



Tree planting at 5th Millennium Development Goals Race

Photo from: <http://www.undp.org/zm/>

ZAMBIA – ADAPTATION TO THE EFFECTS OF DROUGHT AND CLIMATE CHANGE IN AGRO-ECOLOGICAL ZONES 1 AND 2

ZAMBIA CASE STUDY

DECEMBER 2010

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| Country | Zambia [http://www.adaptationlearning.net/country-profiles/zm/] |
| Region | Eastern Africa |
| Key Result Area | Agriculture/Food Security Natural Resource Management Water Resources |
| UNDP PIMS ID | 3942 |
| Project Activity Dates | Start: January 2010 End: December 2013 |
| Key Stakeholders | Subsistence farmers and rural communities in the chosen agro-ecological regions in Zambia. |

ABSTRACT

Zambia has been experiencing adverse impacts of climate change - including an increase in frequency and severity of seasonal droughts, occasional dry spells, and increases in temperatures in valleys, flash floods and changes in the growing season. The effects of climate change, including drought, flooding, extreme temperatures and prolonged dry spells will negatively impact food and water security in Zambia and, ultimately, will affect the sustainability of rural livelihoods. In response to these impacts, Zambia is working to develop sustainable and appropriate programmes for both crops and livestock in the face of climate change. This project, *Adaptation to the effects of drought and climate change in Agro-ecological Zone I and II in Zambia*, is working to develop the adaptive capacity of subsistence farmers and rural communities. These efforts are designed to increase the resilience of vulnerable communities to withstand climate change effects in the chosen agro-ecological regions in Zambia.

BRIEF DESCRIPTION OF ISSUES

Background

Climate projections reported by the IPCC indicate that Africa is very likely to warm by 3 to 4C during this century. For Zambia, seasonal changes in rainfall are predicted with an overall reduction in amount of rainfall. Heavy bouts of rainfall are projected to increase annually, which is likely to cause additional flooding events. The Zambia National Adaptation Programme of Action (NAPA) highlights that the strong dependence of Zambian communities on rain-fed agriculture renders them particularly vulnerable to climate change. Agriculture is an integral part of Zambia's economy and considered to be one of the driving forces for anticipated economic growth and poverty reduction. The expected shortening of the growing season would prevent key crop varieties from reaching maturation in Agro-ecological Zones I and II (AER I and II). Consequently, food security will be undermined nationwide because these two regions are important agricultural producers.

The pilot sites within AER I and II are particularly prone to such climatic hazards. Since the 1980s, agricultural production within both AER I and II has been affected by a later onset and shortening of the rainy season. Furthermore, drought and flooding episodes across Zambia have become more frequent and of increasing intensity, which is believed to be a manifestation of long-term climate change. The negative impacts of such events have adversely impacted inter alia water quality, agricultural production, food security, water security, wildlife and infrastructure and resulted in the displacement of human populations. Predicted climate change is likely to exacerbate this situation. For this reason, the project has chosen to focus on adapting AER I and II to drought and other predicted climatic changes, including variability.

BRIEF DESCRIPTION OF PROJECT

Solution: Adaptation Approach, Components and Description

This project, *Adaptation to the effects of drought and climate change in Agro-ecological Zone I and II in Zambia*, will take a two pronged-approach: i) improve the mainstreaming of adaptation into agricultural planning and national, district and community levels and ii) test and evaluate for adaptation value interventions that will protect and improve agricultural incomes from the effects of climate change. Capacity and systems to anticipate assess and prepare for climate change risks are being developed at community, regional and national levels.

The project is supporting climate-resilient water management and agricultural practices. Pilot projects are testing water harvesting and irrigation systems, improved land and water management practices, and crop diversification options in relation to financial sustainability and ability to reduce vulnerability to climate change. The project's basic starting point has been the application of good quality climate risk assessments for the project, to inform the water and agricultural pilots. The project also seeks to improve the capacity to supply and use climate risk information for seasonal climate risk management.

Project Targets

| RESULT | TARGET |
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| Objective: to develop adaptive capacity of subsistence farmers and rural communities to withstand climate change in Zambia | <p>At least 1000 subsistence farmers adopt at least one adaptation measure.</p> <p>5 key sectoral policies and 2 provincial and district plans are revised to promote adaptation.</p> <p>At least 20 key project lessons are documented and disseminated in local, national and international fora and media.</p> |
| Outcome 1 Climate change risks integrated into decision-making processes for agricultural management at the local, sub-national and national levels | <p>250 government planners and extension staff trained to routinely include climate risk information in their decision processes.</p> <p>Farmers' incomes in 3 pilot sites protected against the effects of extreme weather events.</p> |
| Outcome 2 Agricultural productivity in the pilot sites made resilient to the anticipated impacts of climate change | <p>10% increase in agricultural incomes.</p> <p>At least 50% of the people involved in the interventions at each pilot site are women (this includes management committees).</p> |
| Outcome 3 National fiscal, regulatory and development policy revised to promote adaptation responses in the agricultural sector. | <p>2 provincial plans and district plans and 5 key national policies are revised to promote sustainable climate resilient development.</p> <p>Rural populations within the eight pilot sites will have been exposed to climate change information and adaptation training with catalytic intentions.</p> |
| Outcome 4 Lessons learned and knowledge management component established. | <p>At least four proposed or ongoing projects draw on lessons and knowledge generated by the LDCF project.</p> <p>At least 20 key project lessons are captured and disseminated in the ALM.</p> <p>At least 1 national and 1 international workshop on adaptation to effects of drought and climate change is conducted.</p> |

Mainstreaming Components

The project will build institutional capacity to formulate climate-resilient policies and strategies to support adaptation measures in Zambia's agriculture sector. Training workshops will promote awareness of the importance of adaptation, and build administrative and planning skills at both national and local levels. Trained stakeholders will then be tasked to utilize their new skills, e.g. sectoral planners will be capacitated to incorporate climate risk information into agricultural planning, and community members will be empowered to implement the strategies resulting from the agricultural planning. This awareness-raising and importantly tasking of government staff to incorporate climate change risks into planning will ensure stakeholder buy-in.

Sustainability

Adaptation learning generated from the pilot projects will be used to guide mainstreaming of adaptation in national fiscal, regulatory and development policy, to support adaptive practices on a wider scale. Knowledge gained and lessons learned throughout the duration of the project will be shared via the UNDP's Adaptation Learning Mechanism (ALM) and WikiADAPT with other areas and countries sharing similar climate change threats.

Replicability

Policy support is critical to promote replication of pilot adaptation measures. The project will review existing and proposed national fiscal, regulatory and agricultural development policies, and develop policy recommendations that promote long-term adaptive

capacity in the agriculture sector. The activities in Outcome 3 include identifying the most pertinent information needed by policy- and decision-makers in order to fast-track policy revision. An improved evidence base will be used to formulate and motivate for the adoption of national fiscal, regulatory and development policies that promote climate change risk management.

Funding

GEF Project Grant (LDCF) (CEO Endo.): US\$3,795,000

Co-financing Total (CEO Endo.): US\$9,804,000

Project Cost (CEO Endo.): US\$13,699,000

(As detailed in the GEF project details. Accessed 25 April 2010 at: <http://gefonline.org/projectDetailsSQL.cfm?projID=3689>)

Time Frame

January 2010 - December 2013

ALM Profile created: December 2010

Cover Photo: Photo from: <http://www.undp.org.zm/>

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http://www.undp.org.zm/index.php?option=com_content&view=article&id=15:adaptation-to-the-effects-of-drought-and-climate-change&catid=4:environment-and-natural-resources&Itemid=6. Also, Evaluation of UNDP work with Least Developed Countries Fund and Special Climate Change Fund Resources, Evaluation Office, July 2009, United Nations Development Programme.

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Adaptation Learning Mechanism: www.adaptationlearning.net

ALM Project Website: <http://www.adaptationlearning.net/project/adaptation-effects-drought-and-climate-change-agro-ecological-zone-1-and-2-zambia>