# COPING WITH DROUGHT AND CLIMATE CHANGE IN ETHIOPIA

## ETHIOPIA CASE STUDY

DECEMBER 2010

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| **Country** | Ethiopia [http://www.adaptationlearning.net/country-profiles/et] |
| **Region** | Eastern Africa |
| **Key Result Area** | Agriculture/Food Security<br>Natural Resource Management<br>Water Resources<br>Disaster Risk Management<br><br>*Key words: Farmers and pastoralists, Adaptive capacity, Drought, Sustainable development* |
| **UNDP PIMS ID** | 3787 |
| **Project Activity Dates** | Start: March 2009<br>End: December 2012 |
| **Key Stakeholders** | Rural community in KaluWoreda, the South Wollo Zone in the north eastern part of the country. |

## *ABSTRACT*

**Vulnerability analyses for Ethiopia suggest that environmental changes over the coming decades present a serious threat to economic and social sectors. Water is a specifically fragile resource with the frequency and intensity of drought projected to increase. Addressing long-term climate change is thus required to reduce the impacts on livelihoods and bolster major economic sectors such as agriculture, which is the mainstay of the country. In response, and as part of a set of three other Coping with Drought and Climate Change projects in Kenya, Mozambique and Zimbabwe, this project is working to improve the livelihood strategies and resilience of farmers. Through enhanced farming practices and improvement of community-based natural resource management, rural communities are adapting to water scarcity and drought. This project is also establishing the use of early warning systems to bolster resilience in the agricultural sector.**


# BRIEF DESCRIPTION OF ISSUES

## *Background*

As already observed in recurrent droughts, climate changes such as water shortages and subsequent food insecurity are impacting Ethiopia. The country is particularly prone to drought as well as climate-driven health impacts. Projected increases in temperature and declines in rainfall for the northern half of Ethiopia will negatively affect agricultural production, deteriorate infrastructure and worsen the livelihoods of the rural poor. Predicted climate variability and change will exert additional pressures on the already weakened subsistence economy. Thechosen pilot area, the community of KaluWoreda, in the South Wollo Zone of Ethiopia, has been suffering from recurrent droughts that have pushed their livelihoods to severe poverty and destitution.

# BRIEF DESCRIPTION OF PROJECT

## *Solution: Adaptation Approach, Components and Description*

This project, Coping with Drought and Climate Change (CwDCC) in Ethiopia, will address these problems at grass roots level to build capacity of the poor rural community to cope with drought and climate change. Specifically, the project objective is to develop and pilot a range of effective coping mechanisms for reducing the vulnerability of farmers, particularly women and children in KaluWoreda/District to current and future climate shocks.The project will benefit 41,421 people (in 6 Kebeles/villages) in the KaluWoreda (District), Amhara Regional State. Replication value is expected to improve the adaptive capacity of 186,000 people in the region, which comprises the population of the other 24 Kebeles in KaluWoreda plus five other Woredas in the Afar and Amhara regions.

Scheduled to run for five years, the CwDCC projects in Ethiopia, Kenya, Mozambique and Zimbabwe are supporting effective adaptation in the agriculture sector. Regular interaction among the project teams in each country is also working to ensure peer-to-peer learning.

### *Project Targets*

| RESULT | TARGET |
|---|---|
| **Objective**<br>**To develop and pilot a range of effective coping mechanisms for reducing the vulnerability of farmers particularly women and children in KaluWoreda/district to drought** | 20% reduction in vulnerability to climate change of men, women and children living in pilot sites. |
| **Outcome 1**<br>**Livelihood strategies that enhance the resilience of vulnerable farmers to cope with drought and climate change adopted and sustained.** | 25 % of households (disaggregated by gender) adopt alternative livelihood strategies introduced by the project.<br><br>25% of the target villages adopt sustainable land management practices introduced by the project. |
| **Outcome 2**<br>**Enhanced use of early warning information in agricultural systems at the selected pilot sites** | 90% of pilot sites (DAs/Kebele administration) disseminate weather/drought information.<br><br>50% of households (disaggregated by gender) receive and use weather forecast information. |
| **Outcome 3**<br>**Farmers/ agro-pastoralists outside the pilot sites were exposed to successful approaches and practice of the pilot kebeles** | 20% of farmers/ agro pastoralists (disaggregated by gender) outside the target area that adopt/replicate best practices |

## LESSONS LEARNED

### *Results and Learning*

**Key lessons learned:**

- Introdu ced early maturing and high yielding new varieties of Teff, Rice, Sorghum and Chickpea as good coping mechanisms for climate change and drought compared to local varieties. The introduced drought resistant and early maturing Chickpea and Teff varieties have received farmers' appreciation due to the demonstrated high productivity early maturity/fast growing, its tolerance to water logging and canopy/tiller formation. Participant farmers have got good lessons from each crops compare to their local varieties.
- Inter and intra (outside and inside the project pilot sites) experience sharing visits of community members on best practices are a means to knowledge sharing especially on homestead agricultural practices, water management ( geomembrane utilization techniques), high yielding and early mature crop varieties and gully crossing for irrigation, marketing approaches and spring developments.
- Farmers access to safe and dependable water as a result of the spring development. This activity benefits especially women by saving time to fetch water at least 40 mints to one hour to their homes. Furthermore, women were forced to dig sand to get water in the Borkena River. Women were also gone to river to fetch water in the night starting from 3 am by struggling with Hayna's. As a result of the spring development and the possibility of saving time, women can cook their family meal on time early in the morning and the husbands are able go to their farm activities on time. The health of the community members are also becomes improved.
- The forage and tree plants and gully rehabilitation by gabions and sacks on the selected watershed have good performance. Pigeon pea, Acacia Policanta, Jatrofa, Sasibania and lablab are found on the selected watershed on a good performance on hill side tracing and eyebrow basin.

- The adoption trail on NERICA (rice variety) has found in a good stand and farmers appreciated the rice plant performance, water logging tolerance and early maturity. Especially farmers who have water logged lands are interested on this crop for the future agricultural season because any lands that are waterlogged were not suitable to any crop.
- Increasing irrigable lands by gully crossings, ponds and wing pumps/drips are a means to adapt climate change and drought by increasing productivity and income of vulnerable farmers and farmers appreciated it
- Sheep, goat, honey bee and forage productions are also a means to adapt climate change and drought by increasing productivity and diversified income sources of vulnerable farmers
- A regular and systematic data collection, analysis, feedback, dissemination modality at woreda and site level between office of Agriculture, Metrology and communities/DA's are a good means to strengthen early warning information communication and decision (drought and climate change) at all levels to increase agricultural production systems.

## Funding

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Co-financing Total: US$1,866,667
Project Cost: US$2,861,667

## ALM Project Profile / Case Study

*ALM Profile created: December 2010*

***Cover Photo:*** *E.L. Janssen, Ethiopia, 14 August 2009*

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ALM Project Website:http://adaptationlearning.net/projects/ethiopia-coping-drought-and-climate-change
UNDP Project Website: http://www.undp-adaptation.org/portfolio/projectR.php?id=35