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UGANDA

CLIMATE VULNERABILITY PROFILE

US Foreign Assistance: [1] (thousands USD)	Requested FY 2012	Requested FY 2013
Estimated total:	460,958	438,314
Adaptation:	3,000	2,000
Feed the Future:	47,000	34,000
Malaria	32,500	33,000
Water:	3,315	5,290

Priority Adaptation Country in 2011: YES

Key Climate Stressors: Heat, Drought, Flooding

INTRODUCTION

Uganda is a landlocked country in East Africa with a population of about 33.6 million people. Uganda has substantial natural resources, including relatively fertile soils; biodiversity; rich vegetation; abundant water resources; small deposits of copper, gold, other minerals; and oil. Agriculture is the main economic sector, accounting for 20 percent of Uganda's Gross Domestic Product (GDP) and employing 70 percent of the labor force. Uganda faces several developmental constraints such as high population growth (currently at a rate of 3.2 percent, the second highest in the world), post-conflict conditions in the North, soil erosion and degradation, and impacts of malaria and HIV/AIDS. Climate changes in Uganda will likely present an additional stress on development in the country. Since climate changes will have complex impacts across many development sectors in Uganda, establishing a cross-cutting integrated strategy could improve the effectiveness and resilience of climate-sensitive USAID investments.

PROJECTED WEATHER AND CLIMATE CHANGES

Uganda has a tropical climate with two wet seasons: a short one from October to December and a longer one from March to May.

TEMPERATURE: Average temperatures in Uganda have risen by about 1.3°C since 1960 and are projected to increase by 1°C by the 2030s compared to the 1970-1999 average.

PRECIPITATION: Annual rainfall has decreased at a rate of about 3.5 percent per decade since 1960, with the greatest reductions during the long wet season between March and May. Projections of rainfall in Uganda are uncertain, ranging from a decrease of 7 percent to an increase of up to 14 percent by the 2030s compared to the 1970-1999 observed average.

EXTREME EVENTS: Uganda has experienced an increase in the frequency and intensity of droughts and floods in recent decades. The percentage of rainfall coming in the form of heavy precipitation events is anticipated to increase, which would escalate the risk of disasters such as floods and landslides.

KEY CLIMATE IMPACTS AND VULNERABILITIES

Agriculture, health, water resources, wetlands, and forests are the key sectors that are vulnerable to climate change in Uganda. Temperature rise and an increase in the frequency and intensity of extreme droughts and floods can reduce crop yields and cause a loss in livestock, which will have important implications for food security.

Climate changes can also cause both direct and indirect health impacts. Direct impacts can result from exposure to extreme events such as droughts, floods, and heat waves. Indirect impacts may result from expanded ranges of vector-borne diseases and parasites.

Water resources are also likely to be increasingly strained in Uganda's future climate. While it is projected that precipitation will increase in some parts of East Africa, warmer temperatures will accelerate the rate of evapotranspiration, thus reducing the benefits of increased rainfall. With more frequent and severe droughts, the region will likely experience negative impacts on water supply, biodiversity, and hydropower generation. A potential simultaneous increase in floods poses a serious water pollution threat. Climate changes may also affect the health of wetland and forest ecosystems, which provide critical ecosystem services for communities in Uganda.

KEY USAID PROGRAM VULNERABILITIES

AGRICULTURE AND FOOD SECURITY: USAID's Feed the Future (FTF) Initiative in Uganda, housed under its economic growth portfolio, focuses on three strategic value chains, including maize for regional food security, beans for nutrition, and coffee for economic growth. Rising temperatures and shifting rainfall patterns can reduce the extent of agricultural land, shorten growing seasons, and alter the occurrence and distribution of pests. The Uganda FTF program identifies the need to integrate climate changes throughout its strategy, from research into disease and drought resistant crops to working with farmers and communities at all levels to understand and mitigate the impact of soil degradation and erosion.

PEACE AND SECURITY: USAID supports peace and security in Uganda through building the capacity of government institutions and civil society organizations, furthering truth and reconciliation, providing training on human rights, and supporting victims of human trafficking. Conflicts in Uganda may be exacerbated as a result of more frequent and severe droughts due to climate changes. The scarcity of pasture and water resulting from droughts is already a major cause of intra- and inter-district, as well as inter-regional, conflicts in the country.

HEALTH: Malaria is the leading cause of morbidity and mortality in Uganda, and Uganda is thus one of the Presidential Malaria Initiative countries. Temperature increases have enabled malaria to spread into the previously malaria-free highlands. Continued warming is expected to further expand the geographic range of malaria to even higher elevations. The Presidential Malaria Initiative has a goal of ending global deaths from malaria by 2015. In order to achieve this goal and maintain the achievements to-date under the program, USAID and the U.S. Centers for Disease Control may need to enhance disease surveillance and be prepared to provide services in regions that have previously been malaria-free.

[1] US foreign assistance includes both USAID and Department of State program funding, but in most cases the bulk of this funding is implemented through USAID. In order to have comparable figures in these categories, all country profiles use figures from the Congressional Budget Justification (CBJ) (see http://transition.usaid.gov/performance/cbj/185016.pdf and http://transition.usaid.gov/performance/cbj/158269.pdf). Between the time of the budget request and the 653(a) report to Congress, these figures can change significantly.

ECONOMIC GROWTH: Besides improving agricultural productivity and enhancing food security, USAID/Uganda's economic growth program also focuses on developing the rural financial sector, improving the dairy market chain, strengthening rural infrastructure, and supporting biodiversity conservation and the sustainable use of resources. Droughts and flooding could have major negative impacts that could delay or interrupt the success of these programs. Specifically, droughts can decrease the quantity and quality of grazing areas and water resources. Such disruptions could interfere with improvements in the dairy market, agriculture, and the availability of sustainable use resources. Similarly, rural infrastructure is vulnerable to extreme events such as flooding. As the regional climate shifts, biodiversity conservation efforts may suffer. The geographic location of suitable habitats may change and sensitive species may be forced to compete for more limited resources.

ACTIONS UNDERWAY[2]

Uganda is a priority country in the USAID Global Climate Change Initiative. USAID/Uganda is conducting a climate change vulnerability assessment of the agriculture and food security sector, which is a priority for the Government of Uganda. USAID is also working on a project to disseminate improved and drought-resistant seed varieties to small farmers and supporting the use of alternative methods of predicting planting and harvesting seasons. In coordination with other donors, USAID is increasing awareness of climate changes in Uganda, improving local capacity to deal with climate impacts, and rehabilitating weather stations to track and record weather data. In addition to mission-funded programs, USAID also contributes funding to the multilateral Integrating Climate Change Mitigation and Adaptation into Development Planning project, which is implemented in nine countries, including Uganda.

Many other organizations are also implementing climate change adaptation programs in Uganda. These projects address concerns in several sectors, including, but not limited to, agriculture, water, disaster risk management, and public health. These projects span a wide range of audiences and adaptation needs, from integrating climate changes into urban development to collecting and distributing climate information.

CHALLENGES TO ADAPTATION

The major challenges to climate change adaptation in Uganda are primarily related to data and capacity. Gaps exist in both climate and sector-specific data, and generating downscaled climate data requires both resources and advanced scientific and technical capacity. The second level of the data challenge is accessibility. The format and location of climate and sector data need to be accessible to in-country decision-makers, who also need to have the capacity to effectively apply the information to planning and decision-making. Vulnerability assessments and projections need to be readily available and translated into terms that resonate with policymakers and community leaders.

RESOURCES

Adaptation Partnership, 2011. Review of Current and Planned Adaptation Action: East Africa. Pages 182-201. Available at http://www.adaptationpartnership.org/system/files/resource/East_Africa_Adaptation_Action.pdf

Central Intelligence Agency, 2012. The World Factbook: Uganda. Accessed 4/30/2012. Available at https://www.cia.gov/library/publications/the-world-factbook/geos/ug.html

Feed the Future, 2012. Uganda. Accessed 4/30/2012. Available at http://feedthefuture.gov/country/uganda

The Republic of Uganda, 2007. Uganda National Adaptation Programme of Action. http://unfccc.int/resource/docs/napa/uga01.pdf

USAID, 2012. Sub-saharan Africa Countries: Uganda. Accessed 4/30/2012. Available at http://transition.usaid.gov/locations/sub-saharan_africa/countries/uganda/index.html

[2] Actions underway include those from direct adaptation funds and indirectly attributed funds. More information on U.S. climate finance can be found at http://www.state.gov/e/oes/climate/faststart/index.htm.