information and economic tools to motivate decisions and to insure against residual risk from unlikely climate outcomes. This will include the following:

1. Support the “Ready-Set-Go!” framing through index-based tools. Building upon successful work we have in West Africa on floods and in the Caribbean on hurricanes (with the Red Cross); partner with decision-makers to develop climate/forecast/weather thresholds for action using their current options. Using the thresholds the team will also map climate change information into action plans and use revealed choice techniques to assess decision-makers’ implicit valuations of climate risk and climate information.
2. Link climate information and insurance to inform reinsurance pricing and portfolios. Build on existing reinsurance relationships and processes (e.g. UNEP Finance Initiative), and provide evidence for fair insurance prices using improved information on climate variability and change, as well as evidence of risk reduction through the Ready-Set-Go! approach.
3. Provide impact assessment for selected drill-down projects. The team will overcome the typical challenges for assessing climate services using a portfolio of methodologies, including revealed choice methods, direct quantification of reductions in insurance rates, and leveraging our identification-based work (e.g. we have measured positive climate services impacts in Ethiopia).

Task 3.3.10.b Website. The IRI will develop a project website that will be mirrored at both IRI and UA, highlighting research progress, events, and prototype informational products.

Task 3.3.10.c Training materials and Capacity Building Workshop. The IRI will develop training materials used to explain and demonstrate existing information and to focus discussion towards the needs assessment. The IRI will convene a capacity building and needs assessment workshop in the region in 2014 to engage end users in the development of the decision support tools. The project team will engage stakeholders in helping to set the agenda for the 2014 workshop.

Task 3.3.10	
Task Lead:	Lisa Goddard (IRI)
Schedule:	Year Three
Milestones:	<ul style="list-style-type: none"> • Project website • Prototype Climate Information Map rooms • Concept paper on index insurance and initial drafts of training materials / interactive tools to help engage discussion on developing economic tools • Workshop agenda setting discussions with stakeholders • Needs assessment and capacity building workshop
Deliverables:	<ul style="list-style-type: none"> • Project website online • Map Rooms online • Concept paper on index insurance • Index insurance training materials / interactive tools • Minutes from stakeholder meeting • Workshop report

ACTIVITY 3.4 CLIMATE RESILIENT INFRASTRUCTURE SERVICES (CRIS)

Year One Progress and Results: A set of fact sheets was produced outlining key sources of vulnerability and adaptation approaches for a wide range of infrastructure types. An overview of the fact sheets was produced that describes the context and key principles for infrastructure vulnerability assessment and adaptation. The draft fact sheets and overview were distributed by USAID at the AP Workshop – Building Urban Climate Resilience – in Bangkok, July 31 – August 2, 2012 and circulated to regional and mission staff for their review and comment. A final set of overview and fact sheets has been completed and will be produced for web and hard copy distribution to USAID staff and the broader development community.

A set of “good practices” was produced that outlines many of the essential considerations for increasing the climate resilience of infrastructure projects. This review is based on an analysis of vulnerability assessment, and adaptation in OECD countries with an eye toward transferability to developing countries. A draft scope of work on adaptation for urban infrastructure services has been developed through consultations with the GCC Office, based on the needs identified through numerous consultations and workshops including the C40 Climate Summit, ICLEI Urban Resilience and Adaptation workshop, and the AP workshop in Bangkok. The AP workshop participants identified a need for:

- Capacity building and city-to-city exchanges
- Increased engagement of the private sector
- Progress in moving from planning to implementation, and connecting theory to practice
- Applying lessons learned in Asia to locations in Africa and Latin America
- Increased access for cities to international financing;
- Providing small-scale catalytic funding, potentially in the form of a small grants program that could be used to build and support local champions in new locations.

These needs are consistent with the findings of the Massachusetts Institute of Technology (MIT) survey conducted of global cities about the status of – and barriers to – adaptation.³ Year Two activities were designed to respond to these needs, advance the priorities of USAID’s GCC Office and Urban Program team, and address actions identified in USAID’s Adaptation Strategy.

Year Two Progress and Results: The Climate Resilient Infrastructure Services (CRIS) program was initiated. The goal of CRIS is to work with developing country cities and USAID Missions to increase the climate resilience of infrastructure services. CRIS will work with pilot cities to build capacity, implement climate adaptation and climate risk management strategies as an integral part of city development, and share the lessons learned through peer learning networks. The project will utilize small grants to directly fund implementation actions to improve climate resilience in city neighborhoods and build capacity for adaptation planning, advocacy, and implementation at the local level. CRIS will also work with USAID Missions to mainstream climate resilience into their programs and operations.

The following activities were completed in Year Two:

- The CRIS project was launched at the January 2013 Senior Advisory Committee meeting and subsequently scoped and refined through subsequent consultations with USAID, CCRD partners, and other organizations.
- A selection process was completed to identify pilot cities under the pilot program. This involved developing selection criteria, screening cities to identify a short list of candidates, consultations with USAID Missions and external organizations to identify suitable candidates, and completing city visits to eight cities across three countries. Three pilot cities were selected: Piura, Peru; the National District of Santo Domingo in the Dominican Republic, and Nacala, Mozambique.
- A first round small grants solicitation was developed and launched. This involved developing a call for proposals, identifying a distribution list of organizations involved in relevant work, reviewing responses to the call for proposals, and awarding grantees. Eleven responses to the CRIS call for proposals were received, and of these, five projects were selected.
- The structure for a global city-to-city capacity building and information exchange was developed. This involved consultations with municipal officials, NGOs, academic groups, donor organizations, and other groups involved in relevant activities around urban climate change resilience. A detailed communications strategy was developed for the CRIS project, as well as a series of communication materials to describe the project and conduct outreach. These materials consisted of a 2-page overview of the project, a brochure describing CRIS to pilot city candidates, and several presentations on the technical components of CRIS used in conversations with municipal officials in two of the pilot cities. An initial concept for a side bar in an upcoming *Frontlines* publication was developed, and a poster on CRIS was presented at the 2013 ICLEI Resilient Cities Congress in Bonn, Germany.
- Work planning visits were conducted in two of the three pilot cities identified (Piura, Peru and Santo Domingo, Dominican Republic). These visits involved meetings with high-level officials in each pilot city to explain the CRIS program and identified municipal priorities, challenges, and areas of concern. Meetings with department heads, municipal staff, academic groups, NGOs, and regional and national governments were also conducted to learn more about the challenges each pilot city is facing. A Memorandum of Understanding (MOU) was developed for execution with the pilot cities, and initial activities to form a work plan for Year Three were identified and presented to officials in two of the three pilot cities.

³ Carmin, JoAnn, Nikhil Nadkarni, and Christopher Rhie. 2012. *Progress and Challenges in Urban Climate Adaptation Planning: Results of a Global Survey*. Cambridge, MA: MIT

CRIS is led by ICF, in collaboration with IRG/Engility and other CCRD partners. The CRIS Project Manager coordinates the participation of the full CCRD team in all relevant tasks to ensure that the expertise of each team member is well leveraged to achieve project success.

TASK 3.4.1 IDENTIFICATION OF PILOT CITIES

CCRD developed criteria for selection of cities for CRIS support, and identified potential candidates for consideration. Our approach leveraged the knowledge and contacts of the full CCRD team and of USAID staff in headquarters, regions, and missions. ICF consulted with USAID partners to receive input and suggestions. CRIS has initially focused on coastal cities, or cities near coastal areas. CRIS has also focused on cities in Africa and Latin America, because to date there has been more progress and technical support in climate vulnerability analysis provided to cities in Southeast Asia. CRIS will draw on the experience of cities who are already engaged in climate vulnerability analysis and adaptation by soliciting their participation as “advisor cities”. This approach is discussed further under Task 3.4.4.

Preliminary criteria for pilot cities included:

- Interest and capacity, including willingness to assign a single POC to lead the city’s participation in the program
- Location (Africa, Latin America, Central Asia, Pacific Islands)
- Small-to-mid size (200,000 – 1,000,000 population)
- Rapid development / past or future
- High vulnerability to sea level rise and extreme coastal events
- Portfolio of infrastructure (diversity, age and condition, timing for replacement / expansion)
- Potential applicability of lessons learned to other cities
- Status of prior work that could inform action (e.g. vulnerability analyses, asset inventories) and stage of decision-making

Year Two Progress and Results: Following a screening process based on consultations and initial review of criteria, a short list of potential cities was developed. ICF explored the suitability of short-listed cities for participation through phone conversations with relevant partners / stakeholders, and members of the international development community. CRIS staff travelled to eight cities across Peru, Dominican Republic, and Mozambique to have in-person discussions with city staff and partners to explore the needs, capacity, and likelihood of strong participation. Based on this assessment and in consultation with USAID, CRIS selected three pilot cities for support in 2013: Piura, Peru, the National District of Santo Domingo in the Dominican Republic, and Nacala in Mozambique.

Following the initial decision to select three pilots, USAID/Peru expressed interest in providing financial support for an additional pilot in the Municipality of Trujillo, one of the eight cities visited by CRIS as part of the pilot identification activity.

Cities that were not selected for participation in the first year may become part of the city sharing network and supported through CRIS outreach and information exchange (see Task 3.4.4). They may also be considered to become pilot cities if additional resources become available.

Year Three Activities: This task is complete.

TASK 3.4.2 PROVIDE CRIS SUPPORT TO PILOT CITIES TO ACCELERATE CLIMATE RISK MANAGEMENT

Subtask 3.4.2.1 Develop tailored work plan to address specific pilot city priorities

Work with the pilot cities will be initiated one city at a time, at intervals of one to two months. This phased approach will enable staff to focus on the needs of each city, and to apply the methods developed with the early pilots to subsequent cities. For each city, CCRD will hold in-person working sessions with key city staff to explore their concerns regarding climate vulnerability, to develop a MOU confirming the intent of the municipality and USAID/CRIS to work together, and to develop a specific work plan that will reflect city priorities. The work plan will articulate a concrete purpose and achievable outcome that will be pursued over a one-year period and the overall respective roles and responsibilities of the municipality and the CRIS team; as such, it will be developed quickly, and serve as an initial guidance document that will be further developed as work evolves. This initial consultation will include a review of work done to date to identify climate vulnerabilities or increase resilience, identification of key participants in the risk management effort (including both direct city personnel and external partners), and a review of city planning and decision-making processes. The working sessions will identify the key elements that will inform a one-year work plan for the city, which will include:

- Purpose: Priority needs to advance implementation of risk management strategies
- Leadership and Participation
 - Designated city liaison leader, and key participants in work plan implementation
 - Potential partnerships with private sector businesses, community organizations, NGOs, regional and national governments, and other actors who may be instrumental to success
- Objectives. These will be city-specific objectives, such as:
 - Develop plan for climate resilient post-disaster construction
 - Develop plan for transformational climate resilient development of urban services and infrastructure
 - Identify and select financial tools for climate risk management
 - Improve near-term climate resilience through fast-track adaptation actions
- Key Actions. These will be city-specific actions to achieve the selected objectives, such as:
 - Engage private sector development leaders and identify priority steps to enhance resilience
 - Convene city operations staff to identify “weak links” in existing infrastructure services
 - Identify and organize existing information sources for climate information for use by city staff
 - Select and implement near-term adaptation actions in consultation with city partners

CCRD will work closely with the country liaison to identify priorities and draft the work plan, for implementation under Subtask 3.4.2.2.

Subtask 3.4.2.2 Provide technical support to pilot cities to implement adaptation actions

The CRIS team will provide technical support to each pilot city, guided by the work plan developed under the previous subtask. Depending on city priorities, this work will draw on the expertise of various CCRD team members. CCRD will conduct its work through in-person meetings with the pilot city at key points in the process, supplemented by web-conferencing, conference calls, and email communications. We anticipate that four to five trips per city annually will be required, with two to four CCRD staff participating.

Support may include work to:

- *Accelerate preparedness for adaptation implementation through advanced planning.* CCRD will provide technical support to cities in developing climate resilient city plans that will guide post-disaster reconstruction – to best leverage an influx of international financing after extreme events – as well as rapid development spurred by urban expansion and private sector investment.
- *Rapid vulnerability assessment.* CCRD will support cities in conducting vulnerability analysis of climate stressors, drawing on historic information, seasonal forecasts, and tailored climate projections. This work will include support in assembling and understanding environmental trend data, information on severe weather events and resulting disruptions, and future climate scenarios. CCRD will work with cities to quickly understand key vulnerabilities so that they can move rapidly to the development of appropriate adaptation and risk management strategies.
- *Select priority adaptation measures to reduce service disruptions.* CCRD will work with cities to apply existing knowledge regarding service disruption and climate vulnerability, and select priority urban services and risks to address through adaptation actions. Examples of these impacts may include intermittent flooding and closing of key roads; damage to communication networks caused by severe weather events; power outages; and sewerage back-ups. The team will provide technical support to define the range of adaptation strategies that may be considered; evaluate these measures according to cost, efficacy, feasibility, and contribution to or maladaptive effect on broader development and community goals; and identify resources for implementation.
- *Scope and implement adaptation measures.* CCRD will support cities in developing preliminary scopes of work for adaptation actions, and in identifying critical action steps necessary to move the measures to implementation. This work may entail advisory support in technical areas such as watershed management, land use, civil engineering, or governance. Appropriate members of the CCRD will be assigned to this work based on the type of expertise required. In addition, the team will encourage the use of in-country experts and participate in a proposed engineering training partnership to help build local technical capacity.
- *Develop public-private sector partnerships to implement fast-track adaptation actions and development plans.* CCRD will support cities in developing partnerships with businesses in the city by identifying potential company partners or business associations, facilitating identification of common concerns, and developing joint strategies that improve the reliability and resilience of city services and support economic development.
- *Enhance decision-making for urban climate risk management and risk distribution.* CCRD will support cities in identifying appropriate climate risk management tools by providing a menu of options to reduce and distribute risk – such as insurance premiums and contingency/disaster funds – and building their capacity to select strategies that fit their resources and needs.
- *Identify financing.* CCRD will support cities in identifying potential types of investors appropriate for different kinds of adaptation measures, including private sector, international finance institutions, and national government resources. The team will help cities build capacity to design funding strategies, develop partnership agreements, and apply for financing or grants that will support climate resilient actions. The team will develop city-specific financing training that will then be used to develop training resources for the broader developing cities community through Task 3.4.3.
- *Identify and support local urban adaptation actions.* CCRD will identify opportunities at a neighborhood level in pilot cities to implement local-scale fast-track actions. The benefits of these actions will be two-fold: they will achieve improved resilience within a short time frame, and they will demonstrate effective, quick turn-around actions that will provide a model for additional measures in other local communities. To accomplish this, CCRD will provide technical support in identifying the adaptation options appropriate for the given impact – such as periodic flooding in low-lying areas – and support

the organization in selecting the most feasible and effective action. Criteria for this selection will include cost, effectiveness, co-benefits, feasibility of implementation, stakeholder support, and timescale. As appropriate, the team will work with local leaders to engage other stakeholders – such as local businesses – who may have common concerns. These organizations may also be appropriate and eligible for support through the small grant program, discussed under Task 3.4.4 below. CCRD will provide support to the local organization through in-person meetings and workshops at key points in the process, supplemented by web-conferencing, conference calls, and email communication. To the extent feasible, in-person meetings will be scheduled concurrently with travel to meet with the pilot cities.

Year Two Progress and Results

By the end of Y2, the following work was completed to provide support to the first three pilot cities selected by USAID:

- Development of candidate list of potential pilot municipalities, desk analysis, and scoping trips to three countries (Mozambique, Peru, and the Dominican Republic) to assess short list of candidate pilot cities.
- A climate change decision support tool was configured for the city of Hue, Vietnam and the associated training and technology transfer was completed with the city's Urban Planning Institute. This was the culmination of three previous data-gathering and stakeholder consultation trips.
- Preliminary work plan activities for pilot cities in Piura, Peru and Santa Domingo in the Dominican Republic were identified, detailing the types of technical assistance that will be provided and the respective responsibilities of the municipality and the CCRD team. To develop the work plans, CCRD partner ICF conducted in-country consultations with city staff. Planning sessions were supplemented by consultations with USAID mission staff and partner agencies.
- Consultations with other CCRD partners were undertaken to identify roles and support tools that will be used to support the work plans in each of the two pilot cities.
- A similar process for development of work plan activities for Nacala, Mozambique was underway.

Year Three Activities

Technical support to municipal governments will be provided by CCRD partners, consistent with the city-specific work plan activities developed in Year Two. Technical support may include: 1) rapid diagnostics (e.g. vulnerability assessment and identification of priority risk areas) and fast track implementation; 2) preplanning for reconstruction and rapid growth; 3) financing and risk management; 4) analysis of adaptation alternatives, and (5) post-event assessments of resilience (PEAR) . As appropriate, CCRD partners with expertise in climate assessment, climate services (e.g., IRI), hot spot analysis, decision support tools (e.g. Cascadia), land use planning, hydrology (e.g. Stratus), finance, and institutional development (e.g., ELI), etc. will be drawn upon for hands-on technical support. This support will be supplemented by training for municipal staff, hosted by the pilot city and open to other municipal and regional staff in the country. Materials developed for these training sessions will be tested with the pilot city, then refined and distributed to cities facing similar challenges. Broad dissemination will occur through CRIS peer learning activities, USAID workshops, partner activities, and other CCRD communications mechanisms.

Providing CRIS support to pilots in Mozambique, Peru, and the Dominican Republic is a high priority for Year Three. Technical assistance to all four pilots is contingent on securing sufficient resources in Year Three. These activities will include the following:

- Task 3.4.2.1 Mozambique: Provide technical support and training to Nacala, Mozambique. This is a Year Three and a Year Four activity. Technical support will begin in the fourth quarter of 2013

(calendar year); the first staff training will be held in second quarter 2014 (calendar year). ICF will lead with possible input from Cascadia. External partners may include INGC and START.

- Task 3.4.2.2: Dominican Republic (DR): Provide technical support to the Central District of Santo Domingo, Dominican Republic. This is a Year Three and a Year Four activity. Technical support will begin in the third quarter of 2013 (calendar year); the first staff training will be held in first quarter of 2014 (calendar year). ICF will lead with possible input from Stratus and Cascadia. Technical support may be scaled back from focusing on both water and energy sectors to just the water sector, depending on the availability of resources in Year Three.
- Task 3.4.2.3 Piura, Peru: Provide technical support and training to Piura, Peru. This is a Year Three and a Year Four activity. Technical support will begin in the third quarter of 2013 (calendar year); the first staff training will be held in the fourth quarter of 2013. ICF will lead with possible input from TMI, IRI, Stratus, and Cascadia.
- Task 3.4.2.4 Trujillo, Peru: CRIS will build on Trujillo's existing vulnerability assessment to identify adaptation priorities, options for fast track implementation, and strategies for addressing barriers to implementation. Technical support will commence in the 4th quarter of 2013 (calendar year) or 1st quarter of 2014, depending on the timing of the USAID/Peru buy-in. The central focus of technical assistance to Trujillo will be negotiated with the city and the mission in the development of the work plan, but is anticipated to be a workshop in collaboration with staff in the municipality focused on options for addressing one of the high priority vulnerabilities facing the municipality.
- Task 3.4.2.5 Hue: Continued support to Hue, Viet Nam will be provided by Cascadia and will include evaluation of the decision support tool's use.
- Task 3.4.2.6 Support to Vietnam's national Ministry of Construction (MOC), building off of the work in Hue to generalize the city's tool for broader application across all provinces in the country. Technical support includes: Creation of User Scenarios and Narrative, Development of National-level Template for the Tool, Beta-Testing and Technology Transfer of the Tool to MOC, Deployment, and Dissemination.
- Task 3.4.2.7 Evaluation and dissemination of training materials: ICF and CCRD partners will evaluate the training activities and the changes in municipal capacity achieved.

Task 3.4.2 Summary	
Task Lead:	Joanne R Potter (ICF) City technical leads: Joanne Potter (ICF), Mike Savonis (ICF), Molly Hellmuth (IRI), Spencer Reeder (Cascadia Consulting Group), other CCRD team members
Schedule:	<p>Hue, Vietnam</p> <ul style="list-style-type: none"> • Tool evaluation plan developed fourth quarter of 2013 • Tool evaluation visit first quarter of 2014 including stakeholder feedback meeting. <p>Vietnam - National</p> <ul style="list-style-type: none"> • Use scenarios for Tool finalized fourth quarter of 2013 • Data gathering and stakeholder/user coordination trips in October/November, February, and March/April. • Beta-version Tool testing conducted first quarter 2014 • Tool technology transfer, training, and deployment second quarter 2014 <p>Piura, Peru</p> <ul style="list-style-type: none"> • Work plan established third quarter of 2013 • Technical assistance begins in third quarter of 2013 • Visits conducted in September/October, November/December, January/February, April/May, and June/July <p>National District of Santo Domingo, Dominican Republic</p> <ul style="list-style-type: none"> • Work plan established third quarter of 2013 • Technical assistance begins in third quarter of 2013 • Visits conducted in September/October, November/December, January/February, April/May, and June/July <p>Nacala, Mozambique</p> <ul style="list-style-type: none"> • Work plan established fourth quarter of 2013 • Technical assistance begins in fourth quarter of 2013 • Visits conducted in September, October/November, January, March/April, and June/July <p>Trujillo, Peru</p> <ul style="list-style-type: none"> • Work plan established first quarter of 2014 • Technical assistance begins in first quarter of 2014 • Three visits for planning and implementation of technical assistance activities related assessment of adaptation options to address one of the high-priority vulnerabilities and to convene workshop
Milestones:	<p>Per city:</p> <ul style="list-style-type: none"> • MOU signed by pilot city • Work plan established • City-specific milestones for technical support as defined in work plan • Completion of training or workshop events with pilot cities • Implementation of adaptation actions • Technical network of long-term support established within pilot city or with external groups
Deliverables:	<ul style="list-style-type: none"> • Signed MOUs for each pilot city • Work plan for each pilot city • Trip reports for each TDY mission completed by CRIS staff • Agenda, participant list, meeting summaries, and trip reports for each visit to each pilot city • Training and workshop materials • Tools and resources (e.g., for creating accessible summaries of available climate information, screening vulnerable infrastructure projects, evaluating adaptation options) • Quarterly progress reports summarizing activity, progress to date, problems encountered, and actions taken to address problems

TASK 3.4.3 DESIGN AND IMPLEMENT A SMALL GRANT PROGRAM

Subtask 3.4.3.1 Design and implement small grant program

CCRD will design and implement a small grant program to support implementation of actions to increase resilience at the community level. The focus of the grant program will be to enable quick-start efforts that will accelerate risk management efforts on the ground, model successful approaches, and contribute to broader city strategies to improve climate resilience through a “bottom up” approach. The grants may support a range of activities based on community needs; examples include:

- Neighborhood design activities to rapidly identify and prioritize climate vulnerabilities, and adaptation options
- Development of partnerships with private sector businesses and community organizations to address climate resilience
- Design of climate resilient adaptations to address local concerns
- Seed funding to identify and pursue financing for local adaptation actions

For USAID review, CCRD will develop draft funding objectives, eligibility criteria, funding levels, application processes, selection procedures, and administrative processes for the small grant program. After USAID approval, CCRD will implement the program. In Year Two we anticipate one funding round totaling \$650,000 of grants ranging from \$100,000 to \$150,000 per recipient. One additional round will be designed and implemented based on experience gained in the first round in Year Three.

Subtask 3.4.3.2 Evaluate and refine small grant program

CCRD will develop a monitoring and evaluation protocol as part of the program design. The effectiveness of each award will be evaluated, and lessons learned will be used to refine subsequent funding rounds. Each project review will be conducted by members of the full CCRD team who have expertise related to the technical areas and focus of the project.

Year Two Progress and Results

By the end of Year Two, the following work was completed to develop the CRIS small grants program:

- The first round solicitation for CRIS funding under the CCRD small grants program was designed, released, closed, and awarded. Eleven responses to the call for proposals were received and five grants were awarded to the applicants.
- IRG/Engility and CCRD partner ICF established a process for monitoring the small grant projects to ensure that they are meeting their objectives and timelines through the grant’s period of performance. Participation by other CCRD partners (e.g. Stratus, Cascadia) in technical oversight of grantees was confirmed.

Year Three Activities

The following will be undertaken in Year Three and continue in Year Four:

- Monitor and provide technical support to small grant recipients (Rounds One and Two). This will be an ongoing activity in Year Three and Year Four.
- Develop and disseminate profiles of grantee work through the CCRD website, highlighting the contributions to resilience being undertaken by grantee-city partnerships. These profiles are considered a product under Task 3.4.4.

- Engage grantees and city partners in CRIS peer learning webcasts and relevant workshop training. Although related to the small grant program, this activity will be managed under Task 3.4.4.
- Round Two Small Grants: A decision on whether to issue a Round Two solicitation for CRIS small grants will be taken early in 2014, based on available resources and Round One progress. If the solicitation goes forward, CCRD will release a small grant solicitation targeting local/sub-city organizations and organizations based in the three pilot city countries.

Task 3.4.3 Summary	
Task Lead:	Christopher Evans, Lana Lightle (IRG)
Schedule:	First round <ul style="list-style-type: none"> • Grant agreements in place in August 2013 • Monitoring and technical reviews of grantees on an on-going basis in 2013 and 2014 (calendar years)
Milestones:	First round grant agreements established
Deliverables:	First round monitoring reports

TASK 3.4.4 FACILITATE GLOBAL CITY-TO-CITY CAPACITY BUILDING AND INFORMATION EXCHANGE TO MULTIPLY SUCCESSFUL CLIMATE RISK MANAGEMENT

The purpose of this task is to rapidly expand the capacity of developing cities to take actions that will increase the climate resilience of urban services and infrastructure by sharing information on lessons learned and techniques that are applicable across multiple cities. This will be achieved by establishing and facilitating information sharing and peer learning among cities that are concerned about their immediate and long-range risk to climate impacts on infrastructure services. This includes pilot cities as well as the broader global network of cities engaged in urban adaptation. Advisor cities – such as cities involved in Mekong – Building Climate Resilient Asian Cities (M-BRACE) or cities in Viet Nam being supported by CCRD, as well as cities in developed countries – will be invited to participate in this information exchange. The target cities for information sharing include:

- CRIS pilot cities
- Small grant applicants and recipients
- Members of existing urban adaptation and sustainability partnerships
- Other cities addressing climate risk in developing and developed countries

To access this global network, CCRD will build on existing partnerships – in particular the Durban Adaptation Charter for Local Governments, ICMA/CityLinks, M-BRACE, and the Association of Southeast Asian Nations Environmentally Sustainable Cities Model Cities Programmed. CCRD will develop a multi-platform communications program – grounded in peer-to-peer sharing and access to global sources of technical expertise – to support rapid dissemination of good practices, tools, and methods to fast-track adaptation implementation and develop transformative plans that will ensure greater infrastructure resilience in rapidly growing cities. CRIS will take advantage of in-person conferences and other events organized by existing partnerships to provide trainings on urban services adaptation. The infrastructure fact sheets and best practices document developed in Year One will be finalized and disseminated as part of this resource sharing and capacity building.

The participation of CRIS cities and CCRD in these venues will achieve multiple purposes. It will:

- Foster more widespread application of the lessons learned through the pilot process
- Encourage “cross-pollination” of good ideas among pilots and other cities on the leading edge of climate adaptation
- Promote the use of the small grants program

Subtask 3.4.4.1 Promote peer learning through south-south city clusters and information exchange with global network, and targeted training workshops

CCRD will facilitate peer learning by facilitating information sharing and dialogue among the CRIS pilots. This will be done through virtual meetings (using Skype, live meetings, and webinars); a SharePoint or similar web-based site to support exchange of documents, tools, and templates; and dissemination of approaches that individual pilots have found helpful. The purpose of this exchange will be to more quickly build capacity, problem-solve on shared concerns, and to foster an ongoing and collaborative network of city decision makers and technical staff. CCRD will encourage cities to develop and share summary presentations of their vulnerability findings and selected adaptation approaches, as well as the barriers and challenges encountered in their work.

Secondly, CCRD will collaborate with existing partnerships to identify conferences, workshops, or other venues for broader information sharing, capacity development, and training. Based on participant interest, topics for this training could include:

- Planning for large-scale post-disaster redevelopment
- Rapid diagnostic methods for vulnerability assessment
- Fast track implementation of adaptation actions
- Engaging the private sector in adaptation actions
- Lessons learned from city-level adaptation on sector-specific adaptation approaches (e.g. transportation, water and sanitation)

Subtask 3.4.4.2 Complete and disseminate best practices white paper and infrastructure fact sheets

CCRD completed an updated version of the best practices white paper. This information, as well as the completed infrastructure fact sheets, will be disseminated through the USAID and partner websites, through the peer-to-peer information exchange forums, and at training and conferences in which CRIS participates.

Year Two Progress and Results

At the end of Year Two, the CRIS program has successfully engaged key stakeholders to raise awareness about CRIS’s objectives and activities, and gained approval and buy-in from key potential participants. Communicating CRIS to these groups will enable city-to-city information exchange and peer learning clusters in Year Three. By the end of Year Two, CRIS had achieved the following:

- CRIS’s objectives, conceptual framework, and activities were developed and communicated internally to USAID’s global climate change office, CCRD partners, USAID regional bureaus, and country missions.
- Organizations working on climate-resilient infrastructure in developing countries were identified and a consultation plan and tracking spreadsheet were developed. Key groups were contacted to raise awareness of CRIS’s objectives and activities, and to solicit input on opportunities for collaboration or on the selection of pilot cities (see Task 3.4.1).

- Materials were developed to communicate CRIS’s objectives, conceptual framework, and activities to external groups and pilot city candidates. The materials developed are a technical two-pager that provides a high-level summary of the CRIS program, a tri-fold brochure that explains how CRIS will help cities, and presentations developed to describe CRIS’s activities in meetings with municipal government officials.
- Outreach materials were translated into Portuguese and Spanish as needed to communicate with each pilot city.
- A preliminary communications strategy was developed outlining CRIS’ key communications priorities and providing a framework for all communications activities. This included a summary of CRIS peer learning and training objectives, including a plan for training venues, workshops, and conferences in 2013 and 2014 (calendar years).
- Presentation of a poster on the CRIS program at the 2013 ICLEI Resilient Cities Congress.

Year Three Activities

- Task 3.4.4.1 Engage Advisor Cities: Identify potential Advisor Cities by fourth quarter 2013 (calendar year) (e.g., City of Seattle; Hue, Viet Nam; C40 cities); Organize peer learning events among Advisor Cities and regional clusters.
- Task 3.4.4.2 Support peer learning among municipal governments in developing countries and include pilot cities; grantees and partners; advisor cities; and other city, regional, and national governments engaged in climate vulnerability assessment and adaptation for infrastructure. Activities will include region-based workshops and global webcasts, and planning for a global learning event in 2015. Workshops in Latin America will be designed by ICF in collaboration with ISC and supported by CCRD technical experts from Engility/IRG, Cascadia, IRI, and Stratus. Organizing peer learning will include the following:
 - Task 3.4.4.2.3 Latin America: Develop and conduct learning event supporting cities from Dominican Republic, Peru and other LAC cities in partnership with ISC (first event in the first quarter of 2014) Disseminate presentations and summary report through CCRD website and other venues (second or third quarter of 2014, calendar year).
 - The development of a peer learning event for coastal cities in southern Africa will be postponed to Year Four.
- Task 3.4.4.3 Support global peer learning activities. These are high priority and include the following:
 - Conduct one peer exchange webinar for small grant recipients to discuss challenges, approaches, and lessons learned (fourth quarter of 2013, calendar year);
 - Conduct workshop or panel at ICLEI Resilient Cities Conference, Bonn. Event will focus on lessons learned to date through CRIS activities (May 2014).
 - Tentatively, plan global workshop of CRIS pilot cities and small grant recipients, to be held in Spring 2015. Planning will include identification of workshop cosponsors (e.g. IDB, GIZ, Rockefeller). The workshop will focus on lessons learned by municipalities and partners on technical and institutional approaches to increasing infrastructure resilience to climate change.
- Task 3.4.4.4 Disseminate information on CRIS’s activities:

- Principles of peer learning and applications for CRIS white paper: draft white paper on peer learning best practices in order to determine the peer learning approach for CRIS. This paper will be developed over the third quarter of 2013 (calendar year).
- A two-page overview of the CRIS program that can be used for outreach and consultations with cities and other organizations. The two-pager will provide a static overview with certain editable sections that can be updated with recent information over the course of Year Three and Year Four.
- Develop a video on infrastructure vulnerabilities to climate change impacts and CRIS's work in one or more pilot cities by the second half of Year Three
- Two-pager on the CRIS pilot city program and two-pagers on each of the three selected pilot cities that discuss pilot work plans (third quarter of 2013 for first two pilots, fourth quarter of 2013 for the Mozambique pilot).
- Two-pager on draft methodology for peer learning, which will be refined later on based on lessons and experiences from organized events.
- Small grants profiles (discussed under Task 3.4.3, third quarter of 2013).
- An article in USAID's *FrontLines* publication on infrastructure (assuming acceptance by *FrontLines*, first quarter of 2014).
- Two-page summaries of CRIS products, such as reports and tools, and potentially infographics, as needed, to demonstrate concepts in a visually-engaging way.
- Presentations for use by USAID to describe the CRIS program, including pilot city work, and including Two to three slides per pilot city with photos that can be widely used.

Task 3.4.4 Summary	
Task Lead:	Joanne R Potter (ICF), Wendy Jaglom (ICF)
Schedule:	<p>Third quarter 2013 (calendar year):</p> <ul style="list-style-type: none"> ● Revise and finalize updated CRIS 2-pager ● Produce 2-pagers on Peru and Dominican Republic pilots ● Produce small grant profiles ● Sidebar in <i>FrontLines</i> publication (if accepted) ● White paper on peer learning methodologies ● Planning for regional workshops, USAID Infrastructure workshop ● Established databases for tracking photos/images, presentation slides, and translations <p>Fourth quarter 2013 (calendar year):</p> <ul style="list-style-type: none"> ● White paper on pre-planning for post disaster reconstruction ● Facilitate session at USAID Infrastructure Workshop ● Small Grants Webinar <p>First quarter 2014 (calendar year):</p> <ul style="list-style-type: none"> ● Article in USAID <i>FrontLines</i> publication (if accepted) ● LAC Regional Workshop ● White paper on climate change data and met office engagement ● Begin planning for Global Workshop in 2015

	<ul style="list-style-type: none"> • One peer learning conference call or Webinar <p>Second quarter 2014 and July 2014 (calendar year):</p> <ul style="list-style-type: none"> • Presentation at 2014 ICLEI Forum (if accepted) • CRIS video on vulnerability and work with CRIS pilot cities • Presentation at an African or LAC conference • Two peer learning conference calls or Webinars
Milestones:	<ul style="list-style-type: none"> • Establishment of CRIS 2-pager and 2-pagers on CRIS pilot cities • LAC Regional Workshop in Spring 2014 • Development of CRIS video
Deliverables:	<ul style="list-style-type: none"> • Ten 2-pagers: <ul style="list-style-type: none"> ○ CRIS 2-pager ○ 3 Pilot City 2-pagers ○ 3 White Paper Summaries (Pre-planning, Meteorological Service Coordination, Peer Learning) ○ 2 Small Grant Profiles ○ Adaptation Partnership Follow-up 2-pager • 3 White Papers <ul style="list-style-type: none"> ○ Meteorological Service Coordination and Accessing Climate Information ○ Pre-planning for Post Disaster Reconstruction and Rapid Growth ○ Principles of Peer Learning and Applications for CRIS • 1 regional workshop <ul style="list-style-type: none"> ○ Agendas and workshop planning themes ○ Summary of participant needs/wants ○ Compiled lessons learned from participants, including challenges, successful approaches, key resources ○ Presentations ○ Resource guides, including case studies on participant activities ○ Workshop reports • Peer learning network • Partnerships • 4 Webinars: <ul style="list-style-type: none"> ○ 1 small grant peer exchange webinar ○ 1 pre-planning webinar ○ 2 other global webinars ○ Networking (i.e., researching networks, integrating into networks, identifying advisor cities, identifying partners, etc. • Infrastructure Workshop: <ul style="list-style-type: none"> ○ Training and/or workshop game materials

TASK 3.4.5 PROVIDE INFORMATION AND TECHNICAL RESOURCES TO USAID STAFF

CRIS will also work with USAID Missions to mainstream climate resilience into their programs and operational decisions. This support will help USAID Missions ensure the long-term sustainability of infrastructure investments, and achievement of the development objectives this infrastructure supports.

Year Three Activities

- Plan and conduct a half-day module at the infrastructure workshop for USAID staff in December 2013. This will include presentations highlighting experiences of missions participating in CRIS, and a game or other activity to promote interactive learning.

- Explore ways to identify missions with planned or ongoing infrastructure activities that may be interested in technical support to integrate climate resilience. This work will only move forward if USAID determines there is demand and is prepared to commit CCRD resources to this effort.

TASK 3.4.6 EVALUATE CRIS ACTIVITIES AND RECOMMEND NEXT STEPS

Subtask 3.4.6.1 Monitor effectiveness of CRIS initiatives and refine program actions

Year Three Activities

By the end of Year Three, the following will be accomplished to evaluate CRIS progress, refine activities, and promote sustainable capacity development:

- Develop indicators to assess effectiveness of all CRIS activities.
- Monitor progress and effectiveness of CRIS activities, and refine program activities to address deficiencies and to take advantage of emerging opportunities.
- Identify mechanisms to ensure continuity and sustainability of CRIS efforts beyond the term of the CCRD contract, and implement these measures in partnership with CRIS participants. This may include identification of local partners to assume work, collaboration with other donors to assume sponsorship of effective programs, and dissemination of technical resources that will continue to be used by municipalities and their partners.
- Develop summary report of Year Three activities, including recommendations for Year Four and actions to ensure sustainable capacity development.

Task 3.4.6 Summary	
Task Lead:	Joanne R Potter (ICF)
Schedule:	Ongoing
Milestones:	<ul style="list-style-type: none"> • Mid-year and final evaluation
Deliverables:	<ul style="list-style-type: none"> • Quarterly progress reports • Final evaluation and recommendation for Year Four next steps and refinements

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