



GHANA

CLIMATE VULNERABILITY PROFILE

US Foreign Assistance: ¹ (thousands USD)	Requested FY 2012	Requested FY 2013
Estimated total:	172,183	179,304
Feed the Future:	60,000	4,000
Malaria:	28,900	28,000
Water:	4,070	5,570
Priority Adaptation Country in 2011:	NO	
Key Climate Stressors:	Heat, Drought, Flooding, Sea level rise	

INTRODUCTION

Ghana is located in West Africa, and has a population of over 24 million people. The country extends from a low-lying coastal zone, where about one-quarter of the population lives, to the sparsely inhabited northern regions in the savannah zone. Agriculture is the mainstay of Ghana's economy, accounting for 33 percent of the country's Gross Domestic Product (GDP) and employing more than half of the economically active population. Cocoa production is the main source of foreign exchange. Other key exports include gold, timber, oil, diamonds, bauxite, manganese, and hydropower. Ghana's sectors are already burdened with non-climate stressors such as desertification, land degradation, and erosion in the agricultural sector; pollution, inadequate infrastructure, increasing impervious surfaces, and poor management in the water resources sector; and inadequate service quality and accessibility in the health sector. Climate change is projected to exacerbate these existing developmental challenges in Ghana.

PROJECTED WEATHER AND CLIMATE CHANGES

Ghana's climate is tropical with two main rainfall regimes: the north experiences a single wet season from May to November, while the south experiences two wet seasons, a longer rainy season from March to July, and a shorter one from September to November. The observed and projected climate changes in Ghana are as follows:

TEMPERATURE: Observations indicate that average annual temperatures have risen 1.0°C since 1960, and are projected to increase by 1.0-3.0°C by the 2060s from the 1970-1999 average.

PRECIPITATION: Overall precipitation in Ghana decreased by 2.4 percent per decade between 1960 and 2006. Rainfall is expected to exhibit greater variability, and projected changes in annual rainfall for the 2030s range from a decrease of 9 percent to an increase of 8 percent from the 1970-1999 average.

SEA LEVEL RISE: Sea level has risen 2.1 mm per year at the Port of Takoradi over the last 30 years. It is projected to rise by 75-190 cm by 2100.

EXTREME EVENTS: Ghana has experienced periodic extreme events such as rainstorms, floods, and droughts. With a changing climate, a larger percentage of precipitation is projected to fall during heavy rainfall events, and droughts are also anticipated to become more frequent and intense.

KEY CLIMATE IMPACTS AND VULNERABILITIES

Climate changes will likely affect a number of Ghana's key sectors, including agriculture, water resources, health, forests, coastal zones, and marine ecosystems. Warmer temperatures and an increase in the frequency and severity of drought may decrease the length of the growing season in parts of West Africa by 5 percent or more by 2050. This will likely affect the production and yield of crops such as maize, millet, sorghum, and rice. Water resources in Ghana are highly vulnerable to climate change as the quantity and quality of water available for human consumption, agriculture, industry, and hydropower will likely be affected by changes in temperature and precipitation.

Climate changes are also projected to have negative public health consequences, such as increased rates of extreme event-related deaths and injuries and increased rates of malaria and meningitis due to expanded range and activity of mosquitos and parasites. In addition, higher temperatures and increases in the incidence of severe droughts may increase the vulnerability of Ghana's forests to fires. Climatic shifts may also change the age and class distribution of trees and alter landscape patterns, which will have implications for biodiversity. Ghana is also highly vulnerable to sea level rise, as the coastal zones are home to five major cities and a quarter of the population. Impacts may include increased shoreline erosion, inundation of low-lying coastal areas, and salinization of estuaries and aquifers. These impacts would have negative implications for coastal biodiversity, agriculture, fisheries, freshwater resources, and infrastructure.

KEY USAID PROGRAM VULNERABILITIES

FOOD SECURITY: USAID supports food security and economic growth in Ghana through the Feed the Future (FTF) Initiative. FTF in Ghana focuses on the three northern regions, which have a poverty rate nearly twice that of the south. The program consists of four core investment areas, including (1) increasing the competitiveness of staple value chains, including rice, maize, soya, and marine fisheries; (2) supporting government capacity to improve policies and attract private investment; (3) reducing malnutrition and improving resilience of vulnerable populations; and (4) improving nutritional status of pregnant women and children. Ghana's FTF Strategy acknowledges that climate changes can have adverse effects on agricultural production in Ghana, and consequently on the economy and food security. As a result, the Strategy aims to embed climate change adaptation as a cross-cutting issue in all FTF programs and activities. The Strategy also calls for use of climate information in developing scenarios to plan for food security investments. Additionally, the Strategy recognizes that environmental sustainability and climate changes are of special concern for Ghana's fisheries and coastal resources.

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.

HEALTH: USAID's Health program in Ghana aims at decreasing mortality among women and children under five by expanding access to quality health services and reducing the impact and spread of malaria, HIV/AIDS, and other infectious diseases. Climate change is likely to increase the rates of meningitis, diarrhea, malaria, and other infectious diseases as well as affect food productivity that will consequently impair child growth and development. Extreme events such as floods and storms can also damage public health infrastructure. USAID may therefore need to scale up its health program in order to respond to these changes and potentially allocate more resources to program components that are more vulnerable to climate changes.

WATER: USAID is funding a Water Supply, Sanitation, and Hygiene Infrastructure Program in Ghana. This program integrates climate changes by supporting infrastructure projects that take into account (1) expected variability in water availability or quality from climatic changes and (2) the increased potential for extreme weather events that could damage water systems. It also addresses specific climate change scenarios and plans for adaptation in peri-urban and rural areas.

DEMOCRACY AND GOVERNANCE: This program supports strengthening civic participation in democratic processes and ensuring that the national and local governments are responsive to the interests of its citizens. Due to the fact that climate change is expected to affect sectors in Ghana that much of its population relies on — agriculture, health care, and economic growth initiatives — it is likely that these impacts will ripple throughout Ghanaian society. USAID's existing work on strengthening civil participation may help build increased capacity for citizens to participate in planning for adaptation to climate change.

ACTIONS UNDERWAY²

Ghana is one of the countries in West Africa with the highest numbers of adaptation projects underway. The projects are focused on human health, freshwater resources, agriculture, urban sustainability, ecosystem conservation, and enhancing government capacity to facilitate adaptive action. USAID is supporting Ghana on adaptation via its Feed the Future Initiative and Water, Sanitation, and Hygiene (WASH) Program mentioned above. Ghana is also part of the Integrating Climate Change Mitigation and Adaptation into Development Planning project funded by USAID, the United Nations Environment Programme, and the European Commission.

CHALLENGES TO ADAPTATION

The adaptation needs in Ghana include further refining and launching of the National Climate Change Adaptation Strategy, further enhancing the capacity of the National Climate Change Information Center and increasing public awareness of the risks of climate change more broadly, and moving more quickly to mainstream adaptation into sectoral and local planning efforts. Ghana would benefit from an increased number of adaptation projects with field implementation or community-based adaptation components. In addition, Ghana needs increased efforts to address climate impacts on coastal zones. There are currently few projects underway that specifically focus on this sector, even though it has been identified as one of the key sectors in vulnerability assessments.

RESOURCES

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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>.