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USAID  
**CLIMATE CHANGE  
ADAPTATION PLAN**  
FOR FY15

**JUNE 2014**

USAID  
CLIMATE CHANGE  
ADAPTATION PLAN

SUPPLEMENT

June 2014

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## ACRONYMS

<b>A/COR</b>	Agreement/Contracting Officer’s Representative
<b>ADS</b>	Automated Directives System
<b>APS</b>	Annual Program Statement
<b>ARCC</b>	African and Latin American Resilience to Climate Change Program
<b>AREFS</b>	Asia Region Environmental Field Support Program
<b>BEO</b>	Bureau Environmental Officer
<b>BFS</b>	Bureau for Food Security
<b>CCA</b>	Climate Change Adaptation
<b>C-CAP</b>	Coastal Community Adaptation Project
<b>CCRD</b>	Climate Change Resilient Development Program
<b>CDCS</b>	Country Development Cooperation Strategies
<b>CEQ</b>	Council on Environmental Quality
<b>CFR</b>	Code of Federal Regulations
<b>CLP</b>	Continuous Learning Point
<b>COMFISH</b>	Collaborative Management for a Sustainable Fisheries Future
<b>COOP</b>	Continuity of Operations
<b>CREL</b>	Climate-Resilient Ecosystems and Livelihoods
<b>DCHA</b>	Bureau for Democracy, Conflict and Humanitarian Assistance
<b>DoE</b>	Department of Energy
<b>DoS</b>	Department of State
<b>DRR</b>	Disaster Risk Reduction
<b>E3</b>	Bureau for Economic Growth, Education, and Environment
<b>E&amp;I</b>	Engineering and Infrastructure Office
<b>E.O.</b>	Executive Order
<b>EPA</b>	Environmental Protection Agency
<b>EXO</b>	Executive Officer
<b>FEWS NET</b>	Famine Early Warning Systems Network
<b>FFP</b>	Office of Food for Peace
<b>FTF</b>	Feed the Future Initiative
<b>FY</b>	Fiscal Year
<b>GCC</b>	Global Climate Change
<b>GH</b>	Global Health Bureau
<b>GSA</b>	General Services Administration
<b>ICIMOD</b>	International Center for Integrated Mountain Development
<b>ICT</b>	Information and Communications Technology
<b>IMACS</b>	Indonesia Marine and Climate Support
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>LEED</b>	Leadership in Energy and Environmental Design
<b>M</b>	Bureau for Management
<b>NASA</b>	National Aeronautics and Space Administration
<b>NEPA</b>	National Environmental Policy Act
<b>NGO</b>	Non-Governmental Organization

NMHS	National Meteorological and Hydrological Service
NOAA	National Oceanic and Atmospheric Administration
OAA	Office of Acquisition and Assistance
OEP	Occupant Emergency Plan
OHR	Office of Human Resources
PAD	Project Approval Document
PDM	Project Design and Management training
PMI	President’s Malaria Initiative
PPL	Bureau for Policy, Planning and Learning
RBM	Roll Back Malaria
RCMRD	Center for Mapping Resources for Development
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RESILIM	Resilience in the Limpopo River Basin
STEWARD	Sustainable and Thriving Environments for West African Regional Development
STTA	Short term technical assistance
UNFCCC	United Nations Framework Convention on Climate Change
USACE	United States Army Corps of Engineers
USAID	United States Agency for International Development
USAID/RDMA	USAID’s Regional Development Mission for Asia
USDA	United States Department of Agriculture
USG	United States Government
USGS	United States Geological Survey
V&A	Vulnerability and Adaptation
WASH	Water, Sanitation, and Hygiene
WMO	World Meteorological Organization

## I. INTRODUCTION

The United States Agency for International Development (USAID) prepared its first Climate Change Adaptation Plan in 2012, in accordance with Executive Order (E.O.) 13514, “Federal Leadership in Environmental, Energy, and Economic Performance.” The Plan assessed climate change risks, vulnerabilities, and opportunities for USAID’s mission, programs, and operations; discussed USAID’s current and past activities to address those issues; and identified agency-level actions to understand and address internal climate change vulnerability. The Plan was not meant to inform programming of designated Adaptation funds in USAID’s partner countries; such programming is instead guided by the USAID *Climate Change and Development Strategy*, which sets out principles, objectives and priorities for USAID climate change assistance with the aim of helping countries and communities prepare for and adapt to changes in climate. Similarly, while reducing greenhouse gas emissions is a vital part of any strategy to deal with climate change, it is not considered in this document, since it is comprehensively addressed in both the USAID Climate Change and Development Strategy and the Agency Sustainability Plan.

USAID submitted an updated Climate Change Adaptation Plan in 2013, which incorporated suggestions received during a 60-day public comment period, and reported on progress made against goals established in the first Plan.

In compliance with the new E.O. 13653, “Preparing the United States for the Impacts of Climate Change”, and in recognition of the new elements mandated by this E.O., USAID hereby submits in June 2014 a new Supplement, a new Agency Adaptation Policy Statement (Appendix 2), and an update to the 2013 Agency Adaptation Plan and Vulnerability Assessment (Appendix 3).

## II. PLANNING PROCESS

In previous years, the Agency’s Global Climate Change Office in the Bureau of Economic Growth, Education, and Environment (E3/GCC) led development of the Agency Adaptation Plan, with support from the Bureau of Management in linking it to the Agency Sustainability Plan, which is due at the same time. The new elements required under E.O. 13653 necessitated broader engagement by a range of Agency Bureaus, which are responsible for issues such as policy, procurement, facilities, and disaster response programming.

In February 2014, USAID’s Agency Global Climate Change Coordinator and E3/GCC staff began to engage other Bureaus at a high level in the development of this new Plan and Supplement. Five cross-agency working groups tackled the topics that were raised in E.O. 13653 – and associated guidance from the Council on Environmental Quality (CEQ) – that had not been explicitly addressed in USAID’s earlier Agency Adaptation Plan. The five working groups were led by four different bureaus – E3/GCC (leading two groups), the Bureau for Management (M), the Bureau for Policy, Planning and Learning (PPL), and the Bureau for Democracy, Conflict and Humanitarian Assistance (DCHA). Working group members also included representatives from USAID’s regional bureaus, the Bureau for Food Security (BFS), and different offices within E3, such as the office of Engineering and Infrastructure (E&I). The working groups met several times between March and May.

The five groups considered the following topics:

1. Leases, construction, and continuity of operations: How USAID will include adaptation in building, leasing, and construction policies, and integrate climate change adaptation into policies such as continuity of operations planning. [*Planning for Climate Change Related Risk* (ii) and (iv)]
2. Humanitarian assistance: How USAID will address potential risk to the federal government as a provider of aid in response to disasters, as an example of the operational implications of responding to reasonably foreseeable climate impacts that threaten the agency mission. [*Planning for Climate Change Related Risk* (iii)]
3. Procurement: How USAID will consider the need to improve adaptation and climate resilience, including costs and benefits, with respect to agency suppliers, and how we will include adaptation in procurement / acquisition decisions. [*Planning for Climate Change Related Risk* (iv) in the CEQ guidance]
4. Avoiding maladaptation: How USAID will identify and address policies and funding programs that may inadvertently increase vulnerability of natural or built systems, economic sectors, natural resources or communities. [*Modernizing Federal Programs* guidance section (ii)]
5. Incentives: How USAID will create incentives or require partners and funding recipients to analyze and address potential climate change risk to their programs and projects. [*Modernizing Federal Programs* guidance section (iii)]

Through this process, the Agency identified 35 new concrete actions that it aims to undertake over the next three years. These actions are presented in Section V. Some are already underway; others are dependent on identifying sufficient financial or human resources. All of these are in addition to more than a dozen actions that USAID has been taking since 2012, when they were laid out in the Agency’s first Adaptation Plan.<sup>1</sup>

### III. NOTABLE CURRENT PROGRAMS

All five working groups came up with substantial recommendations for new actions. Two working groups – the Leases, Construction and Continuity of Operations group, and the Humanitarian Assistance group—also summarized and explained noteworthy current activities that support the goals of the Plan.

#### A. LEASES, CONSTRUCTION, AND CONTINUITY OF OPERATIONS

##### SITE SELECTION, LEASE ACQUISITION, AND CONSTRUCTION

In response to CEQ guidance [*Planning for Climate Change Related Risk* sections (ii) and (iv)], one working group examined how the Agency will include adaptation in building, leasing, and construction policies, and integrate climate change adaptation considerations into policies such as continuity of operations planning.

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<sup>1</sup> <http://www.usaid.gov/sites/default/files/documents/1865/Agency%20Climate%20Change%20Adaptation%20Plan%202012.pdf>

The group also identified existing USAID processes and policies that already serve to reduce climate risk or that have adaptation co-benefits.

As noted in USAID’s first Agency Adaptation Plan, few facilities are directly owned by USAID; approximately 85 percent of USAID offices are leased or co-located on U.S. Department of State (DoS) property. USAID uses current industry methods for site selection, lease acquisition, and construction, which address many of the risks associated with climate change. These include assessing flood risk and employing international construction standards for coastal areas that may experience enhanced winds and flooding. These standards address minimum design loads, flood resistant construction, as well as resistance to increased wind speed and pressure. USAID works with the Department of State’s Overseas Building Operations building code for co-located construction, adopting the principles of the International Construction Code with coastal area requirements. The Agency also follows enhanced security requirements that often have the co-benefit of increasing climate change resiliency.

Floodplain mapping and risk assessments are standard evaluation criteria for site selection under the “environmental attributes and liabilities” section of 15 FAM 472 and the related physical security requirements in 12 FA 316. In these evaluations, among other criteria, current flood maps are used to determine the risk of flooding based on past and forecasted probability of flooding events. These requirements overlap with recognized “green” standards such as Leadership in Energy and Environmental Design (LEED), Building Research Establishment Environmental Assessment Methodology (BREEAM) and the Green Building Council Australia’s Green Star rating systems, which include features that also reduce exposure to climate change. For example, LEED’s Site Selection credit includes varying criteria for non-development on hardscapes in previously undeveloped land within certain floodplains and within certain distances of bodies of water.<sup>2</sup> For domestic leases, Occupancy Agreements with the General Services Administration (GSA) are built-out to LEED standards per Section 436(h) of the Energy Independence and Security Act (EISA).<sup>3</sup> Per the GSA web portal<sup>4</sup>, “GSA has increased its minimum requirement for new construction and substantial renovation of federally owned facilities to LEED® Gold, the next highest level of certification”. GSA has also begun to work with federal customer agencies to determine climate protection levels in order to limit exposure to climate change risk. As a customer agency in a federally owned building, USAID often works with GSA to implement these kinds of initiatives.

## **CONTINUITY OF OPERATIONS**

USAID has an established Agency-level Continuity of Operations (COOP) policy and actively participates in COOP exercises. This includes emergency planning, and impacts facilities and leasing activities.

Occupant Emergency Plans (OEP) establish procedures for evacuating buildings or sheltering-in-place to safeguard lives and property. Common scenarios that would lead to the activation of the OEP include inclement weather, fire, localized power outages, and localized telecommunications outages. These types of events are generally short-term in nature, may be weather-related, and may occur more frequently as the climate changes. OEPs include procedures for developing, maintaining, exercising, and testing continuity communication requirements. Plans also identify and protect records that are essential to operations, and

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<sup>2</sup> LEED for New Construction Site Selection credit one, known as “SSc1”

<sup>3</sup> <http://www.gsa.gov/portal/content/131983>

<sup>4</sup> <http://www.gsa.gov/portal/content/197325>



assign responsibility for those records to specific personnel. Due to advances in technology and workplace policies, such as cloud computing and telework, facilities and leasing officials are less involved in these activities than in the past.

Agency lease agreements have clauses that allow the flexibility to address a variety of scenarios, from “lock and leave” to subletting to termination for convenience or termination due to force majeure or Acts of God. The Emergency Action Committee (EAC) determines the level of vulnerability and provides a course of action that is contingent on the significance of the event or events. Personnel work with the appropriate entities to ensure that the facilities are secured and assist with securing additional space to accommodate displaced staff.

Recent advancements in technology and workplace transformations have created new opportunities to implement flexible work environments and increase opportunities for staff telework, in accordance with the Telework Enhancement Act of 2010. These processes and policies utilize workplace flexibility and mobility strategies to accommodate space needs under the Freeze the Footprint Presidential mandate. Telework and alternate work locations support continuity of operations, allowing the Agency to respond to extreme weather events with minimal disruption to critical operations.

## B. HUMANITARIAN ASSISTANCE

In line with the guidance issued by CEQ [*Planning for Climate Change Related Risk* (iii)], another working group paid particular attention to how USAID will address potential risk to the federal government as a provider of aid in response to disasters. USAID’s Bureau for Democracy, Conflict, and Humanitarian Assistance (DCHA), through the Office of U.S. Foreign Disaster Assistance (OFDA) and the Office of Food for Peace (FFP), already undertakes many actions to effectively reduce risk and respond to climate-related disasters under the auspices of the Bureau’s resilience portfolio. In 2012, DCHA led the process to develop the Agency’s Policy and Program Guidance on *Building Resilience to Recurring Crisis*, which aims to reduce chronic vulnerability and promote more inclusive growth in areas of recurrent crisis. The policy recommends considering the current and future effects of climate change to facilitate better prediction, reduce vulnerability, and improve response to recurrent shocks. DCHA is preparing to launch several more resilience efforts in recognition of the current and future impacts that climate change will have in partner countries.

USAID/OFDA typically responds to between 60 and 80 disasters annually; the most frequent disasters are triggered by extreme weather events such as floods, cyclones and droughts. USAID/OFDA continuously monitors climatic hazards and emerging crises, identifies potential areas of need, pre-positions relief supplies, deploys staff, and responds when disaster strikes. USAID/OFDA staff in Washington, DC and around the world work to ensure that aid reaches people affected by disasters, wherever they are and whenever they need it. USAID/OFDA can pre-position relief commodities, deploy response teams ahead of disasters, and take early action when a hurricane or other potential disaster is predicted, to ensure that timely assistance is available to affected communities. USAID/OFDA has emergency relief supplies – including shelter materials, blankets, and hygiene kits – located in regional hubs around the world. When communities need

supplies that USAID does not stockpile, OFDA can fast-track procurement so that the commodities can be delivered as soon as possible.

Through well-established processes and partnerships with relief agencies, USAID/OFDA responsibly provides rapid funding for critical humanitarian activities. While delivering assistance quickly is crucial, ensuring that we provide assistance in an appropriate way is essential. During a disaster, OFDA is charged with leading and coordinating USG-wide response efforts and often partners with other USAID offices and USG agencies. OFDA maintains memorandums of understanding with federal and local entities to expedite operational support during disasters.

In addition to reducing suffering and mitigating the destruction caused by disasters, USAID helps communities not only recover but also become more resilient in the process. There is a common misperception that people living in disaster-prone communities are not resilient; in fact, they are some of the most resilient people in the world. However, large structural factors beyond individuals' capacities – macroeconomic conditions, climate change, population growth, and poor governance – prevent them from attaining a level of financial and asset security that would allow them to withstand crises without outside assistance and adapt to longer-term trends in climate change and variability, population pressure, and other shocks and stresses. Moreover, climate induced disasters are happening more frequently, in higher intensity and in locations where populations have not experienced certain hazards before, allowing less time for victims to recover before the next disaster strikes. As a result, vulnerable people and places can be caught in a downward spiral of divestment leading to greater vulnerability to future droughts and, ultimately, destitution. Considering that over 90 percent of total natural disasters are hydro-meteorological hazards<sup>5</sup>, increasing a population's resilience will lay the foundation for longer-term adaptation to climate change. OFDA promotes the resilience agenda in many ways, including by co-funding programs with USAID missions. For example, following the 2012 drought in Mali, OFDA provided cash to drought-affected families, primarily through cash-for-work projects, and established systems to identify and refer cases of acute malnutrition to health centers. OFDA will continue incorporating resilience-building activities into its programs, using lessons learned and sharing experiences with other aid and development practitioners to deliver more effective aid worldwide.

OFDA promotes end-to-end early warning systems to ensure that scientific forecasting and information reaches and is acted upon by the population at risk. OFDA continues to provide advanced extreme weather, hydrological and climate forecasting and information to OFDA regional and response teams, USAID missions, other US government agencies, and host nations. OFDA provides these services in partnership with the National Oceanic and Atmospheric Administration (NOAA), the UN World Meteorological Organization (WMO) and National Meteorological and Hydrological Services (NMHSs) and other authorized entities. OFDA continues to support programs to develop national, regional and global early warning systems for weather, climate and hydrological forecasting to improve early warning at local levels to save lives and reduce socioeconomic impact of hydro-meteorological hazards. An example of an activity is the development and operationalization of a flash flood early guidance system used to issue early warnings in various regions. Through partner NGOs, OFDA also supports community-based preparedness and early warning activities to ensure that warnings and information reach the population at risk. OFDA partners with NOAA, the WMO, NMHSs, and regional centers to improve their climate prediction application capacity, meteorological and

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<sup>5</sup> CRED/EMDAT database (<http://www.emdat.be/database>); The World Disaster Report, IFRC, 2013.

hydrological early warning capacity to enable national and local forecasters to provide community-centered climate, weather and hydrological services. Increased capacity supports effective decision making in relevant sectors such as agriculture, water, and health, in addition to disaster management.

OFDA is also working with the NMHSs and international and regional partners to advance country awareness, preparedness, and response to potential climate extremes. For example, OFDA has supported training both in the United States and abroad of nationally authorized services to downscale and issue climate predictions for many countries. In addition, OFDA trained National Disaster Management Entities on efficient and timely disaster management. OFDA supported the development of various documents to inform humanitarian and development practitioners about the basic concepts of Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) as well as the benefits and key elements of an integrated approach to building resilience. As such, the guide “Toward Resilience: A Guide to DRR and CCA” was developed by the Emergency Capacity Building Project, which includes various NGOs working at the community level. USAID/DCHA and OFDA funded a study titled “Working with a Changing Climate, Not Against It: A Survey of Lessons Learned for Resilient Adaptation to a Changing Climate”, with the dual purpose of noting what worked well and identifying potential improvements. Identifying risk-producing obstacles and constraints from previous DRR activities provides insights for the planning of future DRR-related projects and can help ensure that they are more effective and efficient with their limited resources. In addition to identifying lessons learned from this particular set of projects, we sought to identify ways in which hydro-meteorological disaster risk reduction strategies, tactics and activities may be bridged or blended with climate change adaptation planning activities in the face of an uncertain future climate. For example, OFDA partnered with the Inter-Governmental Authority on Development Climate Prediction and Application Center (ICPAC) in Kenya, the NMHSs and the WMO to implement a regional program to reduce vulnerability to climate-related disaster risks in the ten greater Horn of Africa countries. The project has improved regional climate modeling and products for DRR, built national and regional capacity on climate information and services, and disseminated climate products to various users including officials in disaster management, agriculture, health, water resources management, and power generation, and the media. ICPAC worked with NMHSs in the Horn of Africa to train journalists on how to communicate climate information; this led to the establishment of a regional network of journalists, and enhanced networking and dissemination of climate information.

Other activities undertaken by USAID related to disaster risk reduction and humanitarian assistance in the context of a changing climate include:

- Food for Peace is making a variety of long- and short-term investments to increase the Agency’s analytic capacity to predict food shortages and understand the link to long-term climatic changes.
- With USAID support, the Famine Early Warning System Network (FEWS-NET) is undertaking peer-reviewed analyses to better understand climate changes in food insecure parts of Africa and broaden the dialogue on potential climate change impacts to also include a focus on changes in the timing of seasons, and changes in the phenology (growth pattern) of important food crops. For example, one analysis looks at the impact of observed and projected changes in growing-season onset, end, and temperature changes on maize yields in Mozambique. FEWS NET is also doing peer-reviewed analyses of the drivers of climate change in the Horn of Africa. Findings indicate that

at the seasonal-level, specific patterns of differences in sea surface temperatures between the western tropical Pacific and the eastern Pacific drive changes which are felt in altered patterns of rainfall in the Horn of Africa during its main agricultural season (March-May). These findings are being incorporated into seasonal food security forecasts FEWS makes for this region. These analyses are intended to help make affected populations, safety-net mechanisms, and adaptation planners more aware of changing drought risk and the likelihood of drought in specific seasons in the Horn of Africa.

- FEWS NET is producing and distributing 10-day global satellite coverage showing actual evapotranspiration at a 1-kilometer resolution. An associated product – a global, high-resolution, spatially-refined climate database called “CHIRPS” – incorporates data from over 90,000 weather stations with the best available satellite precipitation and temperature products. This database covers 1981 to the present, and serves as a tool to investigate actual changes in precipitation and temperature at a resolution (~5 km) that is relevant for adaptation planning.
- In East Africa, FEWS NET/USGS is building national and regional capacity for climate adaptation analysis and planning under the USAID-funded PREPARED activity. FEWS/USGS is training meteorologists and climatologists in the East African Community and the Lake Victoria Basin Commission to be able to analyze climate change, in order to help the region better manage available and changing resources such as water and energy.
- FEWS NET is working with NOAA to identify better methods of measuring and responding to terrestrial water shortages that may be related to climate change. In particular, they seek to develop better methods for estimating the quantity of water stored in the snow-pack of the Hindu Kush – Himalayas. This critical variable is highly relevant to irrigated agriculture in Afghanistan, Pakistan and neighboring countries. Major advances have already been made in improving accuracy of these measurements, and these analyses are being made publicly available online.
- FEWS NET is working to develop more accurate tools to measure and inform responses to increasing water scarcity in arid regions. For example, FEWS NET is starting a three-year project, together with the NASA Goddard Space Flight Center Hydrology department, USGS, the University of California at Santa Barbara, the International Center for Bio-Saline Agriculture in Dubai, and the USAID-funded MAWRED activity, to measure the principal features of the water budget of the country of Yemen, and then to integrate information on the drivers of climate change in Yemen, to ultimately analyze and project the country’s water future.
- FEWS NET is helping to inform resilience and development programming by NGOs, particularly Title II partners, by providing better information about climate change impacts in their zones of implementation. For example, FEWS NET has been asked to work with an international NGO in West Africa to identify the likely nature, intensity, and future prognosis of climate change impacts in parts of Mali, Niger, and Burkina Faso, along the Niger River basin.

Additional actions are listed in Section IV.

In addition to FEWS-NET, USAID is also supporting the Climate Services Partnership and SERVIR, which also help generate actionable information and build capacity. Descriptions of these two efforts can be found in the 2013 Agency Adaptation Plan in Appendix 3 (pages 54 - 55).

## IV. PROPOSED NEW ACTIONS

Together, the five working groups identified 35 priority actions that USAID will aim to undertake over the next three years to better understand and respond to climate change vulnerabilities. The actions are described below, in seven categories: Guidance and tools, Training and capacity building, Procurement, Facilities management and operations, Incentives, Outreach and collaboration, and Research and evaluation. In Appendix 1, tables show the responsible bureaus or offices, start and completion dates, implementation approach, milestones and metrics, and goal and status of each action.

Over the next several months, USAID will develop and launch a process to further prioritize and implement these adaptation actions. The actions differ in their levels of complexity and resource requirements. As noted in Appendix 1, some of them will take place in the near term, and others are likely to be completed over a three-year timeframe. Some are ongoing, such as those that describe activities intended to be undertaken annually. In addition, some of the items are currently focused on exploring options, which may or may not be deemed feasible enough to result in more concrete actions. The Agency Global Climate Change Coordinator will lead the implementation process, starting with the identification of individuals from different offices and bureaus who will lead or support each action. USAID will report on progress against each of these actions in the next Agency Adaptation Plan.

### A. GUIDANCE AND TOOLS

1. **Develop Technical Guidance for USAID staff.** Technical guidance on climate change adaptation is being developed to inform key decision points in USAID programming.
  - Incorporating Climate Change in the CDCS: This How-To Note, completed in 2014, aims to help program and technical officers developing a Country Development Cooperation Strategy (CDCS) to incorporate climate change considerations, whether or not the mission receives direct climate change funds.
  - Climate Change Adaptation in Project Design: This technical guidance document will help program and technical officers with focused Adaptation funding, whether they are designing projects solely with Adaptation funding or combining Adaptation funding with other funding types.
  - Climate Change Integration: This technical guidance document will support mission and pillar-bureau staff as they integrate climate change across USAID's development portfolio.
2. **Include climate change considerations in Sector Environmental Guidelines.** Environmental Compliance helps to ensure investments achieve optimal results, avoid harm to people and is the law—under Title 22 of the Code of Federal Regulations, Part 216. USAID's Sector Environmental Guidelines

provide information to USAID staff and implementers as they engage in environmental compliance related to specific sectors. In FY14, climate change sections have been/will be added to the following Sector Environmental Guidelines: Forestry, Agriculture, Small-scale construction, Fisheries, Healthcare waste, Housing, Natural Disasters/Humanitarian Response, Livestock, Rural roads, Solid waste, Water supply and sanitation, Small-scale healthcare facilities, and Primary and secondary day schools. Including information on climate change will help program designers and implementers bring climate change considerations into the environmental compliance process.

3. **Issue guidance on natural and environmentally friendly flood mitigation measures.** USAID will develop and disseminate guidance for OFDA, partners, and host countries on how to implement nonstructural solutions to mitigate flooding losses.
4. **Explore developing a voluntary climate risk-screening tool for use during the program cycle and for incorporation as a reference in the ADS.** Developing and disseminating a voluntary climate risk screening tool may enable missions to bring in climate information at appropriate entry points, assess risks to their portfolios, optimize the impact of their investments and make necessary adjustments to their strategy and its implementation. Preliminary screening at the Country Development and Cooperation Strategy (CDCS) level could help to identify risks and optimize investments. Screening could also be valuable during project design, when more detailed decisions are being made and climate information can be brought in that is specifically relevant to the geographies and activities being planned. USAID will explore the need to develop one or more tools to do climate risk screening at the appropriate level. Where possible, those tools will be incorporated into existing processes.
5. **Integrate climate change adaptation and mitigation in Sustainability Analysis How-To Note.** PPL/SPP intends to replace its current Discussion Note on Sustainability Analysis Methods for Project Design (March 2014) with a “How-To” Note that utilizes the Local Systems Framework as a core concept for ensuring sustainability. PPL will consult with E3/GCC to explore how climate change adaptation guidance could be integrated with the How-To Note’s phases of analysis and annexed sources of information. E3/GCC will develop pragmatic guidance for project design tailored to priority sectors to be linked with the Sustainability “Program Cycle How-To Note”.
6. **Include climate change considerations in Urban Policy Technical Guidance.** This Technical Guidance document is likely to focus on the intersection of urbanization with other sectors. E3/GCC will help to ensure that climate change is considered in that context.

## B. TRAINING AND CAPACITY BUILDING

7. **Train FFP partners and provide technical assistance in climate smart agriculture techniques.** This is ongoing support provided by FFP’s under TOPS (Technical and Operational Performance Support) Program. The program has a climate smart agriculture expert on staff, who provides technical expertise and training to FFP partners in climate smart agricultural techniques.

8. **Increase DCHA/OFDA implementing partners' ability to understand and apply information about climate impacts and adaptation responses.** This includes the ability to:
  - Understand different sectoral response options in urban and arid environments (e.g., providing water and sanitation in urban settings),
  - Apply climate information in non-traditional sectors,
  - Implement development of early warnings for small-scale climate extremes such as flash floods in selected regions,
  - Improve understanding of urban flood issues in selected areas, and
  - Implement pilots in monitoring weather in locally sustainable approaches
  
9. **Offer annual Climate-Smart Food Security training and include climate change session in Feed the Future (FTF) Global Workshop.** E3, BFS and AFR are collaborating to re-design a five-day Climate Smart Food Security Training, which was offered for the first time in FY13. It will be offered again in July 2014; 25 trainees are registered to participate, and the waitlist is long. The course will include sessions on resilience, vulnerability assessment, risk management, plus techniques of agro-forestry, livestock and rangeland management, etc. that simultaneously have triple-win benefits for production, adaptation, and mitigation. While costs would be involved, we will explore replicating the course by offering it in other regions, and/or more frequently in DC, or scaling it up through virtual delivery. In addition, USAID incorporated a plenary and a breakout session – with over 60 participants – on climate-smart agriculture in the first FTF Global Forum. This Forum, held in FY14, hosted global leaders from the public and private sectors driving Feed the Future's implementation. By continuing to address climate change at future FTF Global Workshops, we can build capacity and encourage programming that proactively builds in climate resilience.
  
10. **Include GCC session in Global Health training.** The Global Health PHuDamentals training is an introductory course for USAID health officers. A GCC session was included in the FY13 and FY14 trainings. By continuing to offer a session on global climate change, we can help incoming USAID health officers consider how climate change relates to their work and provide examples of things they can do to address climate change and thereby achieve sustainable results.
  
11. **Organize lessons learned summit on building resilience to climate change.** This summit, to be organized by OFDA Hydromet, is intended to examine lessons learned on hydro-meteorological DRR and climate change adaptation, including the usability of those lessons. Participants will include representatives from the USG, World Bank, UN, NGOs and other relevant actors; discussions will focus on how to better incorporate lessons learned into DRR and climate change adaptation programming.
  
12. **Organize climate prediction and application workshop for climate forecasters.** The objectives of the workshop are to assess how well selected participants from previous workshops – such as those in the NOAA-USAID series and the African Desk training program – have mastered climate prediction techniques; reinforce some of the concepts taught in previous workshops; introduce new concepts such as verifications; discuss ideas to inform a strategy for future training workshops; provide trainees with insights on recent advances in climate science and applications in various socio-economic sectors; and improve communication of information to different stakeholders.

13. **Conduct on-going outreach to Mission Directors.** USAID Mission Directors are uniquely positioned to communicate the importance of climate change and support climate change work at their missions. Climate change was a key talking point for State Department speakers at the FY14 conference, and Mission Directors from eight countries attended the climate change breakout session. By continuing to address climate change annually at the Mission Director Conference and other venues, we can encourage Mission Directors to more actively support climate change work at the missions.
14. **Provide climate change training to non-environment backstops.** An “Integrating Global Climate Change in Development in South America” training was held in Peru in March 2014. The course trained non-environmental backstops in climate change to facilitate the integration of climate change in other sectors. Participants included program officers, the deputy mission director, and other staff from across the USAID/Peru mission, as well as staff from five other USAID missions in South America. Going forward, USAID’s GCC training program will devote a portion of its resources on training to non-environmental staff. There are plans to offer additional trainings for non-environment staff at USAID in the future.
15. **Explore inclusion of climate change in PDM and/or A/COR trainings.** Including climate change in Project Design and Management (PDM) and A/COR trainings will help contract and grant managers to realize that climate change is a fundamental consideration in program design. Current case studies used in the trainings focus on Global Health and Feed the Future (the two other presidential initiatives). Since climate change is a cross-cutting issue, it does not require new case studies devoted to climate change but can be incorporated into all case studies so that participants can discuss whether or not they need to consider climate change in the project design and, if so, how to do so. PPL owns the PDM course content and is planning a major revision of this course. OAA owns the A/COR course. PPL and E3/GCC will look at the revised PDM curriculum and determine if there are any additional entry points for including training on climate change. E3/GCC and contractors will work with trainers to ensure they will be able to facilitate discussion around climate change and draw out key points. For any in-person trainings, ensuring trainers are comfortable with and can facilitate climate change material will be critical; however, given that contractor trainers often change, an effort will also be made to provide a GCC resource person for question and answer sessions.
16. **Identify what particular positions need to know about climate change and integration and develop online modules or webinars.** USAID has a GCC 101 online course available. There are also 1-2 day courses on GCC adaptation, clean energy, sustainable landscapes, low emissions development strategies, and monitoring and reporting. However, staff that are not responsible for programming focused GCC funding may not have attended those courses. In addition, staff members in different positions (EXOs, program officers, etc.) have different needs in terms of what they have to know in order to integrate climate change considerations into their work. By targeting the responsibilities of specific backstops, training can be more effective. Trainings could be online modules or interactive (and recorded) webinars. E3/GCC and M will meet to discuss what staff in particular positions need to know about climate change. They will determine which merit an online module or webinar and what the key content will be for each. E3/GCC will need contractor assistance to develop training materials. We will need to consider how to attract participants to this training, given the many different training



requirements and offerings at USAID. Incentives may vary by course and could include Continuous Learning Points (CLPs) or making it a prerequisite for another course.

17. **Work with Bureau Environmental Officers (BEOs) and contractor trainers on integrating climate change into Reg. 216 processes.** E3/GCC plans to offer a training of trainers so that BEOs are well prepared to deliver the climate change module in Reg. 216 training (as E3/GCC staff will not be available for all field trainings). Trainings are regularly delivered in Washington DC and in regions around the world. The module delivery will also be filmed, to facilitate further dissemination within USAID. E3/GCC will also work with BEOs on ways that climate change fields could be included in Environmental Management Plan (EMP) templates, so that BEOs can include such recommendations when working with USAID staff in different regions.
18. **Explore opportunities for joint climate change training on Adaptation and Disaster Risk Reduction.** OFDA and E3/GCC Office training staff will have a series of brownbag meetings to explore opportunities for greater integration of climate change and DRR-related strategies in trainings held by the respective offices.
19. **Explore requiring that at least one staff person in each regional and/or bilateral mission become a climate change integration expert.** Having knowledgeable climate change integration experts on staff in field missions will help the Agency consider climate change across more of its programs. It would be difficult to hire new staff to fill these roles, given scarce funding and restrictions on staffing levels in the missions. However, each selected mission could identify an existing staff person – such as a program officer or mission environment officer – who will fill this role, and will be required to take certain trainings. The GCC Coordinator will lead discussions about potential ways to implement this idea.

## C. PROCUREMENT

20. **Develop a central funding mechanism for climate vulnerability assessments.** The Agency has identified a need for clear climate assessment methodologies, and knowledge and capacity building to support USAID Missions and country and implementing partners to rigorously assess vulnerability and mainstream climate resilience into relevant development efforts.
21. **Provide stock language for voluntary inclusion in Project Approval Documents (PADs), RFPs, RFAs, etc.** Based on its identification of program areas most vulnerable to climate change and formulation of pragmatic guidance for strategic planning and project design tailored to these priority sectors, E3/GCC will consult with PPL on stock climate change language for USAID staff to voluntarily include in PADs. E3/GCC will similarly consult with OAA on stock language for USAID staff to voluntarily include in solicitations. The purpose of this language is to facilitate inclusion of vulnerability assessments and global climate change considerations in awards, ensure that implementers consider where climate change risks are relevant, and ultimately make investments more resilient to climate change.

22. **Explore establishing new mandatory requirements for certain types of projects to assess and address climate change risks.** Based on its identification of program areas most vulnerable to climate change and formulation of pragmatic guidance for strategic planning and project design tailored to these priority sectors, E3/GCC will consult with PPL on the advisability of introducing new mandatory requirements for certain types of activities into USAID’s Automated Directive System (ADS).

## D. FACILITIES MANAGEMENT AND OPERATIONS

23. **Take steps to increase resilience of USAID owned and direct-leased facilities located domestically and overseas.** USAID owned and direct-leased properties operate in a wide range of environments overseas. Our goal is to build upon existing methods to address increasing vulnerabilities from climate change impacts such as flooding, high winds, and heat. To accomplish this we will review existing assessments, determine the need for additional assessments, and build guidance and tools to identify and address climate change risks. This is expected to include three primary activities; 1) Develop site assessment checklists for preliminary planning efforts to avoid locations with high vulnerability to climate change for owned or direct-leased facilities; 2) Determine if there is further need for climate vulnerability assessments of existing owned or direct-leased facilities; and 3) Review floodplain mapping and risk assessments for existing owned or direct-leased facilities.

## E. INCENTIVES

24. **Explore potential for incentives.** Awards not only provide incentives, they also communicate that USAID understands and promotes the need to take action to address climate change. Different types of awards have different advantages and disadvantages. USAID will explore at least three different possibilities:
  - Holding a Climate Adaptation Recognition Award competition for USAID staff or implementing partners. This type of award could provide a travel stipend as incentive for including climate change information and best practices in project designs. Awardees could use the stipend to travel to present the results of their work at a conference or workshop. This also provides a professional development opportunity for them.
  - Creating a climate change award for top performers/champions in USAID. M/HR and E3/GCC will explore the opportunity to create a climate change award. A new award communicates that climate change is a priority and that efforts to address it are valued by the Agency. If a new award is not feasible, however, another option is to nominate individuals and/or missions for existing awards. Encouraging people to nominate climate champions for those awards through official communications could be another way to communicate the value of climate change work.
  - Awarding an annual fellowship for Foreign Service National (FSN) staff that are instrumental in climate change integration. Developing and recognizing FSN staff is especially important since they provide the continuity at their missions for climate change work. Being able to build off of existing work is especially important since climate change is such a new area. The fellowship could enable the

awardees to do climate change rotations at USAID/Washington, thus providing them with a staff development opportunity as well.

## F. OUTREACH AND COLLABORATION

25. **E3/GCC-BFS Partnership.** In FY14, the E3 and BFS bureaus established climate change as one of four areas of formal collaboration. A work plan was developed and working groups assigned to actively carry the work plan forward. Some of the things E3 and BFS intend to do under the work plan include:
  - Conduct joint trips to the field on integrating climate smart agriculture/sustainable intensification in selected country programs;
  - Incorporate robust climate change adaptation considerations in the context of resilience to climate-proof investments in the Sahel and the Horn of Africa;
  - Produce an initial synthesis for missions of existing capacity to support assessments of agriculture vulnerability to climate change.
26. **Climate Smart Agriculture Working Group.** The Climate Smart Agriculture Working Group was established a few years ago to improve collaboration and information sharing on climate smart agriculture. Staff from various USAID bureaus and the interagency meet monthly to provide updates on ongoing activities and identify new opportunities to facilitate joint consideration of food security and climate change goals.
27. **Conduct outreach to other agencies working on climate resilient infrastructure.** Other US government agencies such as the US Army Corps of Engineers, Federal Highway Administration, Millennium Challenge Corporation, and/or US Department of Agriculture may have methodologies and lessons learned on building climate resilient infrastructure that could be useful for USAID. We will continue to conduct outreach to these agencies and explore how their experiences could be applied to the international context in countries where USAID works.
28. **Increase collaboration between PPL and GCC Coordinator on Climate Change.** To help ensure effective communication on climate change policy issues within the Agency, and further identify ways to integrate climate change into other policy processes, monthly meetings between PPL and E3 bureaus will now include climate change as a standing agenda item. Working level discussions will also take place periodically to discuss concrete actions to integrate or consider climate change in Agency policy.
29. **Launch Resilience Challenge (name subject to change).** Pioneered by The Rockefeller Foundation and USAID, the Global Partnership for Resilience (GPR) will foster new alliances and drive innovation to help reimagine opportunities for scale, impact and partnering in resilience (including, but not limited to climate resilience). This Challenge will engage local stakeholders in defining barriers and implementing promising solutions for building resilience to acute shocks and chronic stresses, including those related to climate change.

## G. RESEARCH AND EVALUATION

30. **Study the relationship between climate change and malaria transmission.** The President’s Malaria Initiative (PMI) group in the Health, Infectious Diseases & Nutrition (HIDN) Office in the Global Health Bureau is collaborating with the Global Climate Change Office in the Economic Growth, Education and Environment (E3) Bureau to study the relationship between climate and malaria transmission. The collaboration is developing a standardized methodology for climate analysis in relation to malaria epidemiology for PMI, national governments and Roll Back Malaria (RBM) partners. Additionally, the project is producing climate analyses for inclusion in RBM/PMI impact evaluations in Ethiopia, Tanzania, Rwanda, Zanzibar, and Mali. Project funding in FY11 and FY12 covered the initial development of the methodology and climate analysis for two PMI countries, Tanzania and Ethiopia. Funding in FY13 is advancing further development of the methodology and analysis for Rwanda, Zanzibar and Mali. The results for these countries are due by the end of FY14. Specific objectives have included:
- Identification of data gaps and methodological challenges in undertaking such analysis;
  - Preparation of an analytical plan to assess the impact of climatic variability on malaria transmission for RBM/PMI impact evaluation country reports, including clearly identifying the data elements and statistical methods; and
  - Preparation of climate analysis for countries to incorporate in RBM/PMI’s impact evaluations.
31. **Conduct GCC impact and performance evaluations.** Upon the release of the Evaluation Policy (2011), USAID renewed its commitment to quality program evaluations to inform decisions, improve program effectiveness, increase accountability to stakeholders, and support organization learning. Given that Global Climate Change is a relatively new area of effort for USAID and the international donor community, there is ample opportunity to produce evidence and learning on which interventions have greatest impact in increasing resilience of people, places, and livelihoods to the impacts of climate change. USAID has GCC adaptation project impact and performance evaluations underway and additional evaluations planned. These include evaluations to measure the impact of index insurance and other risk reduction measures in smallholder agriculture, and the impact of hydrological measures to prevent flooding and promote recharging of underground water supplies, among other adaptation topics. In FY14, USAID also conducted deep dive reviews of the climate change programs of seven selected missions (Ukraine, Central America Regional, Colombia, Georgia, Southern Africa Regional, Indonesia, and Ethiopia), to gather lessons learned for future programming. E3 is also commissioning a strategic review of USAID’s implementation of the Global Climate Change Initiative (GCCII) in order to identify ways to ensure that the initiative produces meaningful, measurable and tangible results in the near-term while enhancing long-term outcomes.
32. **Identify “hot-spots” of observed climate change in the most food insecure countries.** Climate changes are occurring now in many countries where FFP and its partners are addressing food security issues that may be associated with warmer and drier climatic conditions. In order to be more alert to the need for climate-smart agriculture and water-related programming, and to stimulate action to address these changes, especially where they are most immediate and severe, the FEWS NET climate change team (composed of NOAA, NASA, USGS and UC Santa Barbara Climate Hazards Group) has provided Climate Trend Analyses for eight of Africa’s most food insecure countries. These peer-reviewed reports

empirically identify the severity and sub-national location of changes in precipitation and temperature experienced over the last 50-100 years in Kenya, Ethiopia, Sudan, Chad, Niger, Burkina Faso, Mali and Senegal. The results show a range of large and smaller changes, and provide the basis for sub-national priority “targeting” of climate adaptation activities now.

33. **Conduct stocktaking exercise of FFP partners on climate-smart humanitarian, resilience and development activities.** DCHA will conduct a stocktaking exercise to systematically understand the climate resilience knowledge, practices and training of FFP partners regarding climate-smart humanitarian, resilience and development activities.
34. **Evaluate climate change related data from USAID construction assessment and incorporate climate change adaptation recommendations.** In 2013, USAID undertook a comprehensive global assessment of all programs active between 2011 and 2013 that included a construction element valued over \$5,000. Data were collected from approximately 80 missions and Washington operating units. The survey questions covered a wide range of topics, including some on design standards and designing for extreme weather events that will be relevant for understanding how well USAID’s construction activities currently integrate climate change considerations, and what gaps remain. The results of the assessment are being analyzed, and the findings and recommendations will be published in summer 2014.
35. **Conduct review of Initial Environmental Examinations (IEEs), Environmental Mitigation and Management Plans (EMMPs), and/or Environmental Impact Assessments (EIAs) after sector environmental guidelines roll out.** Climate change considerations are being highlighted in and integrated into USAID’s Sector Environmental Guidelines. These updates are intended to increase the consideration given to climate change during implementation of the Agency’s environmental procedures. It would be helpful to review IEEs and EIAs from a small selection of missions that are conducted after the release of the new Sector Environmental Guidelines, to determine the extent to which they integrate climate change. Such analysis should support a review of the effectiveness of this guidance and identify opportunities for improvement. The analysis is likely to take the form of a desk review, and will require resources for contractor support.

## APPENDIX I: TABLE OF PROPOSED NEW ACTIONS

### GUIDANCE AND TOOLS

	Action	Lead and support offices	Scale of action	Goal of action	Start date (FY)	End date (FY)	Implementation approach	Key milestones / interim deadlines	Metrics	Status/ challenges
1	Develop three technical guidance documents for USAID staff on: Incorporating Climate Change in the CDCS; Climate Change Adaptation in Project Design; Climate Change Integration	E3/GCC and PPL	Agency	Guide USAID staff on including climate change in strategic planning; designing adaptation projects; and considering climate change in non-GCC funded programs	FY14	FY15	Draft for Agency comment, publish on USAID GCC intranet and ProgramNet	First two technical guidance documents completed by August 2014; third technical guidance in FY15	Cleared and online	CDCS How-To Note is complete; the other two are in process
2	Include climate change considerations in Sector Environmental Guidelines	E3/GCC and GCC contacts in regional bureaus, with the BEOs	Agency	Provide guidance on considering climate change as part of the environmental compliance process (as part of 22-Reg-216)	FY14	On-going	Contractors provide initial draft, E3/GCC and others provide revisions and clearance	Climate change sections were added to 13 Guidelines; Nine of them are pending clearance or publication online	Cleared and online	We will need to address the overall quality of the Guidelines over time; will require additional GCC updates

	Action	Lead and support offices	Scale of action	Goal of action	Start date (FY)	End date (FY)	Implementation approach	Key milestones / interim deadlines	Metrics	Status/ challenges
3	Issue guidance on natural and environment-ally-friendly flood mitigation measures	OFDA/Hydro-met	Global	Inform OFDA partners and countries about effective natural alternatives to hard flood mitigation measures	FY13	FY15	Annual Program Statement with WWF	Draft manual	TBD	In initial stages
4	Explore developing a climate risk screening tool to be incorporated into the project design cycle	E3/GCC and PPL	Agency	Ensure mission programs address climate risks early during the design stage	FY14	FY16	Identify entry points, draft tool(s) for Agency comment, publish on ProgramNet	Start internal discussions by Sept 2014; if sufficient buy-in for the concept, first draft by July 2015	Cleared and available	Not yet initiated
5	Integrate climate change in Sustainability Analysis How-To Note	E3/GCC and PPL	Agency	Strengthen climate change consideration in project design	FY14	FY15	PPL will develop new How-To Note on Sustainability Analysis and consult with E3/GCC on linkages to climate change guidance	Field-test in FY15; final draft by late FY15	Final version cleared and online	Interim Discussion Note on Sustainability Analysis completed
6	Include climate change considerations in Urban Policy Technical Guidance	E3/E&I and E3/GCC	Agency	Increase climate change awareness of USAID staff that do programming in urban areas	FY14	FY15	E3/GCC review and provide input for draft technical guidance	TBD	Guidance released	In initial stages

## TRAINING AND CAPACITY BUILDING

	<b>Action</b>	<b>Lead and support offices</b>	<b>Scale of action</b>	<b>Goal of action</b>	<b>Start date (FY)</b>	<b>End date (FY)</b>	<b>Implementation approach</b>	<b>Key milestones / interim deadlines</b>	<b>Metrics</b>	<b>Status/ challenges</b>
<b>7</b>	Train FFP partners and provide technical assistance in climate smart agriculture techniques	DCHA/ FFP	Global	Ensure that forward-looking climate-sensitive approaches are incorporated in food assistance programming	FY10	FY15	Trainings and technical assistance	TBD	Number of trainings offered; number of people trained	Ongoing
<b>8</b>	Increase implementing partners' ability to understand and apply information about climate impacts and adaptation responses	DCHA/ OFDA	Global	Improve sectoral response, use of information to reduce adverse impacts, and preparedness for new hazards; strengthen early warning capacity and advance local climate prediction	FY11	FY16	Workshops, trainings, global meetings, development of tools and early warning systems	TBD	TBD	Pending availability of funding
<b>9</b>	Offer annual Climate-Smart Food Security training, and include climate change session in Feed the Future (FTF) Global Workshop	BFS and E3/GCC	Sectoral	Build understanding within USAID of links between GCC and food security; enhance consideration of climate change in FTF programs	FY13	On-going	Team of BFS and GCC staff work with contractors to design and deliver course; BFS (supported by E3/GCC) prepares Global Workshop sessions	Training scheduled; Training delivered	Number of people trained	Demand exceeds the capacity of the annual course offering



	Action	Lead and support offices	Scale of action	Goal of action	Start date (FY)	End date (FY)	Implementation approach	Key milestones / interim deadlines	Metrics	Status/ challenges
10	Include GCC session in Global Health training	GH and E3/GCC	Sectoral	Raise awareness of GH staff of the Agency's GCC efforts and the interplay between GCC and health	FY13	On-going	GH informs E3/GCC of schedule and E3/GCC prepares and presents presentation	Training scheduled;  Training delivered	Number of health staff trained	Ongoing
11	Organize lessons learned summit on building resilience to climate change	DCHA/ OFDA	Global	Improve project design and implementation	FY14	FY15	Organize workshop	Summit in 2015	TBD	In planning stage
12	Organize climate prediction and application workshop for climate forecasters	DCHA/ OFDA	Global	Advance capacity of climate forecasters in developing countries to provide climate service	FY14	FY15	Workshop	TBD	TBD	In planning stage
13	Conduct ongoing outreach to Mission Directors	E3/AA and others	Agency	Raise awareness and inform Mission Directors of the importance of climate change to USAID	FY14	On-going	Organize climate change session at annual Mission Director Conference	GCC included in agenda; Delivery of sessions	Number of Mission Directors participating in GCC session	If political priorities shift, it may alter the ease of getting more time for GCC on the agenda

	Action	Lead and support offices	Scale of action	Goal of action	Start date (FY)	End date (FY)	Implementation approach	Key milestones / interim deadlines	Metrics	Status/ challenges
14	Provide climate change training to non-environment backstops at USAID	E3/GCC	Agency	Build capacity of USAID staff to integrate GCC into other program areas; mission trainings reach staff who can't travel to DC	FY14	On-going	Training could be provided in DC or at missions	One training in FY15	Number of trainees (or number of missions)	E3/GCC Office only has capacity to support a few mission-based trainings per year
15	Explore inclusion of climate change in Project Design & Management (PDM) and/or Assistance/ Contracts Officer Representative (A/COR) certification training courses	E3/GCC, OHR, M/OAA, PPL	Agency	Expand awareness of climate change among project managers in USAID by including the topic in mandatory trainings	FY14	FY16	Identify timeframe for course revision;  Determine if feasible to integrate GCC-related case study into A/COR or PDM courses	Identify entry points in PDM and/or A/COR courses;  Training of trainers, to walk through facilitation	Inclusion of GCC-related case study in course curricula	A/COR course less flexible due to need to cover key acquisition and assistance regulations
16	Identify what particular positions/backstops need to know about climate change and integration and develop online modules or webinars; explore Continuous Learning Points (CLPs) as incentive	E3/GCC and M	Agency	Build capacity of USAID staff to consider climate change	FY14	FY16	Bureaus discuss staff knowledge needs; Work with OHR to determine how to incentivize participation (e.g., through CLPs or making it a prerequisite for another course)	Training Modules developed and available;  Incentives in place	Results of course evaluation ; number of people trained	Not yet initiated

	<b>Action</b>	<b>Lead and support offices</b>	<b>Scale of action</b>	<b>Goal of action</b>	<b>Start date (FY)</b>	<b>End date (FY)</b>	<b>Implementation approach</b>	<b>Key milestones / interim deadlines</b>	<b>Metrics</b>	<b>Status/ challenges</b>
<b>17</b>	Work with Bureau Environmental Officers (BEOs) and contractor trainers on integrating climate change into Reg 216 processes	E3/GCC and BEOs	Agency	Facilitate consideration of climate change as part of the environmental compliance process	FY14	On-going	Hold a training of trainers session	Set up meeting or training of trainers with BEOs – August 2014	Number of BEOs prepared to deliver GCC module in Reg. 216 training	Initial discussions underway
<b>18</b>	Explore opportunities for joint climate change training on Adaptation and Disaster Risk Reduction	DCHA and E3/GCC	Agency	Improve linkages between CCA and DRR programming and approaches within USAID programs	FY14	FY16	Meet to discuss opportunities; if feasible, design and deliver joint trainings	TBD	Number of people trained	Not yet initiated
<b>19</b>	Explore requiring that at least one staff person in each regional and/or bilateral mission become a climate change integration expert	GCC Coordinator	Agency	Increase number of USAID staff who can provide technical support to colleagues on climate change integration	FY15	On-going	Solicit feedback from regional bureaus and a selection of missions	Solicit feedback from regional bureaus and a selection of missions – October 2014	Number of missions with a designated GCC integration expert	Limitations on staff time and funding will make this challenging

**PROCUREMENT**

	<b>Action</b>	<b>Lead and support offices</b>	<b>Scale of action</b>	<b>Goal of action</b>	<b>Start date (FY)</b>	<b>End date (FY)</b>	<b>Implementation approach</b>	<b>Key milestones / interim deadlines</b>	<b>Metrics</b>	<b>Status/ challenges</b>
<b>20</b>	Develop central funding mechanism for climate vulnerability assessments	E3 with other bureaus	Agency	Develop assessment methodologies for USAID; conduct assessments to gather information about risks in select USAID countries	FY14	FY17	Develop SOW and pursue normal procurement process	SOW developed by June 2014	Award made; Number of methods developed and studies done	Under procurement
<b>21</b>	Provide stock language on climate change for voluntary inclusion in Project Approval Documents (PADs), RFPs, RFAs, etc	M and E3/GCC	Agency	Facilitate inclusion of vulnerability assessments and GCC considerations in awards, to make investments more resilient to climate change	FY14	FY15	E3/GCC will consult with PPL and OAA on stock language for voluntary inclusion in PADs and solicitations, respectively	Initial consultations by fall 2014, and solicit feedback from regional bureaus	Stock language posted on Program-Net	Even if stock language is voluntary, clearance process could be lengthy
<b>22</b>	Explore establishing new mandatory requirements for certain types of projects to assess and address climate change risks	M, PPL, and E3/GCC	Agency	Facilitate inclusion of vulnerability assessments and climate change considerations in awards, to ensure investments are resilient to climate change	FY14	FY16	E3/GCC will consult with M Bureau on advisability of introducing mandatory requirements for certain types of projects; PPL will review to ensure requirements are reasonable and effective	By Sept 2014, E3/GCC will prioritize program areas & key design guidance, and consult with PPL	ADS updated or guidance/tools posted on Program-Net	Not yet initiated

## FACILITIES MANAGEMENT AND OPERATIONS

	Action	Lead and support offices	Scale of action	Goal of action	Start date (FY)	End date (FY)	Implementation approach	Key milestones / interim deadlines	Metrics	Status/ challenges
23	Take steps to increase climate resilience of USAID owned and direct-leased facilities	M/MS	Agency	Promote awareness and action, and ultimately reduce weather-related damage to USAID facilities	FY15	FY16	Research existing assessments, draft guidance and checklists;  Distribute findings and materials to staff via intranet	Develop checklists by Oct 2014; Issue recs by Dec 2014; Publish existing assessments by Feb 2015	Number of tools and methods developed and/or shared within USAID	Not yet initiated

## INCENTIVES

	Action	Lead and support offices	Scale of action	Goal of action	Start date (FY)	End date (FY)	Implementation approach	Key milestones / interim deadlines	Metrics	Status/ challenges
24	Explore potential for incentives, such as award competitions and fellowships	Agency GCC Coordinator	Agency	Incentivize integration and high quality adaptation programs; incentivize consideration of climate change data in project designs	FY14	FY16+	Gather lessons learned from bureaus that have had awards or incentive programs; consult with M/OHR on the possible creation of a new climate change award	Decision about type of award or incentive is feasible and will best accomplish goals, by Dec 2014; Program established in 2015	Incentive program launched; number of applicants ; number of awards made	Some funding may be needed; Running an award competition can be very time consuming, and staff time is limited

## OUTREACH AND COLLABORATION

	Action	Lead and support offices	Scale of action	Goal of action	Start date (FY)	End date (FY)	Implementation approach	Key milestones / interim deadlines	Metrics	Status/ challenges
25	Partnership between E3/Global Climate Change and the Bureau for Food Security (BFS)	E3/GCC and BFS	Inter-Agency	Strengthen the relationship and improve collaboration between two presidential initiatives	FY13	On-going	Develop workplan; Working groups meet on a regular basis to take concrete actions	Among others, announce Global Partnership for Resilience and Grand Challenge	TBD	Ongoing
26	Climate Smart Agriculture Working Group	E3/GCC with BFS and others	Inter-Agency	Provide a forum for technical collaboration and sharing information on climate-smart ag activities	FY13	On-going	Working group meets monthly	TBD	TBD	Ongoing
27	Conduct outreach to other agencies working on climate resilient infrastructure	E3/GCC and E3/E&I	Inter-Agency	Learn from other agencies' work on climate resilient infrastructure	FY13	On-going	Identify key agencies and set up meetings or site visits	New or follow-up outreach to two agencies by September 2014	Agencies contacted, number of staff involved, and/or number of agreed joint activities	Ad-hoc meetings have been held in the past with USDA, MCC, USACE

	<b>Action</b>	<b>Lead and support offices</b>	<b>Scale of action</b>	<b>Goal of action</b>	<b>Start date (FY)</b>	<b>End date (FY)</b>	<b>Implementation approach</b>	<b>Key milestones / interim deadlines</b>	<b>Metrics</b>	<b>Status/ challenges</b>
<b>28</b>	Increase collaboration between PPL and GCC Coordinator on Climate Change	PPL and Agency GCC Coordinator	Agency	Increase coherence and effective communication across the Agency on GCC policy issues; better integrate climate change into policy processes	FY14	On-going	Make climate change a standing agenda item in monthly meeting between PPL and E3; Periodic working level discussions	Add climate change to monthly agenda by the July 2014 meeting	TBD	In initial stages
<b>29</b>	Launch Resilience Challenge (tentative name)	GCC Coordinator, the Lab, DCHA, PPL, and Rockefeller Foundation	Horn of Africa, the Sahel, South and South-east Asia	Engage local stakeholders in defining barriers and implementing promising solutions for building resilience to acute shocks and chronic stresses, including those related to climate change	FY14	TBD	Public outreach and competition	TBD	TBD	In design

## RESEARCH AND EVALUATION

	Action	Lead and support offices	Scale of action	Goal of action	Start date (FY)	End date (FY)	Implementation approach	Key milestones / interim deadlines	Metrics	Status/ challenges
30	Study the relationship between climate & malaria transmission	GH/HIDN /PMI and E3/GCC	Global	Develop tools and analyze the relationship between malaria and climate variables in PMI countries	FY12	FY14	Draft for internal comment, inclusion in PMI impact evaluation reports	Report on climate analysis in Tanzania and Ethiopia done; report on Mali, Rwanda, and Zanzibar due Sept 2014	Climate and malaria analysis usable by PMI for its impact evaluation reports	First report cleared, second report pending
31	Conduct GCC Adaptation Impact and Performance Evaluations	E3/GCC	Global	Provide learning on and evidence for USAID investments in climate change and development	FY13	FY16+	Multiple evaluations are currently underway or planned; Completed evaluations will be distributed publicly	Three impact evaluations and several performance evaluations are underway; Additional ones will begin in FY14 and FY15	Number of GCC CCA evals done	Evaluations, in particular impact evaluations, are multi-year efforts
32	Identify “hot-spots” of observed climate change in the most food insecure countries	FFP/PTD/ FEWS	Regional (Africa)	Provide a basis for prioritizing the location of adaptation activities at the sub-national level	FY11	FY14	Analysis of precipitation and temperature data	Completion of peer-reviewed country “Climate Trend” analyses	Number of reports finished	Eight country analyses completed to date



	Action	Lead and support offices	Scale of action	Goal of action	Start date (FY)	End date (FY)	Implementation approach	Key milestones / interim deadlines	Metrics	Status/ challenges
33	Conduct stocktaking exercise of FFP partners on climate-smart humanitarian, resilience and development activities	DCHA/ PPM and DCHA/ FFP	FFP in DC and field	Provide systematic understanding of the climate resilience training, knowledge, and practices of FFP partners	FY14	FY15	Survey, key informant interviews, document review	Partners identified, contacted and surveyed	TBD	TBD
34	Evaluate climate change related data from USAID construction assessment	E3/E&I and E3/GCC	Agency	Understand vulnerabilities in USAID construction activities; identify need for additional information to enhance this understanding	FY14	FY15	USAID missions and operating units were surveyed in 2013, results are being analyzed	TBD	Report finalized, with GCC discussed in findings	Final report pending; only a few GCC-relevant questions were in survey, so ability to draw conclusions will be limited
35	Conduct review of IEEs and EIAs after sector environmental guidelines roll out	E3/GCC with Bureau Environmental Officers (BEOs)	Agency	See if USAID environmental examinations and assessments used new tools and address climate change; review effectiveness of integration efforts	FY16	FY17	Scope depends on availability of resources for contractor support	Meet to discuss scope – Spring 2015  Pursue inclusion in contractor work plan – Aug 2015	Percentage of reviewed IEEs and EIAs that consider climate change	New proposal that requires further discussion and identification of resources

## APPENDIX 2: 2014 ADAPTATION POLICY STATEMENT

### USAID Climate Change Adaptation Policy Statement

June 2014

Increasing the resilience of people, places, and livelihoods to climate variability and change depends upon the deliberate and strategic integration of climate information and adaptation approaches into development plans and actions. USAID recognizes that building resilience and considering climate change in strategic planning, program design, and project implementation across a wide range of development sectors are essential to the success of our mission. For this reason, USAID has increased our efforts to consider the role climate variability and change play in constraining development across our portfolio, and to work with partners to build climate resiliency into national, sub-national, and local plans and actions in climate-sensitive sectors.

Since the first USAID Climate Change Adaptation Policy Statement, USAID has taken concerted action to this end. The Agency issued a *Climate Change and Development Strategy* in January 2012, which guides staff to invest in dedicated programming to tackle the risks and opportunities presented by climate change, as well as to integrate climate change into core development programs. Between 2010 and 2013, USAID developed 8 climate change courses and trained nearly 400 staff, representing about 75% of all of our field missions. In December 2012, USAID also released *Policy and Program Guidance on Building Resilience to Recurrent Crisis*, which recognizes that climate change is a major stress that must be considered in designing strategies to build resilience.

Consistent with the *Climate Change and Development Strategy*, USAID will invest its current appropriated resources for adaptation in approximately 30 of the most vulnerable countries and regions around the world, in programs oriented toward achieving three intermediate results:

1. Improved access to science and analysis for decision-making;
2. Establishment of effective governance systems; and
3. Identification and implementation of actions that increase climate resilience

USAID will also continue to take action to ensure that its mission, development programs, policies and operations are sustainable in the face of an uncertain and changing climate by:

- Working with experts throughout the Agency in key climate-sensitive sectors such as food security, health, humanitarian assistance, and water management to integrate climate change considerations into strategic planning, program design, procurement, and implementation.

- Rigorously evaluating a selection of current climate change adaptation programs and other relevant examples of integrated programming to learn lessons that will inform USAID's next generation of programming, and developing an evaluation plan for climate change programming in accordance with USAID's evaluation policy.
- Developing new curricula and training development professionals from a variety of disciplines to understand climate change, identify its potential impacts on development gains, and analyze opportunities to spur low emissions, climate resilient development.
- Continuing to review and update the Agency's environmental guidelines in order to incorporate climate change considerations.
- Exploring ways to consider adaptation and climate resilience with respect to Agency suppliers, including building the capacity of implementing partners to understand and address potential climate change impacts.

Climate change is among the greatest challenges to livelihoods and sustainable economic development. USAID will meet this challenge, recognizing both its severity and the opportunities it presents to spur innovation and encourage investments that will deliver long-lasting environmental and development benefits.

*Approved by Administrator Shah on June 13, 2014*

## APPENDIX 3: UPDATED 2013 AGENCY ADAPTATION PLAN AND VULNERABILITY ASSESSMENT

### A. OVERVIEW

This Appendix provides the 2013 Agency Adaptation Plan, which is being carried forward this year together with the new Supplement. Minor updates have been made to this earlier Plan in order to report against progress and provide updated data. USAID continues to work towards completion of the actions proposed in this previous Plan, while also beginning to implement the new actions proposed in Appendix 1.

### AGENCY VULNERABILITY ASSESSMENT

In many ways, including with direct Global Climate Change Adaptation funding, USAID investments and activities promote the resilience of vulnerable populations to climate vulnerability and change. However, climate change could have a substantial negative impact on USAID's other development efforts, given the Agency's extensive investments in climate-sensitive sectors located in climate-vulnerable regions. Ultimately, the impact of climate change on USAID programs and operations, if left unaddressed, could compromise the Agency's ability to achieve its mission.

The type and degree of climate-related impacts and vulnerabilities across USAID's partner countries will be diverse, with consequences for human health, economic growth, livelihoods, and biodiversity, among others. Climate change could significantly affect key program areas, including agriculture and food security; global health; water, sanitation, and hygiene; malaria; infrastructure; and disaster readiness and humanitarian response. A lack of data and capacity in partner countries and regions hinders efforts to reduce vulnerability.

Climate change may also jeopardize the continuity and effectiveness of USAID operations. In particular, it poses risks for USAID assets; infrastructure and support systems; workforce health, safety, and well-being; and security. These impacts could have serious implications, including: loss of asset value; higher maintenance and operating costs; increased safety concerns; disruption, deterioration, or elimination of services; implications for external coordination and program implementation; or compromised welfare of personnel.

### CURRENT AND PAST AGENCY ADAPTATION-RELATED ACTIONS

USAID has been investing in actions that help the Agency better understand climate change risks and opportunities and reduce vulnerabilities since 1991. In 2011, USAID created a position of Climate Change Coordinator. In January 2012, the Agency released the *USAID Climate Change and Development Strategy: 2012-2016*, which includes a number of actions to integrate climate change adaptation into the Agency's mission, programs, and operations. In December 2012, USAID released new Policy and Program Guidance titled *Building Resilience to Recurring Crisis*, which aims to reduce chronic vulnerability and promote more inclusive growth in areas of recurrent crisis; the policy recommends considering the current and future effects of climate change to facilitate better prediction of, preparation for, and response to, recurrent shocks. USAID is also providing direct adaptation funding through its missions to a number of particularly vulnerable countries, especially small island developing states, glacier-dependent countries, least developed countries and countries

in Africa, to help address climate change vulnerabilities. In addition to these overarching efforts, USAID has undertaken a number of activities related to *Guidance and Training*, *Pilot Activities*, *Research and Information*, *Evaluation and Learning*, *Partnerships*, and *Inreach and Outreach*, which are detailed below.

## PLANNED AGENCY ADAPTATION-RELATED ACTIONS

USAID adaptation planning, implementation, and evaluation will continue to be led by the Agency Climate Change Coordinator. To ensure the ongoing achievement of USAID’s mission, the Agency will annually review and update the Agency Adaptation Plan, and make it available to USAID staff and the general public.

In addition, USAID has developed a list of actions to better understand and address climate change vulnerabilities of programs and projects. These programmatic actions are listed in the table below:

Category	Complete or underway	Planned Activities for FY2015-2016
<i>Guidance and Training</i>	<ul style="list-style-type: none"> <li>• Publish Updated Adaptation Guidance Manual and Sectoral Briefs</li> <li>• Develop Country Development Cooperation Strategy (CDCS) Supplemental Guidance</li> <li>• Conduct Climate Change Adaptation Training</li> <li>• Create Sectoral Project Design Guidance and Training</li> </ul>	<ul style="list-style-type: none"> <li>• Review Environmental Impact Assessment</li> <li>• Ensure Reporting Requirement Performance</li> <li>• Conduct Targeted and Skills-Based Climate Change Adaptation Training</li> </ul>
<i>Pilot Activities</i>	<ul style="list-style-type: none"> <li>• Commence Integration Pilots</li> </ul>	<ul style="list-style-type: none"> <li>• Compile Lessons Learned &amp; Best Practices from Pilots</li> <li>• Implement and Evaluate Integration Pilots</li> </ul>
<i>Research and Information</i>		<ul style="list-style-type: none"> <li>• Conduct Climate Change and Development Research</li> <li>• Conduct Survey of Applied Climate Change and Development Research Needs</li> <li>• Develop Climate Change and Development Research Strategy</li> </ul>
<i>Evaluation and Learning</i>	<ul style="list-style-type: none"> <li>• Design Agency Monitoring and Evaluation Plan for Climate Change Programs</li> <li>• Host Climate Change Adaptation Learning Workshops</li> </ul>	<ul style="list-style-type: none"> <li>• Compile and Exchange Climate Change Adaptation Lessons Learned</li> <li>•</li> </ul>
<i>Partnerships</i>	<ul style="list-style-type: none"> <li>• Convene Adaptation Partnership workshops</li> <li>• Release APS to facilitate development of Global Development Alliances (GDAs) to address climate change, including through adaptation.</li> </ul>	<ul style="list-style-type: none"> <li>• Engage Youth Partnership</li> <li>• Develop Climate Change Adaptation Coordination Plan</li> <li>• Form Private Sector Alliance</li> </ul>
<i>Inreach and Outreach</i>	<i>See related activities above.</i>	

Finally, USAID has identified a number of actions to better understand and address operational vulnerability. Collaboration with the Department of State (DoS) will be critical for addressing operational vulnerability, as a significant portion of USAID operations are co-located or co-implemented with DoS.

## USAID POLICY FRAMEWORK FOR CLIMATE CHANGE ADAPTATION

Consideration of climate change in strategic planning, program design and implementation, and operations is essential to the success of USAID's mission, carried out through activities that span the globe. USAID seeks to maximize the sustainability and resiliency of its development investments in the face of climate change-related stressors, and build the capacity of its partners and beneficiaries to prepare for climate impacts. Furthermore, there is an opportunity for USAID to serve as a critical part of the climate change solution by promoting vulnerability reduction through efforts related to governance, disaster preparedness, health, food security, and environment.

USAID's Adaptation Plan lays out a process and identifies actions that will help to achieve climate resilience in USAID's mission, programs, and operations. The Plan is aligned with the *USAID Climate Change and Development Strategy* published in January 2012, which highlights two strategic objectives that focus on understanding and reducing the impacts of climate change:

- *SO 2 Increase resiliency of people, places, and livelihoods:* 1) improve access to science and analysis for decision making, 2) establish effective governance systems, and 3) identify and take actions that increase climate resilience;
- *SO 3 Integration of climate change into Agency programming, policy dialogues, and operations to build resilience:* 1) integrate climate change across USAID's development portfolio, 2) elevate the role of development in climate change dialogues and policy, and 3) lead by example.

As part of these strategic objectives, USAID's Adaptation Plan focuses on six overarching objectives to facilitate the resilience of USAID mission, programs, and operations. These objectives are aligned with the *USAID Climate Change and Development Strategy* roadmap and include: *Guidance and Training, Pilot Activities, Research and Information, Evaluation and Learning, Partnerships, and Inreach and Outreach*. USAID's Adaptation Plan identifies near and longer-term actions for each of these objectives.

The process of Agency adaptation planning, implementation, and evaluation described in USAID's Adaptation Plan will be led by the Agency Global Climate Change (GCC) Coordinator, who will work closely with technical experts and Agency leadership across functional and regional bureaus and Missions to implement the Plan. In accordance with the *USAID Climate Change and Development Strategy* roadmap, the GCC Coordinator will lead a process to more formally identify roles and responsibilities within the Agency for implementation of USAID's Adaptation Plan.

## B. AGENCY ANALYSIS OF CLIMATE CHANGE RISK AND OPPORTUNITIES

In September 2011, USAID prepared a preliminary high-level analysis of the Agency's vulnerability to climate change. Building on that initial work, this vulnerability analysis identifies the challenges posed by climate change to USAID's mission, programs, and operations. The results of this analysis informed the development of specific actions that USAID will undertake in fiscal year 2014 and beyond to better understand and address the risks and opportunities presented by climate change. The following section presents an analysis of the Agency's vulnerability to climate change, as it may affect USAID's 1) mission; 2) programs; and 3) operations.

## USAID MISSION VULNERABILITY ASSESSMENT

The mission of USAID is expressed in terms of a twofold purpose: 1) to advance U.S. foreign policy investments and 2) to improve the lives of individuals in the developing world. USAID recognizes that climate change could have a substantial negative impact on development efforts designed to advance this purpose. Climate change is also likely to interact with the goal and objectives of the Foreign Assistance Framework for which USAID is responsible.

The Agency relies on successful implementation of programs and smooth and efficient operations to fulfill its purpose, goals, and objectives. Because the Agency has extensive investments in climate-sensitive sectors located in climate-vulnerable regions across the world, climate change stressors are likely to impact the implementation of programs and smooth operations. USAID is also reliant on grantees and contractors for executing elements of its mission, and these partners' operations may also be vulnerable to climate change.

For example, climate changes will impact agriculture programs, ecotourism and biodiversity programs, flood control and sewerage projects in large urban centers, and waterborne and vector-borne disease control efforts around the world. On the operational side, climate impacts may cause structural damage to assets, increase health and safety concerns for staff, disrupt transportation infrastructure or utility services, and undermine the security of facilities and personnel. The risk posed to infrastructure and programs changes over time. Impacts will have the greatest effect on investments and policy decisions with a lifetime of 20 years or more. For shorter time frames, programs and operations generally need to be aware of and resilient to current climate variability rather than long-range climate change impacts.

The following sections provide a detailed discussion of the Agency's programmatic vulnerability and operational vulnerability. Understanding and addressing these vulnerabilities will be central to USAID's ability to fulfill its mission.

## USAID PROGRAM VULNERABILITY ASSESSMENT

Climate change may have significant implications for the effectiveness of USAID's programming and the sustainability of its investments. As discussed in USAID's September 2011 *High Level Analysis of Agency Vulnerability to Climate Change*, key program vulnerabilities are reflected in larger programming streams. In particular, programs in areas like agriculture and food security, global health, water and sanitation, infrastructure, and disaster readiness and humanitarian response are highly vulnerable to climate change.

In order to illustrate the potential vulnerability of its programs for the purpose of drafting this Plan, in 2012 USAID conducted a high-level desk review of climate vulnerabilities for twenty-two country and regional Missions. To ensure diversity, countries were selected to be representative of a wide range of geographies, climate stressors, development programs, and adaptation priorities. The selection is not indicative of which countries USAID considers to be most vulnerable. Those profiles can be seen in USAID's previous Adaptation Plan, in Appendix III.<sup>6</sup>

This section presents an overview of USAID's program vulnerabilities, drawing on the lessons learned from these country profiles.

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<sup>6</sup> <http://www.usaid.gov/sites/default/files/documents/1865/Agency%20Climate%20Change%20Adaptation%20Plan%202012.pdf>

## **PROJECTED WEATHER AND CLIMATE CONDITIONS**

Climate change is expected to alter current weather and climate conditions around the globe, including temperature, precipitation, extreme events, and sea level. These changes in climate will also cause a series of cascading impacts, such as changes in the frequency and intensity of flooding, drought, and storm surge; and changes in the range and prevalence of disease vectors and related diseases. Because USAID has a global presence, it is important for the Agency to understand how projected changes in climate and other related impacts will differ in different countries, regions, and even specific cities and towns. Regions within countries will have very different changes and vulnerabilities, an important consideration in actions.

## **KEY CLIMATE IMPACTS AND VULNERABILITIES**

The type and degree of impacts and vulnerabilities across USAID's partner countries will be as diverse as the projected changes in climate, with consequences for human health, food security, economic growth, livelihoods, and biodiversity, among other objectives. For example, extreme heat events and changes in vector-borne diseases will stress human health. Changes in temperature, precipitation, and flooding will likely have consequences for people whose livelihoods depend on rain-fed crops and for countries in which agriculture is a key economic sector. Drought and, in coastal locations, salt water intrusion could limit the availability and quality of freshwater supplies. Furthermore, climate change may threaten coastal and forest ecosystems that populations rely on, through erosion and landslides, salt water intrusion, forest fires, and the arrival of new invasive species. Finally, more intense flooding, storm surge and rising sea levels may inundate communities and damage infrastructure. Many USAID missions undertake more targeted and more detailed vulnerability assessments to inform direct adaptation programming.

## **KEY USAID PROGRAM VULNERABILITIES**

This section provides a high-level overview of the risks and opportunities that climate change poses to some of USAID's major programming streams, as reported in the September 2011 *High Level Analysis of Agency Vulnerability to Climate Change*.

### **AGRICULTURE**

- *USAID FY10 investment*<sup>7</sup>: \$1,005,876,872
- *USAID FY11 investment*<sup>8</sup>: \$ 1,013,194,362
- *USAID FY12 investment*<sup>9</sup>: \$ 1,056,568,843

Climate change is a critical cross-cutting issue that can affect the sustainability of investments in agricultural development and food security. Agricultural productivity is already being adversely impacted by increased temperatures, increased rainfall variability, increased incidence of pests/diseases, and more extreme weather events.

Most countries where USAID works depend on agriculture as a primary livelihood sector and economic mainstay. USAID invests significant funding in increasing agricultural productivity, particularly under the Feed the Future presidential initiative. At the G8 Summit in L'Aquila, Italy in July 2009, President Obama pledged \$3.5 billion for agricultural development and food security over three years. In FY10, FY11, FY12 and FY13, USAID spent over \$1 billion each year on agriculture programs. Some of USAID's agriculture

<sup>7</sup> "Where does USAID's money go?" With data from USAID/M/CFO/FS as of March 31, 2011

<sup>8</sup> "Where does USAID's money go?" With data from USAID/M/CFO/FS as of September 30, 2011  
<http://www.usaid.gov/policy/budget/money/>

<sup>9</sup> "Where does USAID's money go?" With data from USAID/M/CFO/FS as of September 30, 2012



programs offer opportunities to help people adapt to climate variability and change, while others may be undermined in delivering on their objectives without factoring in climate considerations.

The focus countries for US food security programming include Ethiopia, Ghana, Kenya, Liberia, Mali, Malawi, Mozambique, Rwanda, Senegal, Tanzania, Uganda, and Zambia in Africa; Bangladesh, Cambodia, Nepal, Tajikistan in Asia; and Guatemala, Haiti, and Honduras in Latin America. These countries are also highly vulnerable to the adverse impacts of climate change. By 2020, yields from rain-fed agriculture could be reduced by up to 50 percent in some countries in Africa.<sup>10</sup> A one-degree Celsius change in temperature will reduce rice productivity by 10 percent; currently, maize production in Africa is seeing as much as 75 percent losses due to two-degree increases in peak temperatures. By the 2050s, freshwater availability in much of Asia is projected to decrease substantially.<sup>11</sup> In Latin America, changes in precipitation patterns and the disappearance of glaciers will significantly affect water availability for agriculture. In small island states, deltas, and low-lying coastal zones, salt-water intrusion from rising sea levels will reduce the supply of freshwater and threaten the viability of land for agriculture.

Expanding and intensifying agricultural productivity on a large scale in order to increase food security could also adversely affect water resources and aquatic ecosystems, fisheries, and forests, reducing the resiliency of people and the environment to climate stresses and natural disasters. The Feed the Future guide recognizes the need to “integrate environmental and climate change concerns into our investments and support and build the capacity of partner countries to take advantage of opportunities in effective resource management and proactive adaptation to climate change.” This should include assessing potential climate risks that could undermine the performance and sustainability of a proposed investment and incorporating measures into the project to reduce the vulnerability of the project to these risks. As noted in Section II.A, impacts will have the greatest effect on investments and policy decisions with a lifetime of 20 years or more. For shorter time frames, programs and projects generally need to be aware of and resilient to current climate variability rather than long-range climate change impacts. In both respects, it is important to consider sustainable food systems in relation to the global trends of both climate change and urbanization, particularly in Asia and Africa.

## **GLOBAL HEALTH**

Climate change and variability can impact programs within USAID’s Global Health Initiative technical areas, including maternal and child health, malaria, neglected tropical diseases, nutrition, and water supply and sanitation. More broadly, climate change can also have profound adverse impacts on health systems and gender inequality, important cross-cutting issues for USAID Global Health programs. While some of USAID’s health programs may be undermined in delivering on their objectives without factoring in climate, others offer opportunities to help people adapt to climate variability and change.

Climate change and variability can impact health programs both directly, through heat stress, changes in the hydrologic cycle that drive droughts and floods, increased ground-level ozone, and enhanced pollen production; and indirectly, through impacts on natural and human systems that curtail access to water and food, shift the movement of disease vectors, or interrupt health-care delivery. Changes in air quality associated with climate change can have significant health impacts, particularly for children and pregnant women. Climate change will increase the severity and frequency of droughts and floods; the subsequent displacement and clustering of people creates unhygienic conditions that are conducive to the spread of

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<sup>10</sup> IPCC Fourth Assessment Report

<sup>11</sup> IPCC Fourth Assessment Report

cholera and other water-borne diseases. The urban poor, who predominately live in high-risk areas like floodplains, are particularly susceptible to diarrheal disease due to poor sanitary conditions and episodic flooding; climate change will exacerbate these problems. More frequent or more severe extreme weather events may also result in more event-related deaths, injuries, and infectious diseases. Changing temperatures alter the geographic range and seasonality of infectious vector-borne diseases like malaria, yellow fever, and dengue fever. Along with changing agricultural conditions, diet and nutritional status may be impacted; however, the impacts could be positive, negative, or neutral, depending on local conditions.

USAID will need to ensure that it takes climate change impacts into account in the design and implementation of health programs in these areas, in order to anticipate emerging risks, target efforts, ensure the sustainability of programs, and maximize the effectiveness of Agency investments.

## **MALARIA**

- *USAID FY10 investment<sup>12</sup>: \$500 million*
- *USAID FY11 investment<sup>13</sup>: \$578 million*
- *USAID FY12 investment<sup>14</sup>: \$603 million*

Rising temperatures will shift and expand disease transmission zones, alter seasonality, and increase the activity of vectors that transmit diseases like malaria, dengue fever, and yellow fever. In some cases, rising temperatures lead to a decreased incubation period for the parasite, hastening the point at which the mosquito can transmit disease. Whether these changes will actually lead to a greater incidence of the disease will be complicated by factors including control measures, the availability of drugs, population changes, changes in forest cover, migration, and urbanization. USAID's existing malaria programs will need to assist their health partners to be prepared to anticipate changes and possibly respond in new geographic locations.

## **WATER, SANITATION, AND HYGIENE (WASH)**

- *USAID FY10 investment<sup>15</sup>: \$520.4 million*
- *USAID FY11 investment<sup>16</sup>: \$360.1 million*
- *USAID FY12 investment<sup>17</sup>: \$456.801 million*

USAID's WASH programs seek to increase access to drinking water supply or sanitation services, improve the quality of those services, and/or promote hygiene. Some of USAID's WASH programs offer opportunities to help people adapt to climate variability and change, while others may be undermined in delivering on their objectives without factoring in climate.

Climate variability and change place stress on water supply, sanitation, and hygiene systems that are often already under considerable stress from a variety of sources in developing countries. Climate-related stresses might include more intense severe weather events, less predictable rainfall and water flows, and increasing

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<sup>12</sup> "Fast Facts: The President's Malaria Initiative (PMI)", April 2012, [http://www.pmi.gov/resources/reports/pmi\\_fastfacts.pdf](http://www.pmi.gov/resources/reports/pmi_fastfacts.pdf)

<sup>13</sup> Staff Communication

<sup>14</sup> "Fast Facts: The President's Malaria Initiative (PMI)", April 2013, [http://www.pmi.gov/resources/reports/pmi\\_fastfacts.pdf](http://www.pmi.gov/resources/reports/pmi_fastfacts.pdf)

<sup>15</sup> "Safeguarding the World's Water: 2011 Report on USAID Fiscal Year 2010 Water Sector Activities", July 2011. [http://www.usaid.gov/our\\_work/cross-cutting\\_programs/water/WaterReport\\_2011.pdf](http://www.usaid.gov/our_work/cross-cutting_programs/water/WaterReport_2011.pdf)

<sup>16</sup> Staff communications

<sup>17</sup> Internal communication, USAID Water Office

evaporation rates. Combined with increased temperatures, these stresses could lead to an increase in water-borne diseases. In urban areas, increased flooding can have a particularly serious impact due to high density levels and lack of services, particularly in poorer neighborhoods.

Climate and weather impact water supply and sanitation services both directly and indirectly. Potential climate change impacts will vary based on local geography, climate and vulnerability to climate stresses. Table 3 lists some of the potential impacts on WASH-related objectives.

**Table 1. Potential Climate Change Impacts on WASH-Related Objectives**

Direct Climate Change Impacts	Indirect Climate Change Impacts
<p><b>Damage to infrastructure</b> due to extreme weather events, coastal inundation, or increasing flows due to melting snowpack and glaciers</p> <p><b>Contamination of water supplies</b> through saltwater intrusion or contaminated runoff resulting from high intensity rainfall events or saltwater intrusion due to sea level rise, land subsidence, and/or lowering of water tables</p> <p><b>Flooding</b> due to increasing rainfall over shorter periods of time</p> <p><b>Changing inputs to water storage</b> due to changes in volume and timing of rainfall, or surface and groundwater flows</p> <p><b>Increased evaporative losses</b> as temperature rises</p>	<p><b>Lost productivity</b> due to disruptions in piped water and sewerage services if infrastructure is damaged</p> <p><b>Spread of waterborne diseases</b> if treatment systems fail or flooding occurs</p> <p><b>Increasing competition for water</b> among sectors if supplies become more scarce and/or demand rises</p> <p><b>Unhygienic conditions</b> in the event of storms or flooding and due to decreased quantity of available water</p> <p><b>Higher operating costs and/or shorter lifetime</b> of water systems, potential for rising water prices</p> <p><b>Displacement of populations</b> if water resources shift or are impaired</p> <p><b>Increased travel distances to collect water</b> if supplies are no longer safe and productive</p> <p><b>Conflict</b> over scarce water resources</p>

Water and sanitation programming addresses many disease vectors and circumstances, including diarrheal diseases, cholera, dengue, and hepatitis. Almost a billion episodes of child diarrhea are treated with lifesaving oral rehydration therapy each year, reducing child deaths from diarrheal disease by more than 50 percent. Breastfeeding, improved water supplies and sanitation, zinc supplementation, and continued feeding of children with diarrhea are other integral components of USAID’s strategy to reduce diarrheal diseases and their effects. Integration of climate change information and early warning systems could improve targeting assistance and effectiveness.

## **INFRASTRUCTURE**

- *USAID FY10 investment<sup>18</sup>: \$1,073,873,676*
- *USAID FY11 investment<sup>19</sup>: \$690,006,767*
- *USAID FY12 investment<sup>20</sup>: \$1,334,660,078*

<sup>18</sup> “Where does USAID’s money go?” FY10

<sup>19</sup> “Where does USAID’s money go?” With data from USAID/M/CFO/FS as of September 30, 2011  
<http://www.usaid.gov/policy/budget/money/>

<sup>20</sup> “Where does USAID’s money go?” With data from USAID/M/CFO/FS as of September 30, 2012

Climate change can affect infrastructure of all types, including transportation systems, water and waste systems, buildings, and communication networks. Because infrastructure often has long lifetimes, it is especially vulnerable to climate changes. Climate change threatens infrastructure ranging from rural roads in floodplains to urban buildings on the coast. Climate-related damage to infrastructure can also have significant secondary impacts on other sectors. For example, education programs can be severely disrupted when schools are damaged, and trade and industry are negatively affected by damage to transport networks.

Urban areas are especially vulnerable to climate change impacts, including increased flooding, storm surges, high rainfall events (that cause landslides), and sea level rise. This vulnerability is critical, as urban areas are home to over half of the world's population and much of its economic activity. Because many cities have naturally developed in coastal zones and flood plains, urban areas are often highly exposed to these impacts. For example, low-lying coastal areas are on average more urbanized than the rest of the world. The vulnerability of cities is compounded by characteristics that increase the severity of climate change impacts. These factors include: concentrated populations, large informal settlements built without regard to official land-use controls and building standards, high concentrations of solid and liquid wastes, large areas of impermeable surfaces that accelerate runoff and disrupt natural drainage, and the potential for interaction between natural disasters and industrial disasters (such as cyclone damage to oil refineries leading to contamination of water supplies). Without specialized urban programming on climate change, developing country cities will be hard-pressed to cope with these unprecedented challenges. USAID has begun implementing urban climate change adaptation programs in recognition of this need, but these efforts are still on a limited scale.

Infrastructure projects conducted by USAID increasingly consider climate change impacts in their design and construction. However, this planning is typically carried out in an ad-hoc fashion at the project level, rather than being a consistent and routine practice across all Agency units that undertake construction activities (e.g., clinics, schools, roads, etc.). As noted in section III.B, USAID completed 9 fact sheets and an overview brief that highlight potential impacts of climate change on different infrastructure types; this resource was translated into Spanish in early 2014 for ease of use by USAID missions and implementing partners in Latin America and the Caribbean. In addition, the annual infrastructure course for USAID staff has integrated a half-day adaptation session.

## **DEMOCRACY, HUMAN RIGHTS AND GOVERNANCE (DRG)**

- *USAID FY10 investment<sup>21</sup>: \$1,639.8 million*
- *USAID FY11 investment<sup>22</sup>: \$1,746.1 million*
- *USAID FY12 investment<sup>23</sup>: \$2,138.8 million*
- *USAID FY13 investment<sup>24</sup>: \$ 1,185.6 million*

Climate variability and change will have significant impacts on a wide range of sectors, and these impacts could in turn affect USAID's democracy, human rights, governance, and conflict programming. Rising

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<sup>21</sup> Foreign Assistance Dashboard FY10

<sup>22</sup> Foreign Assistance Dashboard FY11

<sup>23</sup> Foreign Assistance Dashboard FY12

<sup>24</sup> Foreign Assistance Dashboard FY13

temperatures and increasing precipitation variability may reduce the availability and quality of fresh water or viability of agricultural crops, both of which are vital to public health and economic development. Flooding and other extreme climate events can disrupt transportation networks, or cause damage to housing, energy and sanitation infrastructure. Disruption in these sectors can result in severe resource scarcity, disease outbreaks, increases in internal and external migration, and a host of other social and political impacts that could affect existing and planned USAID DRG programming. In areas with high risk factors for conflict, climate change stresses can aggravate tensions and contribute to conflict. Governance systems, including courts, local governments, legislatures, and oversight and service delivery agencies, may be more strained in developing regions that are particularly sensitive to climate change.

As climate change progresses and developing nations' populations rapidly expand there will likely be an increasing need for democracy, human rights and governance programming that addresses these challenges. USAID is currently working with local and national governments in developing nations to create awareness of climate change risks in order to improve their capacity to respond and adapt to climate change impacts. Such actions may require an improved understanding of the role of democracy, human rights and good governance in policies that enable or impede climate-resilient development as well as efforts to address the human rights implications of climate change and improve governance frameworks to be more participatory, inclusive, and accountable.

## **DISASTER READINESS**

- *USAID FY10 investment<sup>25</sup>: \$62,298,134*
- *USAID FY11 investment<sup>26</sup>: \$106,263,764*
- *USAID FY12 investment<sup>27</sup>: \$157,449,576*

USAID already allocates significant resources to help vulnerable countries and communities prepare for extreme weather events such as droughts, floods, and hurricanes. In the development context, the extent of damages from these extreme events is a function of variables such as development pressures, poverty, and lack of adaptive capacity. Climate change threatens to exacerbate this situation, by increasing the severity of these events. The success of disaster readiness programming therefore will increasingly depend on consideration of climate change impacts in risk assessment, planning, and implementation.

Climate change may necessitate new protective measures for coastal homes and infrastructure; updated zoning codes; expanded early warning systems; new livelihood alternatives; and in some cases even mass evacuations or permanent migration. It will become even more important for policymakers and public officials, farmers, businesses, service providers, vulnerable households, and other stakeholders to be able to access forecasts and information about how they can prepare for and cope with extreme events.

Adaptation efforts can be highly cost-effective: A study presented at a United Nations Framework Convention on Climate Change (UNFCCC) workshop found a positive benefit-to-cost-ratio of 7:1 for improved weather information availability for farmers. USAID has estimated that disaster risk reduction

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<sup>25</sup> "Where does USAID's money go?" FY10

<sup>26</sup> "Where does USAID's money go?" With data from USAID/M/CFO/FS as of September 30, 2011  
<http://www.usaid.gov/policy/budget/money/>

<sup>27</sup> "Where does USAID's money go?" With data from USAID/M/CFO/FS as of September 30, 2012

efforts have a similar 7:1 benefit-to-cost-ratio, and the Department of Energy's weatherization program estimated a 7:1 benefit-to-cost-ratio for improved insulation and building-shell maintenance.

## **CHALLENGES TO ADAPTATION**

While the specific challenges that populations, countries, and regions face in reducing vulnerability are dependent on the local context, some overarching themes emerge; the most prominent common challenges relate to a lack of data, evidence base, and capacity.

- *Lack of data.* A lack of localized climate data and climate projections that are relevant and appropriate to decision-making results in a gap in understanding climate impacts and vulnerabilities, thus making it difficult for place-based response strategies to be developed. More location-specific data, particularly related to the timing and frequency of precipitation extremes, is required to inform USAID's investments in climate-smart agriculture, infrastructure, and risk reduction activities related to disaster preparedness. Continued scientific research, monitoring, and technical capacity may help address this challenge, along with attention to data access and management over time. USAID is supporting the Climate Services Partnership, SERVIR, and FEWS-NET to help generate actionable information and build capacity.
- *Lack of an evidence base.* Substantial knowledge on the effectiveness of adopting or scaling some adaptation options may not exist for some partners or USAID missions. Such knowledge gaps may include knowing what activities do and do not work in certain areas, how to scale these activities, and how to develop new adaptation methods for areas where appropriate ones do not exist. USAID is working to improve methods for monitoring and evaluating climate change adaptation so that we can assess the success, scalability, and replicability of direct climate change programming and integration activities.
- *Lack of capacity.* USAID partner countries require greater capacity to understand and address climate change risks and opportunities. Vulnerability assessments and adaptation strategy development and implementation require scientific, technical, planning, financial, and coordination capacity, which many countries lack. Furthermore, many countries must direct time and resources into dealing with more immediate development challenges and defer considering adaptation actions. This challenge can begin to be addressed through increased capacity building for government officials and civil society to mainstream climate change into sectoral plans and incorporate it into the mandate and capabilities of relevant national and local authorities. Education can also play an important role in climate change adaptation and developing behaviors that reorient society toward enhancing resilience and sustainable practices.
- *Unclear or weak tenure governance and property rights.* How rights over land and other resources are allocated and managed can significantly affect the success of adaptation measures. Zoning, land use planning, building codes, relocation from high-risk areas, and other adaptation measures all affect or are affected by tenure governance and the status of property rights. Vulnerability assessments and adaptation planning will need to consider the relevance of these issues, particularly as they relate to those most vulnerable.

## **USAID OPERATIONS VULNERABILITY ASSESSMENT**

USAID depends on smooth operations, dependable infrastructure, and a safe and healthy workforce to achieve the agency’s purpose, goals, and objectives and to successfully implement its development programs and projects. Changes in climate may jeopardize the continuity and effectiveness of some USAID operations and assets. Climate change impacts could also have financial implications, by increasing the cost of operating, maintaining, and replacing assets and infrastructure.

This section serves as an initial, high-level assessment of the vulnerability of USAID operations, infrastructure, and human resources to projected climate change. To conduct this high-level assessment of vulnerability, four operational areas were considered. These areas focus on operational factors most important to USAID, and incorporate the 13 areas identified in the CEQ guidance. The four areas are:

- **Assets**—Buildings, equipment, facilities, and vehicles owned by USAID or upon which USAID operations depend. This includes assets that are both rented and owned; both independently operated and co-located with the Department of State; and both domestic and overseas.
- **Infrastructure and Support Systems**—Including information and communications technology, transportation, and utilities.
- **Health and Safety**—Including workforce welfare.
- **Security**—Including potential implications of climate change on civil unrest and evacuation needs.

## **ASSETS**

USAID operates from more than 100 offices, including 97 missions located around the world, seven leased offices in Washington, DC, and a training center in Arlington, Virginia. Few facilities are directly owned by USAID; approximately 85 percent of USAID offices are leased or co-located on U.S. Department of State (DoS) property. For example, 75 of the 97 missions are co-located with a U.S. Embassy or Department of State facility. Globally, USAID owns a total of 13 offices, warehouses, and facilities. In addition, USAID invests in new facilities using the Capital Investment Fund. USAID also relies on rented residential properties, particularly for employees located overseas.

Changes in climate will require buildings and other assets to operate over a different range of weather and climatic conditions; these changes may push the boundaries of the design standards of some facilities. USAID should consider this changing stress when signing long-term leases, particularly in older buildings. Changes in temperature, precipitation, sea level, storm surge, and extreme events will also affect facility infrastructure and operations. For example, more frequent or more severe extreme events may increase deterioration or damage to building exteriors, office interiors, or equipment and vehicles, and reduce the lifetime for facilities and assets. High temperatures and heat waves may raise internal cooling demands or building temperatures. More humid weather may affect buildings in warm weather climates through increased mold, fungi, or insect infestations. Increased precipitation (both in terms of average rainfall and the number of intense rainfall events) may lead to greater risk of flooding. Table 2 provides several examples of potential climate change impacts to USAID assets.

These impacts can have serious implications for infrastructure, operations, and services, such as loss of building value, higher repair and maintenance costs, increased safety concerns, elimination or interruption of services, or compromised worker well-being.

**Table 2. Examples of Potential Climate Change Impacts on USAID Assets**

Stressors	Primary Impacts
<b>Temperature Change</b>	Premature deterioration of building materials due to thermal stress, biochemical activity, freeze-thaw, etc. Changes in the dimension or shape of building materials and equipment from cracking and fissuring Insect infestations, e.g., termites, impacting building structures
<b>Precipitation Change</b>	Increased precipitation may result in: <ul style="list-style-type: none"> <li>• Seepage and flooding in building interiors</li> <li>• Destruction of building due to landslides</li> <li>• Physical changes to building materials and finishes and increased prevalence of molds and fungi</li> <li>• Corrosion of metals</li> <li>• Sewage overflow</li> </ul> Decreased precipitation may result in: <ul style="list-style-type: none"> <li>• Increased soil cracking and subsidence in areas with clay soils and reduced soil moisture</li> <li>• Inadequately functioning and/or stressed water and waste systems caused by inadequate water supplies</li> </ul>
<b>Sea Level Rise &amp; Storm Surge</b>	Closure and/or diminished access to buildings in low-lying coastal areas due to permanent inundation or temporary flooding Waste containment problems
<b>Extreme Events</b>	Reduced durability of exterior surfaces due to erosion and weathering Accelerated deterioration of building shell due to increase in dust, particular matter, and smoke

## INFRASTRUCTURE AND SUPPORT SYSTEMS

USAID’s operations depend on a variety of infrastructure and support systems. These include information and communications technology, transportation infrastructure, and utilities.

### INFORMATION AND COMMUNICATIONS TECHNOLOGY

Information and communications technology (ICT) includes information technology systems, infrastructure, and architecture. Key USAID ICT systems include USAID’s knowledge management system; small, automated information management systems; the Foreign Assistance Coordination and Tracking System (joint system with the Department of State); the Global Acquisition and Assistance System; worldwide telecommunications operations; and centralized network, server, and security platforms in DC and overseas. These systems are fundamental for coordination of USAID activity, including external coordination; for communications with missions and partner countries; and for transferring funding for program activities. Without reliable ICT, communications and coordination could break down and missions, programs, and partner countries could lose access to funding.

ICT is vulnerable to a variety of climate change impacts. Below-ground infrastructure could be affected by flooding, sea level rise, subsidence caused by changes in precipitation, and damage to surface infrastructure (such as roads). Above-ground infrastructure could be affected by changes in precipitation, extreme wind, and ground instability. Wireless-, radio-, or satellite-based services could be affected by increasing temperatures and precipitation. Table 3 provides additional examples of climate stressor impacts on ICT. These impacts could degrade infrastructure; disrupt service; reduce service availability and quality; and change operating, maintenance, and customer support costs.

**Table 3. Examples of Potential Climate Change Impacts on ICT Infrastructure and Services<sup>28</sup>**

Stressors	Transmissions Infrastructure	Wireless Signals	Buildings and Equipment
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<sup>28</sup> Table is largely based on Table 4.1 of AEA, 2010. Adapting the ICT Sector to the Impacts of Climate Change: Final Report. [\\_http://archive.defra.gov.uk/environment/climate/documents/infrastructure-aea-full.pdf](http://archive.defra.gov.uk/environment/climate/documents/infrastructure-aea-full.pdf)



<b>Temperature Change</b>	Sinking and tilting of telecommunications towers due to unstable soil	Decreased range of wireless signal transmission, resulting in the location / density of wireless masts becoming sub-optimal	Overheating of data centers, exchanges, base stations, etc.
<b>Precipitation Change</b>	Flooding of low-lying / underground infrastructure and access-holes, particularly in coastal areas, flood plains, and cities  Exposed cables / trunk routes due to erosion or damage of transportation infrastructure	Reduced quality and strength of wireless service due to increased rainfall	Changes in requirements to maintain internal environments of system devices due to changes in humidity
<b>Sea Level Rise / Storm Surge</b>	Increased flooding and saline corrosion of infrastructure in low-lying/coastal areas	Changes in reference datum for telecommunication and satellite transmission calculations	Closure or reduced access to low-lying coastal buildings due to permanent or temporary flooding
<b>Changes in Extreme Storms and Wind</b>	Fallen cell towers, telephone poles from extreme wind or fallen trees  Increased damage to above-ground infrastructure	<i>Minimal impact</i>	<i>Minimal impact</i>

## **TRANSPORTATION**

USAID relies heavily on transportation systems to facilitate international travel that is critical for operations. In FY2013, USAID employees took 19,208 Washington-oriented business trip segments. USAID travel includes operational travel to development sites, to host countries, for training, and in response to disasters, as well as mandatory travel to post assignments, for home leave, for rest and recuperation, and for shipment of equipment. To facilitate this movement of people and goods, USAID relies on air transportation; ground transportation, including roads and rail; and shipping. As with communications, disruptions in transportation and travel could have significant implications for external coordination and program implementation.

Some aspects of the transportation systems upon which USAID relies are vulnerable to climate changes, including changes in temperature, precipitation, sea level rise, and extreme weather events. Many climate-related impacts are already seen today and could increase in frequency or severity due to climate change. Increases in extreme weather can ground flights, damage infrastructure, and increase hazards due to debris. Extreme temperatures can expand and buckle railway tracks and bridge joints, as well as overheat electrical systems. Flooding can wash out culverts and track supports; disrupt travel on roads, rail, and runways; and increase soil erosion and silt deposition. In the longer-term, sea level rise can permanently inundate coastal transportation networks, rendering roads, airports, and ports unusable. Table 4 provides examples of potential climate change impacts on transportation infrastructure. These impacts are likely to cause interruptions in transportation services, which USAID relies on and may ultimately affect the ability for USAID operations to function reliably.

**Table 4. Examples of Potential Climate Change Impacts on Transportation Infrastructure**

<b>Stressors</b>	<b>Roads</b>	<b>Railways</b>	<b>Ports</b>	<b>Airports</b>
<b>Temperature Change</b>	More rapid road asphalt deterioration Increased maintenance	Expansion and buckling of railway tracks, joints	Thermal expansion of bridge joints, paved surfaces	Asphalt deterioration on runways Length of runways

	and construction costs due to thawing permafrost	Overheating of rail electrical systems and communications equipment	Higher land-side electricity consumption to meet increased refrigeration needs	inadequate due to decreasing air density
<b>Precipitation Change</b>	Increased flooding of roadways Increased soil erosion and washout of road- and tunnel-supporting culverts during flash floods	Increased flooding on tracks and stations Washout of track supports (ballast)	Changes in scour rates in response to increased peak stream flow Channel closures due to increased silt deposition	Travel disruptions due to runway flooding Damage to airport infrastructure due to inundation
<b>Sea Level Rise</b>	Erosion of road base	Flooding of underground pathways and tunnels	Diminished access due to rising sea levels	Erosion of coastal airport runways
	Permanent inundation of road, rail, port, and airport infrastructure			
<b>Storm Surge</b>	Temporary flooding of and diminished access to roadways, rails, ports, and airport facilities Closure of facilities due to debris (e.g., cranes) and damage to infrastructure (e.g., clogging of drainage systems)			
<b>Extreme Wind</b>	Damage to road-side signage and lighting Road closures and increased safety hazards due to debris	Service disruption due to damage and debris Damage to railway stations	Damage to port structures Disruption of operations due to extreme wind	Disruption to air travel and freight services due to flight grounding Damage to aircraft service equipment, hangars, etc.

## **UTILITIES**

USAID relies on energy, water, and sewage utilities to maintain day-to-day operations. In the large majority of missions consolidated with the U.S. Department of State, these functions are managed by the State Department.

Climate changes could result in less reliable and more expensive utility services. Impacts on supply systems could increase energy prices. Increasing temperatures may cause additional cooling requirements resulting in further increased energy costs. Increased demand and extreme weather events could increase the frequency, severity, and reach of energy blackouts. Increased temperatures, extreme flooding, and drought could all degrade water quality and availability. In areas with no increase in precipitation, increased temperatures would also increase evaporation in reservoirs and potable water supplies. Elevated evapotranspiration rates would further diminishing surface and ground water supplies, and, therefore, overall availability of water for human consumption. Water purification systems may be stressed by the degraded water quality experienced from storm surge, sea level rise, and flooding. The same is true of sewage systems, which are subject to overflow. Table 5 presents a sample of potential climate change impacts on utilities that support USAID operations and programs. It is likely that these impacts will cause disruptions in utility services or result in higher utility service costs, ultimately affecting USAID's operations.

**Table 5. Potential Climate Change Impacts on Utilities**

<b>Stressors</b>	<b>Energy</b>	<b>Sanitation</b>	<b>Solid Waste Management</b>
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Stressors	Energy	Sanitation	Solid Waste Management
<b>Temperature Change</b>	Increased capital costs for building new generation, transmission, and distribution infrastructure to support greater demand Changes in hydropower (e.g., changes in snowpack melt) and biomass potential	Lower water quality from increased algal blooms, pathogens, and lower dissolved oxygen	Increased odor and pest activity requiring more frequent waste collection Overheating of collection vehicles and sorting equipment Increased risk of fire at disposal sites
<b>Precipitation Change</b>	Disruptions in fuel transportation through damage to infrastructure (e.g., flooding, pipeline damage)	Inundation of outfall causing discharge to back-up Damage to collection systems and treatment facilities by flooding	Flooding of collection routes and landfill access roads, making them inaccessible Increased need for enclosed or covered sorting facilities
<b>Sea Level Rise &amp; Storm Surge</b>	Permanent and/or temporary inundation of extraction infrastructure, refineries, power plants, renewable energy systems, and transmission and distribution lines, resulting in disruptions to energy services	Inundation of low lying sanitation facilities and systems requiring relocations Rising water tables decreasing effectiveness of latrines, septic systems, and leach field systems	Permanent and or/ temporary inundation of collection, processing, and disposal infrastructure Deterioration of impermeable lining
<b>Extreme Events</b>	Disruption of operations (e.g., temporary shutdown) Change in capacity for solar and wind power Damage to power lines	Prolonged drought leads to lower flows in receiving streams, reducing the capacity of water resources to absorb and dilute pollution, impacting treatment performance	Extreme wind leads to dispersal of waste from collection sites, collection vehicles, processing sites, and landfills

## HEALTH AND SAFETY

The USAID workforce, including contractors, is fundamental to the successful operation of USAID programs. As of March 2013, USAID had 9,631 employees; about 70% of these employees are stationed overseas.<sup>29</sup> USAID must ensure the health, safety, and well-being of their employees and contractors located both in the United States and overseas.

Climate changes may threaten worker well-being in numerous ways. Flooding and extreme weather events currently affect commutes, decreasing safety and reducing the ability of people to get to the office; severe weather events can be life-threatening. Changing patterns of severe weather due to climate change are therefore likely to have impacts on worker well-being as well as on their ability to fulfill work assignments. In addition, changing patterns of disease could compromise the health of workers in some locations, particularly in locations with poor health services. For example, more USAID staff living overseas may be exposed to malaria and need to use anti-malarial drugs. Increasing temperatures could require additional energy to increase air conditioning and might contribute to heat stress on the job (i.e., if increasing energy demands result in energy outages). Worsening conditions in overseas locations could require USAID to increase the number or dollar amount of “difficult-to-staff incentives.” Table 6 lists a number of the impacts climate change may have on the health and safety of USAID workers.

<sup>29</sup> Data from USAID Management Bureau

**Table 6. Examples of Potential Climate Change Impacts on Health and Safety of USAID Workers**

Stressors	Examples of Impacts on Health and Safety of USAID Staff
<b>Temperature Change</b>	Heat stress/ stroke or hyperthermia Respiratory diseases due to changes in ground-level ozone, particulate matter (PM), and allergens Increased risk of diseases due to changes in the ranges and activity of vectors and parasites
<b>Precipitation Change</b>	Reduced water availability Flooding contaminates water and food supplies with pathogens Increased risk of diseases due to changes in the ranges and activity of vectors and parasites
<b>Extreme Events</b>	Increased injuries from flying debris during storms with high winds Reduced water and food availability Interruption of communication, utility, and health care services

## SECURITY

Finally, climate change could aggravate the conditions for unrest in USAID’s partner countries, jeopardizing the continuity and effectiveness of some USAID operations and assets. Climate change could further reduce or alter the distribution of already limited resources like food and water, or force temporary or permanent migration of communities. These situations can exacerbate existing inequalities, fostering unsafe situations if government services are disrupted in the event of disaster, particularly for marginalized populations. Such unrest could require USAID to implement additional security measures and contingency planning, including for USAID facilities and workers.

## C. AGENCY ADAPTATION-RELATED ACTIONS PROPOSED IN 2012 AND 2013

USAID has been investing in actions that help the Agency better understand climate change risks and opportunities and reduce vulnerabilities since 1991. For example, USAID created a position of Climate Change Coordinator in 2011. Agency activities to date have largely focused on adaptation actions within programming, though attention is beginning to be directed toward adaptation actions within USAID operations. This section presents examples of activities underway at USAID headquarters and Missions.

USAID has laid out a series of actions it will undertake to establish a process of adaptation planning, implementation, and evaluation in order to better understand and address climate change risks and opportunities for USAID’s mission, programs, and operations. While this section presents these actions in an organization consistent with the *USAID Climate Change and Development Strategy*, it comprehensively includes the information outlined in the following CEQ suggested Adaptation Plan Elements: 3. *Process of agency adaptation planning and evaluation*; 4. *Programmatic activities*; 5. *Actions to better understand climate change risks and opportunities*; and 6. *Actions to address climate change risks and opportunities*.

As previously mentioned, USAID’s ability to achieve its mission (i.e., purpose, goals, and objectives) relies significantly on the success of its programs and projects, as well as the stability of its operations. Therefore, many of the actions identified in this section focus on understanding and addressing programmatic and operational climate change risks and opportunities to ensure successful achievement of USAID’s mission. Finally, USAID expects that the actions described below will adjust and evolve over time in response to changes in need, context, interests, etc. and are therefore not static in nature.

This section is organized, like others in USAID's Adaptation Plan, by adaptation actions related to USAID's mission, programs, and operations. The actions are further disaggregated by time periods: fiscal year 2014 (FY14), and fiscal years 2015 thru 2016 (FY15 – FY16).

To complement the brief summary of each action provided in the text below, *2013 USAID Planned Adaptation Actions Summary Tables* provides more detailed information about each action, such as the agency lead, scale, timeframe, coordination, and challenges.

## OVERARCHING ADAPTATION-RELATED ACTIONS SUPPORTING USAID'S MISSION

Most of the actions identified in this Plan are focused on programs and operations, which directly support the achievement of USAID's mission. This section presents some of the overarching actions needed to guide and enable Agency adaptation planning, implementation, and evaluation in FY14 and beyond.

**USAID Climate Change Adaptation Plan.** The first and second Agency Adaptation Plans are now publically available through USAID's Development Experience Clearinghouse website. The Plan will be disseminated to actors integral to implementation, and updated in accordance with Executive Order 13653.

**Priority Adaptation Country Funding.** The Global Climate Change Initiative has identified priority countries where USAID bureaus and Missions program direct adaptation funding to help the host country address climate change vulnerabilities. Under this designation, the annual adaptation funding request for each priority country during fiscal years 2011, 2012, and 2013 ranged from \$2 million to \$5 million, and was higher for some island regions. The priority adaptation countries were identified according to criteria related to exposure, sensitivity, and capacity and willingness to respond to climate change. In addition, the selection focused on least developed countries, small island developing states, and glacier-dependent countries. The countries included Bangladesh, Barbados and the Eastern Caribbean, Cambodia, Colombia, Dominican Republic, Ethiopia, Guatemala, India, Indonesia, Jamaica, Kenya, Malawi, Maldives, Mali, Mozambique, Nepal, Peru, Philippines, Rwanda, Senegal, Tanzania, Timor-Leste, Uganda, and Vietnam, and the priority regional platforms were East Africa, Southern Africa, West Africa, Regional Development Mission Asia, and Regional Development Mission – Pacific. Each of these countries or regions is using this direct adaptation funding to implement programs to reduce the specific vulnerabilities in country. For example, in Ethiopia, funding is being used for adaptation initiatives related to disaster risk management, agriculture, and ecosystem conservation. The USAID adaptation activities in Ethiopia aim to develop early-warning systems related to drought, prevent overexploitation of water resources, and build capacity to adapt food production systems to changing climate conditions.

**Climate Change and Development Strategy 2012-2016.** In January 2012, USAID released the *2012-2016 Climate Change and Development Strategy*, which describes USAID's goal of enabling countries to transition to climate-resilient low emission sustainable economic development. The *USAID Climate Change and Development Strategy*, as part of the broader Presidential Global Climate Change Initiative, describes several strategic objectives (see page 7 of this Plan) and associated immediate results to accomplish this goal. The Agency is currently drafting Implementation guidance for this Strategy, which will be completed by FY14.

The *USAID Climate Change and Development Strategy* also provides a roadmap for implementation, informed by the following guiding principles:

- **Invest in policy reforms** and seek systemic change where possible by supporting capacity for analysis, planning and implementation.
- **Engage at multiple levels of government.**
- **Strengthen civil society and engage the full range of stakeholders**, including women, indigenous peoples and other vulnerable and marginalized populations;
- **Respond to partner country priorities, needs, and capabilities**, in accordance with the principle of country-led development;
- **Leverage private sector investments to the maximum extent possible;**
- **Partner and coordinate with other donors** to reduce burdens on partner countries, support country-led processes, and create an effective donor division of labor;
- **Make choices to minimize climate impacts while maximizing development benefits;**
- **Promote conflict-sensitive programming**, including by addressing problems of government ineffectiveness and illegitimacy, increasing social cohesion, and encouraging participation, accountability and transparency;
- **Utilize gender-sensitive approaches across climate programming and engage youth;** and
- **Value ecosystem services** and their role in mitigating the impacts of climate change.

The roadmap highlights the most critical steps needed for integrating climate change into the Agency’s mission, programs, and operations.

**Resilience Policy and Guidance.** USAID’s “*Building Resilience to Recurring Crisis: USAID Policy and Program Guidance*,” published in 2012, aims to inform efforts to reduce chronic vulnerability and promote more inclusive growth in areas of recurrent crisis. In regions where this policy and program guidance is applied, objectives are to 1) increase adaptive capacity; 2) improve the ability to address and reduce risk; and 3) improve the social and economic conditions of vulnerable populations. Over the long term, we envision that these results will collectively contribute to reduced humanitarian need, and metrics will be developed to capture these results. USAID has already increased efforts to address the impact of climate change and climate variability on development programs, in recognition of repeated crises in places like the Horn of Africa and the Sahel. With this new policy and guidance, USAID is focusing on leveraging short-term humanitarian assistance and longer term development assistance to build resilience so that these vulnerable communities in the Horn, Sahel, and elsewhere can build back better and endure stresses.

The process of Agency adaptation planning, implementation, and evaluation will continue to be led by the Agency GCC Coordinator who will work closely with technical experts and Agency leadership across functional and regional bureaus and Missions to implement USAID’s Adaptation Plan. In accordance with the *USAID Climate Change and Development Strategy* roadmap, the Coordinator will lead a process to more formally identify roles and responsibilities as well as a governance structure within the Agency for implementation of the Plan. The process will be flexible and adaptable to ensure that changes can be made to implementation as needed.

The actions listed in the following two sections, Adaptation-Related Actions Supporting USAID’s Programs and **ADAPTATION-RELATED ACTIONS SUPPORTING USAID’S OPERATIONS**, explain the processes that will be used to: explore and identify climate vulnerabilities; identify and prioritize

actions to better understand or address risks and opportunities; and monitor or evaluate the implementation of successful climate change adaptation actions.

## **USAID HEADQUARTERS' PAST, CURRENT AND PLANNED ADAPTATION-RELATED ACTIONS SUPPORTING USAID PROGRAMMING**

USAID headquarters is committed to working on reducing the vulnerabilities of its programs to climate change. Overarching actions include release of the *USAID Climate Change and Development Strategy* and the policy and guidance on *Building Resilience to Recurring Crisis*, which are described above.

This section provides an illustrative list of actions undertaken or planned at USAID headquarters, organized by six overarching objectives that are consistent with the roadmap outlined in the *USAID Climate Change and Development Strategy* and include *Guidance and Training*, *Pilot Activities*, *Research and Information*, *Evaluation and Learning*, *Partnerships*, and *Inreach and Outreach*. These actions represent only a fraction of USAID's current and past adaptation-related activities.

### **GUIDANCE AND TRAINING**

USAID understands that climate change must be taken into account throughout the programming cycle to ensure that programs and projects are resilient to the impacts of climate change. To facilitate successful integration of climate change considerations, USAID is developing guidance documents and trainings focused on areas where climate change should be integrated into program elements. These guidance documents and trainings are helping to educate and guide USAID staff in understanding climate change impacts, key vulnerabilities, and actions to address climate change risks and opportunities.

**Implementation guidance for Climate Change and Development Strategy.** The Strategy, released in January 2012, recognizes that consideration of climate change in strategic planning, program design, and project implementation across a range of development sectors is essential to the success of USAID's mission and purpose. The Strategy Implementation Guidance will be comprised of a set of several different guides and annexes targeted at different issues, like conducting vulnerability assessments, which may be useful for practitioners as well as USAID staff. The Implementation Guidance also includes a series of internal How-To Notes, which will explain the requirements associated with direct adaptation funding under the Global Climate Change Initiative, and help USAID staff understand how to design climate-resilient programs in line with the *USAID Climate Change and Development Strategy*. Drafts are undergoing internal reviews and editing, and are targeted for completion in FY14 or early FY15.

**Country Development Cooperation Strategy Supplemental Guidance.** In September 2011, USAID issued final guidance for developing Country Development Cooperation Strategies (CDCSs). A CDCS is a five-year strategy that focuses on USAID-implemented assistance—and related USG non-assistance tools—that is developed collaboratively with a range of stakeholders in a given partner country. These stakeholders include the USAID Mission, the host country government and citizens, civil society organizations, the private sector, multilateral organizations, other donors, the State Department, and other USG agencies. Subsequently, in January 2012, USAID issued the CDCS Supplemental Guidance for Integrating Global Climate Change. All Missions are required to fully consider climate change—both climate change mitigation and adaptation—during the country-level strategic planning process. The Supplemental Guidance provides guidance to USAID Operating Units on how to approach this integration and is immediately mandatory for all Missions launching the CDCS process.

More specifically, the Supplemental Guidance helps all operating units consider how climate change should be integrated by requiring them to address four questions in their CDCS related to climate change impacts on the specific country, citizens, government, and USAID strategies and operations. The document also provides Missions with 10 Guiding Principles for climate change analyses and strategic program planning. Lastly, the guidance document poses additional required questions for Missions receiving Global Climate Change Initiative funding, including funding for adaptation programs. As of March 2014, USAID's Global Climate Change Office has provided in-person, virtual support or feedback to 43 missions on integrating climate change into their CDCSs.

**New Adaptation Mainstreaming Framework.** USAID published “*Adapting to Climate Variability and Change: A Guidance Manual for Development Planning*” in 2007, and the companion document “*Adapting to Coastal Climate Change: A Guidebook for Development Planners*” in 2009. In FY14, USAID completed a new framework document focused on mainstreaming climate concerns into development and sector planning of USAID Bureaus and Missions’ programs and projects. The updated Adaptation document “*Climate Resilient Development: A Guide to Understanding and Addressing Climate Change*”, was released in April 2014.

**Sectoral Adaptation Guidance.** USAID is developing sector-specific adaptation guidance in the form of Climate Annexes that support the new mainstreaming framework. In FY12, USAID finalized 9 infrastructure fact sheets and an overview brief; these raise awareness about the potential impacts of climate change on infrastructure (e.g., transport, buildings, sanitation systems, solid waste management, and information and communication technology) and the range of adaptation options available to address them. A Water Annex, a Coastal and Marine Annex, and a Vulnerability Assessment Annex will be published in late 2014. An annex on “*Governing for Resilience: A Guide to Climate-Adaptive Development Decisions*,” is also being drafted. These guidance Annexes are oriented to a broad audience, including USAID staff and decision makers and practitioners in developing countries.

**Climate Change Training.** To enhance USAID’s capacity to meet the climate change related objectives laid out in the Agency’s Climate Change and Development Strategy, USAID has developed for its staff an online introductory course to global climate change (GCC-101) as well as more in-depth classroom courses on integrating climate considerations into USAID’s work, mitigation (clean energy and REDD+), and adaptation. In fiscal year 2011, 62 staff members attended adaptation trainings in Bangkok, Thailand and Washington, DC. During the same time period, 171 people completed the online GCC-101 course. In fiscal year 2012, 84 attendees participated in adaptation training courses offered in Jakarta, Indonesia, and Washington, DC, and 118 people took the online GCC-101 course. In fiscal year 2013, 151 people attended adaptation trainings in Indonesia, Ghana, Jamaica, El Salvador, and Washington, DC; 67 people took the online GCC-101 course; and 26 attended a Climate Smart Food Security course. In fiscal year 2014 to date, 51 people have attended adaptation training in Peru and Washington, DC, and 70 people have taken the online GCC-101 course. Climate Smart Food Security will be offered again in FY14, with at least 25 participants. The training courses ensure that relevant USAID staff and implementing partners have the opportunity to gain the knowledge and skills needed to understand how climate change could affect their work, how to respond to it, and how to effectively program direct climate change funding.

USAID is also developing additional online courses and webinars on topics such as the intersection of climate change and health.



## FY15-FY16

- Conduct Climate Change Adaptation Training. Train at least 60 additional USAID staff on climate change adaptation and/or integrating climate change considerations into programming in climate-sensitive sectors each year.

## PILOT ACTIVITIES

Pilots allow for leadership to emerge, new approaches to be tested, and best practices, lessons, and tools to be generated. Therefore, USAID seeks to capitalize on pilot activities focused on climate change adaptation integration. The results of adaptation-focused pilot activities will help to inform the priorities of USAID's *Climate Change and Development Strategy* beyond 2016.

**Integration Pilots.** USAID is supporting a series of climate change integration pilot activities to deepen USAID's experience with integration of climate into other development sectors. Seven USAID missions received integration pilot awards in FY12, and an additional three missions receiving integration pilot awards in FY13. Pilot activities focus on integrating climate change adaptation into USAID development programs in areas like food security, water, health, and democracy, human rights, and governance. The pilots are in different stages of procurement and implementation. For example, USAID/Dominican Republic's integration pilot project was awarded in the first round, and publically launched in February 2013; the project is developing insurance and other complementary risk management tools for Dominican farmer groups to enhance economic opportunities and protect their assets and livelihoods from climate shocks. Additionally, USAID/Ethiopia's Peace Centers for Climate and Society Resiliency project is working to increase the pastoralist Borana communities' economic and social resilience to climate change, focusing on strengthening community governance structures and local peace centers and improving and sharing best practices for resolving natural-resource scarcity conflicts.

## RESEARCH AND INFORMATION

While USAID understands it is imperative that Agency investments in climate change be evidence-based, data gaps may exist due to the relative newness of adaptation programming. Research, exploration and evaluation are required in many instances to more thoroughly understand the problems associated with climate change, and to identify effective ways of addressing them. USAID is working within the Agency and with other USG partners, other donors and civil society partners to understand the needs for applied research on climate change and development and further the state of knowledge. The following actions seek to fill to a number of identified information and/or data gaps.

**Famine Early Warning Systems Network.** The USAID-funded Famine Early Warning Systems Network (FEWS NET) provides early warning and vulnerability information on food security issues; monitors agriculture, climate, and market data; and helps decision-makers mitigate food insecurity. FEWS NET reduces the risk of food insecurity in part by refining and applying climate data. It is an example of effective scientific analysis of food security and climate change. FEWS Net has been operating since 1985 and its USG implementing partners include USGS, NASA, NOAA, and USDA.

**SERVIR.** SERVIR, the Regional Visualization and Monitoring System, builds capacity of regional institutions and decision-makers in developing countries to access and utilize remote sensing, earth

observation, and in-situ monitoring data, as well as analysis and visualization tools to help inform decision-making on issues including agriculture, water, health, forest management, and disaster response. Regional SERVIR hub institutions include CATHALAC in Central America, the Center for Mapping Resources for Development (RCMRD) in East Africa, and the International Center for Integrated Mountain Development (ICIMOD) in the Himalaya region. These partners work with international and local scientists to collect and process information and apply it to decision support applications to reduce vulnerability, respond to disasters, understand greenhouse gas emissions from land uses and manage landscapes. Currently, the SERVIR network serves USAID's priority adaptation countries in Central America, East and South Africa as well as in the Himalayan region. Expansion to the Lower Mekong region is scheduled to occur in the summer of 2014 and efforts are underway to extend the network to West Africa. SERVIR began operation in 2004 and is primarily supported by USAID and NASA.

**Climate Services Partnership.** The Climate Services Partnership seeks to improve understanding and application of climate services among decision makers and practitioners in developing countries, including USAID Missions and their partners. The program is compiling and disseminating current climate services knowledge, conducting case studies and assessments of climate services, exploring economic valuation of climate services, developing a climate information guidebook, and piloting nation-level climate services analysis. The Partnership is also building the capacity of national weather services to deliver climate information products to stakeholders in government ministries and the private sector.

#### **FY14**

- **Conduct Survey of Applied Climate Change and Development Research Needs.** USAID intends to develop a rapid survey of perceived needs for applied research within the Agency and among USG partners and key external stakeholders.
- **Develop Climate Change and Development Research Strategy.** USAID will use the results from the survey of applied research needs to refine this research strategy, which will identify a set of core questions focused on understanding and addressing the risks and opportunities of climate change and identify financial resources, either centrally managed or country-based, to address these questions. The strategy will include a plan for leveraging the resources of the U.S. federal science community.

#### **FY15-16**

- **Conduct Climate Change and Development Research.** Begin to support prioritized research efforts identified in the climate change and research strategy. Research efforts may include innovative approaches to adaptation, such as a resiliency index, measuring the costs and benefits of adaptation, or tools for managing risk.

## **EVALUATION AND LEARNING**

USAID has a responsibility to use its climate change funds to achieve the greatest impact per dollar spent; therefore, the Agency will emphasize effective monitoring and evaluation to ensure accountability for the results achieved with USAID's climate change investments. Furthermore, USAID will capitalize on stakeholder input and the results of program and project monitoring and evaluation to continue learning about effective ways to understand and address climate change risks and opportunities. The Agency will also invest in the exchange of learning both within and outside of the Agency as seen through actions under the *Guidance and Training* and *Partnerships* objectives.

## FY14

- **“Monitoring Results of Climate Change Adaptation” Reference Guide.** This reference guide is being developed to support efforts to monitor and report results of USAID GCC adaptation programs. The guide serves as a tool for USAID activity managers to promote targeted and consistent results monitoring. This guide represents a first step in a coordinated effort to document meaningful impacts, resulting from GCC adaptation investments. While this guide will provide ideas and options for indicators, not requirements, it is expected that some outcome-level indicators included in this guide may become required GCC Standard indicators in the future to satisfy reporting needs related to the GCC Initiative. The guide is expected to be completed by the end of FY13 and the final version will be available on the GCC intranet in early FY14.
- **Agency Evaluation Agenda for Climate Change Programming.** USAID is currently developing its Evaluation Agenda. This will be a public-facing document that outlines the priority evaluation questions in each of GCC’s 3 funding pillars (clean energy, sustainable landscapes, and adaptation). These questions are based on the results frameworks for each of these pillars, and address key development hypotheses. This agenda will help inform the design of climate change related impact evaluations. This document is expected to be completed in FY14 and published early FY15.
- **Climate Change Evaluation Plan.** The Evaluation Plan will document ongoing evaluations that inform global climate change outcomes and strategies. Currently, 6 climate change performance evaluations are being designed, with completion scheduled from early to mid FY15. Five impact evaluations are also currently being designed, with a final design and baseline data collection expected by mid FY15. In order to properly assess impact, final reports will not be available until FY18-FY20; however, interim reports will be prepared as necessary.
- **Compile Climate Change Adaptation Lessons Learned.** USAID aims to evaluate past climate change programs (including integration pilot activities as discussed above) and other relevant examples of integrated programming to glean lessons that will inform its next generation of programming. These lessons will be incorporated into revised guidance, and shared with Agency staff and the broader development community. To date, several initiatives have been implemented to facilitate exchange of learning. The GCC office conducts monthly extended team meetings within USAID for people from all bureaus who work on, or have an interest in, climate change, with the purpose of sharing plans, updates, and lessons learned. The GCC office also organizes a bi-monthly meeting in Washington DC for members of the development community working on climate change adaptation issues. USAID’s Bureau for Food Security and Climate Smart Agriculture Working Group have also been engaging USAID missions in an effort to share best practices on climate smart agriculture, including through a Global Learning Evidence Exchange in 2013, in which three missions participated. Finally, several communities of practice have emerged from the Adaptation Partnership workshops (e.g., Climate Services Partnership, High Mountain Adaptation Program). These communities of practice serve as lasting fora for sharing lessons and exchanging experiences.
- **Host Climate Change Adaptation Learning and Experts Workshops.** USAID intends to conduct a series of workshops around critical topics, such as best practices for vulnerability assessments and options analysis, index measures for climate vulnerability, or tools for assessing the economic impacts of climate change and climate change programs. In FY13, USAID’s Africa Bureau hosted an experts’ workshop on information and capacity for adaptation decision-making in the

agriculture sector, and an experts meeting to consider recent approaches and recommendations of best practices for climate change vulnerability assessments.

### **FY15-FY16**

- **Evaluate Integration Pilots.** USAID aims to develop and apply evaluation plans that comply with the Agency’s new evaluation policy (discussed below), test the validity of the development hypothesis underpinning pilot design, and ensure that lessons learned are shared for adaptive management. Pilot implementation continues in FY13 and FY14, with additional funding set aside to put rigorous evaluation designs in place for GCC integration pilots. The second tranche of integration pilots focused on fewer, larger projects to increase the likelihood that impacts can be measured. Dependent on the receptivity of local stakeholders and availability of resources, USAID intends to do impact evaluations of the integration pilots in the Dominican Republic and Macedonia, and rigorous performance evaluations of the pilots in Ethiopia, Angola, and Kazakhstan.
- **Compile Lessons Learned and Best Practices from Pilots.** Use stakeholder input and the results of pilot monitoring and evaluation to identify key lessons learned. These lessons may include opportunities and obstacles that have influenced the effectiveness of the projects. As appropriate, translate the lessons learned into regional, country-specific, and sectoral best practices or case studies that will assist in the implementation of future climate change adaptation and integration efforts.
- **Exchange Climate Change Adaptation Lessons Learned.** Exchange lessons learned with other major actors in the climate change space. This exchange may occur through various mechanisms including sharing at smaller communities of practice or working groups; attending and presenting at domestic and international conferences or workshops, such as the Interagency Forum on Climate Change Impacts and Adaptations hosted by NASA and USACE; or supporting platforms for exchange of experiences.

## **PARTNERSHIPS**

USAID recognizes that its resources for climate change are limited relative to the scope of the overall need, to those of other donors, and to potential investments by the private sector. Partnerships are therefore critical to successful and widespread adaptation. USAID encourages proactive development of diverse partnerships with other agencies within the USG, civil society, international institutions, and private sector organizations that can assist with information gathering and implementing climate change adaptation and development activities. USAID will take advantage of strong existing interagency partnerships that tap into the research and technical expertise of many agencies, such as NOAA, DoE, and EPA. These partnerships can provide targeted technical assistance for actions under the *Guidance and Training* and *Pilot Activities* objectives and contribute in important ways to the Agency’s actions that fall within the *Research and Information* objective.

**Adaptation Partnership.** The global Adaptation Partnership was created by the governments of Costa Rica, Spain, and the United States at the Petersberg Ministerial Climate Dialogue in 2010, with the view that it would fill a gap until negotiations about adaptation institutions under the UNFCCC were finalized. Over 50 developing and developed countries participated in the Partnership to identify common adaptation priorities and improve coordination of efforts to scale up action and financing for adaptation. The Partnership completed an extensive inventory of adaptation activities in developing countries, providing a useful ‘big picture’ of who is doing what on adaptation, and where there might be gaps and opportunities for further action. Through the Partnership, USAID and other countries also supported a series of 12 workshops for

donors, developing country governments, NGOs, and others on key adaptation issues, such as food security and climate information services. The workshops convened practitioners to address adaptation challenges that are either regionally- or sector-based, and to share good approaches to adaptation. These workshops have proven to be useful to USAID in a number of ways. The workshops helped USAID understand the key climate vulnerabilities facing partner countries and where these countries struggle to address climate challenges; ultimately this helps to facilitate USAID's research efforts and generate information that can be used to reduce the vulnerability of USAID programs and projects. The Partnership also promoted the exchange of lessons learned and best practices so USAID can share as well as build from experiences of partners across the world.

In addition to workshops, the Adaptation Partnership supported follow-on research and pilots, and connected practitioners with one another to share lessons and exchange experiences through communities of practice. With the Adaptation Committee under the UNFCCC now in place, the Adaptation Partnership has been formally wound down, though the communities of practice will continue as a lasting mechanism for sharing information and experiences about adaptation.

### **FY15-FY16**

- **Form Private Sector Alliance.** Actively pursue private sector alliances that offer opportunities to leverage public funds and to support innovation in areas such as insurance and information technologies toward adaptation investments. For example, USAID has developed a partnership with Swiss Re to build resilience to climate change, help vulnerable communities fight hunger, and reduce the costs of natural disasters.
- **APS to promote development of Global Development Alliances (GDAs).** USAID issued an Annual Program Statement (APS) to promote public-private alliances as a business model to bring new partners and resources into development assistance and to address action on climate change, including adaptation. Most recently, the agency supported the World Resource Institute's Global Forest Watch as part of Tropical Forest Alliance (TFA) 2020 and it is looking for additional public-private partnership opportunities through the GDA APS mechanism.

### **INREACH AND OUTREACH**

USAID understands that effective inreach and outreach are critical to successfully implementing resilient programs and projects. USAID will expand communication on the importance of integrating climate change adaptation into development goals. USAID will also continue to make new information and resources, such as on-line resources, publications, methodologies, and tools available throughout the Agency.

Many of the actions described in the previous five objectives contain elements of inreach and outreach. For example, USAID plans to host summits, seminars, and other information exchanges to disseminate best practices to other organizations working in the field. Additionally, USAID will continue to lead efforts to incorporate climate change modules into trainings for new Foreign Service Officers and other employees.

Individual USAID functional and regional bureaus have developed integrated programs, where a series of actions are focused on better understanding and addressing climate change risks and opportunities. USAID is also increasing efforts to develop fact sheets and website content to better communicate climate change adaptation programs and results to the public, Congress, and other audiences. While the programs listed below are described as more overarching in their approach to climate change adaptation, a number of the actions described above also fall under these programs.

**Global Climate Change (GCC) Office: Climate Change Resilient Development.** The GCC Office's Climate Change Resilient Development (CCRD) project is designed to enhance resilience of developing country peoples, assets, and livelihoods through improved design of USAID programs and increased capacity to respond to climate change impacts. This goal is supported by three objectives: 1) provide support to USAID Missions and bureaus to mainstream climate change into development programs and projects; 2) coordinate with other USG Agencies to support global mainstreaming of adaptation; and 3) identify and respond to emerging issues and provide knowledge management assistance for design, planning, and implementation of climate resilient development programming.

**Africa and Latin America Regional Bureaus: African and Latin American Resilience to Climate Change.** USAID/Africa Bureau's Office of Sustainable Development, with the LAC Bureau's Regional Sustainable Development office, is providing analysis, thought leadership, and capacity building to promote adaptation to climate change under the African and Latin American Resilience to Climate Change (ARCC) Project. The project will develop vulnerability assessment and options analysis methodologies to guide USAID adaptation programming; explore the drivers of conflict related to climate in West Africa and the Sahel; focus thought leadership activities in areas such as climate change/food security, improved use of science, and others; and provide support and technical assistance for field Missions in the Africa region, as well as the Latin American and Caribbean region.

**Asia Regional Bureau: Asia Region Environmental Field Support (AREFS).** This project is designed to provide support to USAID Missions in the Asia-Pacific region to enable them to plan, implement and evaluate climate change adaptation programs and projects. AREFS has been working on: 1) providing Asia Missions with identify short-term technical assistance (STTA) in climate adaptation; 2) monitoring and evaluating climate change statistics and implications for Asian countries; 3) monitoring resiliency and the need for adaptation in prioritized infrastructure, extractive industry, and industrial agriculture projects; and 4) providing outreach and communications, including the development of a website and training courses.

## **USAID MISSION-LEVEL PAST, CURRENT AND PLANNED ADAPTATION-RELATED ACTIVITIES SUPPORTING USAID PROGRAMMING**

Many USAID country and regional Missions have direct adaptation funding and/or are integrating adaptation into some of their key programs to build resilience to climate change and variability and safeguard USAID investments. This section provides an illustrative overview of adaptation-related activities being undertaken by USAID Missions but does not capture the full spectrum of on-the-ground adaptation activities that are reducing climate-related vulnerabilities.

**USAID/Southern Africa: Resilience in the Limpopo River Basin (RESILIM).** USAID's RESILIM initiative recognizes that climate change will have profound impacts on the availability of water for the 14 million people living in the Limpopo River Basin, which covers parts of Botswana, Mozambique, South Africa, and Zimbabwe. This initiative will support the adoption of science-based adaptation strategies to reduce climate vulnerability and improve management of water resources across the basin. USAID will improve policies; build stakeholders' skills; and test innovative practices for improved water allocation, ecosystem conservation, and application of the best available climate science and management information. RESILIM will strengthen governance to address climate-related risks and improve science and analysis for decision-making.

**USAID/Senegal: Collaborative Management for a Sustainable Fisheries Future (COMFISH).** The URI-USAID COMFISH project is a five-year initiative which began in February 2011. COMFISH is

enhancing the capacity of local artisanal fisheries councils to manage the effects of climate change on the fish catch along Senegal's coasts. COMFISH will work with local fisheries councils to ensure that the projected impacts of climate change, including changes in the upwelling patterns and increases in salinization, are understood at the community level and included in local management plans. These efforts will help make Senegal's fishing industry more sustainable, and significantly improve food security, livelihoods, and economic growth, as well as resilience to climate change.

**USAID/Regional Development Mission-Asia (RDMA).** USAID's Mekong Adaptation and Resilience to Climate Change program (Mekong ARCC) is a five-year program that began in 2011. It will increase the climate resilience of Cambodia, Laos, Thailand, and Vietnam in the water resource, agriculture, food security, and biodiversity sectors. Mekong ARCC will conduct a cutting edge scientific study on the impacts of climate change on agriculture and ecosystems to inform decision makers on the strategies to support millions of subsistence farmers in the Mekong basin in strengthening their resilience to negative impacts of climate change in the key sectors listed above. Consistent economic information from across the basin will be collected on the costs and benefits of ground-tested indigenous and innovative adaptation practices, including gender specific approaches, to allow the analyses necessary to scale-up and mainstream community/ecosystem-based adaptation into the development process.

**USAID/Sri Lanka: Enhance Climate Resiliency and Water Security.** USAID's Program to Enhance Climate Resiliency and Water Security is being carried out in collaboration with the Maldives Ministry of Housing and Environment, provincial utility service providers, and Island Councils and residents on two northern islands. Its aim is to assess long-term climate vulnerability and to develop cost-effective adaptation strategies. The program is supporting innovative solutions to the growing problem of water scarcity, which is made worse by climate change and sea level rise. The program will assist the Government's goal of developing the standards and criteria for a "climate resilient island" model program that can be replicated throughout the country, and potentially in other small island developing states.

**USAID/Barbados and Eastern Caribbean: Water Resource Management and Flood Resilience Program.** USAID's Water Resource Management and Flood Resilience Program aims to reduce vulnerability to flooding, which is projected to occur more frequently in coastal lowland Barbados as a result of climate change. Activities of this program may include improving storm water management, analyzing water quality and the impacts of storms on coastal areas and the marine environment, supporting the design and construction of storm water harvesting structures along major tributaries, strengthening the institutional, policy, and legislative framework related to storm water, and developing improved climate science systems and information databases to inform decision making in the water sector.

**USAID/Philippines: Water Security for Resilient Economic Growth and Stability (Be Secure) Project.** USAID's Be Secure Project fosters comprehensive water security in the Philippines. The project will work with national and sub-national government agencies as well as local stakeholders including communities, NGOs and universities. Specific adaptation activities will: a) build capacity of stakeholders in collecting, analyzing, and communicating water and climate data at national, regional, and local levels; b) enhance local capacity to integrate disaster risk reduction and climate change adaptation into local plans and programs; and c) improve local understanding and support for long-term water security and mainstreaming integrated water resource management (IWRM) in water supply and sanitation services.

**Pacific region: Coastal Community Adaptation Project (C-CAP).** C-CAP aims to build the resiliency of vulnerable coastal communities in the Pacific region to withstand more intense and frequent weather events

and ecosystem degradation in the short-term, and sea level rise in the long-term. The project has three components: rehabilitating or constructing new, small-scale community infrastructure; building capacity for community engagement for disaster prevention and preparedness; and integrating climate resilient policies and practices into long-term land use plans and building standards.

**USAID/Bangladesh: Climate-Resilient Ecosystems and Livelihoods (CREL).** USAID recently launched the Climate-Resilient Ecosystems and Livelihoods (CREL) program, which will provide technical advisory and assistance services to Government of Bangladesh (GOB) ministries and technical agencies and to community-based organizations co-managed by aid donors and recipients. CREL will promote alternative, climate-resilient livelihood activities; biodiversity conservation through co-management of natural resources; policies that institutionalize community-based natural resource management; and climate change strategy implementation, including the 2009 Bangladesh Climate Change Strategy and Action Plan. CREL's objective is to achieve responsible, equitable, climate-resilient growth and good environmental governance.

**USAID/Indonesia: Marine and Climate Support program.** This program works in partnership with the Indonesian Ministry of Marine Affairs and Fisheries (MMAF). It will improve the capacity of 100 local coastal communities to assess climate change vulnerabilities, strengthen governance, and implement solutions to reduce the risks associated with natural disasters and climate change. The program also aims to strengthen governance of coastal and marine areas by supporting MMAF operations and management.

## **ADAPTATION-RELATED ACTIONS SUPPORTING USAID'S OPERATIONS**

As described in the section entitled USAID Operations Vulnerability Assessment, climate change could compromise numerous aspects of USAID operations, including assets, support systems, health and safety, and security. Impacts and/or disruptions to operations may ultimately affect the Agency's ability to implement programs effectively and, consequently, achieve its mission. This section summarizes a number of actions that USAID aims to implement, particularly through its Management Bureau, to help the Agency better understand and address operational climate change risks and opportunities. Furthermore, the actions mentioned in this section seek to build the capacity of USAID staff to identify and respond to climate risks and stress the need for integrated collaboration and coordination.

It is important to point out that collaboration with the Department of State (DoS) is critical for addressing operational vulnerability as a significant portion of USAID operations are co-located or co-implemented with DoS. Without a coordinated effort it will be difficult for USAID to take action or respond to identified risks independently. USAID will continue to explore opportunities to partner with the Department of State on operational climate change adaptation efforts.

### **FY15 – FY16**

- **Seek Opportunities for Operational Climate Change Adaptation Training & Resources.**

Explore opportunities for operational climate change adaptation training. This may involve capitalizing on existing training, collaborating with other agencies to develop training, or creating internal training for USAID mission and headquarters staff working on operational-related activities. For example, the Agency may adopt or modify trainings already developed by other agencies (e.g., GSA or CEQ) that could be delivered to USAID. Alternatively, USAID may work with other agencies (e.g., DoS or DoD) to develop or alter trainings that are applicable to diverse stakeholders in



a global setting. In addition to trainings, USAID will also consider the use of guidance, frameworks, or checklists that will help the Agency to understand and respond to operational climate change risks and opportunities.

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