

**UNITED REPUBLIC OF TANZANIA
UNIVERSITY OF DAR ES SALAAM
INSTITUTE OF RESOURCE ASSESSMENT (IRA)**

**PROJECT TITLE: STRENGTHENING LOCAL AGRICULTURAL
INNOVATION SYSTEMS IN LESS FAVOURED AND HIGH
POTENTIAL AREAS OF TANZANIA AND MALAWI**

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Acronyms and Abbreviations

CC	Climate change
CC&V	Climate change & variability
DFID	Department for International Development
IDRC	International Development Research Centre
NAPA	National Adaptation Programme of Action
NGO	Non Governmental Organizations

1.0 SYNTHESIS OF THE PROJECT

In many sub-Saharan African countries, poverty and food insecurity are linked to low agricultural productivity which accelerating climate change (CC) threatens to make even worse. In Tanzania and Malawi, a key challenge for decision makers is to understand the context and strategies of farmers and other stakeholders in agriculture for adapting to CC, including increasingly variable climatic conditions. Diverse farming environments and complexities associated with the context of peoples' livelihoods varying over time and space suggest a need for localized innovation to enhance and sustain productivity. This study intends to foster processes for two-way communication and engagement amongst these stakeholders and for supporting their information and other needs in order to strengthen farmers' and other stakeholders' capacities to adapt.

The action research funded by DFID through IDRC targets farming communities in two contrasting sites (low and high potential areas) per country together with local, district, national, regional and international stakeholders and identifies/accesses information to be shared and used to develop agricultural innovation systems better able to adapt to CC and variability. A combination of a sustainable livelihoods framework and innovations systems thinking will provide a conceptual frame and a learning alliance approach will guide our action research. We will build on: Trans-disciplinary partnerships and initiatives in agriculture and natural resources; Tanzania's and Malawi's NAPAs (National Adaptation Programme of Action), which prioritize agriculture; Farmers' livelihood strategies in relation to CC; and other agricultural stakeholders' (public & private) strategies. The process will include distinguishing agro-ecologically and socio-economically more and less favored areas and direct and indirect benefits to the vulnerable.

The project's contract began on the 1st April 2007; hence this is the first interim report of this four year project. As per the project schedule much of this first six months has been spent: developing a shared understanding of the project amongst team members; drawing up sub-contracts for the two collaborative partners; planning, holding and reporting on the project inception workshop; planning and developing methodologies and timeframes for the initial project activities. These include the: situation analysis in both Tanzania and Malawi; stakeholders' consultation; literature collection, sharing and preliminary review; website development; internal and external communication strategy development.

1.1 Project objective

The overall objective is to strengthen the capacity of individuals, organizations and systems within the agricultural innovation systems in less favoured areas

(semi-arid Central Zone Tanzania and Chikwawa/ Karonga, Malawi) and more favoured areas (Southern Highlands, Tanzania and Mulanje/Mzimba Malawi) of Tanzania and Malawi to adapt to the challenges and opportunities arising from CC & V.

Specifically, this action research project aims to:

1. Strengthen farmers' capacity to access and use quality information, training and products in order to adapt to climate change and climate variability
2. Strengthen the capacity of private and public sector stakeholders to make agricultural innovation systems work more efficiently, equitably and responsively to climate change and climate variability
3. Learn and share lessons for scaling up successful strategies for capacity strengthening (individuals, organizations and systems) within agricultural innovations systems to adapt to climate change and climate variability

2.0 THE VISION AND MISSION OF THE PROJECT

2.1 Vision

African communities, researchers, policy makers and development partners have the capacity to adapt to climate change/variability in ways that benefit the most vulnerable groups. Through participatory approaches they share experiences and knowledge on adaptive strategies in a changing climate by actively participating in forums at all levels. Farmers are capable and proactive in designing and generating technologies, sharing the knowledge in climate risk management; taking advantage of the positive outcomes and overcoming the negative impacts of climate change/variability. This will enable communities to achieve food security, eradicate poverty, and manage their environment wisely as indicated by increased forest cover, improved water flows, reduced wild fire incidences, improved farming practices such as agroforestry, organic farming which will contribute to more sustainable livelihoods. Ultimately, this will help in the realization of the Millennium Development Goals by all African nations in particular goal number one and seven that are eradicating extreme poverty and hunger and ensuring environmental sustainability respectively.

2.2 Mission statement

In support of the vision this project will strengthen the capacity of individual farmers, government agencies, NGOs and policy makers to develop strategies that allow the most vulnerable groups to adapt to CC&V. Working with local communities through participatory action research, the relevance of existing agricultural technologies for adapting to climate change will be assessed. Monitoring and evaluation of innovative practices will be done in collaboration

with local communities, agricultural extension workers and services providers. The project will organize a capacity development process for multiple stakeholders involving meetings, field days and training workshops. The project will encourage dissemination of knowledge on adaptive strategies to government officials and policy makers through consultative workshops and meetings involving the national consultation group members, research team members, representatives from farmers groups and policy makers. The project will put in place the process that will entail documentation, analysis, recommendations of appropriate information for different stakeholders within the agricultural innovation system to support further adaptation to climate change and variability which will be disseminated. This will contribute to increasing the sustainability of rural livelihoods.

3.0 THE RESEARCH PROBLEM

Tanzania and Malawi is basically an agro-based country with most of their foreign earnings coming from agriculture. Rain-fed agriculture remains the commonest means of agricultural production among the subsistence farmers in both countries. However, climate variability and change over the years has resulted in increased frequency of droughts thereby negatively affecting crop production and other crucial sectors. Significant reductions in rainfall were experienced countrywide in 1982, 1987, 1990, 1992 to 1995 and 1997. Massive famine was experienced in these years due to the resulting in significantly low yields in the staple maize and other crops (Malawi State of Environment Report, 2002). The resulting food insecurity and economic hardships have been identified by the Malawi Government as among the root causes of poverty and economical hardships (the Malawi Poverty Reduction Strategy Paper (MPRSP)). The MPRSP has been consolidated in the Malawi's pro-poor Economic Growth Strategy, which is currently being implemented to promote socio-economic development.

Scientifically, according to the Intergovernmental Panel on Climate Change (IPCC) there is now little doubt that human-induced climate change is happening (Fourth Assessment Report "Climate Change 2007" www.ipcc-wg2.org/). This change is largely associated with increases in emission of greenhouse gases, particularly carbon dioxide which has increased from around 280 parts per million by volume in 1800 to about 380 ppm today. Despite projections of climate change being subject to great uncertainty and variability even within relatively small areas, climate change scenarios for Africa, indicate future warming across the continent ranging from 0.2°C per decade (low scenario) to more than 0.5°C per decade (high scenario) (IPCC, 2002). This warming is greatest over the interior of semi-arid margins of the Sahara and

central southern Africa. There is less agreement on rainfall predictions than those for temperature. However, prediction models have indicated that rainfall is expected to decrease in drier areas and increase in wetter parts particularly near the equatorial regions. More intense precipitation events and an increase in frequency and magnitude of droughts and floods are likely which will have serious implications for the livelihoods of agriculturally dependent communities. This project does not seek to predict climate changes but does seek to develop the capacity of the communities subjected to different climatic changes through strengthening agricultural innovation systems to better meet their adaptation needs. This will include improving stakeholders' access to climate change information. The selection of research sites is such that it includes areas in each country that are diverse in their agro-ecologies, and within these communities with different socio-economic circumstances will be selected to learn more about supporting adaptation.

Various coping mechanisms have evolved and are still being evolved by affected people and communities to cope with the impacts on livelihoods of CC&V. Communities adapt differently to climatic impacts; their ecosystems, land use and livelihoods of local communities are among the aspects that determine how different people respond. This project addresses the agricultural sector and livelihoods in both less favoured and more favoured areas (see 4.3 for further discussion of this) with the aim of examining challenges and opportunities faced by rural households and other stakeholders in adapting to CC&V through improved capacity to innovate.

Tanzania and Malawi like other developing countries are vulnerable to CC&V through their impacts on food production and water resources. The adverse effects of climate change may particularly be felt by poor communities because of their low adaptive capacity associated with limited financial resources, poor infrastructure, low level of education, dependence on natural resources and lesser access to technology. Agriculture is among the potential sectors impacted by climate change in both Tanzania and Malawi (see for example Agrawal *et al.*, 2003). The impacts of CC&V manifested by floods, droughts, un-seasonal rains and extreme events, create enormous development challenges for developing countries and the poorest communities due to their dependence on climate sensitive economic sectors such as rain-fed agriculture, and their limited economic, technological and human capacities (IPCC, 2001). The low level of human development, poverty, and high dependence on agriculture and natural resources in Tanzania and Malawi (See Table in Appendix 2) increases their potential vulnerability to future climate change. Strengthening the agricultural innovation system is among the key areas of intervention as communities face challenges in adapting to CC.

Climate change and its impacts are not a new phenomenon. For example, in Tanzania climate changes in the Southern highlands of Tanzania around 1600 years ago contributed to an increase in fire activities suggesting a warming period (Yannick *et al.*, 2006). Increasing occurrence of drought has been reported to be associated with increased capacities to cope with current changes by some people in some areas. For example, increased exploitation of non wood forest products and increased wetland cultivations in low and high potential areas of Tanzania clearly indicate how rural people can adapt to climate change (Majule and Mwalyosi, 2005; Kangalawe *et al.*, 2005a; Kangalawe *et al.*, 2005b and Yanda *et al.*, 2005).

The broad problem being addressed in this proposal is the process of adaptation to the impact of CC & V in ways which protect and benefit the most vulnerable in Tanzania and Malawi. The project team includes a broad range of researchers with different perspectives from the physical, natural and social sciences and the process of working together is expected to enhance the capacity of scientists to contribute to the understanding of the process of adaptation to CC. This is a key part of the project's agenda. The challenge is how to engage a diverse range of stakeholders with different knowledge frameworks and experiences in learning about processes to develop and scale up capacity to adapt to CC & V impact. Innovative learning processes are required to draw experience from different areas, linking local peoples' perceptions and knowledge with that of scientists and other stakeholders on the whole issue of CC & V impacts and adaptations.

Agriculture is very sensitive to CC&V and in tropical regions low cost adaptations such as change in planting dates and cultivars may not be sufficient to offset the impact of CC and variability. However, Butt *et al.* (2006) suggests that in Mali for example adaptation measures are available that could actually lead to increases in cereal production even if temperatures rise by 1°C-2.75°C by 2030. The interventions include migration of cropping patterns, development of high-temperature-resistant cultivars, reduction in soil productivity loss, cropland expansion, adoption of improved cultivars, and changes in trade patterns (Butt *et al.* 2005). There are, however, a host of reasons why these adaptations are not currently taking place eg weak institutions, weak infrastructure (Devereux and Edwards 2004).

This action research project aims to facilitate a process of interaction and learning where information/ knowledge from different sources (local, national, regional and international) is shared and integrated in a way that results in its novel use by stakeholders in agricultural innovation systems to better adapt to CC and variability. We will build on trans-disciplinary partnerships and initiatives in agriculture and natural resources including DFID funded projects (see

Sweetmore et al 2006, Nsemwa 2006, Morris et al 2001). We will also build on Tanzania's and Malawi's NAPAs (National Adaptation Programmes of Action), which are linked to external funds, and prioritize agriculture, including incremental changes in cropping systems, but also to differing extents irrigation; and on farmers' coping/ livelihood strategies in relation to CC; and zonal/ district - based agricultural stakeholders' (public & private) strategies. The process will focus on agriculture and explicitly consider: immediate, short and long term horizons; more favoured and less favoured areas in terms of agro-ecological and socio-economic infrastructure; incremental vs. magic bullet interventions; direct and indirect benefits to the vulnerable.

The action research will contribute directly to capacity strengthening primarily at the local scale at two sites in both Malawi and Tanzania through improving participating individuals, organizations and systems ability to utilize knowledge more effectively, efficiently and sustainably in addressing local, national and regional priorities that will contribute to adapting to climate change. The process will systematically identify and share lessons with key decision makers for further capacity strengthening to enhance innovation and adapt to climate change in ways that benefit the most vulnerable.

4.0 RESEARCH FINDINGS

During this reporting period, the project team has been developing a shared understanding of the project amongst themselves and wider project stakeholders, through discussions, email exchanges and the project inception workshop in June. During the inception workshop the project partners developed a plan and began to produce the methodologies for the remaining Year 1 activities:

- Literature reviews (Act 1.2 and 4.1)
- Consultations with stakeholders (Act 1.3, 4.2)
- Situation analysis (Act 1.4)
- Baseline survey (Act 1.4)
- Field monitoring (Act 1.3)
- Participatory identification of information, training and product needs (Act 2.1, 2.2)
- Development of innovative learning approaches (Act 2.3)
- Monitoring and evaluation (Act 6.1, 6.2 and 6.3)
- Strategies for sharing and learning (Act 7.1)

The situation analysis of both low and high potential areas will begin in Tanzania on 8th -19th October 2007, followed by the Malawian situation analysis from 22nd

October – 2nd November 2007. A trend analysis of climatic data from low and high potential areas of Tanzania has been undertaken (see Table 1).

Achievements of each of the activities scheduled for this first 6 months reporting period are described under the appropriate Objective in the table below.

The main objective of activity one of CCA Project is to strengthen farmer’s capacity to access and use quality information, training and products in order to adapt to climate change and climate variability. One key input which was requested to contribute to the understanding of climate change and variability was analysis of past climate trends and variations in both the semi arid and the wetter southern highlands. This preliminary analysis is intended to contribute to that objective

Table 1: Available climate parameters per project area in Tanzania

Climate parameter	Agro ecological zone			
	Semi arid region (Low Potential areas)		Southern Highlands (High Potential areas)	
	Dodoma region (2 Districts: Kongwa, Bahi)	Singida region (2 Districts: Manyoni, Iramba)	Iringa (2 Districts: Mufindi, Njombe)	Mbeya (2 Districts: Rungwe Kyela)
Temperature (1961-2006)	Dodoma met station		Iringa	Mbeya
Rainfall station (1961-2006)	Dodoma -Kongwa -Bahi	Singida Manyoni	Iringa Mufindi Njombe	Mbeya, Rungwe , Kyela

In order to capture the potential increase in temperature, Maximum and Minimum temperature data are used in the analysis for the common period 1961-2006 which was the period with continuous data. Regarding annual rainfall analysis, mean annual rainfall was used over the period of record

Preliminary findings on climate trends analysis in Tanzania have indicated that;

In general temperature variation (maximum and minimum) in the study areas (semi arid and humid southern highlands) has indicated an increase in both agro ecological regions. Specific details are discussed below:

- ✚ It is apparent that the maximum temperature in Dodoma on the average has been slightly below the mean for quite a long time 1964- 1998 when the maximum temperature immediately started to increase continuously to date.
- ✚ As for Mbeya station, the max temperature initially rose up from below the mean (1964-1982 and thereafter increased continuously to date.
- ✚ Maximum temperature records in Iringa station went down from 1961 to 1970 and increased again continuously to date.
- ✚ The Minimum temperatures in Dodoma initially were below the mean value (1961) of about 16.8 degrees C but continued to increase past the mean value around 1986 and continued to increase to date. The period with the highest rate of temperature increase is 1995 onwards.
- ✚ Minimum temperatures in Mbeya steadily decreased below the mean and turned around in 1971 and continued to increase from 1970 to date. The period which showed the highest temperature increase was from 1998 onwards.
- ✚ Minimum temperature profile in Iringa indicate that temperatures started from low figures in 1961 and kept on increasing past the mean around 1973 and oscillated down again to reach a low in 1995 when the series increased steadily to date. The period when the increase of temperature was highest was between 1996 to date.
- ✚ Mean annual rainfall in Dodoma station in semi arid area shows that rainfall has been fluctuating from low to high and vice versa. For example rainfall increased from 1933 to 1946 decreased again continuously until 1975 when it reached the bottom and picked again to a high in 1995. Then from 1995 to date overall the rainfall has decreased steadily.

The above pattern is that rainfall in Dodoma has been fluctuating within about a 20 - year cycle and currently we are heading for downward trend for some time.

Analysis of other stations in the semi arid and Southern Highlands is going on and their relationships worked out.

The project in Malawi has identified a climate change expert who has started to collect data and undertake preliminary analysis. A similar approach is being used to allow comparison between the two countries.

Project progress maker approach will be used in the next reporting period because knowledge on such reporting procedure has just been acquired from the recent training workshop held in Cairo on Project management. However, the vision and mission statements of the project developed in the Cairo training have been included in this report.

Based on specific project objectives, the following achievements can be reported;

4.1 Objective 1: To strengthen farmers' capacity to access and use quality information, training and products in order to adapt to climate change and climate variability.

In order to achieve this objective which is the foundation of this project and according to the activity plan and output, a number of activities have been implemented over the period of six months since the start of the project last March, 2007. The activities described below have enabled the project team members and other stakeholders to understand a number of processes and necessary steps to be taken in order to effectively address the objectives of the project in order to realize project outcomes. The following subsequent sub sections presents a summary of what has been achieved so far. Appendices have been included in this report for more clarification.

Objective 1: To strengthen farmers' capacity to access and use quality information, training and products in order to adapt to climate change and climate variability.

Outcome 1: Farmers and other stakeholders in agriculture better understand their own and other key actors' situations and strategies relating to CC & V

Activity No.	Activity Title	Achievements during the reporting period
1.1	Project Inception Workshop	<p>Project Inception Workshop was held in Bagamoyo, Tanzania from 11-16 June 2007, attended by 24 participants from Malawi and Tanzania. The aims of the workshop were to:</p> <ul style="list-style-type: none"> • Clarify the project aims and strengthen ownership • Revisit the objectives, activities, outcomes and milestones • Fine tune the planning based on the project schedule • Finalize the choice of project sites • Develop and field test the situation analysis methodology • Allocate tasks and sub contract development of teams in the Southern Highlands Zone and Central Zone and for Malawi, in terms of managing Zonal/district based learning platforms • Discuss the composition and detailed role of the National Consultation Group (NCG) in each country and plan their engagement strategy <p>A detailed report of the inception workshop has been written by the team, a copy of which is being submitted with this interim report. In brief the workshop provided participants with the opportunity:</p> <ul style="list-style-type: none"> • to meet each other and learn about each others professional interests and experience, • to develop a common understanding of the project, • to work out how the team wanted to work together • to begin detailed planning of the Year 1 activities (this information is presented against the appropriate activities in this report).
1.2	Literature review (livelihood strategies, vulnerability, CC&V, innovation, service provision)	<p>During the inception workshop a draft report of the preliminary literature review was presented by Dr Fanuel Schechambo. Relevant literature was shared amongst team members. The following outline for the literature review was developed:</p> <ol style="list-style-type: none"> 1) Introduction 2) Science of climate change and variability 3) Impact of climate change on livelihoods (with part emphasis on agriculture and vulnerability) 4) Innovation systems 5) Agricultural service provision

		<p>6) Adaptation to climate change 7) Use of sustainable livelihoods approach (SLA) framework, Innovation Systems and Learning Alliances 8) Recommendations for project implementation using those approaches</p> <p>It is anticipated that at least two publications will be developed from the literature review, which will include important grey literature not easily available outside the region.</p>
1.3	Consultation with stakeholders.	<p>Stakeholder consultation survey: A survey methodology is being developed to allow systematic collection, collation and analysis of data National Consultation Groups (NCGs) – terms of reference for the NCGs in Tanzania nad Malawi have been drafted</p>
1.4	Situation analysis followed by baseline survey.	<p>Trans-disciplinary -ie multi-agency with a range of disciplines- teams will explore rural peoples’ knowledge, perceptions and strategies in relation to CC&V set in a broader livelihoods context. During the inception meeting, key issues in terms of selection of the sites for the situation analysis were identified. A checklist of issues that needed to be thought about during the development of the situation analysis methodology was also developed. The request for further PRA training prior to the situation analysis was made by some team members, and this is now planned for as part of the pre-situation analysis activities, the training materials have already been developed. Since the inception meeting, more detailed planning of the timing and practical requirements of the situation analysis has occurred. A reconnaissance visit to potential situation analysis field site districts (Kongwa and Bahi districts, Dodoma region; Mufindi district, Iringa region; Rungwe and Kyela districts, Mbeya region) was undertaken in Tanzania in August 2007 to familiarize district stakeholders with the project, to plan for the situation analysis and their involvement in it and to collect background information on the districts. A report of this visit is being submitted with this interim report. The equivalent visit in Malawi is happening simultaneously with the preparation of this interim report (which districts are you visiting?, it would be good to include the names.) A two week period will be used in both Tanzania (7th-19th Oct) and Malawi (22nd Oct - 2 Nov), to enable the field teams to undergo PRA training where necessary, together develop the detailed methodology, conduct the field work in 4 sites (ie 4 sub teams) in each country, reconvene as the full team to share, analyse and draft a preliminary report of the findings and next steps collaboratively. Preliminary plans for the baseline survey were developed during the inception workshop, but more thorough planning will occur once the situation analysis has been completed and following the participatory M&E training.</p>

1.5	Undertake field observations to monitor and understand climate change coping and adaptation strategies -	Planning for this activity will be informed by the situation analyses and stakeholder consultation survey and take place in the next reporting period
Outcome 2: Information, training and product demands for strengthening climate change & variability adaptation strategies of different stakeholders identified and shared.		
2.1	Participatory analysis of the identified coping and adaptation strategies with farmers and other stakeholders.	The planning for this activity will occur following the situation analyses.
Objective 2. To strengthen the capacity of private and public sector stakeholders to make agricultural innovation systems work more efficiently, equitably and responsively to climate change and variability		
Outcome 4: Public and private sector service provision processes related to adapting to climate change/ variability assessed and implications identified.		
4.1	Literature review of agricultural service provision.	See Activity 1.2 achievements above.
4.2	Consultations with key stakeholders (to include themes such as incentives, relationships, processes)	See Activity 1.3 achievements above.
Objective 3. To learn and share lessons for scaling up successful strategies for capacity strengthening (individuals, organizations and systems) within agricultural innovations systems to adapt to CC & V		
Outcome 6: Impact of project activities on primary beneficiaries (eg women, resource poor and vulnerable groups) and service providers/ policy actors assessed by key stakeholders		
6.1	Training of key actors in participatory M&E.	A project PM and E training workshop facilitated by an NRI M and E specialist will take place in late 2007
6.2	Baseline survey using indicators identified during situation analysis and stakeholder consultation survey	Preliminary plans for the baseline survey were developed during the inception workshop, these will be finalized following the situation analyses, and stakeholder consultation surveys. These plans will be taken forward in the M and E training workshop.
6.3	Participatory M&E of capacity building strategies, involving	This will follow the M and E workshop

	policy influencers and decision makers.	
Outcome 7: Scaling up processes for improved strategies to adapt to CC&V strengthened by key stakeholders.		
7.1	Development of strategies for sharing the lesson learning.	A project website has been developed and will be an important tools for sharing

4.1.1 Project Inception Meeting

According to activities proposed to address this objective, at the start of the project, the management team and partners met in Bagamoyo, Tanzania between 11 and 16th June, 2006 in order to;

- Clarify the project aims and strengthen ownership
- Revisit the objectives, activities, outcomes and milestones
- Fine tune the planning based on the project schedule
- Finalize the choice of project sites
- Develop and field test the situation analysis methodology
- Allocate tasks and sub contract development of teams in the Southern Highlands Zone and Central Zone and for Malawi, in terms of managing Zonal/district based learning platforms
- Discuss the composition and detailed role of the National Consultation Group (NCG) in each country and plan their engagement strategy

Progress to-date

The project inception workshop deliberated on a number of issues based on its objectives (see separate inception report). To highlight a few, the following have been achieved;

4.1.2 Literature review

Under Activity 1.2 - At the start of this action a thorough review of literature was supposed to be undertaken in both countries. The reviews will cover: climate change/variability, impacts, adaptations, adaptive capacities, livelihood strategies, vulnerability, innovation, and service provision. The first draft report was presented during the inception report. The format being adopted in review process has been developed and will address the following key areas;

- 1) Introduction
- 2) Science of climate change and variability
- 3) Impact of climate change on livelihoods (with part emphasis on agriculture and vulnerability)
- 4) Innovation systems
- 5) Agricultural service provision
- 6) Adaptation to climate change
- 7) Use of sustainable livelihoods approach (SLA) framework, Innovation Systems and Learning Alliances
- 8) Recommendations for project implementation using those approaches

Out of the review process, at least three publications will be done tentatively, two country papers and one linkage paper including the two participating countries.

A website of the project which is one of the communication tools has been established during this period and it can be viewed on <http://www.ccaa-agrictama.org/>. The website is linked to many other websites including IRA, IDRC, NRI, CCAA and University of Malawi. It was launched on and it will be used effectively by project team members and other stakeholders to share information related to the project in the field of climate change adaptations.

4.1.3 Stakeholders consultations

This activity was initiated prior inception workshop whereby different perspective stakeholders were contacted in the two countries. In Tanzania, consultations were made with a number of policy makers within the Vice presidents Office (VPO) in division of Environment and the Ministry of Agriculture Food Security and Cooperative. In, a consultative meeting was held with key stakeholders who met with the project Team Leader at the University of Malawi, National Research Council (NAREC). It is through this consultation when a list of participants to attend the inception meeting was generated.

National workshops are planned to be conducted in October/November, 2007. From the Inception meeting which done in June, a list of members to constituting to the National Consultative Group has been proposed and the ToR have been prepared. An initial communication with regards to their responsibility in the project, notification on the project has been made and responses on their acceptance are still waited in both countries.

An initial visit has been made to the project sites in both Tanzania and Malawi to introduce the project downscale in both Less Favored and High Potential Areas. Through this exercise being part of the project activities, more potential stakeholders have been identified and consulted. In, Tanzania initial contact has been made with different boundary partners in both high and low potential areas. Apart from the stakeholders' identification, regions and district social and physical profiles have been gathered that will constitute into pre situation analysis. Such information forms the basis for designing the situation analysis and baseline surveys planned in the near future.

4.1.4 Situation analysis

Trans-disciplinary -ie multi-agency with a range of disciplines- teams will explore rural peoples' knowledge, perceptions and strategies in relation to CC&V set in a broader livelihoods context.

One of the recommendations made during the Inception meeting was to offer Participatory Research Assessment (PRA), to project team members and other stakeholders prior to situation analysis and base line survey. Training materials on PRA have been prepared as well as a checklist for situation analysis. This activity will be followed by a baseline survey. PRA training will be undertaken on 8th October, 2007 in Tanzania and then followed with situation analysis in both low and high potential areas of Tanzania from 9th until 18th October, 2007. The teams will then break for two days and then this exercise will continue in Malawi. Among other issues to be included in the PRA training will be different concepts and terms used in climate change and variability. The Malawi team (2 persons) will be working with Tanzania team. By this reporting date, the Malawi team is undertaking a reconnaissance survey in their project areas to identify specific project sites, district and regional profiles and potential stakeholders.

5.0 PROJECT IMPLEMENTATION AND MANAGEMENT

To date, there have been no significant problems in implementing and management of the project. However, it is noted that the final budget allocation was less than that in the project proposal.

Most of the activities implemented during this period were ground work to facilitate next steps of implementing the project. However, the project has so far supported the inception workshop, review of literature, refining of research methods and development of analytical tools. The team has been maintained but with recommendations to engage two climate change experts (one for Tanzania and one for Malawi). In Tanzania, Prof James Ngana, a hydrologist has been engaged to assist the project and his initial input has been to establish rainfall and temperature variability pattern in specific project areas. The Malawi team has also identified a similar person. The input from Prof James Ngana has been integrated into the literature review.

With regards to partnership with other institutions, through verbal discussions with the World Bank official dealing with environmental issues in particular land related activities, they are slowly developing interests in the project. However there has been a very close link with our colleagues at Sokoine University, Soils and Water Management unit who are implementing IDRC funded project on "Managing risk, reducing vulnerability and enhancing agricultural productivity

under a changing climate in the Greater Horn of Africa in Ethiopia, Kenya, Sudan and Tanzania. Specific links and collaboration has been to share the following;

- ✚ Research methodology
- ✚ Knowledge Communication Strategy
- ✚ Sharing reports (inception meetings)
- ✚ Demand of training on PRA methods by the SUA project
- ✚ Participation in consultation meeting (by)

The two projects have agreed to collaborate in any relevant event in the future.

Other links initiated by the project team include:

Saleemul Huq IIED Climate Change Group head. Linked up Tanzania and Malawi colleagues on CLACC (Capacity strengthening of least developed countries for adaptation to climate change) project <<http://www.clacc.net>> with our CCAA project

Bill Easterling Penn Sate University, Coordinating lead author of Chapter 5 Food, fibre and forest products of WG 2 of IPCC fourth assessment. Penn Sate are working with University of Ghana on an agricultural adaptation project in Ghana. This is potentially a very useful link not least because they are aiming to draw on modeling data in that project.

Ben Aston – Commonwealth Parliamentary Association UK branch (PhD student at Unis of Nottingham and Aberystwyth – looking at past CC in Mexico. On 3 month secondment). The Association is organizing a meeting on climate change in the UK in December 2007 with invited parliamentarians from the Commonwealth. Two MPs to be invited (identified through the speaker) from each of Tanzania and Malawi. Potentially useful contacts and possible members of National Consultation Groups.

Conor Fox - from the NGO Trocaire. Recently met the Malawi team members. Trocaire is exploring the development of a project related to climate change and community adaptation building on their work in Brazil. Hopefully there will be opportunities for our CCAA project and Conor's to link and learn from > each other.

A new link has been established with Dr Beth Savan (b.savan@utoronto.ca) of University of Toronto and the University of Havana, Cuba who has requested IRA to jointly submit a proposal to CIDA on Climate Change Adaptation to

Improve Health and Alleviate Poverty: Advancing Policy and Grassroots Capacity in Cuba and Tanzania

The transdisciplinary (different types of organizations and disciplines) nature of the project has been maintained without changes. If needs arise, this will be reviewed in the future. The project is keenly considering the issue of gender balance in various activities. For example for each of training offered by IDRC, such as Training on Research and Project Management, gender has been one of the criteria for selecting participants within the project. Gender mainstreaming will be considered through the project life. From recent field visits, the project has laid down a very strong baseline for engaging all key beneficiaries down to the community level which are primary stakeholders. This is through dissemination of project documents such as leaflets, discussion with extension workers, district agricultural and livestock officers, discussion with service providers, policy makers including District Commissioners, District Executive Directors and Regional Administrative Secretaries. All of them have shown a positive support to the project and their willingness to participate.

Regarding the administration of the project, starting with the lead institution there has been no significant problems in managing the project. The working environment has been improving with the provision of enough office space to be used by the project. The accounting system of the institute has been computerized with all transactions being made according to the project. The accountant has been effective so as other administrative staff such purchase officer, secretary and others.

The project has recently been able to get services from a recruited research assistant Ms Tumbo Madaka who has just completed her MSc training on Natural Resource Assessment and Management with her dissertation of Climate Change and Adaptations. Ms Madaka is targeted to be employed by the Institute of Resource Assessment as an Assistant Research Fellow. Once this employment is done, the project management will find an alternative person to fill her gape.

The project schedule so far will continue according to the plan, most of the activities planned during the inception meeting have been implemented accordingly. The project Leader has been working very close with IDRC research team in Nairobi especially the Lead Specialist Dr Antony Nyong and the Program coordinator, Ms Florence Waiyaki without forgetting Mr Victor Orindi who has been a key person on training matter.

The team appreciates very much the effort done by Dr Nyong, especially in ensuring that the Malawi team is on board likewise the Tanzania team. His participation in the Project Inception meeting in June is highly appreciated.

With regards to financial expenditure, nothing can be discussed or amended at the moment. However, there has been a delay in receiving funds in Malawi because it has to go through a number of processes before reaching NAREC. This has also caused a slight deduction before reaching NAREC. A proper and easy way of solving this problem will be sorted out.

6.0 PROJECT OUTPUTS AND DISSEMINATION

The project is only six months old. No significant impacts have been realized at the moment. However, in terms of project dissemination and sharing of information the following have been done;

- ✚ Information sharing through inception workshop
- ✚ Information sharing through e-mails
- ✚ Establishment of the project website (view <http://www.ccaa-agrictama.org/>)
- ✚ Distribution of project brochures (over 240) to high and low potential areas in Dodoma, Singida, Iringa and Mbeya regions
- ✚ Production and planned distribution of inception workshop reports to stakeholders
- ✚ Production of a report following the Tanzanian reconnaissance visit to the field sites

7.0 CAPACITY BUILDING

With regards to training, five project team members have attended the following workshops organized by IDRC in Kenya and Cairo;

- ✚ Dr Fanuel Shechambo and Ms Harriet Gausi attend a training workshop on Integrated Climate Risk Assessment in Nairobi, August, 2007
- ✚ Dr Amos Majule, Ms Mirium Sabola and Dr Emma Liwenga attended a training workshop on Research and Project Management in Cairo, 10-14th September, 2007

Five more members will attend the following workshops

- ✚ Research to Policy Linkages in Johannesburg, South Africa-October 1-5th 2007 will be attended by Prof James Chimpamba from Malawi and Mrs Sofia Kuduma from the Department of Food Security, Ministry of Agriculture Food Security and Cooperative, Tanzania will attend representing policy makers.

🚩 Participatory Action Research and Gender Analysis in Senegal,
Dakar, dates not yet known.

Ms Mary Lemma, a postgraduate student, has completed her course work on the Master degree program Natural Resource Assessment and Management and has developed a project proposal on “Assessment of Impacts of Climate Variability Adaptations within Agricultural Systems”: The case of Manyoni District. The project is within IDRC funded project and it is likely to add more value to the project.

In the project proposal, originally it was proposed that a full support to postgraduate student be made (including tuition fees). A good approach would be to support a research component that will allow more than one student to benefit and the project in general. This year only one student will be supported by spending some money allocated along that budget line. A support will be on research and associated costs. A student will be working on the following research topic *“Assessment of Impacts Of Climate Change, Variability and Adaptation Strategies Within Agricultural Systems In Manyoni District, Singida.*

The objectives of the project are;

General Objective

The overall objective of the study is to determine the impacts of climate change and variability within agricultural systems and establish how adaptation strategies could be enhanced.

Specific objectives

Specifically, the following will be investigated:-

- To identify different agricultural production systems and examine production patterns and trends in Manyoni District.
- To assess climate change and variability patterns and trends in Manyoni District
- To establish local people’s knowledge on impacts and adaptive capacity due to climate change and variability
- To assess impacts and sustainability of adaptation and coping strategies to climate change and variability.

Research Questions

- Which farming systems exist in Manyoni district and which factors affecting productivity?

- What are the pattern of climate change and variability over years in Manyoni District?
- Which are local people's knowledge and perception on climate change and variability?
- What are impacts of climate change and variability in the study area?
- How different communities and social groups adapts to climate change and variability?
- What are experience and anticipated impacts of adaptation and coping strategies upon environment?

The project has been presented to IRA academic staff and fellow students and comments have been given. This project will be implemented within a period of less than 12 months starting from September, 2007.

As part of capacity building, all researchers involved in the project will attend training on PRA methodology for conducting research on climate change and variability. This training will also include 10 M.Sc students at IRA who are undertaking this Masters program. Such training will benefit all students and this will be a bonus to those who will be doing their research on climate change and variability as their Dissertation.

8.0 IMPACTS

No significant impacts can be realized by now. However, through various training and workshops attended by research team members and policy makers, there is evidence that knowledge on climate change and variability adaptations is increasing and becoming interesting to different partners as well as boundary stakeholders.

For example, during recent visits in regions and districts in low and high potential areas of Tanzania, key stakeholders raised a number of issues to the project team members for example how this project will assist them in improving current adaptation strategies why is this very important and this problem can be addressed. Knowledge on project management, the role of government in addressing climate change and variability impacts through National Adaptation Program of Actions in Tanzania and Malawi.

9.0 RECOMMENDATIONS

The current on going training organized by IDRC on capacity building needs to continue. However, the number of participants needs to be increased such that Lead persons per country should all attend together with other project members.

As mentioned that Climate change and variability experts have been identified and engaged in the project, the project management recommends that they become part of the project rather than hiring them on short term basis. This will save costs and will give longtime to work for the project. For Tanzania

Exciting opportunities have been identified for the innovative use of media (eg participatory video, computer animation) in the project communication strategy. However, to develop this to its full potential is beyond the project's resources and additional resources will be needed.