

# Increasing Community Resilience to Drought in Makueni District in Kenya



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# Overview

- Kenya's ecosystems are fragile and vulnerable due to increased pressure by human activities
- ASALs in Kenya expected to be the most vulnerable areas to climate change (increased frequency and severity of both droughts and floods) (UNFCCC,2002)
- Rain-fed agriculture is the mainstay of the Kenyan economy
- The climate impacts of water resources are largest in the marginal rainfall areas of the country
- Climate variability especially drought occurrences exert severe impacts on hydro-electric energy resources (power rationing)



# Pilot project

## ■ GOALS

- Reduce community vulnerability to drought exacerbated by climate variability and change
- Gather information from the field and relate it to the information needs for policy makers in order to inform relevant policies

FUNDS: United Nations Environment Program (UNEP)

- Executing Agency: African Centre for Technology Studies (ACTS), International Institute for Sustainable Development (IISD) and Centre for Science Technology Innovations
- BUDGET: US\$300,000
- DURATION: 3 years (2006 – 2009)



# Location

- Sakai - Makueni district – Eastern Province in Kenya
- Devastating impact of past droughts on the communities
- Dominant livelihood is marginal mixed farming
- Site selection:
  - Vulnerability (sensitivity) of livelihoods to drought or climate change;
  - High concentration of population hence possibility of maximizing project impact;
  - Ease of up-scaling since the livelihood is widespread in Makueni District;
  - Ease of access;
  - On-going related activities in the area => drought Management activities of the Arid Lands Resource Management Project (ALRMP)



# Context

- Enhancing **adaptive capacity of Sakai community**:
  - Availing information (weather/climate) in good time
  - Enhancing their understanding of the information
  - Strengthening and diversifying their livelihoods – introduction of new farming technologies
  - Improving their capacity to buy the right seeds and diversify by availing credit



# Objectives

- To enhance communities' effective use seasonal weather and climate information to increase production
- To improve access to high quality planting seeds
- To inform the farmers on appropriate agronomic practices for the identified crop varieties, based on seasonal weather and climate forecasts
- To increase sources of high quality water for domestic use and irrigation and reduce distances to these sources
- To create opportunities for economic diversification
- To enhance provision of alternative livelihoods
- To establish a database (e.g. developing spatial representation (mapping) of social-economic information in the project area)



# Activities

- Putting together a multi-sectoral implementation project team
- Needs and priorities assessment and rapid vulnerability assessment at community level
- Community awareness and sensitization on the reality of climate change
- Identification and documentation of specific constraints to communities adaptive strategies
- Participatory engagement for preparation of action plans based on the identified problems and needs to enhance adaptation strategies
- Mapping of baseline information through GIS
- Matching information needs at the policy level with community needs to scope field activities and priorities
- Development of a website



Mixed cropping as normally practiced by the farmers



A demonstration of proper spacing advocated by the project



Millet crop in a Demonstration plot



A close up of the current millet crop in one of the farms





# Samples of legume and cereal seed bulking plots already in field

Farmer's bean crop as a result of current enhanced rains



The positive impact of water management efforts in the demo plots



Maize crop





Farmers attending an open day in one of the pilot plots



Sorghum crop in one of the farmers fields **Note the close up on the sorghum head ready for harvest**





# Conservation, storage and Utilization of produce from the project



Field day sorghum cake with participants enjoying it



Conservation of crop residue as livestock feed

Post harvest handling of project produce to reduce post-harvest losses





# Innovative elements of project

- Participatory engagement of local stakeholders (communities, district steering committee etc) (selection criteria of farming households and self-help groups) => **OWNERSHIP**
- Utilization of existing structures => partnering (“piggy-back”) with on-going Arid Lands Resources Management Programme (ALRMP) activities on drought preparedness in Makueni district
- Translation and dissemination of national weather and climate forecast into specific forecast for the project site
- Micro-financing through self-help groups



# Opportunities

- Community running off with project
- ALMP in up-scaling and funding of project activities (climate info, sand dams, alternative livelihoods)
- Draft policy =>incorporation of climate change



# Lessons?

- Participatory stakeholder engagement
- Encouraging community capacity building (training, demos, diversification of livelihoods)
- Database – “An academic pursuit or sustainability goal?”



# Challenges

- Climate data and information updates not availed as frequently as required
- Shortage of rain-guage for measuring rainfall amounts
- Leaching and water logging was experienced in plots with sandy soils and resources were not provided for top dressing to supplement the farmers' efforts *Need to activate the credit component.*
- Field attack by many types of insects due to enhanced moisture and the farmers' inability to cope with the situation due to inadequate resources
- High expectations on the part of the participating farmers
- Slow flow of funds for follow-up activities.



# Conclusion



The participation in and ownership of the project by local communities ensuring sustainability and replicability (upscaling)



The project has enabled social learning by enhancing common knowledge, awareness, and skills by engaging different stakeholders in sharing diverse perspectives, and thinking and acting together