



Increasing Resilience and Adaptation to Adverse Impacts of Climate Change in Vulnerable Coastal Zones in Guinea

Issues

Guinea's coastal zone is the most populous region in the country, comprising 38% of the total population of the country. The impacts of climate change on the Guinean coastal zone are predicted to adversely affect agricultural production and economic security. Lower Guinea is expected to experience an increase in temperature ranging from 0.2 to 2.0 Co. In addition to this, rising sea levels and salt water intrusion, coupled with increased rainfall variability and more frequent drought periods, pose threats to Guinea's long-term development.



Uprooting of trees in the waterfront of the Kaback Island due to the sea level rise

In Lower Guinea, the mangrove forests predicted to be highly affected by climate change. Because the mangrove forests depend highly on river flows and surface waters, a reduction in rainfall could greatly reduce their fertility and productivity. This is troubling since the mangrove ecosystem plays a

Project Summary

- Country: Guinea
- Project Budget: \$166,055,000
- GEF-LDCF: \$3,070,000
- Project co-financing: \$162,985,000
- Project period: 2011-2014
- Implementing partners:
 - UNDP
 - Ministry Delegate of Environment, Water and Forest National Council for the Environment
- Target area: Lower Guinea

fundamental role in maintaining the coastal zone. Additionally, sea level rise is projected to result in the flooding of an important area of mangrove forests. Agricultural production is also very likely to suffer due to sea level rise. Predicted impacts could include infrastructure destruction, saltwater intrusion, shortages in potable water, loss of agricultural land and decreased crop yield (especially in rice production which accounts for 42% of the entire agricultural sector). Fishing is another sector that will be affected by rising sea levels and temperature. The productivity will greatly reduce, and fish smoking practices will be impossible due to their dependence on mangrove wood.

Further, flooding and rising sea levels could displace approximately 30% of the coastal population while destroying infrastructure and reducing the supply of potable water, which could facilitate the spread of diseases. The forecasted climate change impacts will cause, among other things: loss of income, decrease in the quality of life, population displacement, and decrease in agricultural production.

Actions

In response to these issues, the United Nations Development Programme (UNDP), with the Ministry of Environment and Sustainable Development and the National Council for the Environment in Guinea are working to increase resilience to the adverse impacts of climate change in Guinea's vulnerable

coastal zones. Funded by the Global Environment Facility's – Least Developed Countries Fund (LDCF), the project will facilitate a programmatic approach to climate change by mainstreaming adaptation into national and sub-national policies and strategies. Additionally, it will also aid the implementation of small scale pilot adaptation initiatives at the community level.

This project recognizes that the overall enabling environment must support villages and communities as they adapt to climate change. Its objective is to strengthen the protection of vulnerable Guinean coastal communities against the negative effects of climate change.

The project specific objectives aim to:

1. *Improve the capacity to plan for and respond to climate change in coastal areas*

Local Development Plans and the master plan for urban coastal cities, including the capital Conakry, will be reviewed and amended to take climate change, climate variability and adaptation responses into account in coastal zone management.

2. *Develop the adaptation capacity of key socio-economic groups*

Climate change and adaptation awareness will be raised among key stakeholders in socio-economic groups, i.e. loggers, fishmongers, fishermen, farmers, etc. and locally elected, prefectural and central administration staff. Furthermore, an early warning system will be initiated to support farmers, villagers and communities in their decisions that are affected by meteorology and climate.

3. *Implement local adaptation responses through demonstrations*

Coastal management systems aimed at reducing risks from rising sea levels will be identified, evaluated and developed for each of these four sites in the coastal area and in critical rice-growing plains. The project will promote adaptation to saline intrusion and increased erosion due to a rise in sea level. Effective coastal management systems that take climate change concerns into account will be designed and established. Zoning (green habitats) in priority regions will be re-established and climate-resilient livelihood practices for communities developed. If successfully implemented, this is expected to reduce coastal inundation.

4. *Disseminate the experience and lessons of the project*

Lessons learned will be extracted using a systematic framework and shared with local partners and international agencies. Project website will be developed as a knowledge platform (with linkages to UNDP's Adaptation Learning Mechanism www.adaptationlearning.net).



Map 1. Map of Agro-ecological regions in Lower Guinea
 1. Conakry zone; 2. Mangrove zone; 3. North Transition zone; 4. South transition zone; 5. Lower plains zone; 6. Laterite formation zone; 7. Sandy solid masses zone; 8. Mountainous zone of Témimélé; 9. Mountainous zone of Souguéta; 10. Market-gardening zone; 11. Classified and protected forest zone.

Expected Impacts

These and future measures will strengthen the capacities of the coastal zones to be more adaptable to climate change. It is very important that access to information become universal and every participant has a chance to contribute through a decentralised and accessible platform. It is also important that the risks of climate change are addressed systematically and consistently. Thus, the project seeks to integrate long-term planning into national and regional development strategies at all levels. It will also facilitate co-ordination in key areas such as disaster risk management and environmental and development planning.

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UNDP-ALM Project Profile:
http://www.adaptationlearning.net/project/guinea_ldcf

