

## **BACK TO OFFICE REPORT ON EXCHANGE VISIT TO TANZANIA BY THE CLIMATE CHANGE NETWORKING TEAM**

**Mission Dates:** 23 – 25 June 2009, Tanzania

**Author:** Jane Alumira, Networks Support Officer, ICART Project

**Title:** Strengthening Local Agricultural Innovations to Adapt to Climate Change through Networking in Tanzania, Botswana and Malawi

### **Preamble/Key Issues**

This was a planned exchange visit to an ongoing project learning site in Laikala Village, Kongwa District, Dodoma Region of Tanzania. The milestone was to share practical observations and knowledge from the village learning plots in preparation for the regional workshop to be held in Tanzania, later in the year.

The objectives were to:

- (i) Expose network team members from Tanzania, Malawi and Botswana to different on going agricultural innovations in farmer learning plots on adaptation systems to climate change and variability.
- (ii) Compile and review workshop presentations submitted by regional scientists for presentation during the forthcoming workshop.
- (iii) Develop a Programme for the forthcoming regional workshop.

### **The Climate Change Project**

The project was implemented by three key collaborating institutions namely the Institute of Resource Assessment (IRA) of the University of Dar es Salaam, Natural Resource Institute (NRI) of the University of Greenwich in the UK and National Resource Center (NAREC) of the University of Malawi.

The project started in 2007 and will be ending in 2011. The project focus is on “Strengthening Local agricultural innovation systems to adapt to challenges and

opportunities arising from climate change and variability in Tanzania and Malawi”.

The main objective of the project is to strengthen the capacity of small scale farmers, institutions and organizations in agricultural innovation to adapt to climate change. In both Tanzania and Malawi the project is implemented across 16 villages. It covers both high and low potential areas in both countries reflecting both physical and environmental conditions (rainfall and temperature regimes, soils as well as social infrastructures and institutions).

The project approach is through Participatory Research Action (PAR). Using this approach, implementation was undertaken in stages: inception workshop to agree on project objectives and establish a working relationship among stakeholders; situational analysis on perceptions on climate change; adaptations, impacts, vulnerability and future plans in all project areas; stakeholder consultations through national stakeholders’ workshops to develop plans for action research activities then under implementation.

The project is funded by DFID through IDRC under a program called Climate Change Adaptation in Africa (CCAA).

The village visited established an Action Research group in 2008 and had established learning plots within the village where different agricultural innovations were under evaluation through a learning process. A collaborating international NGO, INANDES Foundation mobilized the community to form the learning group. The CCAA initiative introduced the Farmer Field School (FFS) approach where farmer groups meet in the field and work together with assistance from researchers. The FFS has a working plan for the season and dates for cultivation, weeding, and harvesting.

Plans were under way to increase the acreage and types of crops to be planted and; capacity building in climate change and agricultural innovations.

### **Challenges to the project**

- Land acquisition for Farmers Field School: villagers responded that there were no immediate problems with land acquisition as the village land was still large enough to increase the acreage
- Land use plan at the village level: there were no formal land use plans. However land had been locally apportioned for livestock, crops and settlement to avoid farmer-pastoralist conflicts
- Sustainability of farmers group: Group membership was based on adherence to project objectives.

- Marketing of crops: there was an available market at that point in time

### **Issues relevant to the conference in August, 2009**

- The team agreed that a lot of information has been generated through the project in both Tanzania and Malawi and findings could be shared during the meeting - two country papers (Malawi and Tanzania) on project to be presented.
- The venue for the meeting should be changed from Arusha and be in Kunduchi Hotels, Dar es Salaam for logistical reasons but dates to remain the same
- The project should find a possibility of inviting at least one farmer/extension stakeholder to participate in the meeting
- It was agreed that at list all project members to present a paper
- Also agreed that other stakeholders to be invited (eg CCAA project, WWF, GWP-SA, World Bank) and other potential collaborating institutions
- A small organizing committee was established to act as a secretariat. This comprised Dr Majule and Mr. Katundu Yusufu from University of Dar es Salaam; Dr. Cosmo Ngongondo and Ms Lucy Chipeta from Malawi and Ms Kulthoum Omari from Botswana
- A book of abstracts be prepared including the workshop program and be submitted to SADC secretariat. It was however noted that task of publishing a book could go beyond September 2009.
- CVs of book editors be submitted to SADC-ICART
- Agreed that during the workshop to have parallel sessions depending on the number of papers submitted.
- Agreed that participants list should also reflect SADC regional perspectives

## List of Participants

Dr Amos Majule	Team leader, Dar es salaam University
Dr. Cosmo Ngongondo	NAREC, Malawi University
Dr. Jane Alumira	ICART-SADC Secretariat, Gaborone
Ms Kulthoum Omari	Environmental Research and Policy Solutions
Ms Kawenje	Environmental Research and Policy Solutions
Ms Lucy Chipeta	NAREC, University of Malawi
Mr Yusufu Katundu	University of Dar es salaam, In place of Prof Yanda
Mr Alphonse Katunzi	Director, INANDES Formation

## BACK TO OFFICE REPORT

- Mission Dates** : 24 – 28 August 2009
- Author** : Monica Murata, *ICART PME0*
- Title** : Regional Conference on Strengthening Local Agricultural Innovations to adapt to Climate Change through Networking in the SADC Region – Dar es Salaam, Tanzania

### Preamble

This is one of the networking activities sponsored by the SADC ICART Project. The Institute of Resource Assessment (IRA) University of Dar es Salaam, Tanzania, in collaboration with the Natural Resources and Environment Centre (NAREC) of Malawi and Environmental Research and Policy Solutions (ERPS) of Botswana organized a regional conference whose theme was “Strengthening Local Agricultural Innovations to Adapt to Climate Change through networking”. This conference brought together scientists, academics and other players from the SADC region to share and learn from each other various ways in which climate change and variability is affecting livelihoods in the region. By sharing experiences, it is expected that the capacity of the private & public sector stakeholders to make agricultural innovation systems work more efficiently, equitably and responsively to Climate Change and Variability (CC&V) will be enhanced.

The expected outputs of this conference include a comprehensive workshop proceedings and a policy brief that highlight some of the recommendations of the workshop.

The conference was attended by about 30 people from four SADC countries (Botswana, Malawi, South Africa and Tanzania). It was being held at Kunduchi Beach Hotel, which happened to be the same venue for the official launch of the REDD Initiative in Tanzania<sup>1</sup>. Thus, the conference was officially opened by the Minister of State, Vice President’s Office (Environment) – Dr Batilda S. Burian (MP) before she proceeded to the launch of the REDD initiative. The Minister underscored the need to address climate change issues in a holistic manner, as the adverse impacts of climate change on world ecosystems and environment, human health, food security, human settlements, economic activities, natural resources and physical infrastructure are already noticeable in most parts of the SADC region. Thus, adapting to these changes and building climate change resilience within and across sectors and ecosystems should be a priority for all member states.

### Key Issues

Abstracts of the papers presented during the workshop are in the accompanying attachment. Full papers will be published in the Conference proceedings. The main issues from the presentations and ensuing discussions are summarised under the three thematic areas below:

#### *1. Climate change and agricultural innovations and technologies*

- New ways of increasing agricultural productivity include
  - improved tillage (conservation tillage), water retention, irrigation techniques

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<sup>1</sup> REDD stands for Reducing Emissions from Deforestation and Forest Degradation. The REDD initiative in Tanzania involves Pilot programmes for reducing deforestation, and is being supported by Norway. The Institute of Resource Assessment (IRA) facilitates the development of the Tanzania National REDD strategy and implementation of the REDD activities. The pilot programmes focus on reducing deforestation, developing technologies for measuring carbon sequestration and promoting research and capacity building programmes related to climate change challenges.

- application and building upon local (indigenous) knowledge in improving productivity
- increased use of organic fertilizers
- increased use of drought resistant and fast maturing crops (but there is need to assess the social and ecological impacts).
- assuring market availability
- ensuring sustainability of proposed technologies
- There is need to understand the use of local indicators- biological, physical and social indicators of climate change/ climate variability
  - Farmers are aware that climate is changing; their perceptions of main indicators of climate change include (a) delays and fluctuations in onset of rainfall, (a) fluctuations in annual rainfall (c) increase in temperatures (d) increase in crop pests and disease incidences, (e) frequent droughts or floods and (f) decreased crop productivity
- Farmer research groups provide an approach which has great potential for catalysing the participation of farmers as partners in research and development activities. However, achieving such potential requires investments in managing and facilitating group dynamics that broaden the scope of participatory research from a functional consultative type to a more collegial and empowering type, and from variety selection to broader natural resources management research.
- New technologies involving donkey power are being developed in different countries. In Zambia, conservation agriculture and organic techniques are using donkeys and their wastes to combat climate change challenges; donkeys are used to pull the magoye ripper used in conservation tillage.



- Concerted efforts for promoting labour saving technologies such as use of conservation tillage drawn implements are immensely important in order to optimize crop production.

## 2. Impacts of climate change to livelihoods, food security and policies

- The adverse impacts of climate change mostly affect livelihoods of poor communities because of their low adaptive capacity and high dependence on agriculture and natural resources, which are very sensitive to climate change and variability
- Livelihood diversification strategies differ among communities, and depend on communities' endowment of livelihood assets. Social groups endowed with more livelihood assets tend to pursue more proactive adaptive strategies compared to those with limited resources.
- There is need to address the underlying poverty issues to increase community resilience- hardships
  - The impact of climate change is more pronounced in the presence of other non-climatic stress factors
- There is need to understand local knowledge in dealing with climate change/ climate variability- build on those strategies
- What do we need to do to assist the farmers in dealing with climate change?
  - issues of coping strategies to adaptation strategies

- Research and development practitioners should understand social dynamics in developing climate change adaptation measures - Culture, livelihood strategies, etc- communities are not homogeneous
- Adaptation strategies should not only respond to agricultural sectors, but should also address other livelihood strategies
  - Build on existing livelihood strategies
- Research for development practitioners should understand the vulnerabilities and adaptive capacity of communities as they develop adaptation strategies to climate change
- Gender mainstreaming in climate change adaptation is important

### *3. Climate change adaptation and mitigations*

- Assess both positive and negative impacts of climate change
- Assess alternative sources of energy, e.g. solar, and identify inefficiencies in the various systems
- Political economy, SADC and policy makers need to address the link between climate change and poverty. What does climate change mean for economic development?
  - Mainstream climate change strategies into national development processes
- Come up with policies to address climate change

### **Recommendations**

- There is need to create more awareness and common understanding of climate change impacts among leaders and local communities
- A stable policy environment is required for adaptation to climate change, and climate change issues need to be mainstreamed in the development strategies. Security of tenure and flexibility in policies is also critical.
- The adaptive capacity of local communities to climate change impacts needs to be improved. Access to a range of livelihood assets is fundamental to adaptation.
- Current barriers to rural livelihoods diversification need to be identified and removed in order to build community resilience to climate change
- Diversity and flexibility in resource use are key to local adaptation strategies to climate change
- It is urgent for governments to lead the process of understanding and developing adaptation strategies for the sectors that rural livelihoods are dependent on
- There is need for policy to take advantage of the existing local experiences and integrate with scientific ones for improved adaptations. Policies need to secure internal coping strategies – the social capital embodied in local knowledge and management & access to natural capital.

## LIST OF PARTICIPANTS

Name	Organization	Country
Ms Kulthoum Omari	Enviroplan	Botswana
Prof Raban Chanda	University of Botswana	Botswana
Ms Lucy Chipeta	University of Malawi	Malawi
Ms Miriam Kalanda Joshua	University of Malawi	Malawi
Dr Peta Jones	Donkey Power Cosultancy Services	South Africa
Ms Masego Madzwamuse	Resource Africa - Associate	South Africa
Dr Amos Majule	University of Dar es Salaam	Tanzania
Prof Pius Yanda	University of Dar es Salaam	Tanzania
Prof A Kauzeni	University of Dar es Salaam	Tanzania
Mr Yusuph Katundu	University of Dar es Salaam	Tanzania
Mr L.T. H Nsemwa	Agric Research & Development -Uyole	Tanzania
Ms Radhia Ideva	University of Dar es Salaam	Tanzania
Dr Fatina A Muturi	University of Dar es Salaam	Tanzania
Prof S. Mwakalila	University of Dar es Salaam	Tanzania
Mr B. Gwambene	University of Dar es Salaam	Tanzania
Ms Asia K Kapande	Tanzania Home Econ Assosiation	Tanzania
Mr A. Mtambuki	Livestock Research Institute	Tanzania
Dr E.T Liwenga	University of Dar es Salaam	Tanzania
Dr J.G Lyimo	University of Dar es Salaam	Tanzania
Dr Richard Kangalawe	University of Dar es salaam	Tanzania
Ms Madaka Tumbo	University of Dar es Salaam	Tanzania
Dr Faustine Maganga	University of Dar es Salaam	Tanzania
Prof H Mahoo	Sokoine University of Agriculture	Tanzania
Ms Belinda Msumba	University of Dar es Salaam	Tanzania
Mr Alphonse Katunzi	INADES Formation	Tanzania
Prof Adolf Mascarehnnas	REPOA/IRA	Tanzania
Ms Msusu Hagulwa	University of Dar es Salaam	Tanzania
Prof C. Mung'ongo	University of Dar es Salaam	Tanzania