

PROJECT BRIEF



United Nations Development Programme

ENVIRONMENT AND ENERGY



THE REPUBLIC OF GHANA: INCREASE RESILIENCE TO CLIMATE CHANGE IN NORTHERN GHANA THROUGH THE MANAGEMENT OF WATER RESOURCES AND DIVERSIFICATION OF LIVELIHOODS

Issues

Water is recognized as a cross-cutting resource underlying the National Growth and Poverty Reduction Strategy of the Republic of Ghanaⁱ and the National Water Policy with direct linkages to the realization of the Millennium Development Goals. The lack of potable water because extreme climate events such as droughts and floods, increases the exposure of people, especially women and children, to water-borne and other hygiene related diseases such as diarrhoea, cholera, etc. Besides household wellbeing, water plays a central role in many industrial activities. For example, hydropower generation, transportation services, tourism and the agricultural, livestock and fisheries sectors depend on water resources. Rainwater harvesting serves as the major source of surface water for many rural communities during the rainy season.

There is high agreement between national and regional analyses that vulnerability, especially to droughts, has geographical patterns and socioeconomic associations. The three northern regions are the most vulnerable. Similarly, the adaptive capacity of these three regions is the lowest nationwide due to low socioeconomic development and the heavy dependence of local economies and livelihoods on rain-fed systems such as agriculture and forestry. Decreasing annual rainfall and its increasingly erratic pattern, on the background of climate change, are adversely affecting rural livelihoods in northern Ghana and in particular agricultural and pastoral practices.

Agriculture is a major driver of Ghana's economy and employs close to 55 percent of the total labour force.ⁱⁱ The water storage potential of the agricultural landscape is not at its best, which restricts agricultural potential in northern Ghana. Land degradation, high rates of erosion and high intensity rainfall contribute with significant volumes of sediments to the existing small dams and dugouts and are therefore reducing their water

ⁱ Growth and Poverty Reduction Strategy II. National Development Planning Commission. 2005.

ⁱⁱ FAOSTAT, Ghana Country Profile.

PROJECT SUMMARY

- Country: the Republic of Ghana
- Budget: \$ 8,850,000
- Funding Source: Adaptation Fund
- Implementing partners: Ghana's Ministry of Environment, Science and Technology, UNDP
- Targeted area: Upper East, Upper West and Northern Regions

holding capacity. Efforts to reduce erosion coupled with efforts to de-silt and repair the infrastructure will be necessary in order to reduce the vulnerability of the agricultural sector. In addition, a predicted overall reduction in rainfall, coupled with greater rainfall irregularity will have negative implications for the important hydropower component of Ghana's energy sources.

Actions

The proposed programme will target the Upper East, Upper West and Northern regions of Ghana. Compared to other parts of the country, these three northern regions have a high degree of exposure to climate variability and climate change and are characterised by low socio-economic development. Therefore, the government of Ghana has classified them as highly vulnerable to climate change and as a consequence they are high priority regions from an adaptation point of view.

The objective of the project is to enhance the resilience and adaptive capacity of rural communities to climate impacts and risks related to water resources in the northern regions of Ghana. The project has four components, as presented below.

1. The planning and management of water resources is improved by taking into account the potential impacts of climate change on surface and groundwater sources.

The management plan of the White Volta River will be

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reviewed and updated to take into account climate change impacts. Further, water management plans that take into account climate change will be established for the Black Volta River and for three sub-basins of the White Volta.

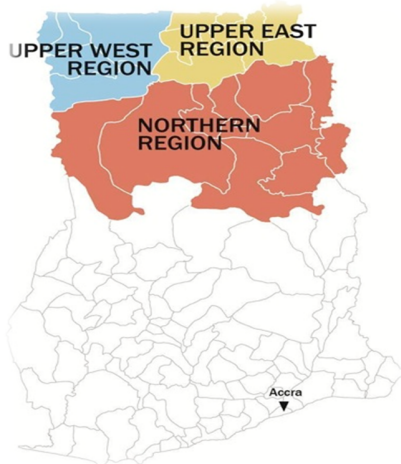


Figure 1: Map of Ghana with the targeted regions highlighted. Source: Project Document. Disclaimer: *The boundaries shown on this map do not imply official endorsement or acceptance by the United Nations.*

2. Communities in Northern Ghana engage in climate-resilient management of water resources.

Community water supply and management plans will be developed in 15 communities to incorporate climate change-related risks. The aim is to increase water supply for multiple uses and users during periods of shortages on account of, for example, droughts, heat stresses, etc. Small scale irrigation techniques will be installed in six districts to improve agricultural productivity. Measures for water conservation, such as dug wells, ponds and mechanisms for quality control will be put in place in at least ten districts. Flood management and protection measures against the loss of lives and properties are implemented in flood-prone communities.

3. The diversification of community livelihoods in Northern Ghana is enhanced.

A water distribution infrastructure will be installed in six districts. The project will aim to improve dry-season gardening activities which will benefit women in particular. Tree nurseries and wood lots to rehabilitate floodplains, hillsides and watersheds will be established and managed by communities. Community-based fish farming for livelihood diversification will also be established in 5 districts.

4. Knowledge and institutional capacity for the coordination and management of water resources as well as for the diversification of livelihoods in northern Ghana are improved.

Regional committees for the monitoring of climate change adaptation will be established. Learning platforms and systems for the integration of climate-related risks into the management of water resources and the diversification of livelihoods will be set up in northern Ghana. Best practices for adaptation and lessons that will be documented throughout the project's implementation will be disseminated.

Expected Impacts

The project will bring about benefits of social, economic and environmental nature. There will be improved food production in the northern regions of Ghana and also the variability in food supplies will decrease as there will be an increasingly regular flows of water. Also, the increased water-storage capacity of channels and waterways, irrigation installations and the introduction of climate-resilient production practices will all support agro-pastoralist communities to expand from subsistence and rainfed agriculture to irrigated vegetable production. Project activities will also favour better community cohesion and empowerment through the participatory approach that these activities are adopting and through the enhanced knowledge and ability to act on climate change while making use of community-based early warning systems. Job opportunities will also be created and what is more, an increase in income is expected as agricultural production increases. Communities will be assisted in the diversification of their livelihoods. Besides subsistence agriculture, they will, for example, take up fishing, forestry or livestock rearing. Upon project implementation, market access is expected to increase. Importantly, the targeted areas will experience better management of their natural resources: water, land and forests and where possible, communities will also see a reversal in land degradation.

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