Baseline study for the Climate Change, Agriculture and Poverty Alleviation (CCAP) initiative

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Executive summary

The Climate Change, Agriculture and Poverty alleviation initiative is a project being implemented through a partnership between ActionAid MJUMITA, MVIWATA, TOAM and TFCG with site-level activities in Kilosa and Chamwino Districts. The objective of the project is for Tanzania to be implementing policies and strategies that prioritise support to small-scale farmers to enable them to improve their livelihoods through the adoption of climate smart agriculture and sustainable land and natural resources management. The project is planned to operate for 27 months between 1st October 2012 and 31st December 2014. The project is financed through the Accountability in Tanzania climate change funding window.

This baseline study was conducted from 14th of December 2012 to 14th of February 2013 in 8 villages in Chamwino and Kilosa Districts as well as amongst district and national-level stakeholders. The survey aimed to document a baseline with regards to the status of project indicators and stakeholders' progress markers and to assess the current uptake of climate-smart, small-scale (C3S) agricultural practices. The survey was carried out by a consultant, William Nambiza.

Survey methods included: structured and semi structured interviews; key informant interviews; direct observations and reviewing of reports and documents.

The study found that: the level of understanding on climate smart, small-scale agriculture is low amongst most stakeholders; and few farmers in the project villages have adopted climate smart agricultural techniques. Support by the district authority for C3S agriculture is also low in the project villages. Instead the district targets 'modernising' projects that benefit a few villages each year. MJUMITA and MVIWATA strategic plans and the District Agricultural Development Plans in both districts have not integrated C3S agriculture. The survey also found that the National Climate Change Steering Committee does not see that its role is to promote policy harmonisation in relation to C3S agriculture.

In relation to communicating effectively about C3S agriculture, the study found that most stakeholders expressed a preference for meetings as a way of communicating C3S agriculture and related activities.

The study recommends that there is a need to use multiple methods of communication in order to reach the different stakeholders and that the development of a communication strategy for the project is highly recommended.

Summary table on baseline status of project indicators

Indicators	**Status at project start**
Intermediate objective *Tanzania has developed and is implementing policies and strategies that prioritise support to small-scale farmers to enable them to improve their livelihoods through the adoption of climate smart agriculture and sustainable land and natural resources management.*	
Intermediate Objective Indicator 1: Districts are receiving and distributing resources to support small-scale farmers to adopt more climate smart agriculture.	Currently both districts receive and provide support to small-scale farmers through their DADP budget from the government and from the private sector. Support includes: provision of drought resistant seeds and fertilizers. Less support has been directed to supporting farmers to adopt C3S agriculture practices.
Immediate Objective 1: *Small-scale farmers and other stakeholders are demanding the integration of climate smart, small-scale agriculture and sustainable land and natural resources management in national policy and policy implementation.*	
Immediate Objective 1 Indicator 1. MJUMITA and MVIWATA Networks make demands at local, national and international level through media and meetings for increased support for C3S agriculture and improved natural	MJUMITA and MVIWATA have made demands for increased support for C3S agriculture through meetings, especially during annual general meetings, where journalists are welcomed. Information from the meetings are believed to be communicated back to the local and general public by those media. Neither network has organised more deliberate media campaigns on C3S

Indicators	Status at project start
resources governance.	agriculture.
Immediate objective 2. *Government, private sector and civil society are cooperating to support Small-scale farmers to benefit from climate smart agriculture and sustainable land and natural resources management.*	
Immediate Objective 2 Indicator 1. Two districts demonstrate multi-stakeholder coordination in support of C3S agriculture	Both Kilosa and Chamwino districts are currently involving different stakeholders; especially in agricultural activities planning. This has been done through district agriculture stakeholder meetings. Both Districts are collaborating with the private sector and there is one example of this linking to strategies aimed at increasing resilience to climate change.
Output 1: *Two national networks of community groups are advocating for climate smart agricultural land management at national and local levels.*	
Output Indicator 1.1 MJUMITA and MVIWATA institutional strategies integrate small-scale farmers and climate change mitigation and adaptation.	MJUMITA strategic plan does not currently state explicit support for small-scale farmers. The plan does state a commitment to integrate communities living adjacent to forest reserves to fully participate and equitably benefit from forest management. In terms of climate change, the MJUMITA strategy focuses on assisting communities to engage in REDD. The MVIWATA strategic plan integrates small-scale farmers through lobbying and advocacy for their rights and by helping them to access improved value chains (markets). To integrate climate change, mitigation and adaptation, the plan envisages mainstreaming climate change in MVIWATA programmes and creating adequate awareness to members. Details on how communities will be helped to mitigate and adapt to climate change are not specified.
Output Indicator 1.2 At least 500 network members and network leaders trained in C3S agriculture and climate change mitigation and adaptation.	In the two MJUMITA networks in the study area, 35% of members had participated in C3S agriculture training. In the two MVIWATA groups available in the study area, 38% of members reported that they have participated in C3S agriculture training. The national MJUMITA chairman has participated in some of the C3S agriculture practices training. He had also participated in some climate change mitigation and adaptation training. The national MJUMITA secretary has not participated in C3S agriculture training but has attended seminars and workshops with some C3S agriculture practices and climate change mitigation and adaptation. The national MVIWATA chairperson has participated in C3S agriculture training and on climate change mitigation and adaptation.
Output 3: *Small-scale farmers in three agro-ecological zones provide a forum for learning and knowledge exchange on best practice in terms of climate-smart agriculture and support for C3S agriculture is integrated in District plans.*	
Output Indicator 3.1 360 farmers are modelling best practice in climate smart, small-scale agriculture by end of Y3	21% of small-scale farmers are implementing at least 1 C3S agricultural practice in the 3 Kilosa study villages; and 27% in the Chamwino study villages
Output Indicator 3.2 10,000 farmers have learned at first-hand about C3S agriculture and are integrating key elements of C3S agriculture on their	10% of the small-scale farmers have participated in C3S agriculture trainings in Kilosa study villages. No farmers had participated in C3S agriculture training in Chamwino study villages. However, 21% of farmers in Kilosa and 27% in

Indicators	Status at project start
farms.	Chamwino are integrating some of the C3S agriculture on their farms.
Output Indicator 3.3 Farmers in 6 villages have improved access to agricultural credit and support for adding value to their agricultural produce.	No farmers in any of the study villages stated that they have accessed agriculture credit for adding value to his/her agriculture produce.
Output Indicator 3.4 5 million farmers have received practical information on measures that they can take to improve their resilience to climate change.	20% of small-scale farmers in Chamwino and 17% in Kilosa study villages stated that they have received practical information on measures to improve their resilience to climate change.
Output Indicator 3.5 45 community trainers trained on C3S agriculture.	There are 11 community based trainers in the Kilosa study villages that have been trained on C3S agriculture. There are no community trainers in Chamwino study villages that have been trained on C3S agriculture.

Status of progress markers for priority stakeholders at project baseline

Progress Marker	Status of progress marker at baseline
Small-scale farmers	
Expect to see	
Small-scale farmers participate in training and awareness raising events related to climate change, climate smart agriculture, land tenure, micro-finance and REDD+.	6% of small scale farmers in Kilosa and 3% of farmers in Chamwino stated that they have participated in climate change training. 10% (all from Kilosa) of respondents stated that they have participated in C3S agriculture training. 4% of small-scale farmers in Chamwino and 2% in Kilosa stated that they have participated in land tenure training. 5% of small-scale farmers stated that they have participated in microfinance training and 6% of respondents from the Kilosa study villages stated that they have received REDD trainings.
Farmers in project villages implement C3S agriculture in their farm field schools and communicate results to other farmers during farmers' days and with local and national media where organised by the project.	There are farm field schools in Kisongwe, Lunenzi and Ibingu villages in Kilosa. These were established by the TFCG and MJUMITA REDD project. 0 farmer field schools were reported to be in existence in the Chamwino study villages. 0 respondents reported any communication of C3S agriculture practices results to other farmers during farmer's days and with local media.
Farmers in project villages are displaying information about climate change, C3S agriculture, land tenure and REDD.	Farmers in Kisongwe and Ibingu villages are displaying C3S agriculture, land tenure and REDD information through posters. There is no displayed information with regards to the above issues in Lunenzi and Lumbiji village. Land tenure and agroforestry information was being displayed in Nzali and Chinangali I respectively.
Like to see	
Small-scale farmers including both women and men in the project villagers are applying on-farm and off-farm climate-smart techniques to their own livelihood activities including	8% of women and 9% of men in the study villages are applying on-farm and off-farm climate-smart techniques to their own livelihood activities.

Progress Marker	Status of progress marker at baseline
farmers not involved in the project-supported training events.	
Small-scale farmers in project villages are advocating elected representatives and government officers for improvements in governance in relation to land, natural resources and agriculture.	16% of the small-scale farmers stated that they are advocating elected representatives and government officers for improvements in governance in relation to land, natural resource and agriculture. Some of the strategies that were described by respondents include: reporting those who misuse their offices to the higher authorities, not electing them in the forthcoming elections and removing them from their post.
Small-scale farmers from project villages are building the capacity of farmers from other villages and districts on C3S agriculture, REDD+ and sustainable land and natural resources management.	15% of farmers are building capacities of farmers in other villages on C3S agriculture and sustainable land and natural resource management. 0 farmers reported that they are building the capacity of other farmers in other villages on REDD. Respondents mentioned the following strategies to share information on C3S agriculture with farmers in other villages: informal meetings and visiting other farmers at home and on their farms.
Love to see	
Small-scale farmers from non-project villages adopt climate smart agricultural technologies using the experiences and guidelines shared by the project.	0 farmers in the non-project village reported that they had adopted C3S agricultural technologies using the experience and guidelines shared by the CCAP project.
Small-scale farmers from non-project villages actively advocate at village, district and national level for more sustainable land and natural resources management.	Small scale farmers in the non-project villages are not actively advocating at village, district and national level for more sustainable land and natural resources management.
Small-scale farmers actively engage with their local MJUMITA and MVIWATA networks to lobby for more support for C3S agriculture, REDD and sustainable land and natural resources management.	5% per cent of small-scale farmers are involved with the MJUMITA network; and 5% of farmers are engaging with MVIWATA groups to lobby for more support for C3S agriculture, REDD and sustainable land and natural resources management.
MJUMITA and MVIWATA Community networks	
Expect to see	
National-level community network leaders have a firm understanding of the linkages between climate change, C3S agriculture and sustainable land and natural resources management.	Both MJUMITA and MVIWATA national leaders are aware of the linkage that exists between climate change, C3S agriculture and sustainable land and natural resource management. Their descriptions generally focus on how climate change affects agriculture; how forests are affected by low agricultural yields and how reduced conservation effort results in climate changes and low agricultural yields.
National-level community network leaders are providing information to their members on the linkages between climate change, C3S agriculture and sustainable land and natural resources management.	MJUMITA national network leaders are currently providing information through their zonal members in areas where MJUMITA has projects. Currently C3S has been communicated by the national leaders to 9 networks in Usambara and Kilosa. MVIWATA shares information on climate change through their field officers. 34 MVIWATA groups in Kyela, Arusha, Monduli, Rudewa and in Mvomero

Progress Marker	Status of progress marker at baseline
	have received information on climate change from their national leaders
Like to see	
At national level, community networks have integrated climate change issues in their institutional strategies and are providing training, user-friendly guides and other support to their members to adopt C3S agriculture, REDD+ and other climate smart strategies.	Climate change issues are reflected in the MJUMITA and MVIWATA strategies. The MJUMITA strategy is primarily focused on mitigation. The MVIWATA strategy is primarily focused on adaptation. Both networks have provided training to a few of their members on climate change in general. MJUMITA have provided more detailed training to some of its members on REDD.
Local level community networks are aware of climate change, C3S agriculture and are sharing this information with others in their communities.	25% of MJUMITA network members and 16 % of MVIWATA members in the study area are aware of climate change. 30 % of MJUMITA members and 37 % of MVIWATA members stated that they were aware of C3S agriculture. 65 % of MJUMITA members and 5 % of MVIWATA members in the study villages share this information with other farmers.
Community networks are regularly consulted by policy makers on climate change related issues and provide recommendations to Kilimo Kwanza, ASDP and SAGCOT	MJUMITA and MVIWATA leaders are currently not regularly consulted by policy makers to provide recommendation to Kilimo Kwanza ASDP and SAGCOT
Community networks are advocating at local, national and international level through media, meetings and other forums for more support for C3S agriculture, community-oriented REDD and other climate smart strategies.	MJUMITA and MVIWATA members have not demanded support for C3S agriculture, community-oriented REDD and other climate smart strategies through the media. However demands have been made in their annual general meetings but this has been on C3S agriculture and none of the farmers interviewed had made demand for REDD. However at national level MJUMITA have been active in working with the media to advocate for an equitable approach to REDD.
Love to see	
Community networks are recognised as leaders in climate change adaptation and mitigation and are invited to participate in policy formulation, monitoring and evaluation forums at national and international level.	MJUMITA were invited to participate in the National REDD Task Force's technical working group on REDD standards; and MVIWATA have been invited to participate in consultation on the draft Agricultural Strategy.
Community networks hold elected representatives at local and national level accountable for the quality of the support that network members are receiving for climate change adaptation and mitigation.	50% of MJUMITA network members and 11% of MVIWATA group members reported that they are holding elected representatives at local level accountable for the quality of the support that the network members are receiving for climate change adaptation and mitigation.
Community networks in Tanzania share their knowledge on appropriate, climate change adaptation and mitigation strategies with communities in other countries.	No evidence of this was recorded.

Progress Marker	Status of progress marker at baseline
District Officials	
Expect to see	
District Officials participate in awareness raising events about Climate Change, REDD and Agriculture.	The Chamwino District Executive Director, the District Forest Officer, the District Livestock and Fisheries Officer have not participated in climate change and REDD awareness raising events. The District Agriculture and Cooperative Societies Officer have participated in climate change awareness raising events but not in REDD events. All of the District staff interviewed, with the exception of the Forest Officer, stated that they have participated in agriculture awareness raising events and said that it is part and parcel of their work The Kilosa District Agriculture Officer and the District Executive Director stated that they have not participated in climate change awareness raising events. The agriculture officer has participated in REDD awareness raising events organised by the TFCG and MJUMITA REDD project. Both the agriculture officer and the district executive director have participated in agriculture awareness raising events. The District Forest Officer has participated in both climate change and REDD awareness raising events. In all districts, district officials are willing to participate in awareness raising events about Climate Change, REDD and Agriculture.
District officials integrate climate friendly agriculture in their DADPs where external support is provided.	Kilosa is not integrating climate friendly agriculture in their DADPs although they have been participating in the conservation agriculture training provided by TFCG as part of the TFCG and MJUMITA REDD project. Chamwino have been generating drought resistant sorghum based on a project receiving FAO support.
District Officials support integration of community plans in DADPs where external support is provided.	Community plans are supposed to be integrated in DADPs by using the O&OD (opportunity and obstacle to development) methods however the formulation of these plans rarely follows the participatory approach intended and the budget does not always reflect the priorities cited by the communities.
Like to see	
District Government are providing DADP guidelines that include issues of climate-friendly agriculture and gender to all wards and villages in a timely manner; are ensuring that the ward and village level facilitation teams are developing plans that adequately support climate friendly agriculture; and these are properly reflected in the District level plans and are then implemented.	In both district there are delays in the delivery of DADP guidelines to ward and village level. This is caused by delays in the delivery of funds from the government. Gender is considered in agriculture related training, projects, planning, decision-making and implementation. In both Chamwino and Kilosa, district officials stated that it is through environmental and social management frameworks that the environmental impact of their DADPs projects are assessed. However, the ESMF does not cover small-scale initiatives

Progress Marker	Status of progress marker at baseline
District government are raising awareness about climate change, climate-friendly agriculture and gender amongst communities in their districts.	In Chamwino, District Officials organise village assembly meetings that cover agriculture, environmental conservation and good animal husbandry. In Kilosa, through the land, environment and natural resource committee, District Officials have been raising awareness about climate change and climate friendly agriculture, however this has been conducted in line with other issue in the villages and there have not been specific awareness raising events on climate change and climate smart, small-scale agriculture.
Love to see	
Support for best practices in terms of supporting climate change resilient and low GHG agriculture are integrated in DADPs and adequate funds are disbursed for their implementation.	No evidence of this was recorded in either District.
District government are supporting communities to implement actions that will reduce deforestation and are assisting communities to access REDD finance.	In Chamwino, the District have supported tree planting (6000 trees were planted in 2012); and are enforcing laws to protect reserves from deforestation for agriculture. Kilosa district officials stated that they have been conducting patrols in forest reserves and providing education to forest adjacent communities on the impact of deforestation and bushfire. On helping communities to access REDD finance, they are collaborating with TFCG/MJUMITA in their REDD project to learn the process and perhaps start running and claiming for REDD finances to the needy communities
District government take action against individuals engaging in corrupt practices that undermine efforts to promote pro-poor, climate-friendly agriculture.	There have been efforts to address corruption issues in the two districts. Some Village Executive Officers have been fired and charged in the court of law for misusing public funds in Chamwino and Kilosa. The two districts are also working in close collaboration with the Prevention and Combating of Corruption Bureau (PCCB) to address corruption in the district.
Elected representatives	
Expect to see	
Elected representatives participate in awareness raising days and stakeholder meetings on small-scale agriculture and climate change when external support is provided.	In Chamwino District, the Chilonwa ward councillor stated that he has not participated in any awareness raising events or stakeholder meetings on small-scale agriculture and climate change but he underscored that he is willing to participate as it is one of his responsibilities to cooperate with development partners in the area of his jurisdiction. In Kilosa, both the Lumbiji and Lumuma ward councillors have participated in agriculture and climate related awareness raising events and meetings organised by REDD project in Kilosa. Both Kilosa and Chilonwa Members of Parliaments have not participated in awareness raising days and

Progress Marker	Status of progress marker at baseline
	stakeholder meetings on climate change issue but have been participating in agriculture awareness raising events. They are willing to participate in awareness raising events.
Elected representatives make statements to the media to demand more support for small scale farmers and sustainable land and natural resources management.	No evidence of this was recorded in either District.
Like to see	
MPs raise questions about climate change steering committee effectiveness and the integration of support for small-scale farmers in current agricultural policies (DADPs, SAGCOT, Kilimo Kwanza) including references to Tanzania's commitments under the Maputo Declaration.	No evidence of this was recorded in either District.
Ward Councillors and Village council members push for DADPs to integrate support for small scale, climate smart agriculture.	No evidence of this was recorded in either District.
Ward councillors push District Officials to expedite and prioritise support for small-scale farmers in the implementation of DADPs.	Both Wards stated that they have pushed for timely support for their electorate in relation to DADPs.
Love to see	
MPs make changes to national CC related policies to reflect the interests of communities and Small-scale farmers	No evidence of this was recorded
Elected leaders monitor and follow up on the implementation of national policies and laws relating to small-scale farmers and climate change adaptation and mitigation.	No evidence of this was recorded
National Climate Change Steering Committee and National Climate Change Technical Committee	
Expect to see	
The NCCSC and the NCCTC meet at least twice per year including representatives from MNRT, PMO RALG, MAFS and VPO DoE; civil society organisations; research institutions and private sector.	NCCSC and the NCCTC had two (2) meetings in 2012, three (3) meetings in 2011 and one (1) in 2010. It was further revealed that the NCCSC and NCCTC are designated to hold their meetings concurrently, whereby the NCCTC sits first and thereafter inform the NCCSC in its meeting
Representatives from NCCSC / TC participate in media events on climate friendly agriculture.	NCCSC/TC does not organize any media events to promote climate friendly agriculture. However, NCCSC/TC has been participating in media events through sending its

Progress Marker	Status of progress marker at baseline
	experts upon invitation to various media events
Like to See	
NCCSC representatives participate in civil society events related to linkages between Small-scale agriculture, climate change and REDD.	NCCSC is willing to send representatives to the events related to linkage between small-scale agriculture, climate change and REDD. NCCST/SC representatives participated in the IUCN hosted workshop to develop a national strategy on gender and climate change was conducted in September 2011.
NCCSC and NCCTC consider policy harmonisation in relation to CC mitigation and adaptation including issues around Small-scale agriculture and REDD.	No evidence of this was recorded
NCCSC host meetings for communities, civil society, local government, research institutions and private sector to provide inputs on the National Climate Change strategy, NAPA and REDD + strategies.	Development of national REDD+ involved a series of awareness meetings and consultation meetings in different areas in Tanzania from local level, district level, and regional level and at national level where different stakeholders were consulted for their inputs. Consultation meetings for the national climate change strategy were held in the Lake and Southern Highland zones.
Gender issues are well covered in key plans including the National REDD+ strategy and NCCS.	The national REDD+ strategy emphasizes gender to be considered in its implementation.
NCCTC advise MAFS on measures needed to ensure that the ASDP effectively promotes pro-poor, climate change mitigation and adaptation.	NCCTC is structured to provide technical assistance to individual sectors and in most cases the NCCTC advises those sectors (including agriculture sector) through different strategies (e.g. national climate change strategy) and guidelines.
NCCTC approves information resources on climate friendly agriculture for distribution to Local Government with the DADP guidelines.	NCCTC has not approved any information as this is done through the Policy and Regulatory framework in the agriculture sector. The agriculture ministry is implementing the Environmental Management Act - Implementation Support Programme (EMA-ISP) through its environmental management unit where this approval is channelled.
Love to see	
The NCCSC is demanding the allocation of 10 % of the national budget for climate-friendly agriculture in ways that directly contribute to achieving MDGs.	No evidence of this was recorded. It was stated that this would be inappropriate behaviour for the NCCSC.
The NCCSC is supporting the NCCFP to be a role model for other countries in the integration of climate friendly agriculture in NAMAs, NAPAs and REDD	The NCCSC has not supported the national climate change focal point to be a role model for other countries in the integration of climate friendly agriculture in national appropriate mitigation actions, national adaptation programme for action and reduction of emission from deforestation and degradation

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List of acronyms

ASDP	Agriculture Sector Development Programme
C3S	Climate Smart, Small-Scale Agriculture
CC	Climate Change
CCA	Climate Change Adaptation
CCAP	Climate change, Agriculture and Poverty Alleviation
CMA	Climate Change Mitigation and Adaptation
CSO	Civil Societies Organizations
DADPs	District Agriculture Development Plans
DCT/DSC	Diocese of Central Tanganyika
DED	District Executive Director
DEMAT	Dodoma Environmental Management
DFO	District Forest Officer
DFT	District Facilitation Team
DoE	Division of Environment
DONET	Dodoma Environmental Network
ESMF	Environmental and Social Management Framework
FAO	Food and Agriculture Organization of the United Nation
GHG	Greenhouse Gases
GIS	Geographic Information System
INADES	INADES Formation Tanzania
IPCC	International Panel on Climate Change
ITV	Independent Television
MJUMITA	Mtandao wa Jamii wa Usimamizi wa Misitu Tanzania
MVIWATA	Mtandao wa Vikundi vya Wakulima Tanzania
n	Sample size
NAPA	National Adaptation Programme for Action
NCCSC	National Climate Change Steering Committee
NCCTC	National Climate Change Technical Committee
NRM	Natural Resource Management
REDD	Reducing Emissions of GHG from Deforestation and forest Degradation
RLDC	Rural Livelihood Development Company
SO4	Strategic Objective Four
SP	Strategic Plan
SPSS	Statistical Package for Social Science
TAWLAE	Tanzania Association for Women Leaders in Agriculture and Environment
TFCG	Tanzania Forest Conservation Group
TOAM	Tanzania Organic Agriculture Movement
TSH	Tanzania Shillings
TV	Television
UMIKIM	Uhifadhi Misitu Kisongwe na Mfului
UMILUI	Uhifadhi Misitu Lunenzi na Ibingu
URT	United Republic of Tanzania
VADPs	Village Agriculture Development Plans
VEO	Village Executive Officer
VPO	Vice President Office
WADP	Ward Agriculture Development Plan
WFT	Ward Facilitation Team
WOWAP	Women Wake- Up

1. Introduction

1.1 Background information

Employing over 70% of Tanzanians, many of them small-scale farmers earning less than US$ 1 per day, the agriculture sector is particularly vulnerable to climate change. While climate change undermines agricultural development in low income countries like Tanzania, the fourth assessment report of the International Panel on Climate Change (IPCC) reported that globally, agriculture contributes 14% of the anthropogenic greenhouse gases (GHG). Agricultural practices like shifting cultivation; use of fire during farm preparation; use of synthetic fertilizers; forest clearance; deep tillage and livestock keeping are examples of agricultural techniques that are commonly practiced in Tanzania and that contribute to GHG emissions. Climate change is linked with reduced crop yields, exacerbation of poverty and natural resource conflicts as witnessed in Morogoro region. The National Adaptation Programme of Action (NAPA) for Tanzania estimated that increases in temperature and reduced rainfall as well as change in rainfall patterns will reduce the average yield of maize by up to 84% in the central region of Tanzania (URT, 2006).

The Climate Change, Agriculture and Poverty Alleviation (CCAP) project is a partnership between five non-governmental organisations: Action Aid Tanzania, MJUMITA, MVIWATA, TFCG and TOAM. It includes a national level advocacy component plus site based demonstration activities in three dry land villages in Chamwino District and three highland villages in Kilosa District. Funding from AcT has been committed for the period October 2012 to December 2014.

Project Goal

The goal of the climate change, agriculture and poverty alleviation project (CCAP) is that poverty has been reduced amongst small-scale farmers in Tanzania and greenhouse gas emissions from agriculture have been reduced through the widespread adoption of climate resilient, low emission agricultural practices.

Project approach and strategy

The project will achieve its goal by advocating for Tanzania to develop and implement policies and strategies that prioritise support to small-scale farmers to enable them to improve their livelihoods through the adoption of climate smart agriculture and sustainable land and natural resources management.

This baseline study was conducted with stakeholders at national, district and village level. The survey included respondents from all six project villages namely Kisongwe, Ibingu and Lunenzi in Kilosa and Mahama, Nzali and Manchali A in Chamwino. In order to measure the impact of project interventions in the project areas, the study selected Chinangali I in Chamwino and Lumbiji in Kilosa as control villages. The study assessed current knowledge and practices amongst relevant stakeholders and has documented the situations that exist in relation to project indicators.

This report includes sections on the methodology, results and conclusions and recommendations.

1.2 Objectives of the study

The terms of reference for this work are attached as Appendix I. The three objectives of the study were to:

- Document conditions at the start of the project in relation to the project's indicators and priority stakeholder progress markers.
- Document the current knowledge of and uptake of climate smart, small-scale agriculture and other livelihood initiatives intended to increase resilience to climate change and reduce greenhouse gas emissions in the six project villages.
- Document communication preferences for the project's priority stakeholders.

2. Methodology

2.1 Data collection

The survey used both qualitative and quantitative methods including direct observations and literature review. The qualitative data was collected through structured and key informant interviews. These involved administering questionnaires to small-scale farmers (Appendix ii), MJUMITA networks (Appendix iii), MVIWATA group members (Appendix iv) and Village government members (Appendix v).

Key informant interviews were conducted to ward councillors and Member of Parliaments (Appendix vi), Districts officials (Appendix vii) whose works are directly related with climate change, conservation and agriculture (District Executive Directors, District Natural Resource Officers and District Agriculture and Livestock Development Officers). Key informant interviews were also conducted to MJUMITA and MVIWATA National Leaders (Appendix viii), community trainers (appendix x) and to the Director of Environment in the Vice President's Office (Appendix ix) who is the Chairperson of the National Climate Change Technical Committee (NCCTC).

Districts' Agriculture Development Plans (DADPs), Districts' annual DADP reports, MJUMITA and MVIWATA institutional strategies and District social economic profiles were reviewed to understand the current situation with regards to climate change, climate smart-small scale agriculture, poverty and climate change adaptation and mitigation in the study areas and their integration in DADPs and in MJUMITA and MVIWATA institutional strategic plans. Quantitative data were collected from project village governments using village government members' questionnaires.

The study began with a review of the strategic plans for MJUMITA and MVIWATA, DADPs and District Social Economic Profiles. The survey team then collected background information on the eight villages (Appendix xii) prior to the commencement of data collection through interviews with stakeholders.

The study was conducted in Kilosa and Chamwino Districts (Figure 1) in Morogoro and Dodoma regions respectively.

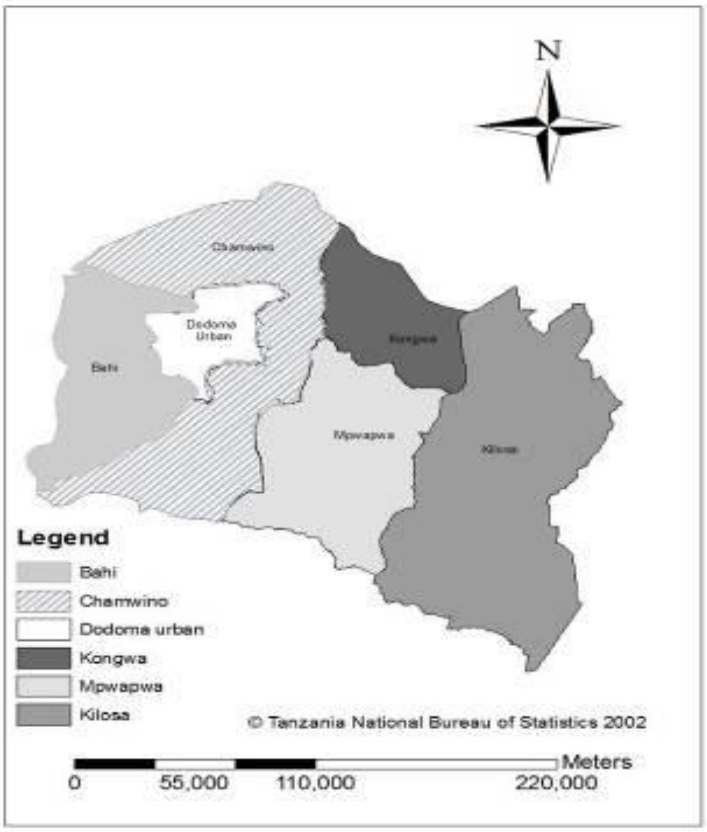

Figure 1. Map showing location of Chamwino district in Dodoma and Kilosa District in Morogoro Region.

Specifically the study was conducted in CCAP project villages namely Lunenzi, Ibingu, and Kisongwe villages in Kilosa (Figure 2) and Mahama, Nzali, Manchali A villages in Chamwino (Figure 3). Lumbiji and Chinangali I villages were selected as control villages in Kilosa and Chamwino respectively (Figure 2 and 3). The selection of these control villages was based on the criteria that these villages are in the same agro-ecological zone as the project villages and do not have and will not have the same project intervention during the lifetime of the project.

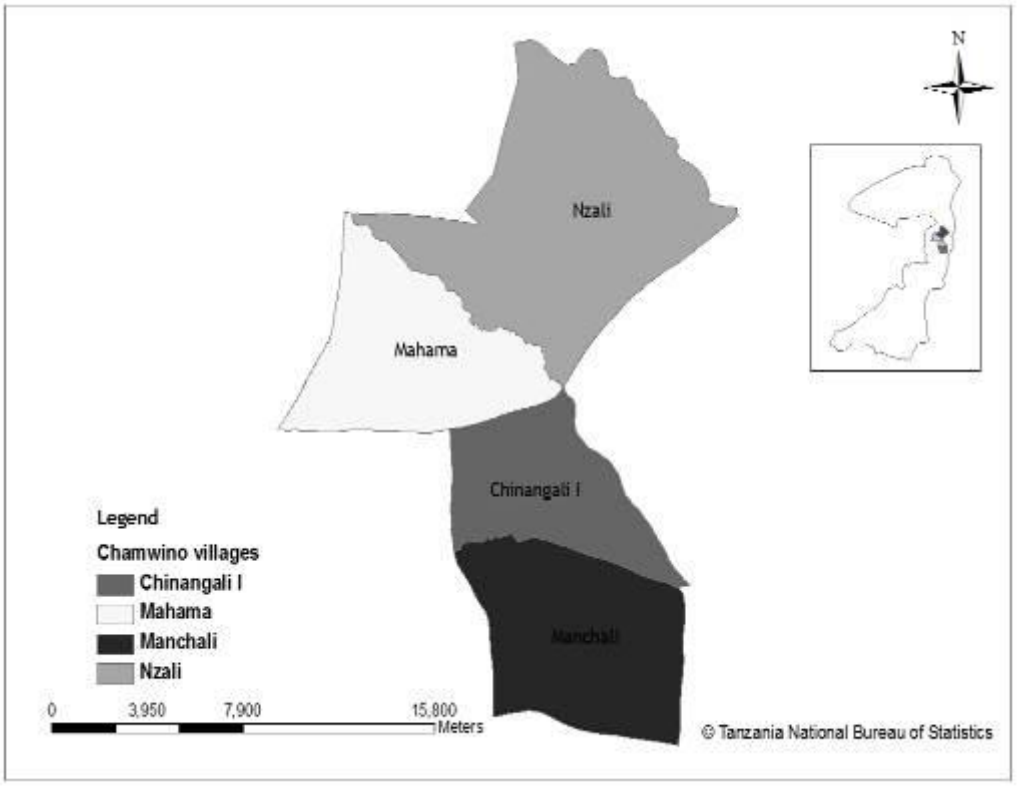

Figure 2. Map of Chamwino District showing location of Mahama, Nzali, Manchali and Chinangali I villages

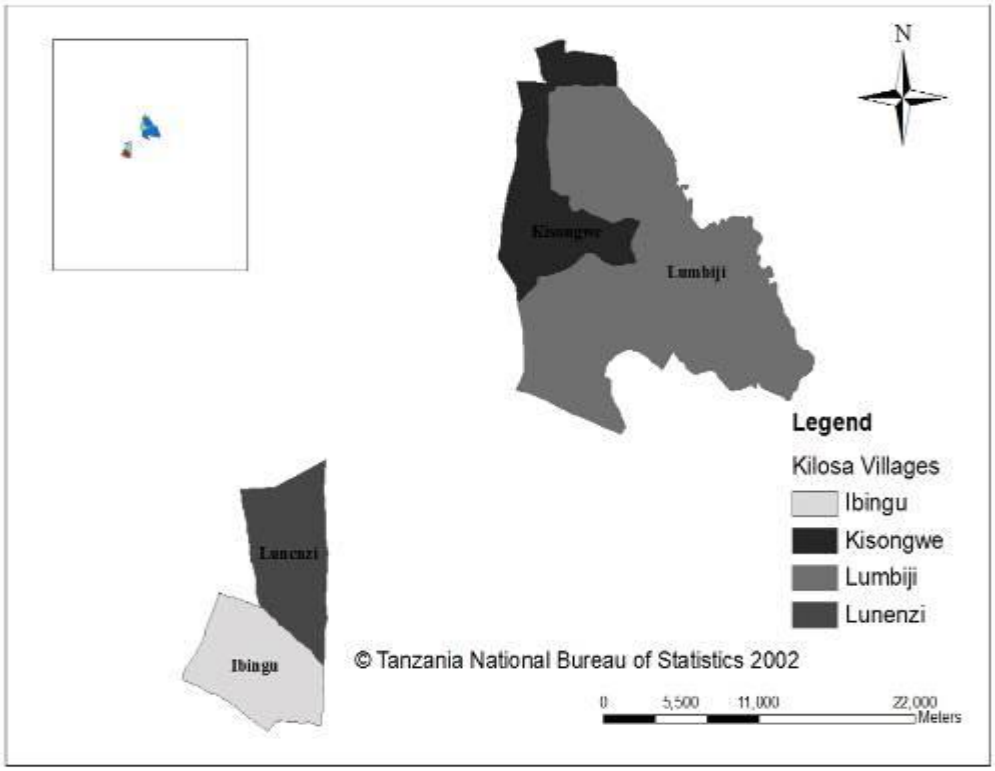

Figure 3. Map of Kilosa district showing location of Kisongwe, Lumbiji, Lunenzi and Ibingu villages

2.2 Sampling strategies

In each village the following sampling strategy was followed:

- 10 small-scale farmers;

The selection was stratified in such a way that ten (10) names of small-scale farmers (5 men and 5 women) were written on separate pieces of paper; mixed in a box; and five names were picked from the box to represent farmers who came from sub villages that are remotely located. In addition, six names of small-scale farmers (3 men and 3 women) who were considered to be poor (according to wealth ranking indicators in Appendix xiii) were written on separate pieces of paper; mixed in a box; and three names were picked from the box to represent small-scale farmers who came from the lowest wealth rank category**.** The same procedure was used for the remaining two farmers where for this case four names (gender was considered) were used to select the remaining two farmers to make a total of 10 small-scale farmers. During this exercise, gender was considered to ensure that women constituted 50% of the selected small-scale farmers to be interviewed. The sampling population includes all farmers in the project villages and not just those participating in the farmer field schools.

- 10 members of the village council (VEO, chairperson/deputy chairperson, chairpersons of two remotely located sub-villages, and two representatives from three main village committee).

In villages with more than two remotely located sub-villages, in order to select the two the same procedure was used i.e. names were written on separate pieces of paper; mixed in a box and two names were pulled out. The study also selected the chairperson and secretary of the three village sub-committees. When they were not present, two members from these committees were selected by using the same procedures as above.

- 10 members of MVIWATA and MJUMITA local area networks and groups (Chairperson, Secretary and 8 members of each network or groups) respectively, where such networks or groups had been established;

As described above, the names of all members of the networks were placed in a box and the name of eight (8) MVIWATA and MJUMITA members were pulled out.

With those criteria and sampling strategy, the study administered 199 questionnaires as follows:
80 questionnaires to village council members (35 female and 45 male);
80 questionnaires to small-scale farmers (39 female and 41 Male);
20 questionnaires to MJUMITA networks' members (10 female and 10 Male);
and the remaining 19 questionnaires to MVIWATA groups' members (8 female and 11 male).

MJUMITA network members came from UMILUI (Uhifadhi Misitu Lunenzi na Ibingu) and UMIKIM (Uhifadhi Misitu Kisongwe na Mfului) MJUMITA networks both in Kilosa. There were no MJUMITA networks in the study villages in Chamwino District. MVIWATA members belonged to Juhudi and Mshikamano groups in Kilosa and Chamwino Districts respectively. Juhudi group was composed of five members from Kisongwe and five members from Lumbiji village whereas in the case of the Mshikamano group, all 10 members came from Nzali village in Chamwino District as all members are in Nzali village.

Overall the study interviewed 89 respondents from Chamwino and 110 from Kilosa of whom 92 were women and 107 were men. The list of respondents interviewed and administered questionnaires are attached in Appendix xii.

The study also compiled a profile of all of the participating villages including information on population; number of sub-villages; public services available; languages spoken; radio stations available; history; economic activities; presence of micro-finance institutions; and CSO and private sector initiatives active in the respective village (Appendix xi).

The study also documented other observations relating to activities or communication materials in the study villages related to small-scale agriculture, climate change and current agriculture practices.

Stakeholders at District and National level were selected on the basis of their positions.

2.3 Data analysis

Data analysis involved the development of data entry templates in Statistical Package for Social Science (SPSS), which are essentially, versions of the data collection questionnaires. Data entry was done using SPSS software and Microsoft Excel Spread Sheet as well as Geographic Information System (GIS) software. On completion of data entry, an in-depth analysis of the data obtained from questionnaires was undertaken using SPSS software and excel to establish the project baseline in the study areas. Maps were drawn using GIS.

3. Results

3.1 General information on village-level surveys

3.1.1 Age composition of respondents in Kilosa and Chamwino study villages

The age of the respondents ranged from 20 to 85 years in Kilosa and Chamwino with the largest proportion of respondents (30% for Chamwino, Figure 4 and 39% for Kilosa, Figure 5) falling in the age range of 41 to 50 years. Age could affect willingness to adopt new technologies. Since the project aims to promote climate smart, small-scale agriculture technologies in the project areas, it is important to take age into consideration when designing strategies.

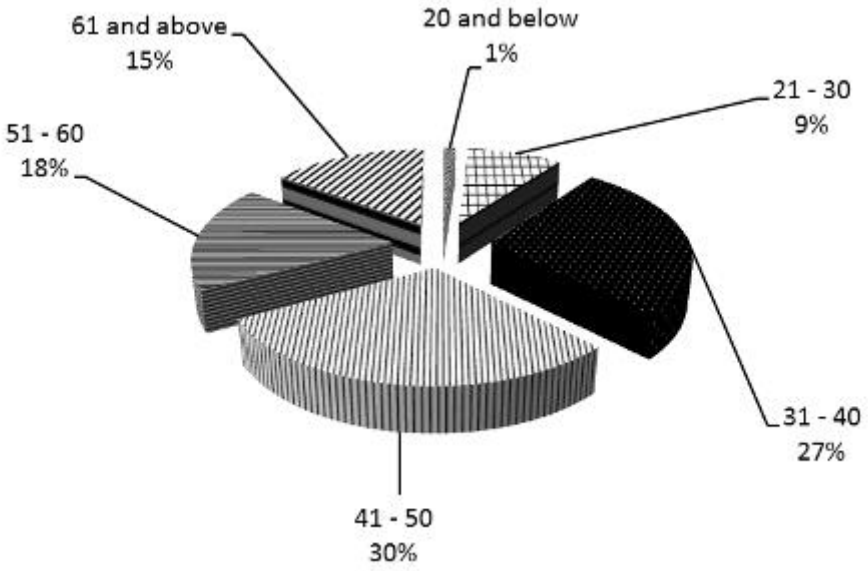

Figure 4. Age composition of respondents in Chamwino study villages (n = 89)

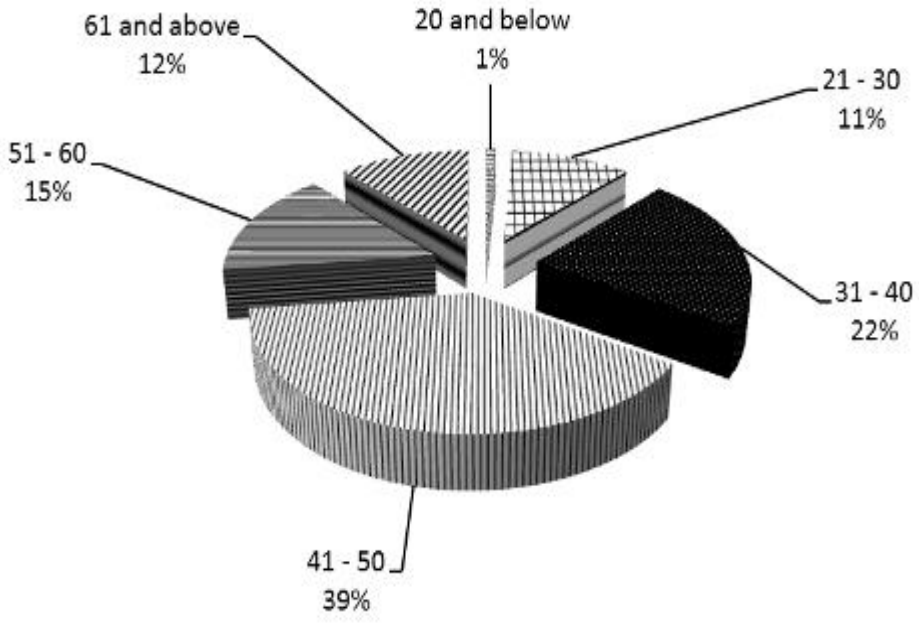

Figure 5. Age composition of respondents in Kilosa study villages (n = 110)

Only 10 % of the Chamwino and 12 % of the Kilosa respondents were under 30 years (Figure 4 and Figure 5) as the study focused on respondents at the household level and in most cases it was either the head of the household or the wife of the head of the household who was interviewed. This was due to the fact that most farmers in the villages who are still living with their parents do not own their own farms.

3.1.2 Education level of respondents

The baseline study indicated that 88% (n = 89) of the respondents in Chamwino had attended school whilst 12% of them had not attained any formal education (Figure 6). Most of respondents who went to school had primary education (82%) and the remaining 6% had secondary education (Figure 6.)

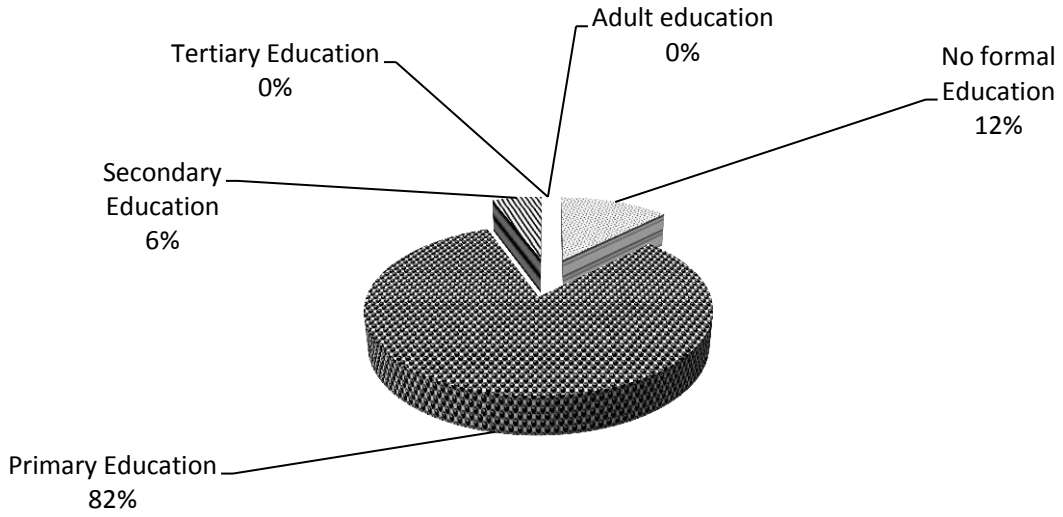

Figure 6. Education composition of the respondents in Chamwino study villages (n = 89)

In Kilosa, 93% (n = 110) of the respondents had attended school whilst 7% of them had not attended any formal education. For those who attended school, 89% of them had primary education, 1% had secondary education, 2% had adult education and another 1% had tertiary education (College education) as seen in Figure 7.

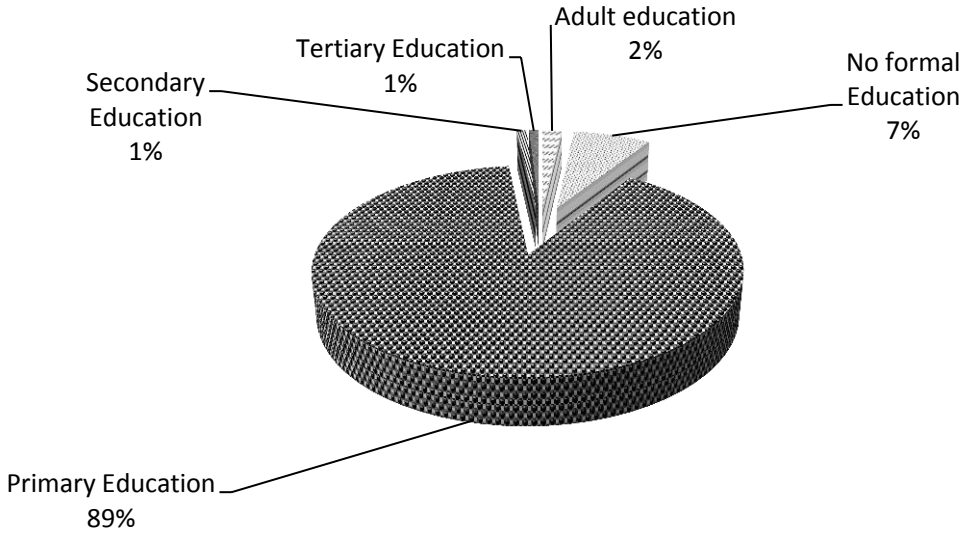

Figure 7. Education compositions of the respondents in Kilosa study villages (n = 110)

The comparison of three villages in Chamwino with same number of respondents (n =20) showed that Manchali A had a higher number of respondents (20%) who had not attended school compared to Mahama (15%) and Chinangali I (0%) villages (Table 1). Similarly Chinangali I village had respondents who had secondary education (10%) amongst the three compared villages. None of these three villages had respondents with tertiary education.

Table 1. Comparison of education level of three villages in Chamwino (n = 20 for each village)

	Education level				
Villages	**No formal education**	**Primary education**	**Secondary education**	**Tertiary education**	**Adult education**
Mahama	15%	85%	0%	0%	0%
Manchali A	20%	80	0%	0%	0%
Chinangal I	0%	90%	10%	0%	0%

Similarly, the comparison of three villages in Kilosa with the same number of respondents (n= 25) revealed that Lunenzi village had the most respondents (16%) who had not attended any formal school as compared to Ibingu and Lumbiji that had no respondents with no education (Table 2). Ibingu and Lumbiji had respondents who had attended secondary school and it was only Lumbiji village that had one respondent with tertiary education (Table 2). Most respondents in the three villages had primary education (Table 2).

Table 2. Comparison of education level of three villages in Kilosa (n = 25 for each village)

	Education level				
Villages	**No formal education**	**Primary education**	**Secondary education**	**Tertiary education**	**Adult education**
Ibingu	0%	96%	4%	0%	0%
Lumbiji	0%	88%	8%	4%	0%
Lunenzi	16%	84%	0%	0%	0%

The study also found that of the 42 women who were interviewed in Chamwino, 12% of them had no formal education (Figure 8). Eighty three per cent (83%) of the women had primary education and 5% of them had secondary education. They study also found that none of the women had tertiary or adult education. In Kilosa, 88% (n = 50) of women who were interviewed had primary education whilst 12% of them had no formal education (Figure 9). None of the women interviewed had secondary, tertiary or adult education.

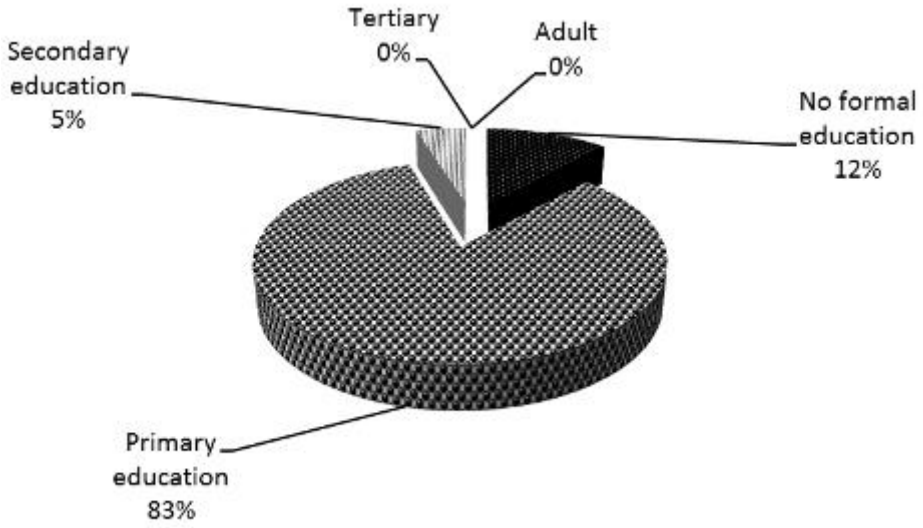

Figure 8. Education level of the interviewed female in Chamwino study villages (n = 42)

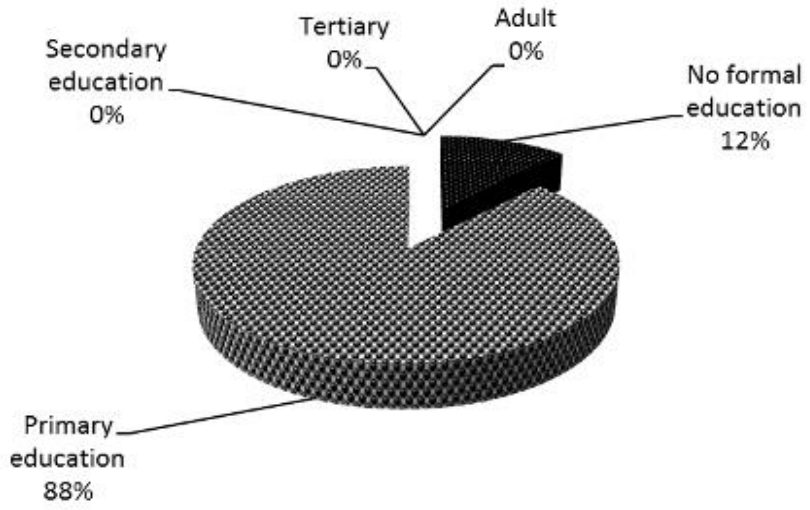

Figure 9. Education level of the interviewed women in Kilosa study villages (n = 50)

Of the 59 men who were interviewed in Kilosa, 3% of them had no formal education. Of the 97% educated interviewed males, 90% of them had primary education, 2% of them also had secondary education while the remaining 5% had tertiary or other adult education (Figure 10).

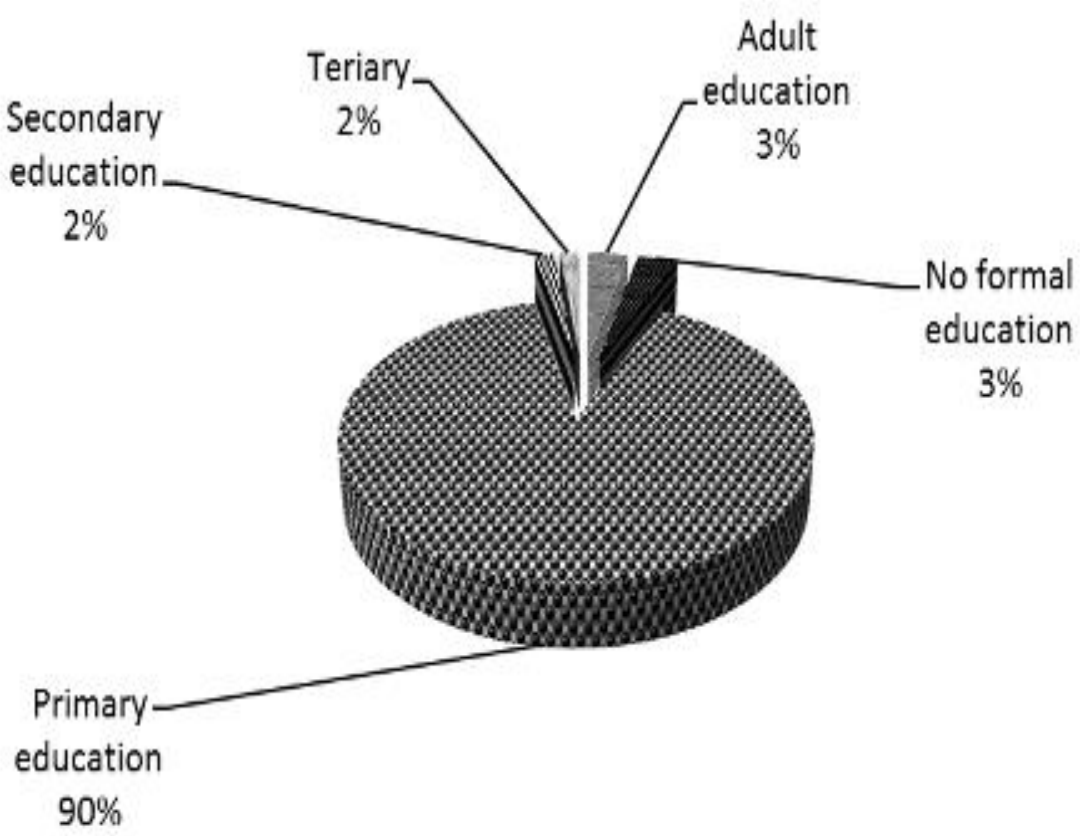

Figure 10. Education level to the interviewed male in Kilosa study villages (n = 59)

The study found that of the 48 men, who were interviewed in Chamwino, 13% of them had not attended any formal education; 81% of them had primary education only and the remaining 6% of them also have secondary education (Figure 11)

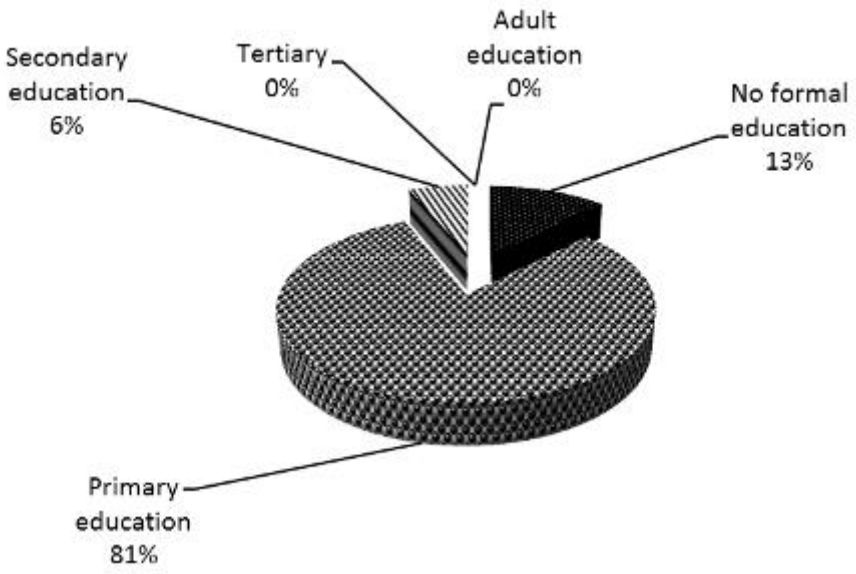

Figure 11.Education level of the interviewed male in Chamwino study villages (n = 48)

There were more respondents with no formal education in Lunenzi and Manchali A Villages. This reflects the absence of a school in these villages. Currently pupils in Lunenzi village walk to Ibingu primary school to access education. This situation discourages some pupils as they reported during our discussions. On the other hand, the low number of respondents who attended secondary school is linked with the absence of secondary schools in the study villages. Even for those villages with secondary schools, these schools have only been established recently. The low education level is plausibly associated with poor access of these communities to education.

3.1.3 Respondents' economic activities

Although some of the respondents are involved in business as one of their economic activities, the majority of respondents both in Kilosa (n = 109) and Chamwino (n = 90) districts depend on agriculture as the major economic activities to sustain their lives (Figure 12 and Figure 13). Figure 12 below shows that agriculture only is the most practiced economic activity in Kilosa for 55% of the respondents followed by agriculture and business with 36% of the respondents and business only (9%).

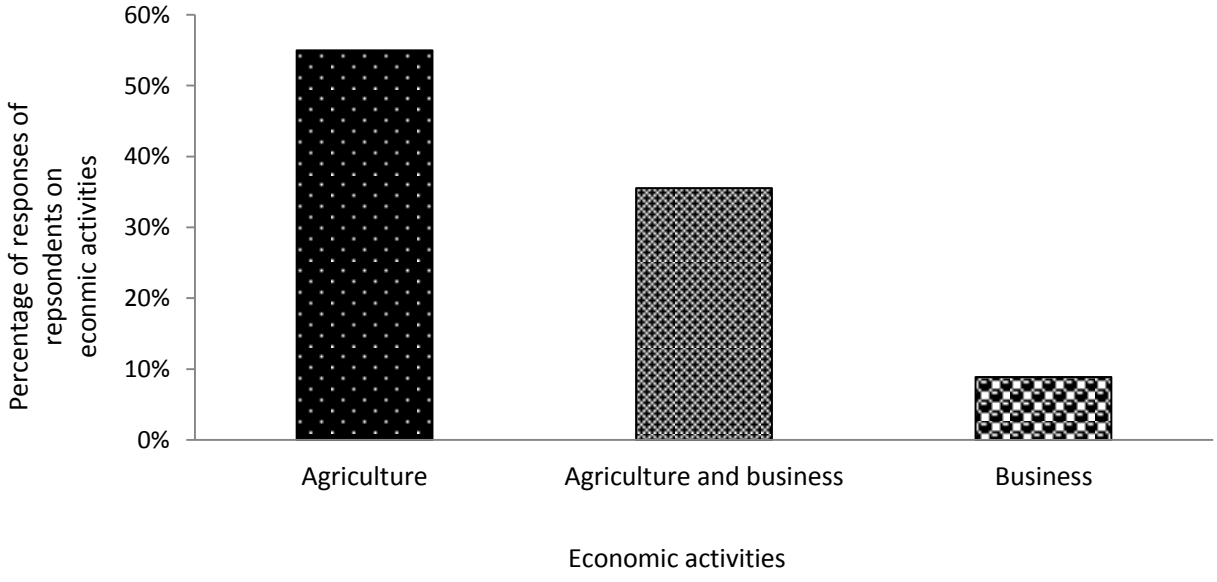

Figure 12 Economic activities of respondents in Chamwino study villages (n = 90)

In Kilosa, Figure 13 indicates that 67 % of respondents are primarily dependent on agriculture; 24 % are engaged in business and agriculture; and 9 % are engaged in business only.

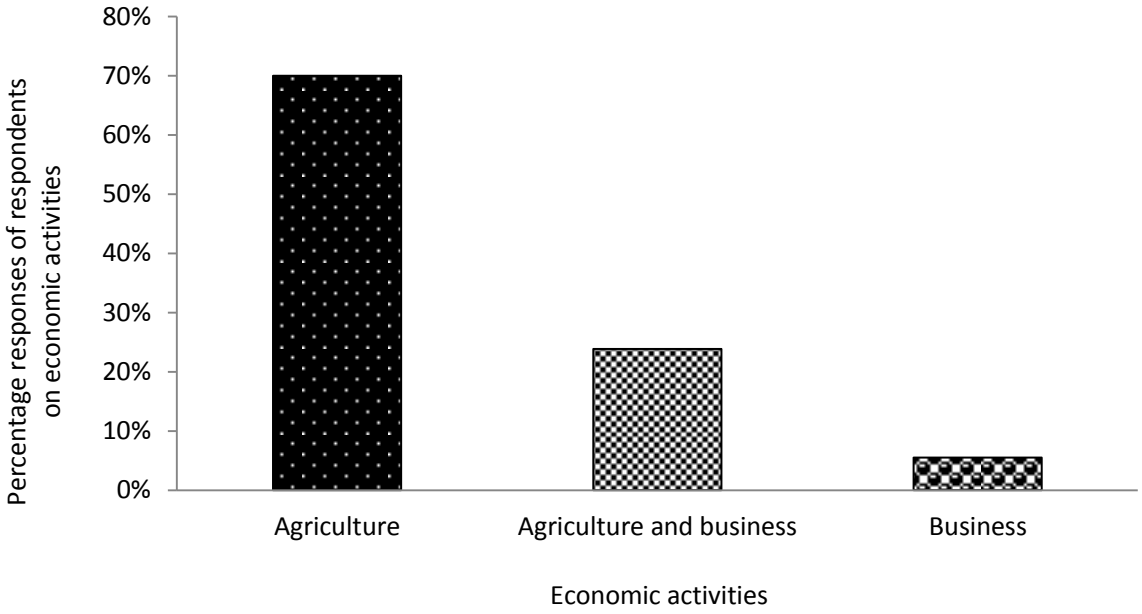

Figure 13. Economic activities of the respondents in Kilosa study villages (n = 109)

Table 3 shows different kinds of business that are being conducted by those respondents in the study villages who reported to be involved in business. Selling alcohol was the most frequently cited business amongst the respondents in the study villages. Owning and running cafes and selling firewood were also cited frequently.

Table 3. Businesses practiced by respondents in the study villages

	Ibingu n = 3	Kisongwe** n = 16	Lumbiji** n = 4	Lunenzi** n = 9	Chinangali I* n = 8	Mahama* n = 9	Manchali A n = 6	Nzali* n = 11
Beekeeping	0%	6%	25%	0%	13%	0%	0%	0%
Carpentry	0%	0%	0%	11%	0%	0%	0%	0%
Kiosk	0%	0%	25%	0%	13%	0%	0%	0%
Café	33%	25%	0%	22%	50%	11%	0%	18%
Selling Alcohol	33%	38%	50%	56%	25%	44%	33%	45%
Selling Crops	0%	31%	0%	11%	0%	22%	67%	9%
Selling Firewood	33%	0%	0%	0%	0%	22%	0%	18%
Selling Fruits	0%	0%	0%	0%	0%	0%	0%	9%

3.1.4 Main crops grown by small-scale farmers

Located in a national 'grain basket' region (Morogoro), Kilosa district is a nationally important source of maize (Mwakalinga, 2007). Amongst the 40 small-scale farmers who were interviewed in Kilosa, they grow a mix of maize, beans, sunflower, cassava, millet, groundnuts, banana, sweet potatoes, cowpeas, and rice (Figure 14). The most frequently cited crops were maize, beans and cassava as the main crops grown in Kilosa study villages.

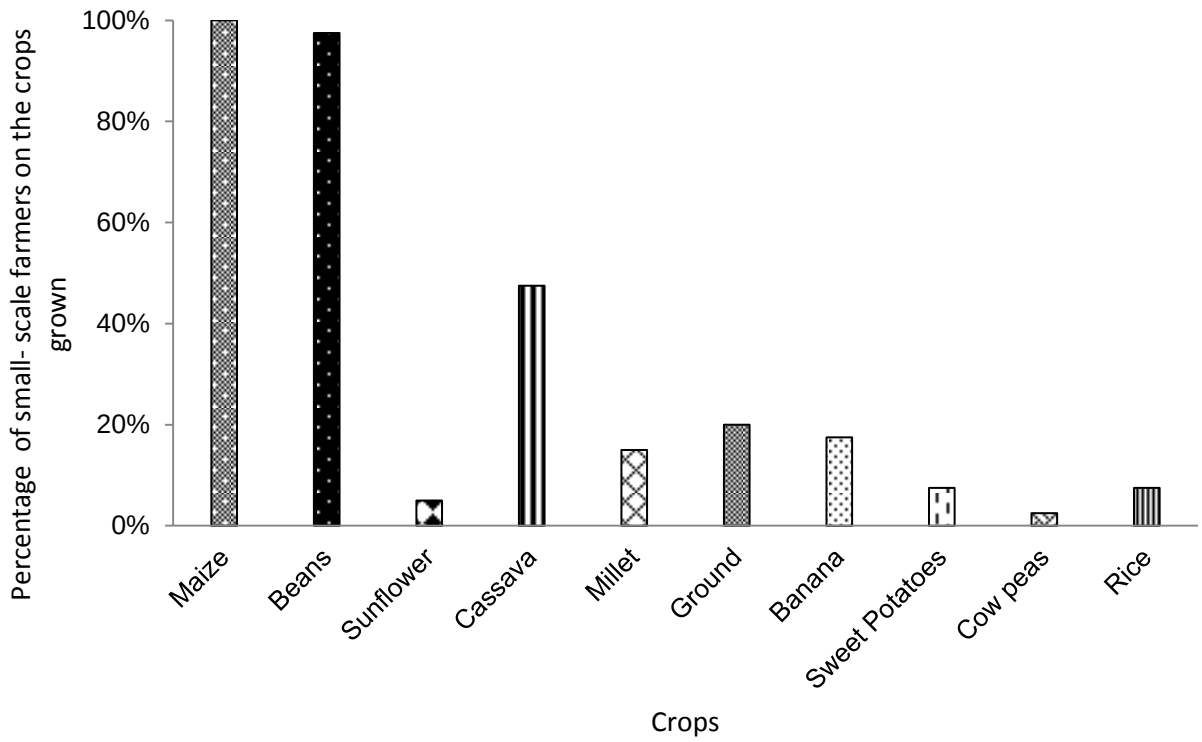

Figure 14. Crops grown by farmers in Kilosa study villages (n = 40)

The 40 farmers who were interviewed in Chamwino are involved in different combinations of Maize, Sunflower and Cassava, Millet, Pigeon Pea, Groundnuts, Sesame, Cow Peas and Peanuts production. Maise, groundnuts, millet, sunflower and sesame production were the most frequently cited (Figure 15).

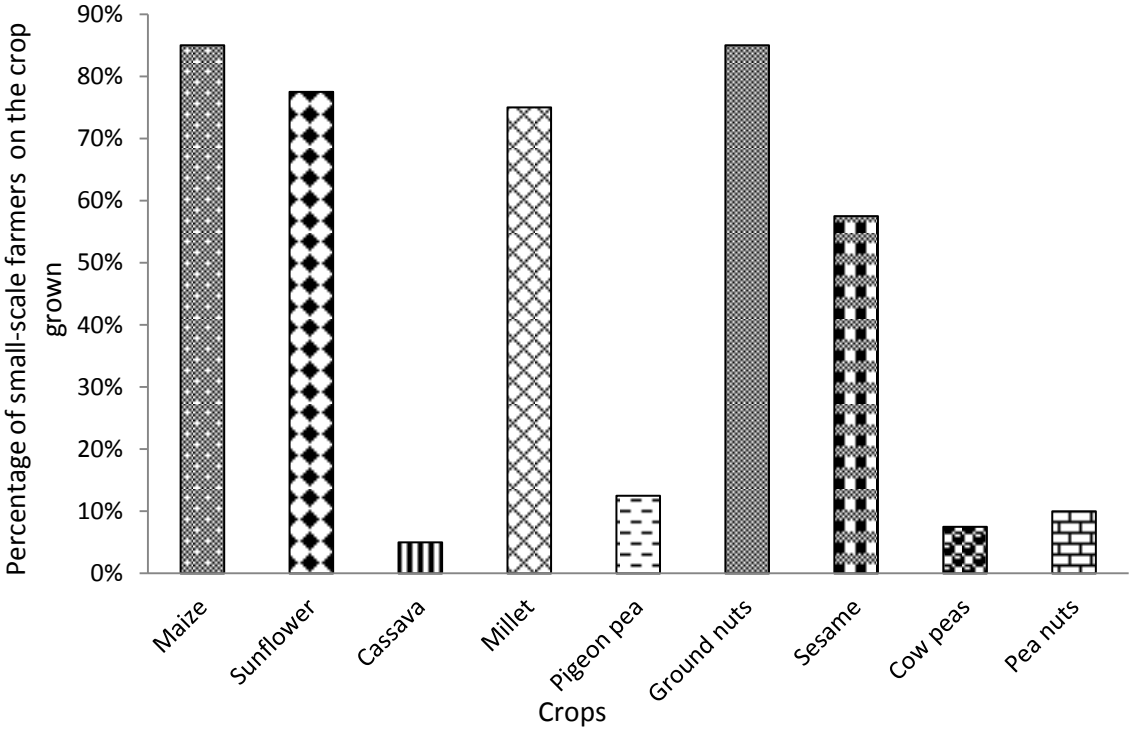

Figure 15. Crops grown by farmers in Chamwino study villages (n = 40)

Figures 14 and 15 show that the farmers interviewed in Chamwino (n = 40) grow more drought resistant crops like sunflowers, groundnuts, millet and sesame as compared to Kilosa (n = 40) who grow more maize and beans crops that are known to be less drought resistant (Temu *et al*. 2011). This is also substantiated by small scale famers' response on whether they grow drought resistant crop whereby 78 % of the Chamwino farmers stated that they do whilst only 38 % of the farmers in Kilosa stated that they do (Table 5 and Table 6). This perhaps is due to location of Chamwino district that is in Central Plateau zone (villages are in zone P2), an agricultural zone that has a savannah type of climate characterised by long dry seasons (Blinker, 2006) as compared with Kilosa districts located in Eastern Plateaux and mountain blocks (villages are in zone H7), the zone in most cases that favours less drought resistant crops (see figure 16 for the Tanzania agro-ecological zones).

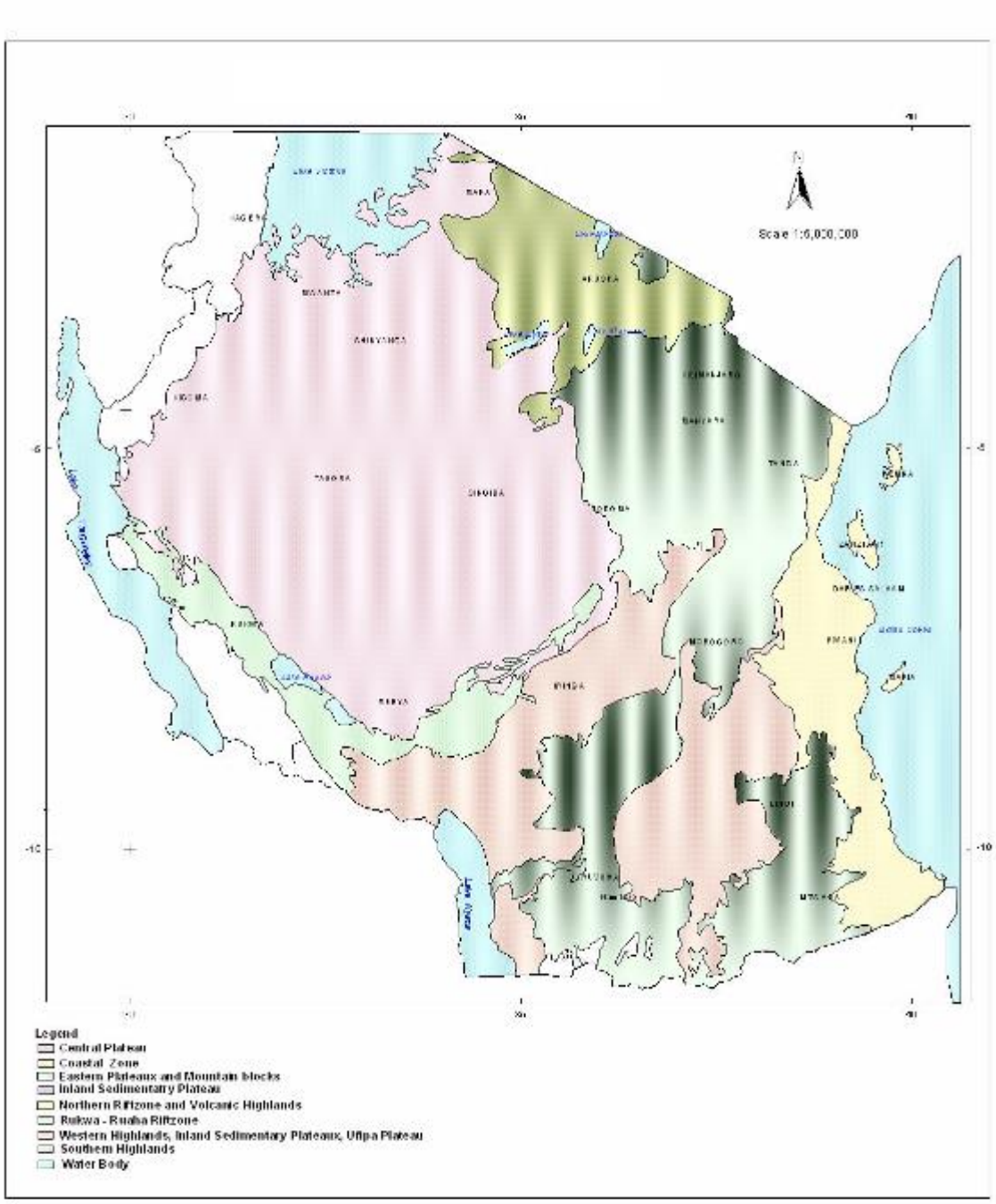

Figure 16. Agro-Ecological Zones of Tanzania (Source: Blinker, 2006)

3.2 Baseline situation of project's indicators and priority stakeholder progress markers

3.2.1 Baseline situation of project indicators

In order to monitor the progress and impact of the CCAP project, implementing partners have developed indicators. Different stakeholders were interviewed in order to assess the situation at the start of the project for each indicator. The results of interviews with different stakeholders are presented below in relation to each of the project's indicators.

Intermediate objective *Tanzania has developed and is implementing policies and strategies that prioritise support to small-scale farmers to enable them to improve their livelihoods through the adoption of climate smart agriculture and sustainable land and natural resources management.*

Intermediate Objective Indicator 1: Districts are receiving and distributing resources to support small-scale farmers to adopt more climate smart agriculture.

The results of interviews with local government staff, village leaders and farmers are presented below in relation to Intermediate Objective Indicator 1.

Chamwino

District staff stated that during the 2011/2012 financial year, Chamwino district received support from the Food and Agriculture Organisation of the United Nations (FAO) to support improved water use efficiency through rehabilitation and establishment of irrigation schemes. The support also involved support for an agriculture voucher scheme amounting to 64 million TSH for 400 farmers at 160,000 TSH per each farmer. The vouchers were provided for free to farmers from Msasa, Chalinze, Makoje and Bwigiri villages. Among other things farmers from these villages bought macia seeds, a variety of sorghum that is known to be mature early. Since these villages were not among the study villages, it was not easy to verify this information at the village level.

Based on a review of the 2012-2013 Chamwino DADP, it was noted that the plan aims to implement the Agricultural Sector Development Strategy (ASDS) focusing on a transformation from subsistence to commercial agriculture. The implication is for policy and public expenditure to be a means of inducing private sector investment in the agricultural sector. The plan highlights that small-scale farmers are empowered through improvement of youth and women access to productive resources and income generating activities. The District mentioned that small –scale farmers are supported through provision of subsidized macia variety (sorghum). Farmers buy a kilogram (kg) of these seeds at 800 TSH and some are given on credit whereby if a farmer is given one kilogram (kg) he/she has to return two kilograms so that it can be distributed to others. Although the district is supporting famers to adopt more climate smart agriculture as exemplified above, the magnitude of this support is very low to bring an impact at the district level.

It was mentioned that in the last financial year the district was implementing DADP project in Chinangali II, Mvumi Mission and Mvumi Makulu villages. The study villages were not among the DADP supported villages. The Chamwino DADP addresses some of the C3S agriculture techniques and practices including promotion of ox-driven tillage and weeding practices; use of climate resilient seed varieties and drip irrigation.

Kilosa

The 2012-2013 Kilosa DADP aims to ensure food security and to increase per capital income emanating from increased productivity of the agricultural sector in Kilosa district. The plan focuses on the construction of reservoirs and irrigation schemes for the development of paddy rice as this has been identified to be the most promising crop for the district. For example, the district is building irrigation ditches that are directed to farmers' field. Currently, these projects are intended to benefit farmers in five villages: Lumuma, Mvumi,

Ilonga, Mwasa and Chanjale villages. A total of 600 million Tanzania shillings were allocated for these projects in 2012 in the DADP. The project villages will not benefit from these investments.

Through reviewing the Kilosa DADP the study found that it has an Environmental and Social Management Framework (ESMF) for individual projects to take measures that safeguard environmental and social issues during project implementation. The ESMF is for larger projects like tractor introduction, building of crop markets and crop storage houses, production of best paddy seeds, and construction of irrigation schemes. Small scale measures initiatives are not addressed in the plan.

The plan is focused on shifting to commercial mechanized agriculture through promoting use of tractors and power tillers. This is likely to lead to increased GHG emissions. Tree planting and forest conservation mitigation measures that are put forward by the DADP ESMF is disputed by a small number of village leaders (30%) who reported to have been supported by the district to mitigate and adapt to climate change impacts. Agriculture practices that protect environment and support small-scale farmers are not fully addressed in the plan. Small- scale farmers will not be the main beneficiaries for the irrigation schemes that are mainly targeted to medium and large scale farmers.

Initiatives that are aimed at empowering small-scale farmers include: promotion of community based seeds production (maize, paddy, sorghum, sesame, sunflower and wheat), reduction of crop field losses by farmers through purchasing of chemicals to control quelea quelea. The plan also intends to establish farm field schools in which 59 are for crops and 11 for livestock. The DADP also targeted resettlement of 172 small-scale farmers who were living and cultivating in catchment areas. In its district DADP reports, the Kilosa district reports that it was able to shift 172 farmers who were living and cultivationg on catchment aeas of Tundu, Ruaha and Kifinga villages to lowland areas of Mkangawalo whereby it provided farmers with 4 hectare each.

Delay of fund disbursement and having few field officers compared to area of implementation (i.e. number of villages to number of village extension officers) is mentioned to be amongst the major constraints for effective DADP implementation. For example, the Kilosa district officials said they normally prepare a budget for the proceeding year in April and it is supposed to be received at the district at the end of July. But this has not been the case as they normally receive the funds in November. Of current they have not received the 2012/2013 budget to implement the plan that was planned in April 2012. On the other hand, they admitted that currently at the district they are only 15 staff for agriculture sub-department and only 7 staffs for livestock sub-department with 132 extension officers in the villages.

At the village level

During this baseline survey, some of the village leaders from both Kilosa and Chamwino study villages revealed that they have been at least receiving some support to adapt to climate change from the district (Figure 17).

Figure 17. Kilosa and Chamwino village leaders' responses on whether they have received any support for C3S agriculture from the District

Amongst those who reported that they had received support for C3S agriculture in Chamwino districts (n = 40) they mentioned drought resistant crops (23%), extension services (5%), irrigation equipment and finance (each 2%) and fertilizer (3%). In Kilosa (n = 40), farmers mentioned provision of drought resistant seeds (50%) and fertilizers (18%) as support they have received from the district to adopt more climate smart agriculture (Figure 18).

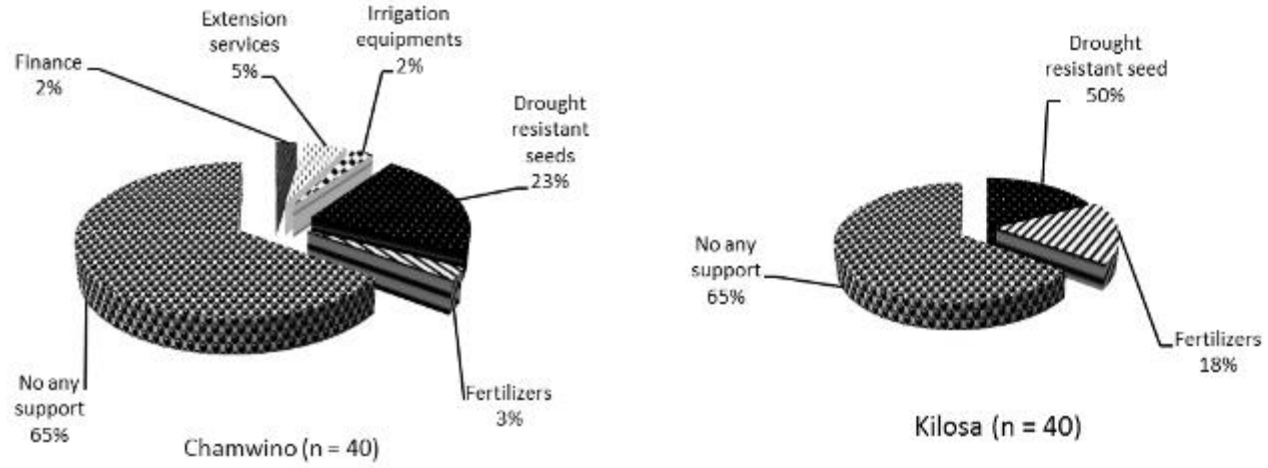

Figure 18. Kinds of supports reported to be provided by the Kilosa and Chamwino districts to the village leaders in the study villages

Amongst the village leaders who responded that they have received support from the district for climate smart agriculture at the village level, the most frequently cited support was provision of drought resistant seeds (Figure 19). Provision of fertilizer by the District was reported by village leaders in three villages (Ibingu, Kisongwe and Lumbiji) in Kilosa and one village (Mahama) in Chamwino. Provision of extension services by the District were reported in Manchali A and Nzali villages in Chamwino. In Lunenzi, none of the village leaders reported receiving any support from the district for climate smart agriculture (Figure 19).

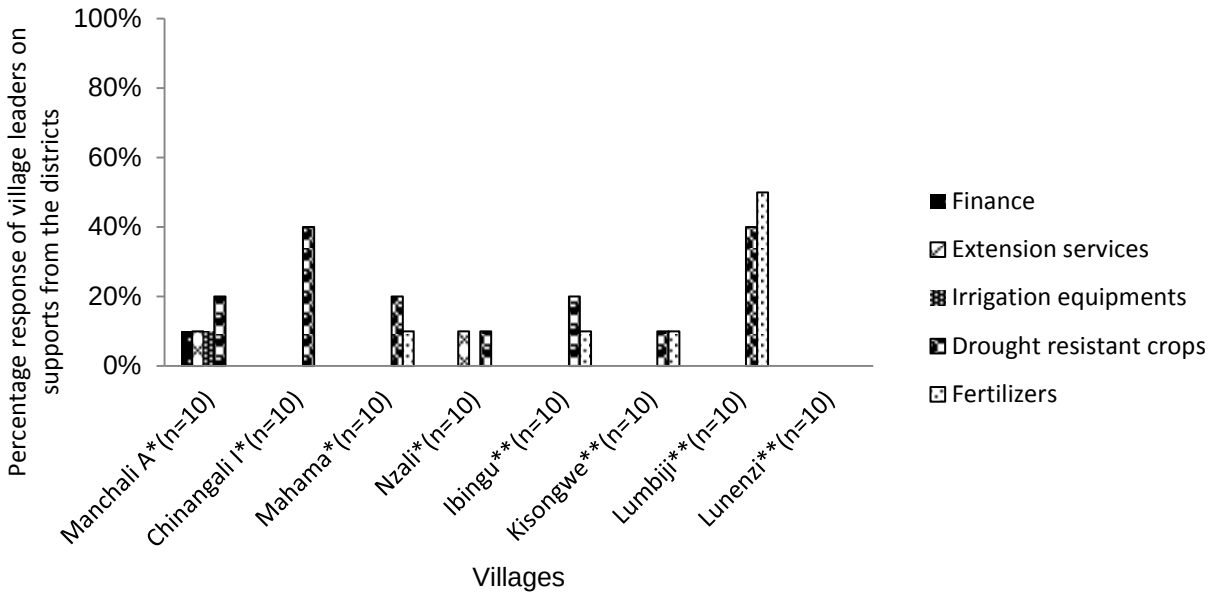

Figure 19. Support received by the village leaders at village level to adopt climate smart agriculture

Note: * Chamwino study villages ** Kilosa study villages

Amongst the small-scale farmers, 32% and 2% of the small-scale farmers in Chamwino and Kilosa respectively reported receiving support from the district for adoption of C3S agriculture (figure 20).

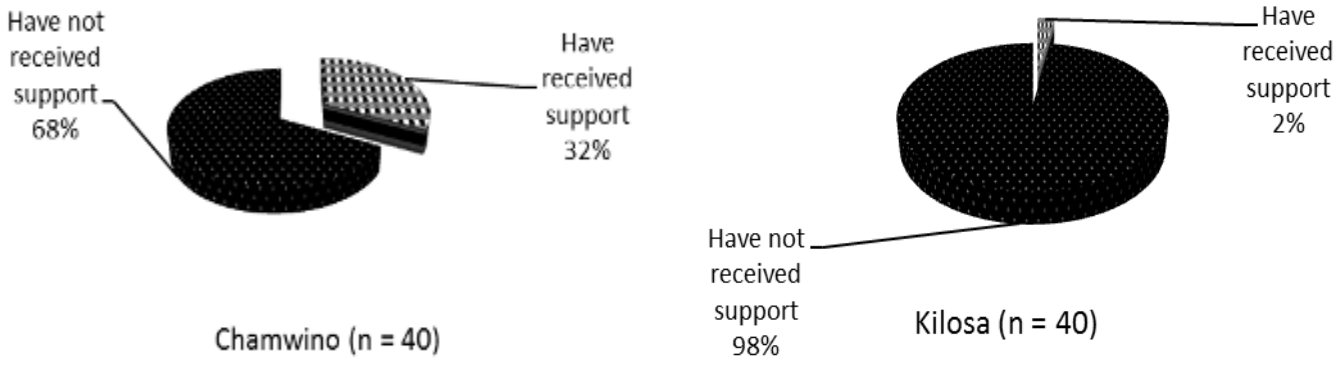

Figure 20. Small-scale farmers' responses on whether they have received support from the district to adopt more C3S agriculture in Kilosa and Chamwino study villages

Amongst the 2% of small-scale farmers who reported that they have received support from Kilosa district they all came from Ibingu Village. In Chamwino the 32% of farmers who had received support includes farmers from all of the study villages (Figure 21). Amongst the 2% and 32% of farmers from Kilosa and Chamwino respectively who reported that they received support from the District, four kinds of support were mentioned: i. provision of practical information on how to adapt to climate change impacts; ii. Training on soil and water conservation; iii. Support for irrigation infrastructure; and iv. Provision of drought resistant crops. Of these, the provision of drought resistant seeds was the most frequently cited.

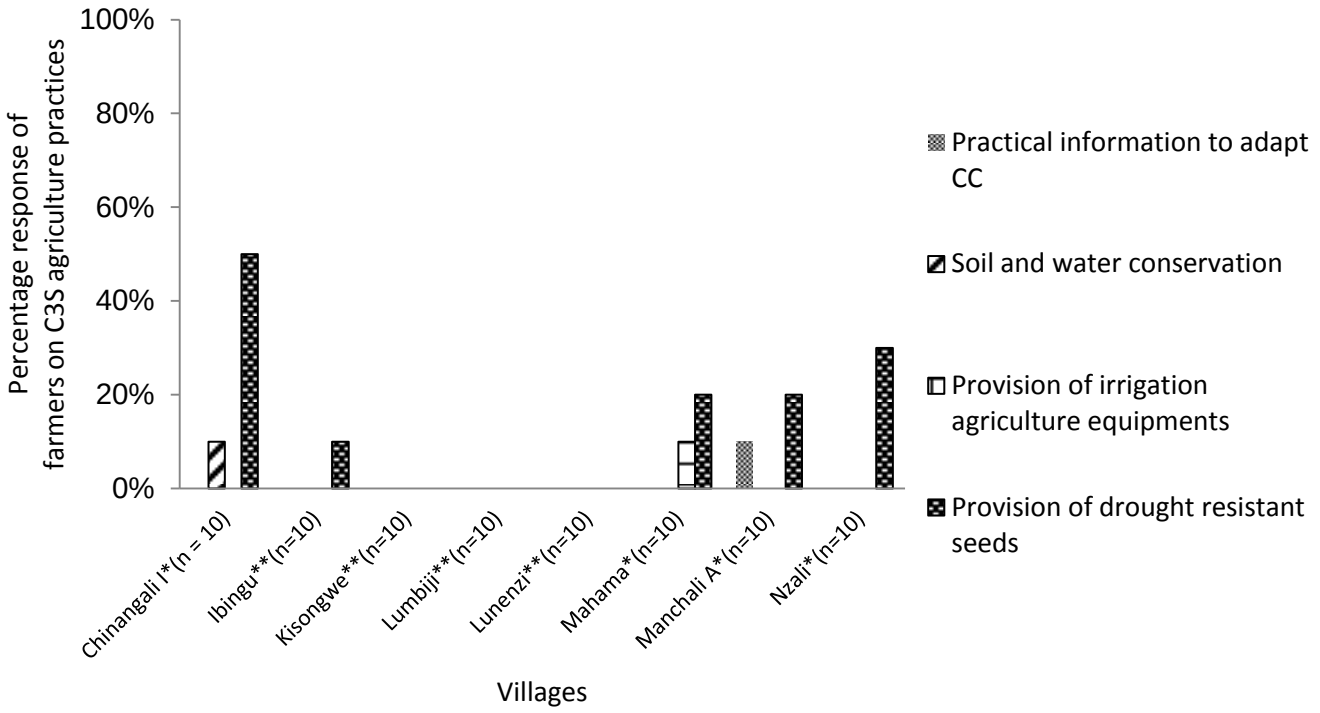

Figure 21. Small-scale farmers who received support from the district to support adoption of C3S agriculture

Note: * Chamwino study villages ** Kilosa study villages

Immediate Objective 1: *Immediate objective 1. Small-scale farmers and other stakeholders are demanding the integration of climate smart, small-scale agriculture and sustainable land and natural resources management in national policy and policy implementation.*

Immediate Objective 1 Indicator 1. MJUMITA and MVIWATA Networks make demands at local, national and international level through media and meetings for increased support for C3S agriculture and improved natural resources governance.

MJUMITA

Both the MJUMITA national Chairperson and secretary said currently they have not made any demand for increased support for C3S agriculture and improved natural resource management specifically through the media; instead it has been done through meetings including the annual general meeting where in most cases government officials are welcomed as the guest of honours. They said the meetings are also attended by various media where they believe the media communicate issues raised in the general meetings back to local and the general public.

MVIWATA

The MVIWATA national Chairperson stated that he has made demands for small-scale farmers' support when he was interviewed by ITV. In the interview, he demanded that farmers be helped to cope with climate change especially through growing crops that are resistant to climate change impacts. Speaking on behalf of the MVIWATA national secretary, the lobbying and advocacy officer said that they normally make demands through their annual general meetings and in most cases media are welcomed as participants. He gave an example of the last MVIWATA annual general meeting that was held in August 2012 to which Abood television, ITV, Star TV and Top radio were invited. Issues involving sustainable agriculture were

amongst the key topics that were aired by the mentioned media. Nevertheless, he stressed that there has not been a specific media coverage that has been organised by MVIWATA to demand for C3S agriculture and improved natural resource management.

Immediate objective 2. *Government, private sector and civil society are cooperating to support Small-scale farmers to benefit from climate smart agriculture and sustainable land and natural resources management.*

Immediate Objective 1, Indicator 1. Two districts demonstrate multi-stakeholder coordination in support of C3S agriculture.

Both districts stated that stakeholder coordination is one of the key issues to be considered in any initiative that has a public interest in the district. They said that the development of DADPs for example involves District Agriculture Stakeholder Meetings where different stakeholders including district officials, district council members, farmers, private sectors, regional officials, public institute and medias among other stakeholders are invited. They said it is through this way whereby they will demonstrate multi-stakeholder coordination in supporting climate smart, small-scale agriculture when those initiatives come to be implemented by the district.

Chamwino

In the last financial year Chamwino district welcomed 40 stakeholders in the district agriculture stakeholder meeting and among them were stakeholders involved in agriculture including INADES and Rural Livelihood Development Company (RLDC). They also reported to involve agriculture inputs providers represented by MC Agrotech and agriculture produces processors.

District officials in Chamwino district reported to have a long lasting collaboration with different stakeholders in addressing climate change, environmental conservation and agriculture. They mentioned that Chamwino district has been in collaboration with DCT/DSC (Diocese of Central Tanganyika) in provision of services in Agriculture, animal husbandry, water food and environment, INADES dealing with agriculture education, DONET (Dodoma Environment Network) involved in environmental control, DEMAT (Dodoma Environmental Management) that is addressing environmental conservation and management, TAWLAE (Tanzania Association of Women Leaders in Agriculture and Environment) with activities in agriculture environmental conservation, ACTION AID that provide education on improved agriculture practices among other partners in agriculture and environment.

Kilosa

In its district agriculture stakeholder meetings, Kilosa district welcomed the Human Development Strategy Association (HUDES), Imara Trust Fund and Agro - Input Supply Agency. The district officials also reported that they involved public institutions represented by Agriculture Training Institute (MATI-Ilonga), Agriculture Research Institute (ARI-Ilonga) and Agriculture Seed Agency (ASA-Msimba). They also involved Radio Jamii to represent media in that meeting.

Kilosa district officials also reported that they are collaborating with MJUMITA and TFCG in addressing climate change and agriculture issues in REDD project, Heifer International with its South East Zone Agro-ecological Project, World Vision and Sokoine University of Agriculture among other partners.

Output 1: *Two national networks of community groups are advocating for climate smart agricultural land management at national and local levels.*

Output 1. Indicator 1.1 *MJUMITA and MVIWATA institutional strategies integrate small-scale farmers and climate change mitigation and adaptation.*

MVIWATA strategic plan

The 2010-2014 MVIWATA Strategic Plan (SP) in its Strategic Objective four (SO4), emphasize mainstreaming climate change in the works of MVIWATA and that members, leaders and staff of MVIWATA are aware and fully engaged. It also states a commitment to mainstream climate change in MVIWATA programmes and envisage creating adequate awareness to members, leaders and staff". In addition, the respective activities 1-4 for realizing SO4 include climate change as follows: 1. Develop strategy on climate change in collaboration with stakeholders and partners 2. Conduct training on climate change to MVIWATA members, leaders and staff 3. Participate in advocacy work related to climate change 4. Document and share farmers' local practices for coping with climate change.

Despite the fact that MVIWATA's SP touch climate change issues, climate change impacts and adaptation is sparsely addressed. The discussion with MVIWATA lobbying and advocacy officer revealed that climate change strategy that is stated in the strategic plan to realise mainstreaming climate change in MVIWATA works, has not been developed. Instead during MVIWATA works in communities, they generally address climate change to farmers. Currently they are more involved in value chain, market access and fair markets and lobbying for farmers rights. Thus, as the MVIWATA SP come to an end in 2014, there is room for improvement through integrating C3S agriculture in the plan that promote climate change resilient and environmental friendly sustainable small-scale agriculture.

Lobbying and advocacy for smallholder farmers' rights, improved value chains (markets) and media coverage issues are well addressed in the current MVIWATA SP. The involvement of MVIWATA in CCAP project provides avenues to improve the new coming strategic plan to carter for climate change impact and adaptation and C3S agriculture.

MJUMITA strategic plan

The 2010-2013 MJUMITA SP seeks to engage local communities especially those living adjacent to forests in forestry, strengthening of forest tenure, access and use rights. It envisages "a Society that cares, manages and utilises forests and forest products sustainably". The plan integrates communities to fully participate in forest management and equitably benefiting from forest management. The plan also foresees helping farmers by forming farmers' associations or groups so that they can be supported to learn new technologies in production and or processing and marketing of forest products so as to realize improvement of equitable revenue/benefit sharing resulting from participatory forest management at village, district and national levels.

Climate change is partially addressed in the plan as one of the effects of poor access of farmers to benefits emanating from forest management that leads to low yield and poor land productivity. Furthermore, the plan identifies climate change as an avenue to devise some of the payments for environmental services like REDD initiatives to benefit communities living adjacent to forests. It further mentions climate change impacts as a threat to achieve MJUMITA goals due to its impacts on biodiversity and on general lives of communities.

In general, the plan does not address climate change mitigation and adaptation and it does not integrate small-scale farmers in way that seek to help them to mitigate and adapt to climate change impacts. Issues of C3S agriculture are poorly covered and especially on how MJUMITA will promote its adoption to small-scale farmers.

Although shifting cultivation is known to be a major driver of deforestation, the practice has not been covered in the MJUMITA SP. The current MJUMITA's SP puts much emphasis on how to help the community to manage forests sustainably and to claim rights for access or use of the community forests from higher authorities and it has less to do with small-scale agriculture.

The discussion with MJUMITA national leaders revealed that C3S agricultural practices are being advocated for by MJUMITA networks in several areas. For example, they mentioned conservation agriculture to be one of the practices being promoted to MJUMITA members and small-scale farmers in Kilosa, Lindi, Lushoto and Korogwe.

Output 1. Indicator 1.2 *At least 500 network members and network leaders trained in C3S agriculture and climate change mitigation and adaptation.*

MJUMITA and MVIWATA NETWORKS members in the study villages

The baseline study found that 35% of MJUMITA and 38% of MVIWATA members have attended training on climate change mitigation and adaptation in the study villages (Table 5). Table 5 shows that 20% of the members from UMILUI and 50% of the members from UMIKIM (MJUMITA networks), have attended trainings. In the case of the MVIWATA networks, 10% of JUHUDI and 67% of MSHIKAMANO members had attended trainings on climate change adaptation.

Table 4. MJUMITA members' on whether they have attended trainings on climate change adaptation

Network name	Have attended	Have not attended
UMILUI (n = 10)	20%	80%
UMIKIM (n = 10)	50%	50%
JUHUDI (n = 10)	10%	90%
MSHIKAMANO (n = 9)	67%	33%

MJUMITA and MVIWATA National leaders

The MJUMITA Chairperson stated that he has participated in climate smart, small – scale agriculture and Climate Change Mitigation and Adaptation (CCMA) trainings that were organised by CARE International in Zanzibar and FOA in rural Morogoro. He explained that C3S agriculture and CMA practices were part of the issues covered in those trainings but that the trainings were not specifically organised for C3S agriculture and CCMA. The MJUMITA National secretary stated that he has not attended any training events specifically on C3S agriculture and CMA apart from attending workshops and seminars that in some of cases covered some of C3S agriculture and CCMA aspects.

The Chairperson of MVIWATA stated that he had attended training on climate change mitigation and adaptation in 2011 linked with the PERUM project.

Output 3: *Small-scale farmers in three eco-agricultural zones provide a forum for learning and knowledge exchange on best practice in terms of climate-smart agriculture and support for C3S agriculture is integrated in District plans.*

Output 3 Indicator 3.1**:** 360 farmers are modelling best practice in climate smart, small-scale agriculture by end of year 3

Some C3S agricultural practices are being practised by some farmers in the study villages as shown in Tables 5 and 6.

Table 5. Climate smart, small - scale agriculture practices currently applied by small-scale farmers in Kilosa study villages (n = 40 for each district).

C3S Agriculture practice	Use	Do not use
Drought resistant seeds	38%	63%
Early maturing seeds	20%	80%
Traditional irrigation	13%	88%
Terrace	3%	98%
Perennial crops	15%	85%
Crop rotation	45%	55%
Cover crops	5%	95%
Minimum tillage	8%	93%
Land fallowing	28%	73%
Weed control	75%	25%
Uphill and downhill farming	3%	98%
Agroforestry	0%	100%
Use of fertilizers	0%	100%
Forest clearing for agriculture	10%	90%
Use of mulching	8%	93%

Table 6. Climate smart, small - scale agriculture practices currently applied by small-scale farmers in Chamwino study villages (n = 40 for each district).

C3S Agriculture practice	Use	Do not use
Drought resistant seeds	63%	38%
Early maturing seeds	18%	83%
Traditional irrigation	0%	100%
Terrace	5%	95%
Perennial crops	3%	98%
Crop rotation	50%	50%
Cover crops	3%	98%
Minimum tillage	18%	83%
Land fallowing	28%	73%
Weed control	78%	23%
Uphill and downhill farming	0%	100%
Agroforestry	10%	90%
Use of fertilisers	38%	62%
Forest clearing for agriculture	15%	85%
Use of mulching	18%	83%

Output 3 Indicator 3.2. *10,000 farmers have learned at first-hand about C3S agriculture and are integrating key element of C3S agriculture on their farms.*

The study has found that only 10% of the 40 interviewed small-scale farmers have participated in C3S agriculture trainings in Kilosa study villages. This result comprised 3 farmers from Kisongwe and 1 farmer from Lumbiji village. The study did not record any small-scale famers who had participated in C3S agriculture training in Chamwino study villages (Figure 22).

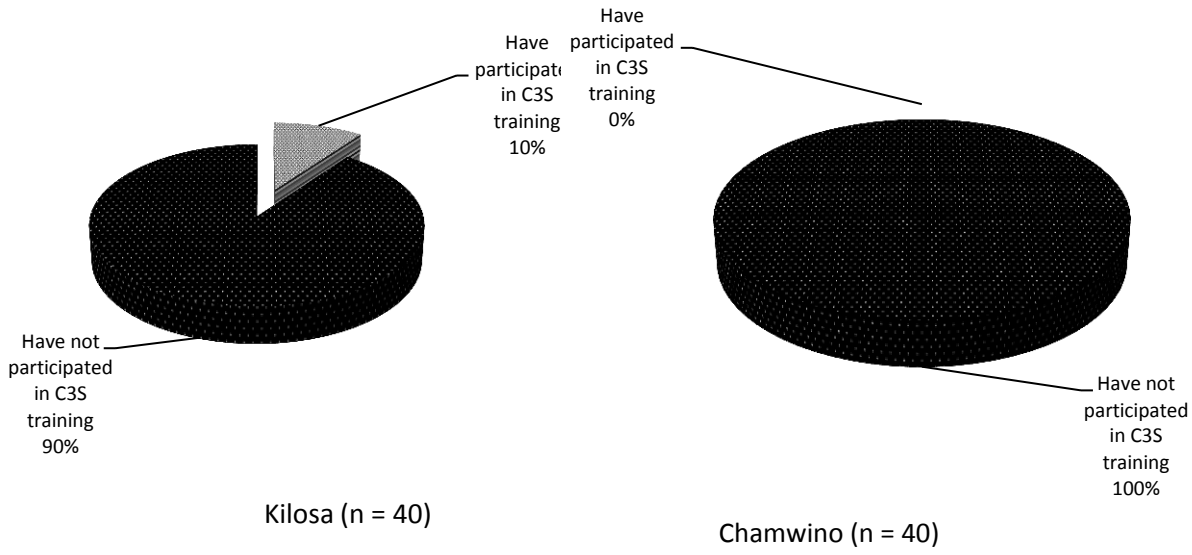

Figure 22. Small scale farmers' responses on whether they have participated in C3S training in Kilosa and Chamwino study villages

The C3S agricultural techniques that the four (4) farmers reported to have been trained in, in Kilosa, were: basin farming and uphill and downhill farming. They said that they received this training from TFCG/MJUMITA staffs working in Kisongwe village under the REDD project. The Lumbiji farmer stated that he visited the Kisongwe village and had the opportunity of participating in the training although he was not among the invited farmers for the training.

Although few farmers have attended training on C3S agriculture, the study found that currently some small-scale farmers in both Kilosa and Chamwino apply some of the C3S agriculture practices.

Table 5 and 6 as well as figure 23 and 24 show current practices that are implemented by farmers in Kilosa. Some farmers implement (in descending order of frequency): weed control, crop rotation, use of drought resistant seed varieties, land fallowing, use of early maturing seeds and traditional irrigation.

In Chamwino small-scale farmers are implementing (in descending order of frequency): weed control, land fallowing, drought resistant crops, crop rotation, minimum tillage and agroforestry; extension of crop rotation with the use perennial crops; the use of perennial crop and agroforestry systems that allocate more carbon below ground, stores significant amount of vegetative carbon in agriculture field (Albretch, 2003). Of the interviewed 40 farmers in both Kilosa and Chamwino each, 10% of them stated that they are practicing agroforestry in Chamwino whilst in Kilosa none of the farmers reported that they are practicing agroforestry. 45% of the small-scale farmers in Kilosa and 50% in Chamwino reported using perennial crops. None of the farmers in Kilosa and Chamwino reported to extend crop rotation with perennial crops. Some of the farmers who reported that they are not using agroforestry said that they do not have enough land and hence cannot plant trees and crops.

However, there are others who reported that they are willing to plant trees in their farms but have no seeds. This was observed in Kisongwe village in Kilosa.

In relation to crop rotations with leguminous crops that increase soil Nitrogen and reduce reliance on synthetic fertilizers, a one sample t- test (M=1.53, SD = 0.50; t (79) = 27.1, p = 0.0005) showed that a significant number of respondent farmers from both Kilosa and Chamwino are applying crop rotation in their field. In Kilosa and Chamwino 45% and 50% respectively of the farmers interviewed were applying crop

rotations. In Kilosa maize and beans are the most commonly rotated crops whereas in Chamwino the majority of the farmers rotate maize and groundnuts. Beans and groundnuts are leguminous crops that fix atmospheric nitrogen to nitrate that is available to plant. When farmer were asked why they practice crop rotation, most of them said it is because of the growing season of individual crops and it has nothing to do with soil fertilization or avoiding the use of synthetic fertilizers. Thirty eight per cent (38%) of farmers of whom all are from Chamwino who reported using fertilizers said they are using farmyard manures from their livestock. However, studies report that application of nitrogen in manure is not always efficiently used by crops. The surplus nitrogen is mostly susceptible to emission as nitrous oxide in the atmosphere (McSwiney, 2005). Practices that reduce leaching, volatile losses and improved efficiency use of nitrogen are recommended to reduce nitrous emissions (Barker T., 2007).

Vegetation cover provided by crops also adds carbon to soil and may also extract plant available nitrogen unused by the preceding crops and hence reduction of N emission (Freibauer, 2004). The study has discerned that only 5% of the respondents use cover crops in Kilosa and 3% in Chamwino. Those who are not employing cover crops said they avoid shade to their crops. However crops like beans, groundnuts and other leguminous crops are known to be shade tolerant and hence can be used with cover crops. Soil disturbance tends to stimulate soil carbon loss through enhanced decomposition and erosion. The use of terraces that control soil erosion and minimum tillage, contribute to soil carbon gain and helps to reduce soil carbon emissions into the atmosphere.

The study found that only 5% of the respondents are using terraces in Chamwino and only 3% in Kilosa. 18% of farmers in Chamwino and 8% in Kilosa reported that they apply minimum tillage (Tables 5 and 6). However, most of those who stated that they are applying minimum tillate are those who are burning and planting without tilling the land. They cited lack of labour power as the reason for practicing minimum tillage. In Chamwino, farmers said that they are now tilling the land using oxen driven ploughs as a good agriculture practices to increase crop yields as opposed to the previously used minimum tillage practices.

Irrigation has been cited to increase carbon yields through enhanced vegetation yields and residue return to the soil. Apart from contributing to soil carbon enhancement, it increases crop yields and hence benefits farmers. However, these benefits are realized when it does not rely on machinery and does not drain wetlands. The study found that only 13% of the interviewed farmers apply irrigation in Kilosa and none of the farmers in Chamwino stated to practicing it (Table 5 and 6). Those who reported to use traditional irrigation, said that they dig irrigation ditches from rivers and direct those ditches to their farms especially paddy farms.

Forest clearance causes biodiversity loss; removes an important store and sink for Carbon; and leads to the release of soil carbon through enhanced microbial activities by temperature increase to the cleared area. In most cases deforestation for agriculture has been practised by slashing and / or burning. The study found that of the interviewed small – scale farmers, 10% of them are clearing forest to open up new agricultural fields in Kilosa and 15% in Chamwino. Most of them who mentioned clearing forests to open up new agricultural fields came from Chamwino district being led by Mahama village. In Kilosa district, this was reported in Ibingu and Lumbiji villages.

The use of downhill and uphill farming one of the conservation tillage strategies was only reported as being applied by farmers in Kisongwe village (Figure 23) where a small number of interviewed small-scale farmers reported that they practice it. Some of them reported to have been involved in the practical training provided by the REDD project. Moreover, a few of the interviewed farmers in Kilosa (8%) and in Chamwino (18%) reported that they use mulching, one of the soil protection methods. Mulching protects soil from direct sunlight, the situation that reduces water evaporation and also lowering microbial activities and hence reducing carbon emission from the soil. Apart from that it protects soil from soil erosion benefiting both crops and storage of soil carbon.

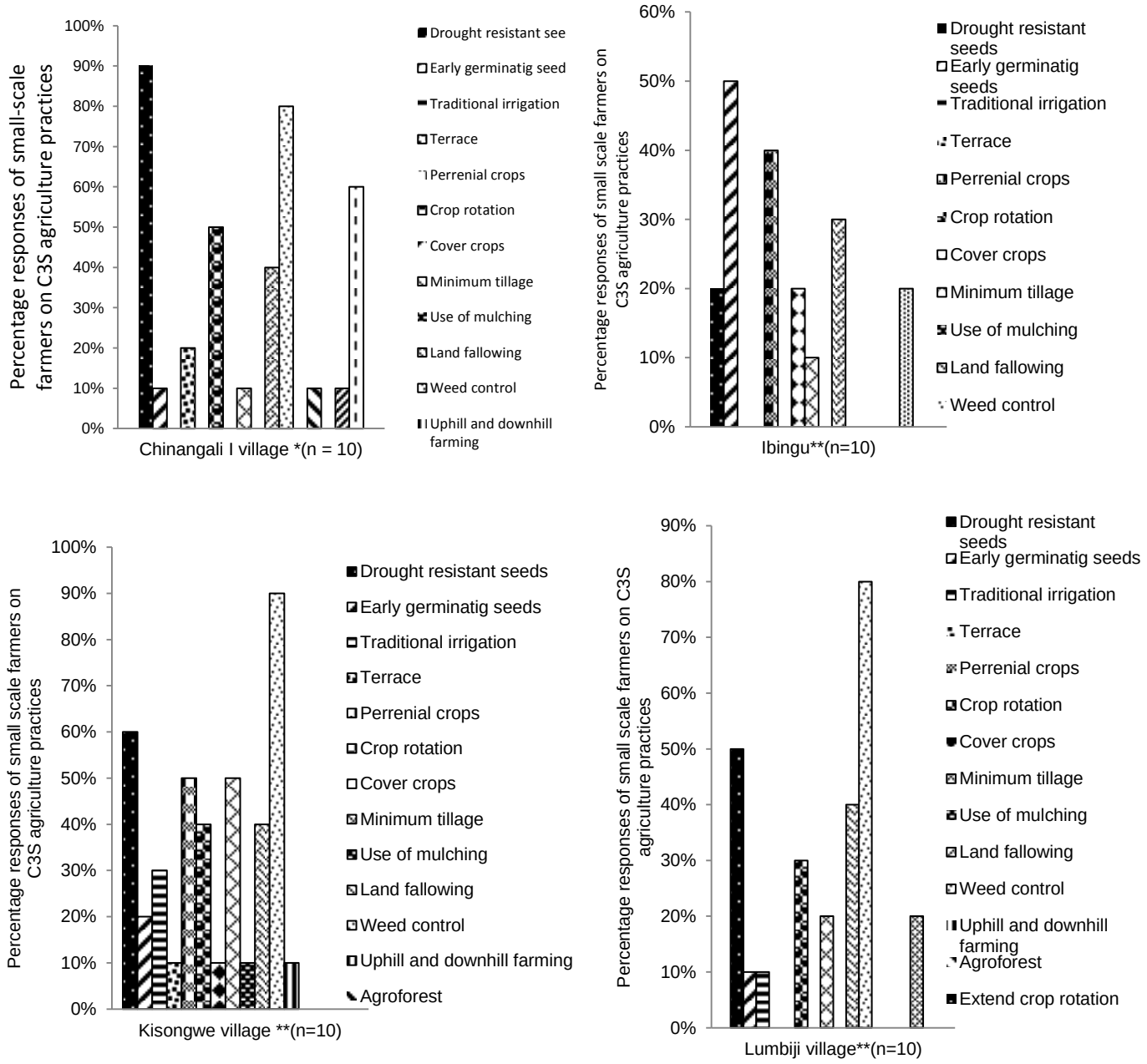

Figure 23. Current C3S agriculture practices at a village level

Note: * Chamwino villages ** Kilosa villages

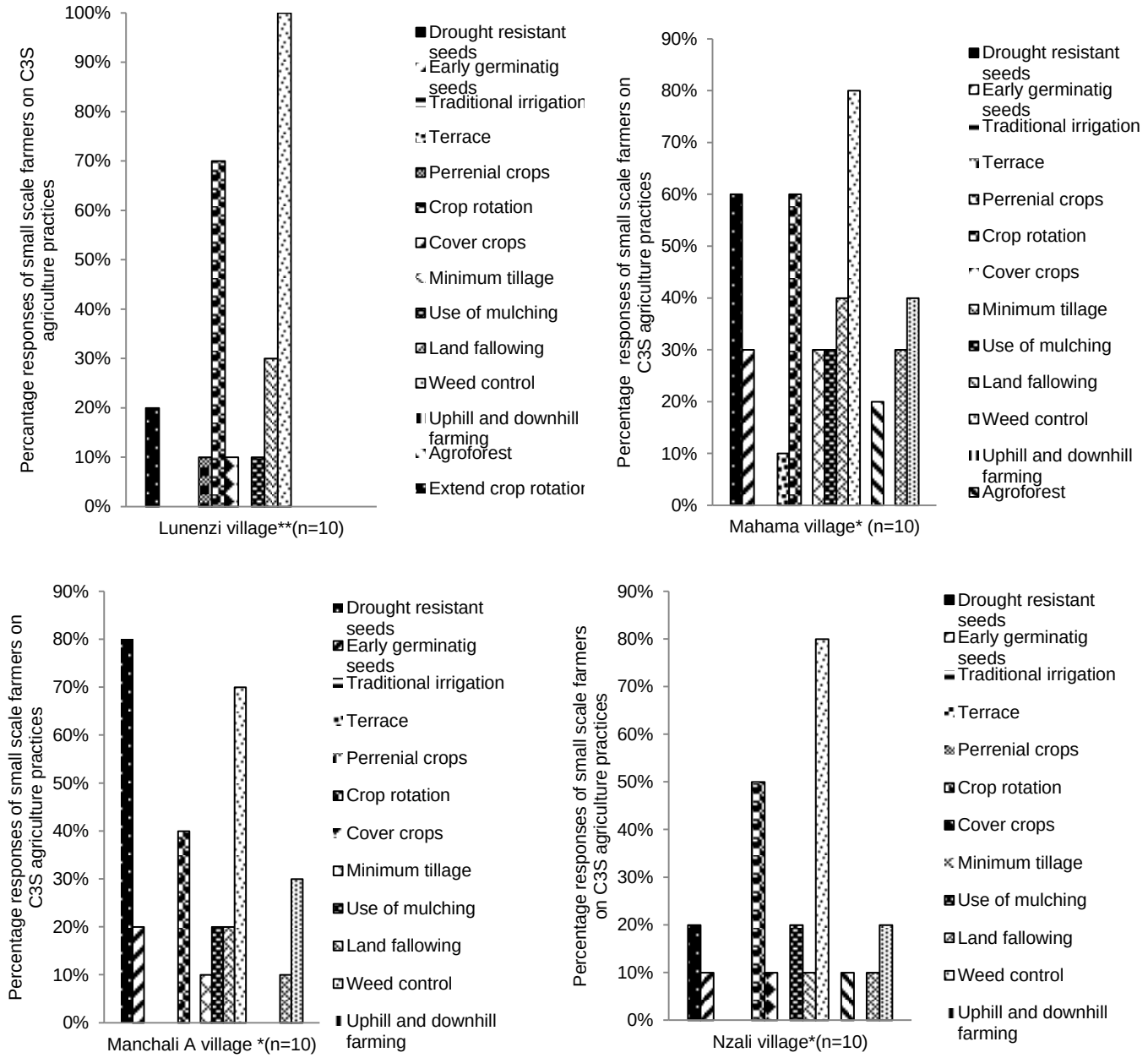

Figure 24. Current C3S agriculture practices at a village level

Note: * Chamwino villages ** Kilosa villages

Output 3 Indicator 3.3. *Farmers in 6 villages have improved access to agriculture credits and support for adding values to their agriculture produce.*

This baseline study did not come across any famer who is currently accessing agricultural credits to support adding value to their agriculture produces. However, when they were asked on how they add value to different crops they said in most cases they do some pre-processing. For maize, beans and groundnuts, the majority of them reported to strip grains off the maize cob and selling husked beans and groundnuts. Some of those who are farming groundnuts especially in Chamwino, reported that they sell husked groundnuts to buyers. Moreover, they strip off sunflower, millet and sesame grain and sell them to customers. For those who are involved in cassava farming especially in Kilosa, they reported that they cut them in small pieces and sell the dried pieces. A small number of farmers mill cassava and sell cassava flour.

Output 3 Indicator 3.4: 5 million farmers have received practical information on measures that they can take to improve their resilience to climate change.

The study has found that of the 40 small-scale farmers interviewed in Kilosa, 20% stated that they have received practical information on measures to improve their resilience to climate change while in Chamwino they only reported 17% of them (Figure 25).

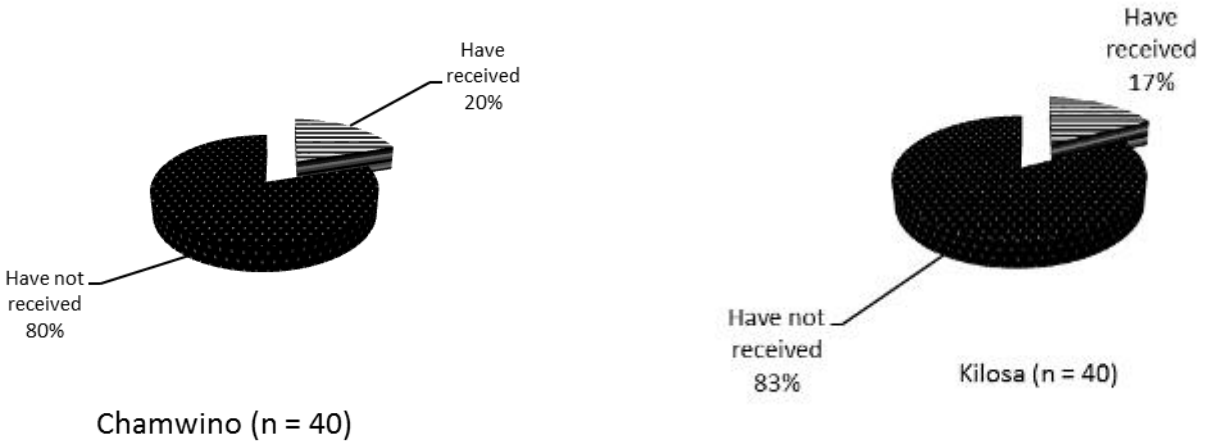

Figure 25. Small scale farmers' responses on whether they have received practical information for climate change resilience

At the village level, the study found that in Lumbiji village (the control village in Kilosa) none of the farmers who were interviewed reported that they have received practical information on how to increase resilience to climate change (Figure 26). Figure 26 also shows that Kisongwe village in Kilosa had 50% of farmers who had received practical information to increase their resilience to climate change impacts followed by Mahama village in Chamwino with 30% of the 10 interviewed farmers in that village. In general, to all villages combined together, practical information on measures to take to increase resilience has not been received by most of them as illustrated in Figure 25 above.

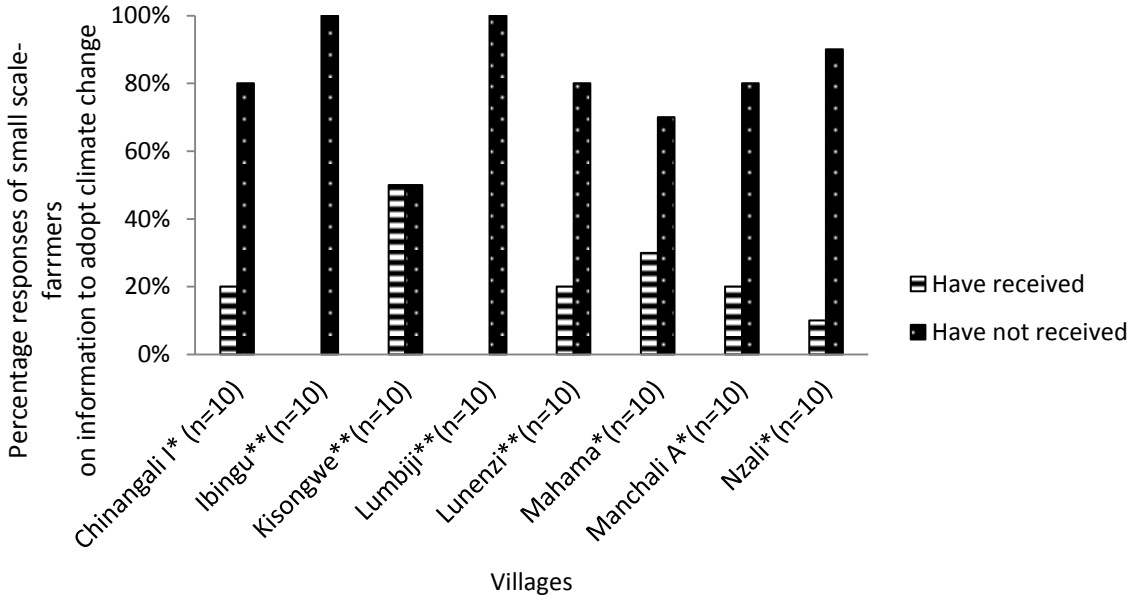

Figure 26. Small scale farmers' responses on whether they have received practical information to take to increase their resilient to climate change

Output 3 Indicator 3.5: 45 community trainers trained on C3S agriculture.

The study has established that currently there are 11 community trainers that have been trained on C3S agriculture. These trainers are in Lunenzi, Ibingu and Kisongwe study villages in Kilosa district. They reported that they have been trained on conservation agriculture by TFCG/MJUMITA staffs working in the area with the REDD project in Kilosa. They reported to have been trained on crop rotation, mixed cropping (maize and legumes), cover crops, contour farming, and mulching, composite manure making, basin farming, minimum tillage and uphill and downhill trenches farming.

3.2.2 Baseline situation of project stakeholder progress markers

3.2.2.1 Small - Scale Farmers

Expect to see

1. Small-scale farmers participate in training and awareness raising events related to climate change, climate smart small-scale agriculture, land tenure, micro-finance and REDD.

Training and awareness raising related to climate change

The study showed that 9% of the farmers interviewed have participated in training and / or awareness raising events related to climate change as depicted in Figure 27 below.

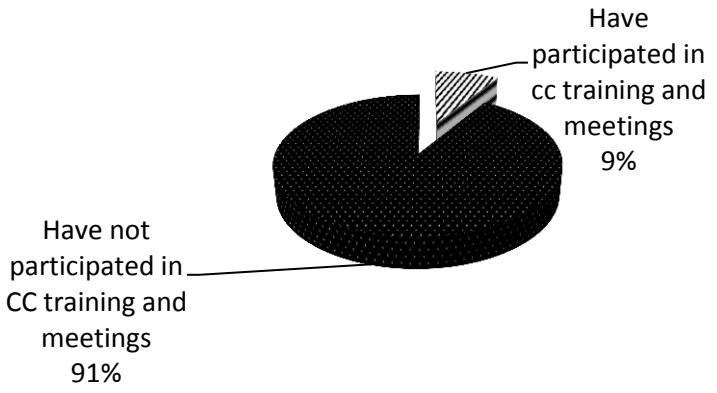

Figure 27. Farmers' responses on whether they participated in training or awareness raising about climate change in Kilosa and Chamwino study villages (n=80)

At the village level, 9% of those who have participated in climate change training and awareness raising came from Lunenzi, Lumbiji and Chinangali I villages (Table 7). For those in Chamwino district (Chinangali I), they reported that they received training from Chamwino district council (5%) and those from Lunenzi and Lumbiji reported to have received the training from TFCG /MJUMITA (13%).

Table 7. Farmers who have participated in training or awareness raising about climate change at the village level (n =10 for each village)

Study Villages	Have participated in climate change training and meetings	Have not participated climate change training and meetings
Ibingu**	0%	100%
Lunenzi**	10%	90%
Lumbiji**	10%	90%
Kisongwe**	30%	100%
Mahama*	0%	100%
Nzali*	0%	100%
Manchali A*	0%	100%
Chinangali I*	20%	80%

Note: * Chamwino study villages ** Kilosa study villages

Training and awareness raising related to climate smart, small-scale agriculture

The study found that amongst the interviewed small scale-farmers, 10% of them (Table 8) have participated in C3S agriculture trainings in Kilosa whereas none of the farmers in Chamwino reported to have participated in C3S agriculture training (Table 8). All of those who have participated in Kilosa study villages were represented by 3 farmers from Kisongwe and 1 farmer from Lumbiji village. The kind of C3S agriculture that these 4 farmers reported to be trained in was conservation agriculture that involved basin farming, uphill and downhill trenches farming and mulching among other technics . They said that they received this training from TFCG/MJUMITA staffs working in Kisongwe village under REDD project. Lumbiji farmer stated that he visited Kisongwe village and had opportunity to participate in the training although he was not among the invited farmers for the training.

Table 8. Small-scale farmers' responses on whether they have participated in C3S agriculture trainings

Study villages	Have participated	Have not participated
Chinangali I*	0%	100%
Ibingu**	0%	100%
Kisongwe**	30%	70%
Lumbiji**	10%	90%
Lunenzi**	0%	100%
Mahama*	0%	100%
Manchali A*	0%	100%
Nzali*	0%	100%

Note: * Chamwino villages ** Kilosa villages

Training and awareness raising meetings related to land tenure

The current baseline study with regards to those farmers who have participated in training and awareness raising meetings related to land tenure found that it is only 6% of the interviewed farmers have participated. The majority of them (94%) reported to have neither participated in training nor awareness raising meetings about land tenure as shown in Figure 28 below.

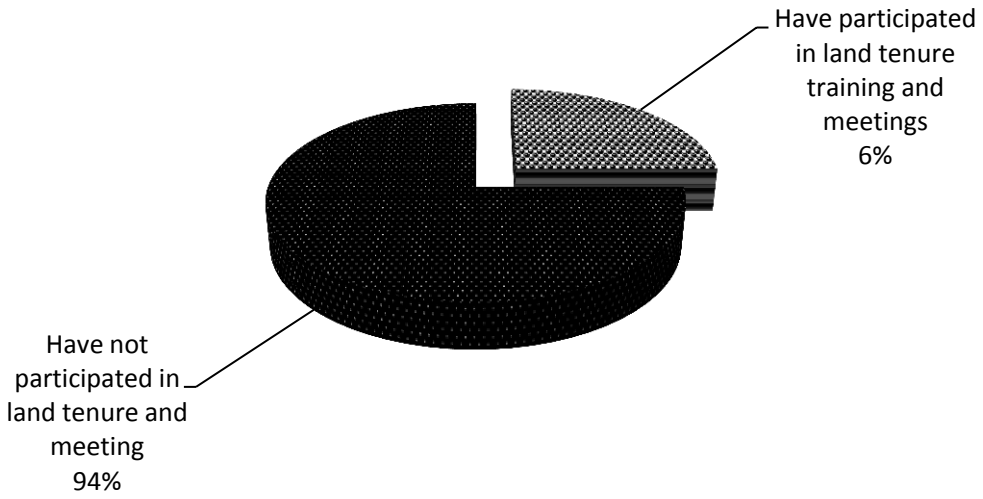

Figure 28. Farmers who have participated and not participated in land tenure training and awareness raising meetings (n=80)

At the village level, the 6% of farmers (4% in Chamwino and 2% in Kilosa) who reported to have participated in land tenure awareness meeting and training came from Lunenzi, Kisongwe and Nzali, whereas farmers from Ibingu, Lumbiji, Mahama, Manchali A and Chinangali I reported to have not participated in any awareness raising meeting or training related to land tenure (Table 8). Those from Lunenzi and Kisongwe said they received trainings from TFCG/MJUMITA and those from Nzali reported that the training was organized by WOWAP and one did not recall the specific organization that conducted the training.

Table 9. Small scale-farmers' responses on whether they have participated in awareness raising about land tenure in the study villages (n = 10 for each village)

Study villages	Have participated in land tenure training and meetings	Have not participated land tenure training and meetings
Ibingu**(n=10)	0%	100%
Lunenzi**(n=10)	20%	80%
Lumbiji**(n=10)	0%	100%
Kisongwe**(n=10)	20%	80%
Mahama*(n=10)	0%	100%
Nzali*(n=10)	10%	90%
Manchali A*(n=10)	0%	100%
Chinangali I*(n=10)	0%	100%

Note: * Chamwino villages ****** Kilosa villages

Training and awareness raising meetings related to microfinance

With regards to training and awareness meetings related to microfinance, the study found that 5% of the interviewed small-scale farmers have received training on microfinance (Figure 29).

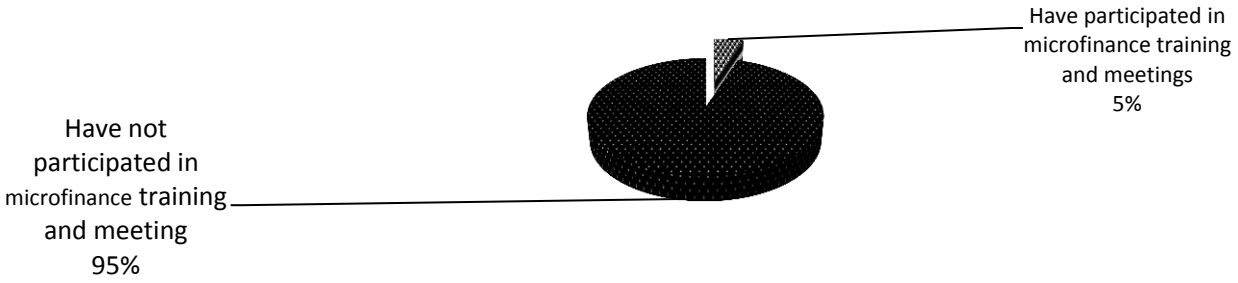

Figure 29. Farmers who reported to have and not have attended trainings and awareness meetings on microfinance

Table 10 shows that, 5% farmers who reported to have participated in microfinance training came from Chinangali I, Manchali A and Nzali study villages that are all from Chamwino district. Those from Chinangali I and Manchali A reported to have received the training from Chamwino district whereas that in Nzali said that he received the training from Manza SACCOS.

Table 10. Small-scale farmers' responses on whether they have participated in microfinance training

Study villages	Have participated	Have not participated
Chinangali I*(n=10)	20%	80%
Ibingu**(n=10)	0%	100%
Kisongwe**(n=10)	0%	100%
Lumbiji**(n=10)	0%	100%
Lunenzi**(n=10)	0%	100%
Mahama*(n=10)	0%	100%
Manchali A*(n=10)	10%	90%
Nzali*(n=10)	10%	90%

Note: * Chamwino villages ****** Kilosa villages

Training and awareness raising meetings related to REDD

6% of farmers reported that they have participated in REDD training. All of them came from Lunenzi and Kisongwe villages in Kilosa. None of the farmers in Chamwino study villages reported to have received REDD training. Those in Kilosa stated that they have received the training from TFCG/MJUMITA REDD project.

Table 11. Small-scale farmers' responses on whether they have partcipated in REDD training

Study villages	Have participated	Have not participated
Chinangali I*(n=10)	0%	100%
Ibingu**(n=10)	0%	100%
Kisongwe**(n=10)	30%	70%
Lumbiji**(n=10)	0%	100%
Lunenzi**(n=10)	20%	80%
Mahama*(n=10)	0%	100%
Manchali A*(n=10)	0%	100%
Nzali*(n=10)	0%	100%

Note: * Chamwino villages ****** Kilosa villages

2. *Farmers in project villages implement C3S agriculture in their farm field schools and communicate results to other farmers during farmers' days and with local and national media where organised by the project.*

The study observed some of the farm field school at Kisongwe, Lunenzi and Ibingu villages where farmers are implementing C3S agriculture, namely basin farming, uphill and downhill farming as well as mulching. These are supported by TFCG and MJUMTIA through the REDD project. However, the study did not see any farm field schools in the Chamwino district study villages. Although Kisongwe, Ibingu and Lunenzi village has farm field school where farmers are implementing C3S agriculture, sharing of these practices through farmers' day and local media has not yet occurred.

3. Farmers in project villages are displaying information about climate change, C3S agriculture, land tenure and REDD.

The study was able to observe some of the posters with climate change, C3S agriculture and land tenure as well as REDD in some of the villages. These posters were displayed on farmers' houses in Kisongwe and Ibingu villages. The study team happened also to see a poster on land tenure in Nzali village office and on agroforestry in Chinangali I office. When the farmers were asked on whether they are aware of the existence of this information in their village most of them reported to be unaware of this information in the village. Of the mentioned information, climate change information from farmers' perspective and as depicted in the Table 12 below was highly ranked by Ibingu and Kisongwe village. Land tenure was more frequently mentioned in the Chamwino study villages.

Table 12. Small-scale framers' responses of information that are displayed by farmers in the study villages

Study villages	Displayed information on climate change	Displayed information on C3S agriculture	Displayed information on land tenure	Displayed information on REDD
Chinangali I* (n =10)	20%	10%	10%	0%
Ibingu** (n =10)	20%	10%	20%	50%
Kisongwe** (n =10)	40%	30%	30%	70%
Lumbiji ** (n =10)	0%	0%	0%	0%
Lunenzi** (n =10)	0%	10%	0%	20%
Mahama* (n =10)	20%	30%	40%	20%
Manchali A* (n=10)	0%	0%	10%	0%
Nzali* (n =10)	0%	0%	30%	0%

Note: * Chamwino study villages ** Kilosa study villages

Like to see

1. Small-scale farmers including both women and men in the project villagers are applying on-farm and off-farm climate-smart techniques to their own livelihood activities including farmers not involved in the project-supported training events.

The baseline study found that currently some small-scale farmers in the project villages and to some extent in the non-project (control villages) are practicing on-farm climate smart techniques (table 5 and 6 and Figure 23 and 24). These techniques include but are not limited to use of improved seeds, drought resistant crops, traditional irrigation practices, use of terraces to control soil erosion, perennial crops, crop

rotation, cover crops, minimum tillage, fallowing the land, weed control, uphill and down hills ridges and use of farmyard manure.

The baseline survey indicates that the probability of uptake of imporved practices is relatively high based on the fact some small farmers are aware or already practising some of the climate-smart techniques (Table 5 and 6 and Figure 23 and 24). Figure 30 and 31 below show responses of women and men on the application of C3S agriculture technics in the study villages in both Kilosa and Chamwino. The project will need to build capacity through further training and other supports needed to increase the adoption rate of C3S agriculture practices in the project villages as the current adoption is very low.

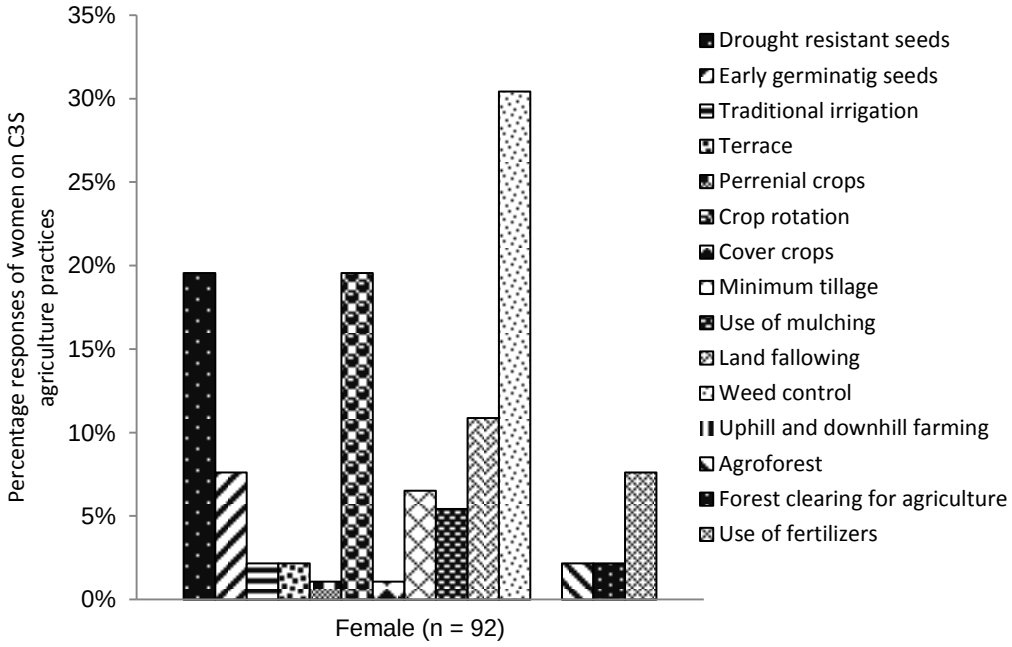

Figure 30. Women's responses on implementation of C3S agriculture practices in the study villages

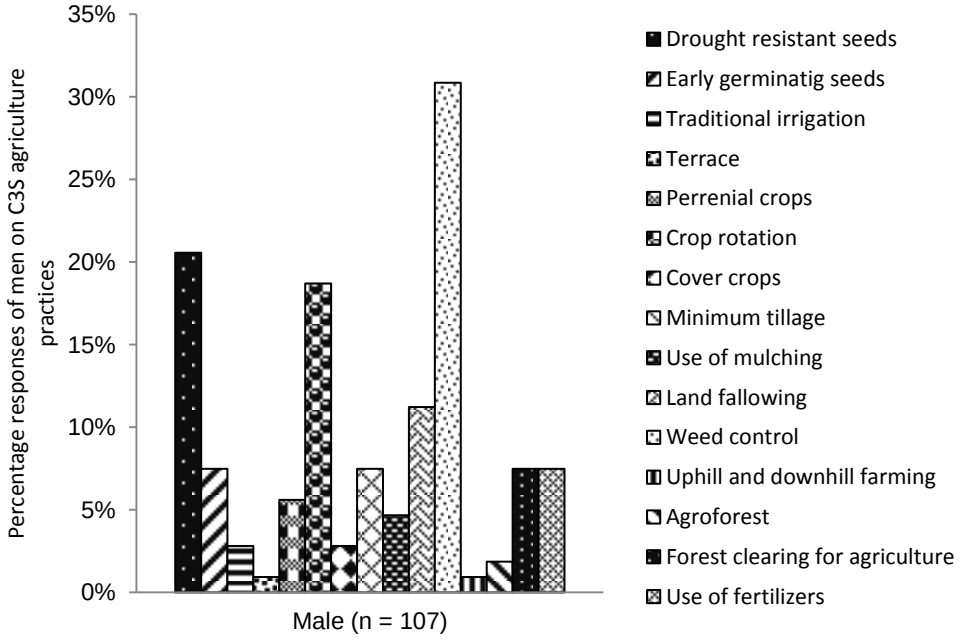

Figure 31. Men's responses on implementation of C3S agriculture practices in the study villages

2. Small-scale farmers in project villages are advocating elected representatives and government officers for improvements in governance in relation to land, natural resources and agriculture.

The study found that, 16% of the interviewed farmers reported that they have taken action against poor governance from their elected representatives whilst 84% of them testified to have not taken any action to address governance (Figure 32).

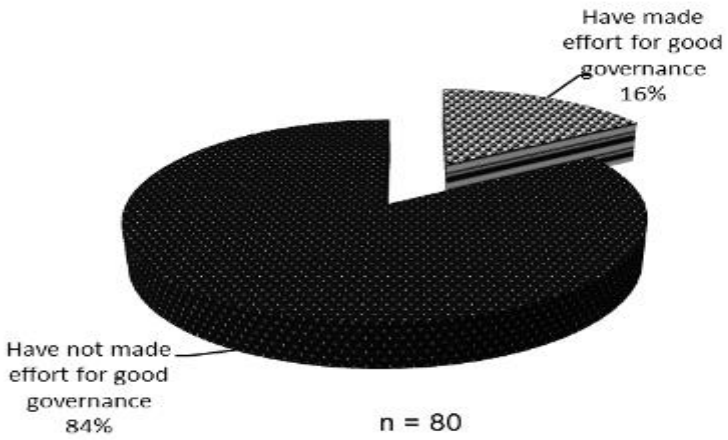

Figure 32. Small-scale farmers' responses on whether they have made any effort to address good governance from their elected representatives

Table 10 further shows that majority of the 16% of small-scale farmers reported to have taken efforts to address good governance from their elected representatives, are from Nzali, Lunenzi and Chinangali I study villages. Whereby, no one reported to have taken action in Manchali A to address good governance from their elected representatives.

Table 13. Small-scale farmers' responses on whether they have taken any action to address good governance from their elected representatives

Study villages	Have made efforts to address good governance	Have not made any effort to address good governance
Chinangali I*(n=10)	20%	80%
Ibingu**(n=10)	10%	90%
Kisongwe**(n=10)	10%	90%
Lumbiji**(n=10)	10%	90%
Lunenzi**(n=10)	30%	70%
Mahama*(n=10)	20%	80%
Manchali A*(n=10)	0%	100%
Nzali*(n=10)	30%	70%

Note: * Chamwino study villages ****** Kilosa study villages

Those who reported to have taken efforts to advocate elected representatives and government officials for improvement in governance in relation to land, natural resource and agriculture said they have been demanding information on any transaction involving land, natural resource and agriculture. On the other hand they said some of them are reporting to the village assembly those elected members and officials who misuse their powers. In Lunenzi village for example, farmers reported to have influenced the sacking of the sub-village Chairperson in Manyomvi sub-village for misusing his power as the chairperson of the sub-village. Some of those who mentioned to have not taken any effort to address good governance said that they are intimidated by the village leaders once they discover a village leader misusing his/her office. They reported that such intimidations have been used as loop holes by the village leaders to misbehave in their

powers. The situation as it speaks for itself need good governance trainings and awareness raising to both farmers and village leaders.

3. Small-scale farmers from project villages are building the capacity of farmers from other villages and districts on C3S agriculture, REDD+ and sustainable land and natural resources management

To assess this output marker, the study asked farmers whether they give support on C3S agriculture practices, REDD+ and sustainable land and natural resource management to other farmers in other village. The results of this study show that 15% of the interviewed farmers who reported to have provided support for C3S practices and Natural Resource Management (NRM) to other farmers in other villages. All farmers in this study reported to have not communicated REDD+ to other communities in other villages. Table 14 below shows small-scale farmers' responses on whether they build capacities of other farmers at a village level and disaggregated by gender. The table further details that it is in Ibingu, Mamaha and Nzali where small-scale farmers reported to have shared information to other farmers in other villages. Moreover, with exception of Lunenzi village that had 6 male and 4 female, the results shows that males reported more to have shared this information than female as seen in Ibingu, Mahama and Nzali study village.

Table 14. Responses of farmers on building capacity of other farmers in other villages on C3S, REDD and NRM

	Gender			
	Female (n = 5)		Male (n = 5)	
Villages	Yes	No	Yes	No
Chinangali I*	0%	100%	0%	100%
Ibingu**	0%	100%	10%	100%
Kisongwe**	20%	80%	40%	60%
Lumbiji**	0%	80%	0%	100%
Lunenzi (n = 4 female, 5 male)**	0%	100%	0%	100%
Mahama*	20%	80%	40%	60%
Manchali A*	0%	100%	0%	100%
Nzali*	0%	100%	20%	80%

Note: * Chamwino study villages ** Kilosa study villages

Table 15 below further shows farmers' responses on C3S agriculture, REDD and natural resource capacity building to other farmers in other villages at the village level and disaggregated by gender. In general, small-scale farmers in the study villages are more frequently building capacity to other farmers in other villages on climate change than on natural resource management and capacity building on REDD has not been done. They reported that they are sharing this information or are building capacities to other farmers in other villages through informal communication and through visiting them in their farms and at home.

Table 15. Small scale-farmers' responses on whether they are building capacity to farmers in other villages on C3S agriculture, REDD, and natural resource management

Villages		**Capacity building on REDD**	**Capacity building on natural resource management**	**Capacity building on climate change**
Chinangali I*	Female(n=5)	0%	0%	0%
	Male(n=5)	0%	0%	0%
Ibingu**	Female(n=5)	0%	0%	0%
	Male(n=5)	0%	0%	0%
Kisongwe**	Female(n=5)	0%	0%	20%
	Male(n=5)	0%	20%	20%
Lumbiji**	Female(n=5)	0%	0%	0%
	Male(n=5)	0%	0%	0%

Lunenzi**	Female(n=4)	0%	0%	0%
	Male(n=6)	0%	0%	0%
Mahama*	Female(n=5)	0%	0%	20%
	Male(n=5)	0%	0%	40%
Manchali*	Female(n=5)	0%	0%	0%
	Male(n=5)	0%	0%	0%
Nzali*	Female(n=5)	0%	0%	0%
	Male(n=5)	0%	0%	20%

Note: * Chamwino study villages ** Kilosa study villages

On the other hand when we crosschecked these findings to village leaders, it was only 4% of them who said to have seen farmers in their respective villages building capacity to other farmers in other villages.

Love to see

1. Small-scale farmers from non-project villages adopt climate smart agricultural technologies using the experiences and guidelines shared by the project.

Of current the study was not able to establish any technology adopted by non-project villages using the experience and guideline shared by the CCAP project. However, through discussion with the village government leaders, the study has elucidated that most villagers have a tendency to copy and apply methods applied by nearby villages and especially when those methods are giving good results. The current situation existing with regard to this output marker therefore, is adoption behaviors of community members from nearby non-project village that can help in scaling up climate smart small scale agriculture technologies. For example, the study met one small scale farmer at Lumbiji village who reported to have seen the conservation agriculture practices in Kisongwe village but was waiting to see how will they perform before he start to implement them in his farm field. Table 16 shows current practices that are being carried out by farmers in the two control villages, Lumbiji village in Kilosa and Chinangali I village in Chamwino. The Table further indicates that farmers in the control villages are more involved in weed control, use of drought resistant crops, crop rotation and land fallowing. However, some of them reported to be involved in forest clearing to open up new farms (20% in Lumbiji and 10% in Chinangali I) and there was none of them in both villages who reported to be applying mulching, extend crop rotation, use of cover crops, and use of perennial crops.

Table 16. Farmers' current C3S agriculture practices in the control villages

C3S agriculture practices	Lumbiji (n=10)	Kisongwe (n=10)
Drought resistant seeds	50%	90%
Early maturing seeds	1%	10%
Traditional irrigation	1%	0%
Terrace	0%	20%
Perennial crops	0%	0%
Crop rotation	30%	50%
Cover crops	0%	0%
Minimum tillage	20%	10%
Use of mulching	0%	0%
Land fallowing	40%	40%
Weed control	80%	80%
Uphill and downhill farming	0%	0%
Agroforestry	0%	10%
Extend crop rotation	0%	0%
Forest clearing for agriculture	20%	10%
Use of fertilizers	0%	60%

2. Small-scale farmers from non-project villages actively advocate at village, district and national level for more sustainable land and natural resources management.

The study found that small scale farmers in the non-project villages are not actively advocating at village, district and national level for more sustainable land and natural resources management. Table 17 below testify this argument whereby majority of respondents (farmers) in the control villages reported to have not addressed issues that contribute into sustainable land and natural resource management. For instance, 90% and 100% in Lumbiji and Chinangali I village respectively admitted to be using slash and burn as their methods to prepare farms. Although represented by few of them (20% and 10% in Lumbiji and Chinangali I respectively), forest clearing for agriculture activities was reported to be also taking place in these control villages. None of the respondents from these villages reported to have been taken any effort to hold elected leaders for more sustainable land and natural resource management. There has not been any sharing of conservation related initiative and issues by displaying them in Lumbiji villages as compared to Chinagali I village. However, as exemplified by a farmer from Lumbiji village who admitted to have been ready to implement the learned practices from Kisongwe village but waiting to see their performance, gives a clue situation that more sustainable land and natural resource managements that will be addressed by the projects will be adopted by non-project villages and perhaps advocated in the village, district and national level at large. This is also supported by the finding that the study explicated from the village government leaders above.

Table 17.Small-scale farmers's responses in the non-project villages on issue that address sustainable land and natural resources management

Issues to address sustainable land and natural resource management	Lumbiji n=10	Chinangali I n=10
Use agroforestry	0%	10%
Clear forest for agriculture	20%	10%
Slash and burn as farm preparation methods	90%	100%
Displayed information on CC	0%	20%
Displayed information on C3S	0%	10%
Displayed information on REDD	0%	0%
Displayed information on Land tenure	0%	10%
Holding responsible leaders for good natural resource management	0%	10%

3. Small-scale farmers actively engage with their local MJUMITA and MVIWATA networks to lobby for more support for C3S agriculture, REDD and sustainable land and natural resources management.

The engagement of small–scale farmers with local MJUMITA and MVIWATA networks was assessed first by asking whether farmers were aware of the existence of MJUMITA and MVIWATA in their localities. The study found that in total it was 22% reported to have heard about MJUMITA. Table 18 and 19 below shows these responses at the village level. In Chamwino 20% of interviewed small-scale farmers reported to have heard the existence of MVIWATA.

Table 18. Small scale farmers' responses on whether they have heard the existence of MJUMITA (n=10 for each village)

Villages	Have heard MJUMITA	Have not heard MJUMITA
Chinangali I*	0%	100%
Ibingu**	60%	40%
Kisongwe**	70%	30%
Lumbiji**	20%	80%
Lunenzi**	20%	80%
Mahama*	0%	100%

Manchali A*	0%	100%
Nzali*	0%	100%

Note: Note: * Chamwino study villages ** Kilosa study villages

Table 19. Small scale farmers' responses on whether they have heard the existence of MJUMITA (n=10 for each village)

Villages	Have heard MVIWATA	Have not heard MVIWATA
Chinangali I*	0%	100%
Ibingu**	50%	50%
Kisongwe**	60%	40%
Lumbiji**	30%	70%
Lunenzi**	10%	90%
Mahama*	0%	100%
Manchali A*	0%	100%
Nzali*	10%	90%

Note: * Chamwino study villages ** Kilosa study villages

Moreover, on case of whether they are currently engaging with local MJUMITA and MVIWATA networks, 5% percent of them reported to have been involved with MJUMITA. Likewise, only 5% of them reported to have been engaging with MVIWATA. The results of these findings in general at the village level are summarized in Table 20 and 21 below whereby most of those who have not heard about the two networks came from Chamwino study villages especially Mahama, Chinangali I and Manchali A as a same as not being engaged with MJUMITA and MVIWATA (Table 20 and 21).

Table 20. Small-scale farmers' responses on whether they are engaging with local MJUMITA network (n= 10 for each village)

Villages	Engaging with MJUMITA	Not engaging with MJUMITA
Chinangali I*	0%	100%
Ibingu**	0%	100%
Kisongwe**	30%	70%
Lumbiji**	0%	100%
Lunenzi**	10%	90%
Mahama*	0%	100%
Manchali A*	0%	100%
Nzali*	0%	100%

Note: * Chamwino study villages ** Kilosa study villages

Table 21. Small-scale farmers' responses on whether they are engaging with local MVIWATA network (= 10 for each village)

Villages	Engaging with MVIWATA	Not engaging with MVIWATA
Chinangali I*	0%	100%
Ibingu**	10%	90%
Kisongwe**	10%	90%
Lumbiji**	10%	90%
Lunenzi**	0%	100%
Mahama*	0%	100%
Manchali A*	0%	100%
Nzali*	10%	90%

Note: * Chamwino study villages ** Kilosa study villages

As shown in the Tables above, the level of engagement of farmers with MJUMITA and MVIWATA in the study areas is low to enable actively lobbying for more support for C3S agriculture, REDD and sustainable land and natural resource management. The project therefore needs to raise awareness of MJUMITA and MVIWATA to farmers that will further increase engagement to realize their effort to lobby for more C3S agriculture and sustainable land and natural resource management.

3.2.2.2 MVIWATA and MJUMITA members

Expect to see

1. National-level community network leaders have a firm understanding of the linkages between climate change, C3S agriculture and sustainable land and natural resources management.
MJUMITA and MVIWATA national leaders stated that they are aware of the linkage that exists between climate change, C3S agriculture and sustainable land and natural resource management. Their description generally was on how climate change is affecting agriculture, how forest is affected by the reduced agriculture yield and how reduced conservation effort result into climate changes and low agricultural yield.

2. *National-level community network leaders are providing information to their members on the linkage between climate change, C3S agriculture and sustainable land and natural resource management*.

MJUMITA - The baseline key informant interview with MJUMITA national Chairman and Secretary has established that currently MJUMITA national-level community leaders share conservation agriculture practices, sustainable natural resource management, and good natural resource governance through which the link of climate change, agriculture and sustainable natural resource is explained. This information is shared through their zone members and in areas where MJUMITA has projects and it collaborates with other conservation stakeholders. They mentioned that currently nine (9) networks has received conservation education trainings and these includes SHIWABU (Shirikisho la Wanamazingira Buga), TUMAINI (Tunza Mazingira Ambanguru), HICHAMPATEMA (Hifadhi Chanzo cha Maji, Tewe, Mpale na Mali), HIMADI (Hifadhi Misitu Dindila), TUMMAM (Tunza Mazingira Mgwashi na Mayo), IMISA (Hifadhi Mazingira Sagara) in Usambara and UMILUI (Uhifadhi Misitu Lunenzi na Ibingu), UMIKIM (Uhifadhi Misitu Kisongwa na Mfului) , UMIZOMA (Uhifadhi Misitu Zombo na Masanza) and UMIMKIMA (Uhifadhi Misitu Msamba Kisanga na Malolo) networks in Kilosa. On the other hand they do share this information through annual MJUMITA forum that is convened every year where different conservation message are communicated and recently more emphasis has been put on climate change. They reported that conservation experts are always welcomed to give their presentation apart from community members themselves giving testimonies of the impacts of climate change and share conservation efforts they have achieved.

MVIWATA - MVIWATA Chairman and Secretary reported that they current share that information to their group members through their community based trainers and annual general meetings. They mentioned that currently 34 MVIWATA groups have received information on the link that exists between climate change, agriculture and natural resource management. These networks are Kabanga, Mitondo, Tamotene, Kasi mpya, and Upendo group in Kyela, Upendo, Ngenda, Samalia, Maasai group, Muungano, and Umoja group in Arusha. They also mentioned Zinduka zinduka in Arusha rural, Ziduka, HIMAMO (Hifadhi Mazingira Monduli), in Monduli, Uhima, Kilimali, Kiwamali, Mkombozi A and B, Jikomboe, and Tufarijiane in Rudewa. Moreover the other groups are Muungano in Kilosa, Jiendeleze, Maheko, Mshikamano, Upendo, Lukemo, Sontosima, Mwanzo mgumu, Operation okoa mazingira, Wakala group, Maarifa, Mwishene and Nyemo in Mvomero some of the messages that have been communicated to group members as conservation agriculture and tree planting as effort to deal with the impacts of climate change.

Like to see

1. At national level, community networks have integrated climate change issues in their institutional strategies and are providing training, user-friendly guides and other support to their members to adopt C3S agriculture, REDD+ and other climate smart strategies.

As elucidated in section 3.2.1 above, the current institutional strategy for both MJUMITA and MVIWATA networks have not integrated well climate change issues. However, there is some on-going training in these networks to some of the areas though it has not been at a large scale as indicated by low number of both MJUMITA and MVIWATA members who have attended those trainings below.

2. Local level community networks are aware of the climate change, C3S agriculture and sharing this information with others in their communities.

About climate change awareness

The baseline study has established that among the interviewed 20 MJUMITA networks members, 25% of them reported to have heard about climate change whereas majority of them (75%) reported to have not heard about climate change as shown in figure 33.

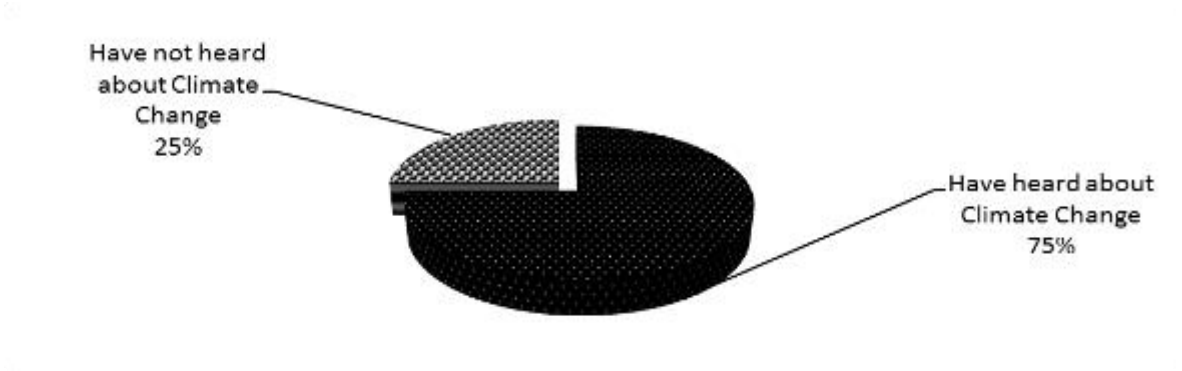

Figure 33. MJUMITA members' response on whether they have heard climate change (n = 20)

On the other hand 84% of 19 MVIWATA group members reported to have heard about climate change whereas only 16% reported to have not heard about climate change (Figure 34).

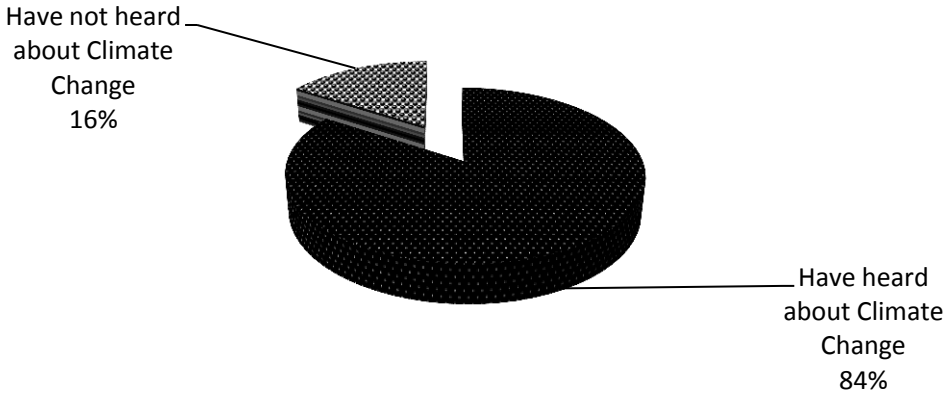

Figure 34. MVIWATA members' response on whether they have heard climate change (n= 19)

Of those MJUMITA members who reported to have heard about climate change, the baseline study found that UMIKIM network have more members (90%) who have heard about climate change than UMILUI network members(Figure 35).

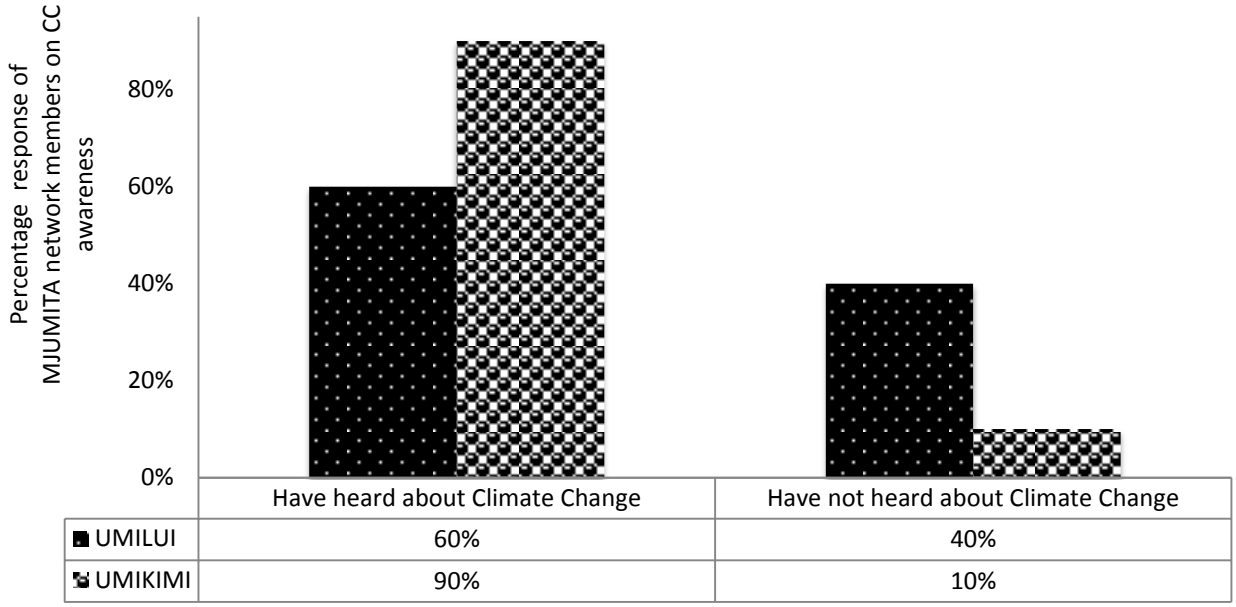

Figure 35. UMILUI and UMIKIM members' responses on whether they have heard climate change (n=10 for each network)

With regards to MVIWATA members, MSHIKAMANO group members have higher members who had heard about climate change as compared to JUHUDI group members. But the difference of those who had heard about climate change in groups and networks is very small for MVIWATA (Figure 36) as compared with MJUMITA. This signifies that MVIWATA members are well informed on climate change than MJUMITA members.

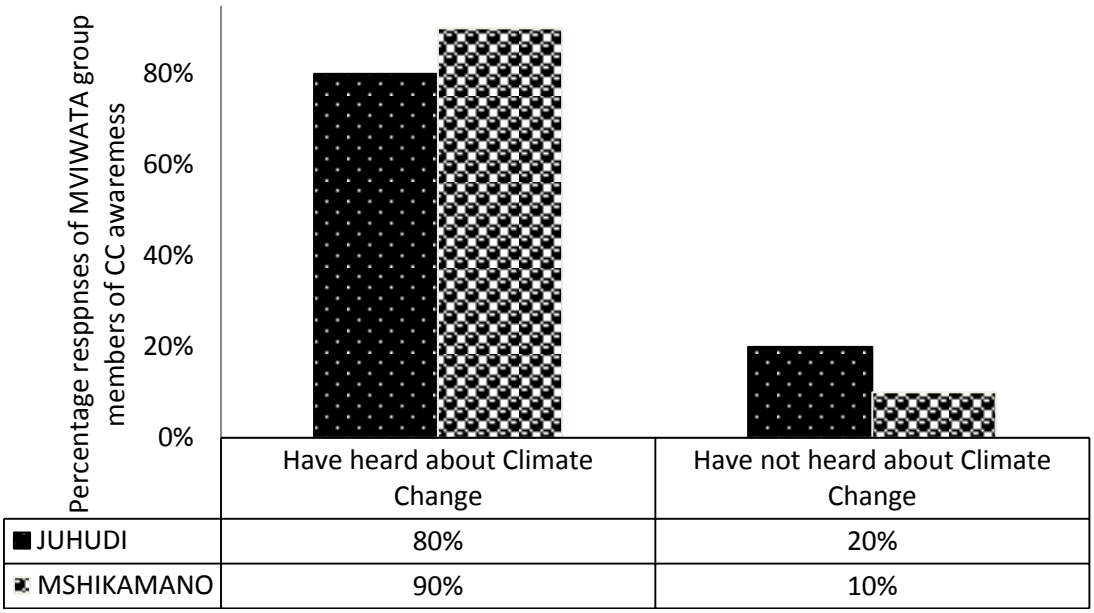

Figure 36. JUHUDI and MSHIKAMANO group members' response on whether they have heard about climate change

About how they describe climate change

When they were asked to describe climate change, MJUMITA members only described climate change as reduction of rainfall and prolonged drought (Figure 37) whereas MVIWATA members in addition to reduction in rainfall and prolonged drought, they also described climate change as change in cloud patterns and forest conditions (Figure 38). Of the described climate factors by both MJUMITA and MVIWATA members, reduction in rainfall was the most frequently mentioned followed by prolonged drought in the baseline study areas.

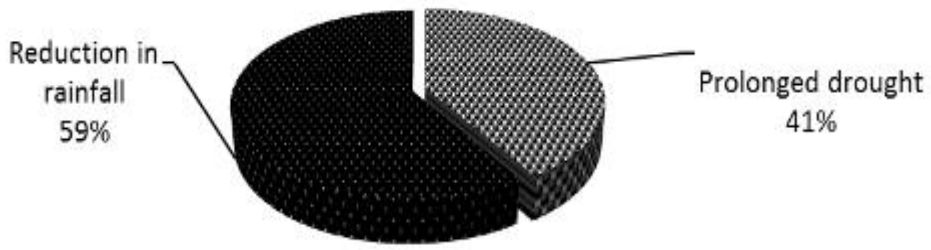

Figure 37. MJUMITA members response on how they describe climate change (n = 20)

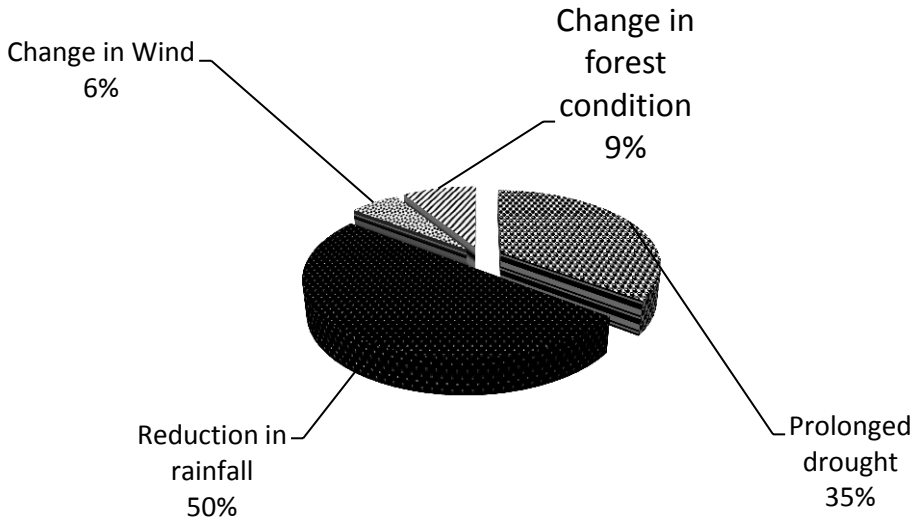

Figure 38. MVIWATA members' response on how they describe climate change (n =19)

About awareness of the causes of climate change

On the causes of climate change, MJUMITA members reported that climate change is caused by pollution from bushfire, energy generation; agriculture activities and from deforestation (Figure 39). MVIWATA members in addition to the above causes of climate change, they also reported that climate change is caused by pollution from waste disposals (Figure 40). Deforestation was mentioned to be the main causes of climate change whereas pollution from agriculture activities was mentioned to be main causes second to deforestation by MVIWATA members and uncontrolled fire mentioned by MJUMITA members.

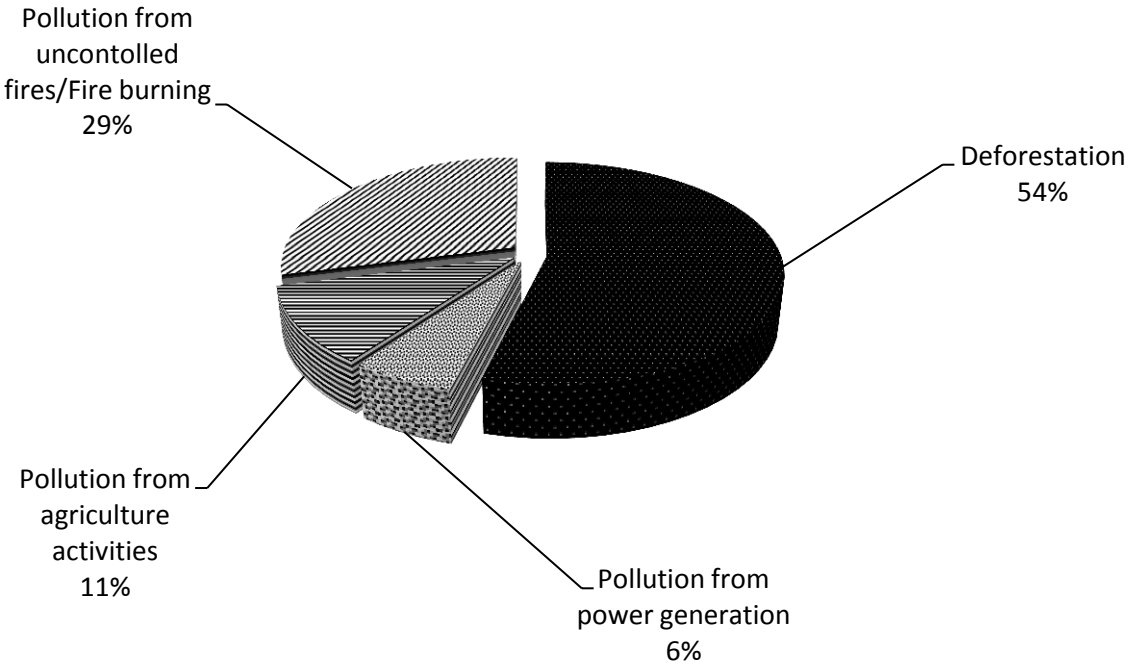

Figure 39. MJUMITA members' response on the causes of climate change (n =20)

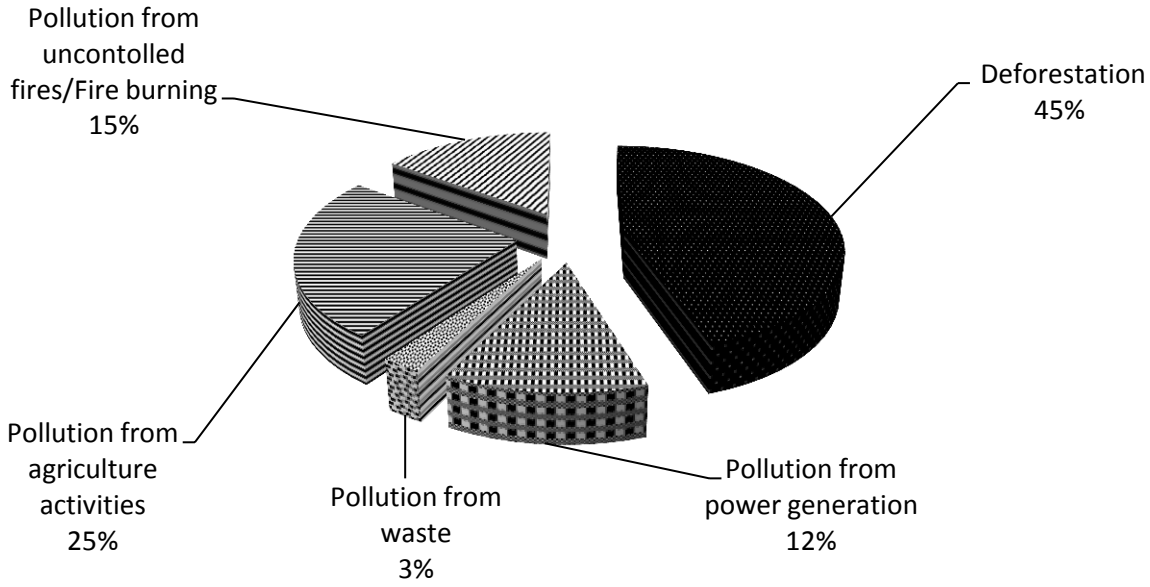

Figure 40. MVIWATA network members' response on the causes of climate change (n = 19)

About awareness of the impacts of climate change

Losses of animal and plant species, diseases, floods, water shortage, decrease in crop yield were the impacts of climate change that were mentioned by MVIWATA and MJUMITA network members. MJUMITA network members highlighted decreases in crop yield as the main climate change impacts and diseases. MVIWATA network members mentioned decreases in crop yields and water shortages as the main results of climate change. The percentage of MJUMITA and MVIWATA members mentioning these impacts are presented in Figure 41 and 42 below.

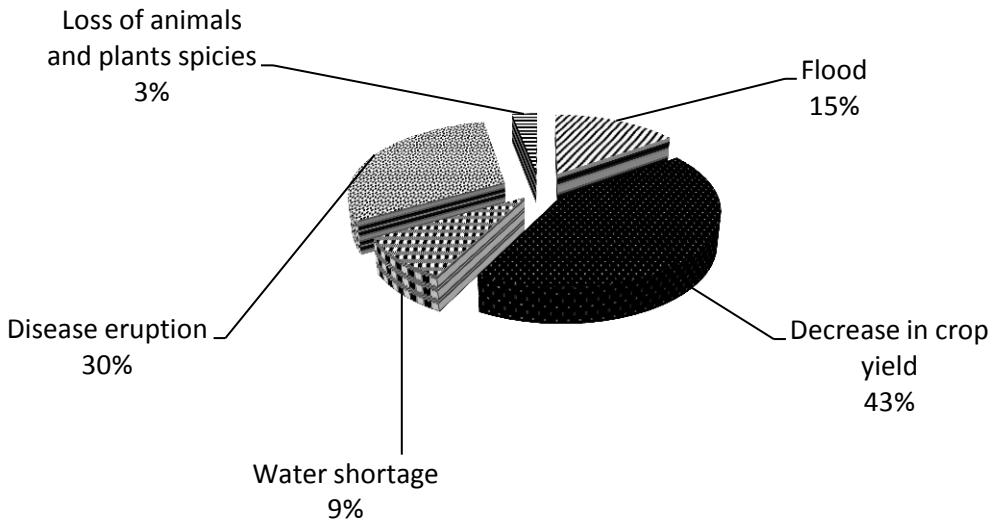

Figure 41. MJUMITA members' response on the impacts of climate change (n = 20)

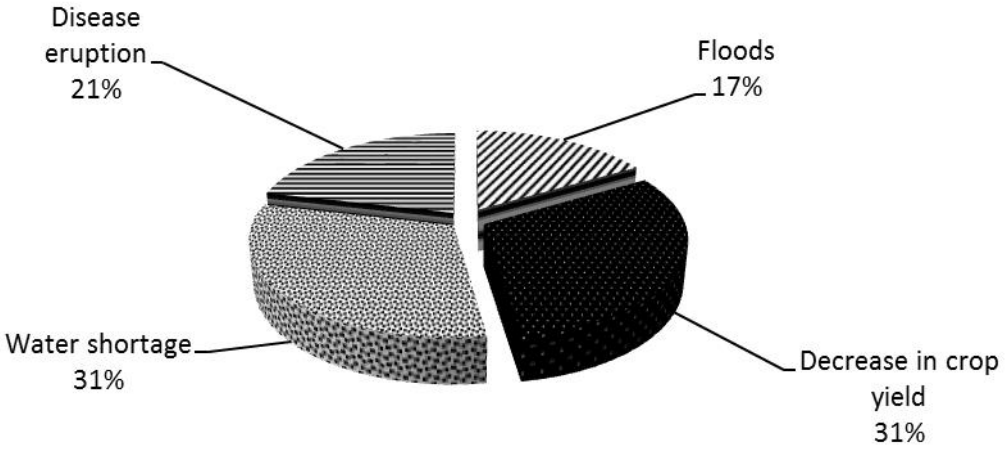

Figure 42. MVIWATA members' response on the impacts of climate change (n = 19)

About awareness of climate, smart small-scale agriculture

Over 60 % of MVIWATA and MJUMITA group and networks members respectively, reported to have heard about climate smart small- scale agriculture (Figure 43 and 44)

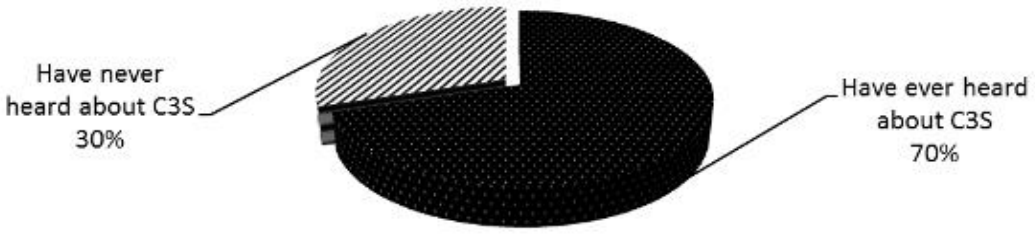

Figure 43. MJUMITA members' response on whether they have heard C3S (n=20)

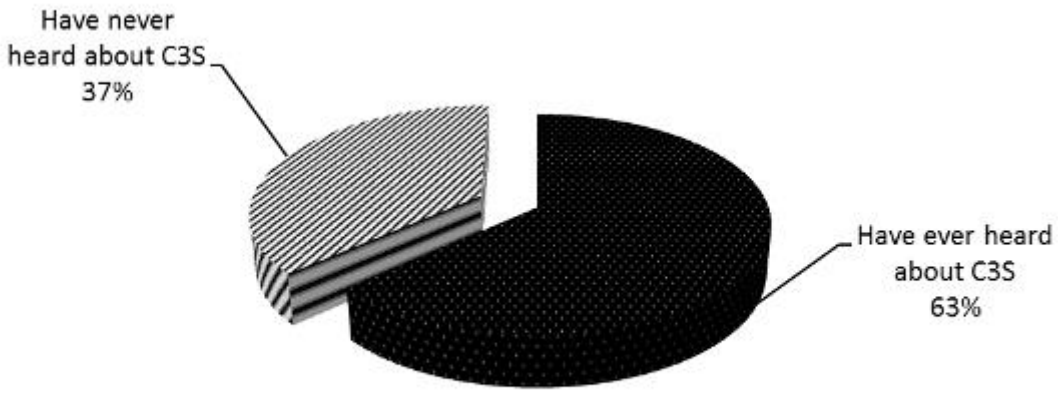

Figure 44. MVIWATA members' response on whether they have heard C3S (n=19)

About the knowledge of climate, C3S agriculture practices

The baseline study has found that both MJUMITA and MVIWATA members mentioned fire management, best use of agriculture inputs, weed control, stop clearing forest for agriculture, spacing between seedlings, uphill and downhill trenches, soil protection, crop rotation and minimum tillage as C3S agriculture practices as seen in Figure 45 below for MJUMITA and 46 for MVIWATA

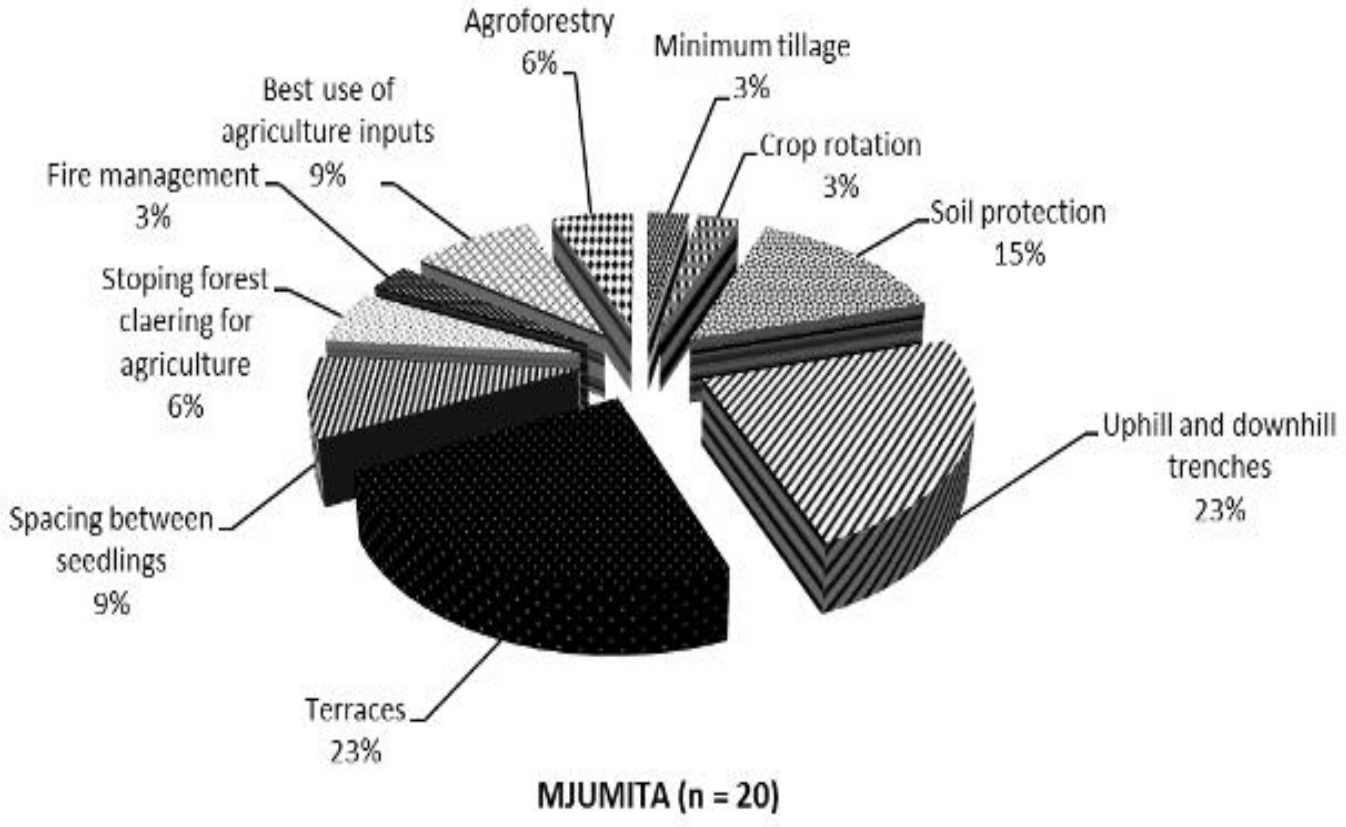

Figure 45. MJUMITA members' responses on how they describe C3S agriculture

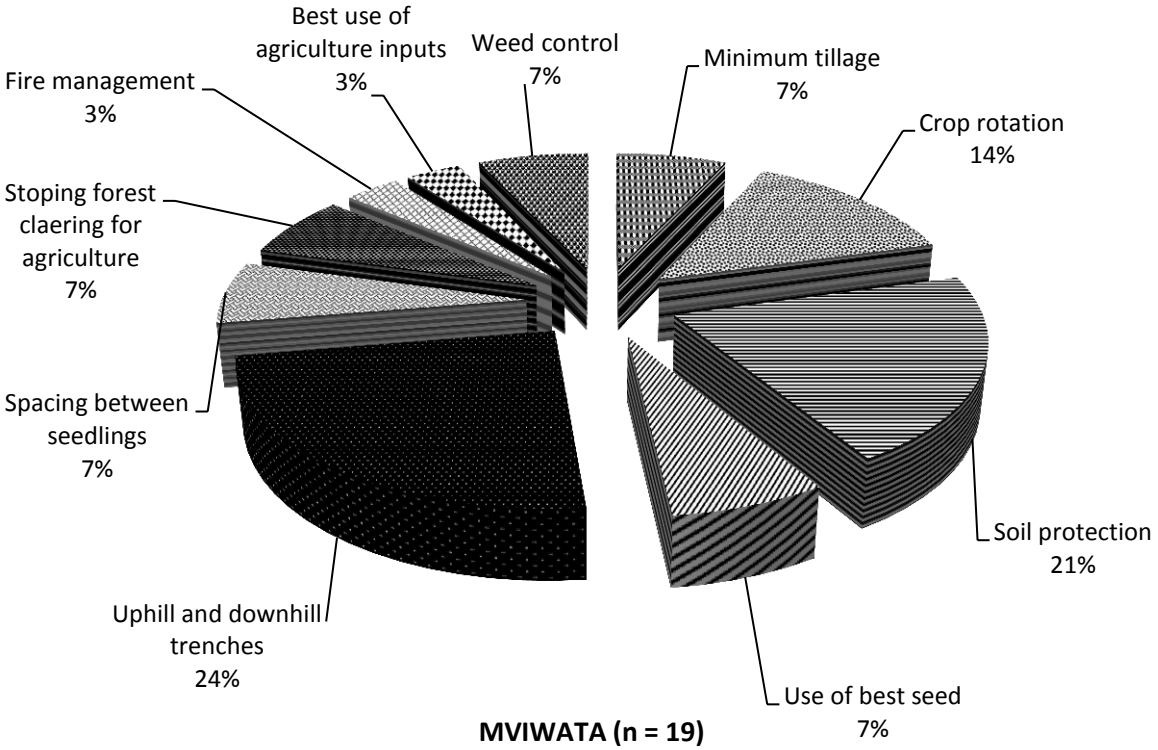

Figure 46.MJUMITA members' responses on how they describe C3S agriculture

About sharing the above information with others in the communities

The baseline survey has established that currently majority of MJUMITA members share information related with climate change and C3S agriculture with other members in the communities (Figure 47). MVIWATA members for their case a large proportion of them do not share this information with other members in the communities (Figure 48).

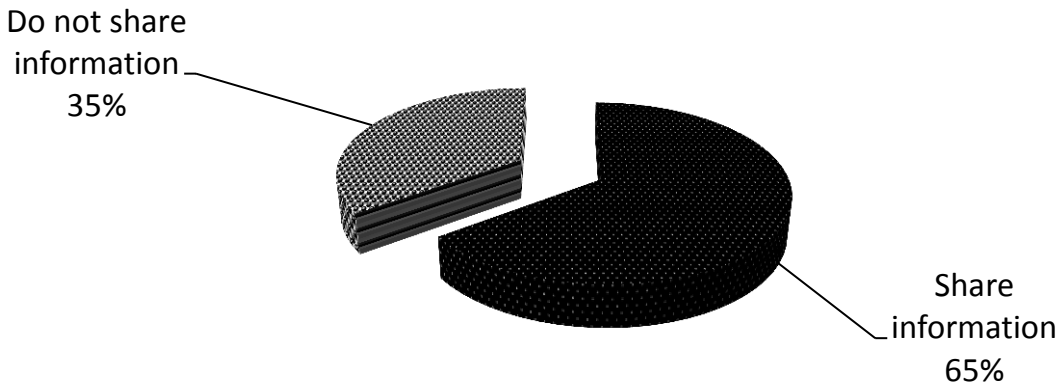

Figure 47. MJUMITA members' responses on whether they share climate change, C3S agriculture information with others in the communities

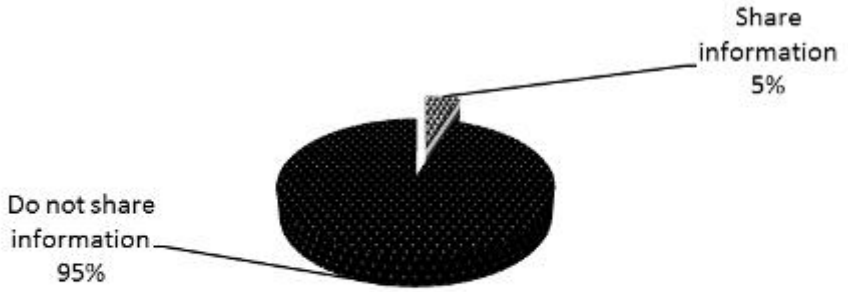

Figure 48. MVIWATA members' responses on whether they share climate change, C3S agriculture information with others in the communities

It is obvious from the results above that both MJUMITA and MVIWATA members need more awareness raising on climate change given the fact that they are among the project progress markers apart from being conservation and development ambassadors in grassroots communities. The level of understanding on the term climate change seemed to be different when MJUMITA and MVIWATA were compared but they have different level of understanding once it comes to describe climate change, its causes and its impacts. Some of the factors that are easily noticed as climate change and causes like change in temperature and shifting cultivation respectively were not mentioned by the respondents implying that more climate change awareness is needed to this group in the project areas. The results also indicate that sharing of this information with other members in the communities still need to be reinforced to this group of the communities.

3. Community networks are regularly consulted by policy makers on climate change related issues and provide recommendations to Kilimo Kwanza, ASDP and SAGCOT

MJUMITA and MVIWATA leaders all stated that they have not been consulted by policy makers to provide recommendation to Kilimo Kwanza ASDP and SAGCOT

4. Community networks are advocating at local, national and international level through media, meetings and other forum for more support for C3S agriculture, community-oriented REDD and other climate smart strategies

At the national level both institutions make regular statements to the media on related issues but neither have engaged in a specific campaign on C3S agriculture involving the media.

The study has found that none of the MJUMITA and MVIWATA members in the project villages have made demand for support for C3S agriculture, community-oriented REDD and other climate smart strategies by using media. It was only reported by 4 members of MJUMITA that they have made demands for improved natural resource management through meetings with staffs from department of land, natural resource and environment of Kilosa district when they visited Kisongwe village. On the flip side, Mshikamano group members in Nzali village also reported to have also demanded improvement of natural resource management to Chamwino forest officer when he visited them during promotion of tree planting activities in Nzali village. They also demanded to be given trainings of good agriculture practices from the district agriculture department that will withstand with the current drought facing Chamwino district. This information is summarised in Table 22 and 23 below.

Table 22. MVIWATA group members' responses on whether they have ever demanded C3S agriculture, community oriented REDD and natural resource management through media and meetings (n = 19)

Demanded services	Media		Meetings	
	Yes	No	Yes	No
C3S**	0%	100%	11%	89%
Community oriented REDD**	0%	100%	0%	100%
Natural Resource Management**	0%	100%	11%	89%

Table 23. MJUMITA network members' responses on whether they have ever demanded C3S agriculture, community oriented REDD and natural resource management through media and meetings (n = 20)

Demanded services	Media		Meetings	
	Yes	No	Yes	No
C3S**	0%	100%	0%	100%
Community oriented REDD**	0%	100%	20%	80%
Natural Resource Management**	0%	100%	0%	100%

The study learned that, there is a need to influence MJUMITA and MVIWATA members to build a habit of making more efforts to demand for improvement in natural resource management, starting and scaling up C3S agriculture in the area and other good agricultural practices that respond to the needs of the communities whilst promoting environment conservation. Those who have already started making these efforts provides good avenues for the project to promote MVIWATA and MJUMITA network members to advocates for more support with regards to C3S agriculture, community oriented REDD and other conservation and agriculture practices deemed necessary.

Love to see

1. Community networks are recognised as leaders in climate change adaptation and mitigation and are invited to participate in policy formulation, monitoring and evaluation forums at national and international level.

The study has found that, of currently community networks are devoting their efforts to address climate change adaptation and mitigation. However, it could not find any network that has been invited to participate in policy formulation and monitoring and evaluation forum at local and international level.

2. Community networks hold elected representatives at local and national level accountable for the quality of the support

The study found that 50% (n = 20) of MJUMITA members who were interviewed in the study villages reported to have held responsible elected representatives while it was only 11% for MVIWATA members out of the 19 interviewed members who reported to have taken action to hold responsible elected representatives (Table 24 and 25). MJUMITA members reported that they hold their elected representatives by reporting them to the higher authorities, removing them from their post and by not electing them in the next election (Table 10). On the other hand, MVIWATA members reported that they are holding elected representative responsible by reporting them to higher authorities and by not electing them in the next election (Table 25).

Table 24. MVIWATA members' responses on whether they are holding responsible elected representatives

	Have held responsible elected representative		**Have not held responsible elected representative**
MJUMITA members' response (n =20)	50%		50%
	Ways to hold responsible	% of MJUMITA members' responses	
	Reporting them to the higher authority	15%	
	Removing them from their post	35%	
	Not electing them in the next election	25%	

Table 25. MVIWATA members' responses on whether they are holding responsible elected representatives

	Have held responsible elected representative		**Have not held responsible elected representative**
MVIWATA members' response (n =19)	11%		89%
	Ways to hold responsible	% of MVIWATA members' responses	
	Reporting them to the higher authority	5%	
	Not electing them in the next election	11%	

3 Community networks in Tanzania share their knowledge on appropriate, climate change adaptation and mitigation strategies with communities in other countries.

The baseline study has established that currently neither MJUMITA networks nor MVIWATA groups are sharing this information to other countries. But when they were asked whether they have opportunities to share this information to other countries, they mentioned presence of communication medias like radios, televisions, newspapers; availability of environmental meetings where they get more information on environmental conservation, aid from private organisations and companies to support them, seminar trainings and presence of environmental problems in their areas that are similar to other Eastern African countries. However some of them admitted that there is no any opportunity. Large proportion of those who did not see any opportunity came from MVIWATA members (Figure 49) compared with MJUMITA members as seen in figure (Figure 50).

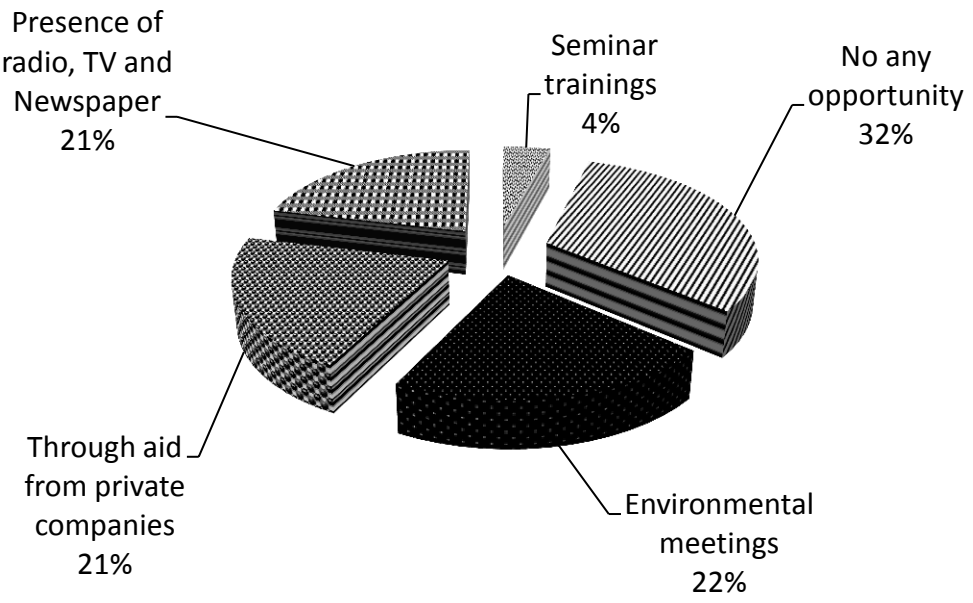

Figure 49. MJUMITA members' responses on whether there do exist opportunities for them to share information to communities in other countries

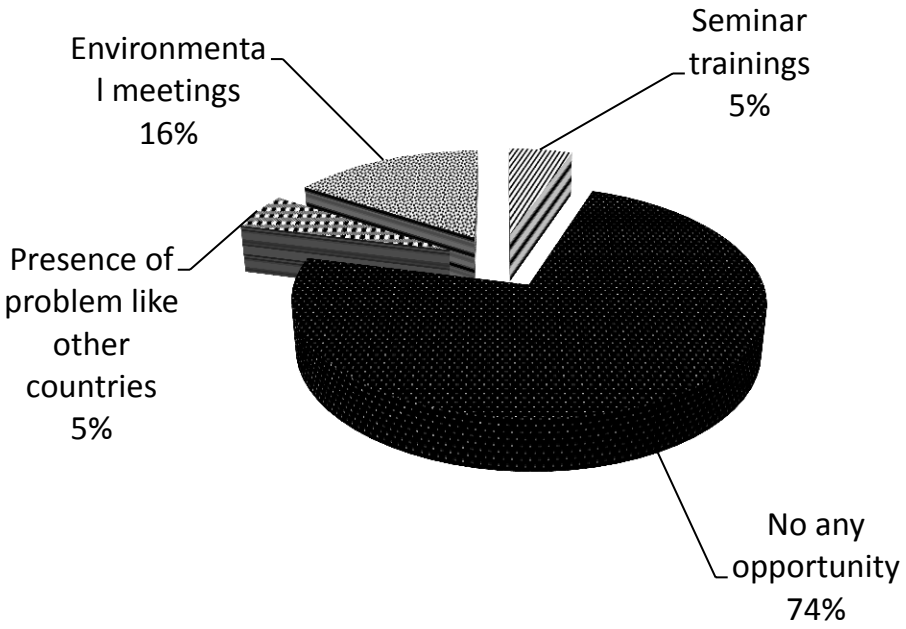

Figure 50. MVIWATA members' responses on whether is any opportunity for them to share information to communities in other countries

3.2.2.3 District Officials

Expect to see

1. District Officials participate in awareness raising events about Climate Change, REDD and Agriculture.

Through discussion with the Chamwino and Kilosa district officials, the study has found that the Chamwino Executive Director, the District Forest Officer, the District Livestock and Fisheries Officer have not participated in climate change and REDD awareness rising events. It was the District Agriculture and Cooperative Societies Officer who have participated in climate change awareness raising event but not in

REDD events. However, all of them with exception of the Forest Officer admitted to have participated in agriculture awareness raising events and said that is part and parcel of their work.

With regards to Kilosa District Officials, the District Agriculture and Cooperative Societies Officer and the District Executive Director have not participated in climate change awareness raising events. The agriculture officer acknowledged to have participated in REDD awareness raising events with REDD project in Kilosa. But they all revealed to have participated in agriculture awareness raising events. The District Forest Officer said he has participated in both climate change and REDD awareness raising events. They all in both district admitted to be willing to participate in awareness raising events about Climate Change, REDD and Agriculture.

2. District officials integrate climate friendly agriculture in their DADPs where external support is provided.
Both the two districts currently are not integrating external supported climate friendly agriculture in their DADPs. However, Chamwino district in the year 2011/2012 received support from FAO and implemented different agriculture projects. The support involved starting and running farm field school, conservation agriculture and provision of agriculture inputs in Msaga, Mahama, Chalinze, Makoje and Bwigiri villages. On the other hand the support helped to train extension officer in the district.

3. District Officials support integration of community plans in DADPs where external support is provided.
The study has established that neither Kilosa nor Chamwino district is currently supporting integration of external supported community plans in DADPs. Rather district official said community plans are always integrated in DADPs by using the O&OD (opportunity and obstacle to development) methods. Through discussion with the district officials, the study has established that O&OD is a participatory community planning process to empower the people based on a bottom-up approach with a positive outlook. Through the process the district official highlighted that there is the Ward Facilitation Team (WFT) that is made up of the ward executive officer, ward agriculture and extension officer, ward community development officer and other officers whose mandate are related with agriculture development activities. That the WFT facilitate participatory process at the village and guide the planning of the village agriculture development plans (VADPs). They later develop the ward agriculture development plans (WADP) by consolidating the VADPs and submit it to the District Facilitation Team (DFT) made up of head of departments to integrate the WADP in the DADPs. However, it has been identified that the ward officers neither do sufficiently facilitate community activities to be in an effective and sustainable manner nor do actively understand community needs and give feedback to the district officials (URT, 2008). This was attributed to low frequency of those ward officers to make visits to communities and lack of financial and human resources as in some of the wards the said ward officers in the WFT are non-existing. Delayed delivery of the budget from the government treasurer was identified to one of the challenge facing the process. The Kilosa district officials said, the O&OD approach ended in last year and they are now implementing a three years Value Adding Approach that they started to implement in 2012. It is the approach whereby different stakeholders are involved to in the planning to select a crop and livestock to be prioritised for a certain year. Farmers and pastoralist are represented by the selected farmers and pastoralist from the village. It is through this way whereby they integrate community plans in DADPs. Chamwino district officials to their case mentioned that they did O&OD in Chinangali II, Mvumi Mission and Mvumi Makulu where they are implementing DADP projects.

Like to see
1. District Government are providing DADP guidelines that include issues of climate-friendly agriculture and gender to all wards and villages in a timely manner; are ensuring that the ward and village level facilitation teams are developing plans that adequately support climate friendly agriculture; and these are properly reflected in the District level plans and are then implemented.
The study has established that there has been a delayed delivery of provision of DADP guidelines to ward and village level. This was mentioned in all districts that it is caused by the delayed delivery of funds from

the government. For example, the study witnessed the 2013/2014 budget preparation in Chamwino and the district officials reported that they have not received the 2012/2013 budget to implement plans for 2012/2013 financial year. Both Chamwino and Kilosa district officials acknowledged that they normally consider gender issues in any undertakings including implementation of different DADP initiatives at the village level. That gender is more considered in agriculture related training, projects, planning, decision-making and implementation. With the case of environmentally friendly agriculture, both Chamwino and Kilosa district officials admitted that it is through ESMF where they make sure that their DADPs projects are environmentally friendly. However as described above, the ESMF does not cover small-scale initiatives.

2. *District government are raising awareness about climate change, climate-friendly agriculture and gender amongst communities in their districts.*

Chamwino district officials revealed that currently they have a system of organising meetings in each village and they conduct village assemblies where they address the meeting on number of issues that cover agriculture, environmental conservation and good animal husbandry. These meetings are conducted once per year especially during the beginning of the planting period. However, the study has found that in most cases these meetings are more targeting agriculture related activities and there has not been any specific meeting that was targeting climate change and climate-friendly agriculture as it was reported by the district officials.

In Kilosa the district through the land, environment and natural resource committee has been conducting awareness raising about climate change and climate friendly agriculture, however this has been conducted in line with other issue in the villages and there has not been a specific awareness on climate change and climate smart, small-scale agriculture. The district agriculture officer mentioned that they have a planned climate change campaign to be conducted in the district and the budget has been allocated for that campaign. The campaign will address climate change in term of its caused, impacts and the way how to adapt and prevent it. Among other thing it will involve evacuating livestock from catchment areas to implement the district commissioner's lawful order.

Love to see

1. Support for best practices in terms of supporting climate change resilient and low GHG agriculture are integrated in DADPs and adequate funds are disbursed for their implementation.

The study has established that there is no any practice resilient to climate change and that has low GHG emission that is supported by the two districts to small-scale famers. Instead, the two districts have been helping communities to adapt to the impacts by changing crop varieties and less effort is placed on changing practices. For example in Chamwino, the district official mentioned that they are distributing drought resistant sorghum seeds (macia seeds). This variety is an early maturing variety. However, apart from this support not have reached majority of the small-scale farmers as depicted in figure 18 above, there are no low GHG emission agriculture practices that were reported to accompany the new introduced drought resistant seeds. The study observed that still farmers are practicing unsustainable agriculture practices as describe in section 3.3 below. With the case of Kilosa district, it was reported that currently the district is not supporting any best practices that is resilient and with low GHG but rather agriculture officers are providing advices to farmers to take necessary precautions not to destroy the environment. However, the monitoring is not conducted and hence they are not sure on whether those practices are being implemented.

2. District government are supporting communities to implement actions that will reduce deforestation and are assisting communities to access REDD finance.

The district officials in Chamwino admitted to have not heard about REDD and hence have not taken any effort to help famers to access REDD finance. On the other hand the district forest officer admitted that they are now in the tree planting programme and have managed to plant over 6000 tree in the district. He also

highlighted that they have been conducting patrols in different forests that have been encroached by farmers and some of farmers were evacuated from the area. Furthermore, the DFO underscored that efforts to stop deforestation in the district are challenging as the district has only one forest officer and has no vehicle to patrol all the areas. He cited Chamhame and Chinyami forests as the forests that are under higher pressure to deforestation due to lack management plans and clear forest borders. These forests are forest catchments under the control of the central government. He therefore, said that the water catchment value that these two forests have is dubious. This information was backed up with our observation whereby we witnessed deforestation in Mlimwa forests at Nzali village due to encroachment for maize farming.

Kilosa district officials admitted that they have been conducting patrols in forest reserves and providing education to forest adjacent communities on the impact of deforestation and bushfire. On helping communities to access REDD finance, they said they are collaborating with TFCG/MJUMITA in their REDD project to learn the process and perhaps start running and claiming for REDD finances to the needy communities.

3. District government take action against individuals engaging in corrupt practices that undermine efforts to promote pro-poor, climate-friendly agriculture.

The study has found that in the two study districts, there have been efforts to address corruption issues. In Chamwino for example the DED admitted to the study team that there are some of the VEO who have been fired and charged in the court of law for misusing public funds. He said they are working in close collaboration with the Public Corruption Prevention Bureau (PCCB) to address corruption in the district. On the other hand, the agriculture officer said for DADPs funds that are disbursed to villages, there are tight bureaucracies that prevent any person to attempt squandering them. In Kilosa, it was also reported by both the DED and the agriculture officer that, there have been some cases of public fund mismanagement and all those who were responsible were either fired and others charged in the court of law.

3.2.2.4 Ward councillors and Members of Parliament

The baseline study had a key informant interview with Chilonwa ward councillor in Chamwino district, Lumbiji and Lumuma ward councillor in Kilosa district and Kilosa and Chilonwa Member of Parliaments to find the current information with regards to the following output markers.

Expect to see

1. Elected representative participate in awareness raising days and stakeholder meetings on small-scale agriculture and climate change when external support is provides

The Chilonwa ward councillor stated that he has not participated in any awareness raising days and stakeholder meetings on small-scale agriculture and climate change but he underscored that he is willing to participate as it is one of his responsibilities to cooperate with development partners in the area of his jurisdiction. On the other both Lumbiji and Lumuma ward councillors stated that they have been collaborating with MJUMITA and TFCG in their REDD project in Kilosa and in that cooperation, they have been able to participate in agriculture and climate related awareness raising events and meetings organised by REDD project in Kilosa. Both of them expressed their political will to participate in those awareness meetings and event as those initiatives concur with their manifesto. On the other hand both Kilosa and Chilonwa Members of Parliaments said that they have not participated in awareness raising days and stakeholder meetings on climate change issue but said they have been in their work participating in agriculture awareness raising events. However, they both said that they have not participated in C3S agriculture awareness raising.

2. Elected representative makes statement to the media to demand more support for small-scale farmers and sustainable land and natural resource management

Chilonwa member of parliament admitted to have not made any statement to the media to demand for more support for small scale famers and sustainable land and natural resource management but he insisted that existing laws if are followed they will appeal for both natural resource management and agriculture.

On the other hand Kilosa Member of Parliament said he had made a statement in the media to demand for support especially on the on-going land conflict between farmers and livestock keeper. He said the statement covered issue like land scarcity in the area, finance to help farmers and requested livestock keeper to reduce their herds of cattle to have a more sustainable livestock keeping. It was learned by this study that no member of parliament has made a specific statement in the media to demand for more support for small-scale farmers and sustainable natural resource management.

Through interview with the Lumuma ward councillor, she also said that she has not made any statement but said at one point of time she was welcomed as the guest of honour in the meeting that was organised by TFCG and MJUMITA in Kilosa and gave her speech that covered sustainable agriculture and environmental conservation.

With the case of Lumbiji ward councillor, he said he was interviewed by Radio Jamii in Kilosa and in the interview he thanked REDD+ initiative in his ward and requested farmers to allocate farms for village community forest. He testified that his interview with the radio was well received by famers in his ward to the fact that they agreed to allocate lands from their farms for forest conservation.

Like to see

1. *MPs raise questions about climate change steering committee effectiveness and the integration of support for small-scale farmers in current agricultural policies (DADPs, SAGCOT, Kilimo Kwanza) including references to Tanzania's commitments under the Maputo Declaration.*

The study found that neither the Chilonwa nor the Kilosa Member of Parliament have raised questions about the effectiveness of climate change steering committee and the integration of support for small-scale farmers in the current agriculture policy. The Kilosa Member of Parliament for example said he has not participated in any meeting that was organised by the committee and hence is not well informed about their duties. However, they said they have been demanding general supports for their electorates; the support that involve agriculture development and environmental conservation. For instance, honourable Chibulunje of Chilowa constituent said he has been demanding in the parliament for forest conservation, drought resistance crops, environmental education and early maturing crops among other things. For his case honourable Mkulo of Kilosa constituent said he has been raising questions relating to availability of land in Kilosa for farmers, agriculture inputs, starting and running of SACCOS, drought resistant crops and agriculture education to farmers. He also said that he is cooperating with the district to address climate change in Kilosa.

2. Ward Councillors and Village council members push for DADPs to integrate support for small scale, climate smart agriculture.

Of current ward councillors admitted to have not made any effort to push for DADPs to integrate support for small scale, climate smart agriculture. They said that though are always invited during the district agriculture stakeholder meeting, much of the support to farmers are directed to increase agriculture production in the area and environmental conservation is least treated in the plans. The Lumuma ward councillor admitted that with the coming the CCAP project, she is optimistic that the project will capacitate her and the other ward councillors to claim for more support for climate smart, small-scale agriculture. Apart from that they reported to have made some effort to support small –scale farmers. For example Chilonwa councillor said he demanded for climate change training to farmers in his ward for farmers to be aware of

the causes, impacts and adaptation to climate change. He also reported that so as to adapt to climate change, he demanded mango species that mature and produce fruits early as an alternative commercial fruit trees. The Lumbiji ward councillor said he have demanded extension officers in his ward to support agriculture activities. All of these demands were made in the full council meetings at the district.

3. Ward councillors push District Officials to expedite and prioritise support for small-scale farmers in the implementation of DADPs.
The current study has found that to some extent the interviewed ward councillor, at least everyone had made some efforts to push district officials to expedite and priorities support for small-scale farmers. They reported to have demanded in the full council meetings supports for their electorates. However, they said lack of enough fund and delayed disbursement of fund from the government treasurer is undermining their efforts.

Love to see

1. MPs make changes to national CC related policies to reflect the interests of communities and Small-scale farmers
The current study was not able to disclose any climate change policies that have been changed by the influence of members of parliament so that it reflects the interest of communities and small-scale farmers. Members of parliament interviewed did not cite any policy but said the national climate change steering committee is the committee that has been formed to look on those issues.

2. *Elected leaders monitor and follow up on the implementation of national policies and laws relating to small-scale farmers and climate change adaptation and mitigation.*
The members of parliament said it is their task to follow and monitor implementation of national policies and laws as they stand for electorates' developments. With that case, they said issues of climate change and agriculture are dealt by specific parliamentary committees and it is through those committees where they are updated. The study shows that members of parliament interviewed are not monitoring and following up the laws relating to small-scale farmers and climate change adaptation and climate change adaptation and mitigation. This is just because a member of parliament from Kilosa said he is aware of climate change but does not know it in broad. He also admitted to be unaware of REDD initiatives. To the ward councillors all of them were unaware of the details of the policies and laws relating to small-scale farmers and climate change adaptation and mitigation. They merely mentioned them but with no a broad understanding of how they influence climate, small-scale farmers and climate change adaptation and mitigation.

3.2.2.5 Nation Climate Steering Committee and National Climate Change Technical Committee (NCCSC/NCCTC)

Expect to see
1. The NCCSC and the NCCTC meet at least twice per year including representatives from Ministry of Natural Resource and Tourism, Prime Minister Officer Rural Administration and Local Government, Ministry of Agriculture and Food Security and Vice President Office Division of Environment; Civil society organisations; research institutions and private sector.
Through discussion with the Chairman of NCCTC it was reported that the NCCSC and the NCCTC had two (2) meetings in 2012, three (3) meetings in 2011 and one (1) in 2010. He explained that the NCCSC and NCCTC are designated to hold their meetings concurrently, whereby the NCCTC sits first and thereafter inform the NCCSC in its meeting. The last meeting of the NCCTC was held on 13th of December 2012 followed by the NCCSC meeting. It was also mentioned that there were no representatives from CSOs or private sector in the aforementioned meetings. However, higher learning institutions (Sokoine University, University of Dar es Salaam and Ardhi University) were among the participants in the meetings.

2. Representatives from NCCSC/TC participate in media events on climate friendly agriculture.
The Chairperson of NCCTC stated that NCCSC/TC does not organize any media events to promote climate friendly agriculture. However, NCCSC/TC has been participating in media events through sending its experts upon invitation to various media events. He gave an example of NCCSC/TC representatives either as resource persons or experts to have been addressing issues related to CC adaptation and mitigation in their specific ministries like Ministry of Natural Resource and Tourism, Ministry of Agriculture, Ministry of Environment among other ministries constituting the NCCSC/TC.

Like to See

1. NCCSC representatives participate in civil society events related to linkages between Small-scale agriculture, climate change and REDD
The NCCTC chairperson stated that the NCCSC is willing to send representatives to the aforementioned events upon invitation. For example, he explained that the NCCST/SC representatives participated in the IUCN hosted workshop to develop a national strategy on gender and climate change that was conducted in September 2011.

2. NCCSC and NCCTC consider policy harmonisation in relation to CC mitigation and adaptation including issues around Small-scale agriculture and REDD.
The study found that no policy changes have resulted from the influence of NCCSC and NCCTC as the national climate change strategy has only just been completed and is awaiting approval. The director explained that the NCC strategy considers policy harmonisation and that therefore its implementation will perhaps result in policy changes. Moreover, he explained that the national climate change strategy outlines the measures for CC adaptation and mitigation that are to be addressed in each sector including the agriculture and forest sector.

3. NCCSC host meetings for communities, civil society, local government, research institutions and private sector to provide inputs on the National Climate Change strategy, NAPA and REDD + strategies.
The Chairperson of the NCCTC stated that the National Climate Change Strategy has been completed and is pending approval. He explained that the completion of the National Climate Change Strategy was one of the agenda points in the last technical and steering committee meeting.

He explained that since environment is a crosscutting issue, the development of strategies addressing environmental issues should involve awareness and consultation meetings. In the case of the national REDD+ strategy, he explained that a series of awareness raising and consultation meetings were held in different areas of Tanzania from local, district, regional and national level. This process followed the REDD+ consultation plan that included meetings with different people working in forestry and agriculture. Civil society organisations, local communities, research institutions and private sector representatives were consulted for their inputs.

The Chairperson of the NCCTC explained that for the current final draft of the national climate change strategy, consultative meetings were held in Lake Zone and Southern Highlands in which various CSOs and development partners' representatives were invited to provide their inputs. Apart from provision of inputs he said the meetings also aimed to enable key players to have adequate knowledge about the issues in question.

4. *Gender issues are well covered in key plans including the National REDD+ strategy and NCCSC*
The Chairperson of the NCCTC said that gender issue were among the concerns that were raised during the REDD+ consultation meetings and the NCCSC has been working to make sure that gender issues are addressed. However, the study was not able to get the final draft of the national climate change strategy to

assess how gender is addressed. The National REDD strategy refers to gender issues in several places within the document and a gender sensitive approach is referred to in one of the strategic objectives.

5. NCCTC advice MAFS on measures needed to ensure that the ASDP effectively promotes pro-poor, climate change mitigation and adaptation.
The Chairperson of the NCCTC reported that currently the NCCTC is structured to provide technical assistance to individual sectors and in most cases the NCCTC advice those sectors (including agriculture sector) through different strategies (e.g. national climate change strategy) and guidelines. He further underscored that the NCCTC prefers a bottom up approach in provision of technical assistance where it encourage sectors to consult them for advice. He explained that the Committee sometimes intervenes to address specific problems. The study has thus found that there is no specific advice that the NCCTC is providing to ministry of agriculture and cooperative societies apart from the guidelines provided by the NCCTC through its strategies.

6. NCCTC approves information resources on climate friendly agriculture for distribution to Local Government with the DADP guidelines.
It was elucidated that though the NCCTC is responsible for overseeing and guiding the implementation of climate change activities in the country, there has not been any resource on climate friendly agriculture that has been approved for its distribution to local government with the DADP guidelines. The chairman of NCCTC revealed that such provision is through Policy and Regulatory frameworks in the agriculture sector. He further noted that agriculture sector is implementing the Environmental Management Act - Implementation Supports Programme (EMA-ISP) that is charged to mainstream the environment in the agriculture sector. And hence approval of such information is done by the Environment Management Unity in the Ministry of Agriculture.

Love to see

1. The NCCSC is demanding the allocation of 10 % of the national budget for climate-friendly agriculture in ways that directly contribute to achieving MDGs.
Through discussion with the NCCTC chairperson, he noted that currently the NCCSC has not made any demand for the allocation of 10% of the national budget for climate-friendly agriculture in ways that directly contribute to achieving MDGs as the NCCSC has no mandate to instruct the government to allocate a budgetary percentage for an activity in another agriculture sector.

2. The NCCSC is supporting the NCCFP to be a role model for other countries in the integration of climate friendly agriculture in NAMAs, NAPAs and REDD
The study has found that the NCCSC is not supporting the NCCFP to be a role model for other countries in the integration of climate friendly agriculture in NAMAs, NAPAs and REDD.

3.2.2.6 Village council members

The project considers village council members to have significant influence on achieving the goal and objectives of the CCAP initiatives but anecdotally that this group of elected representatives often lack awareness on the CCAP issues and some opportunities involved in the CCAP initiative. So as to elucidate this information a baseline study assessed levels of awareness of village council members on climate change, climate change adaptation and whether they understand the linkage between climate change, agriculture and poverty. The study has come out with the following results.

Awareness of climate change issues

About climate change
The baseline study has established that most village council members in both Kilosa and Chamwino districts have some knowledge of climate change. 85% of the interviewed village leaders stated that they

have heard about climate change whilst 15% reported that they had not heard about climate change (Figure 51).

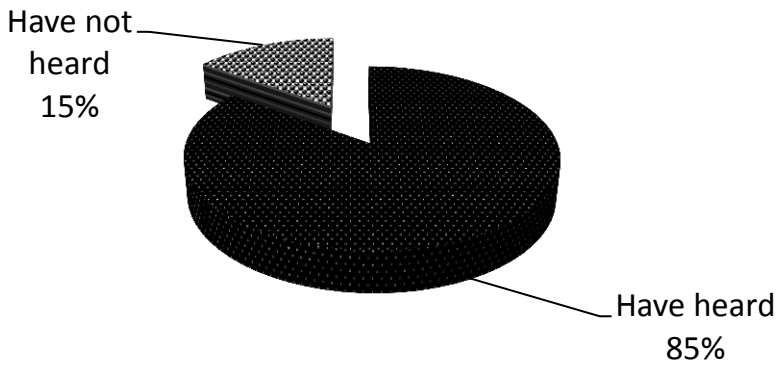

Figure 51. Village council members' responses on whether they have heard about climate change (n=80)

At least 60 % of village council members in all villages had heard of climate change (Figure 52). Between 5 % – 40 % of Village leaders in Chinangali I, Nzali, Lunenzi and Mahama village leaders had not heard of climate change whereas in the other villages, all leaders had heard of climate change.

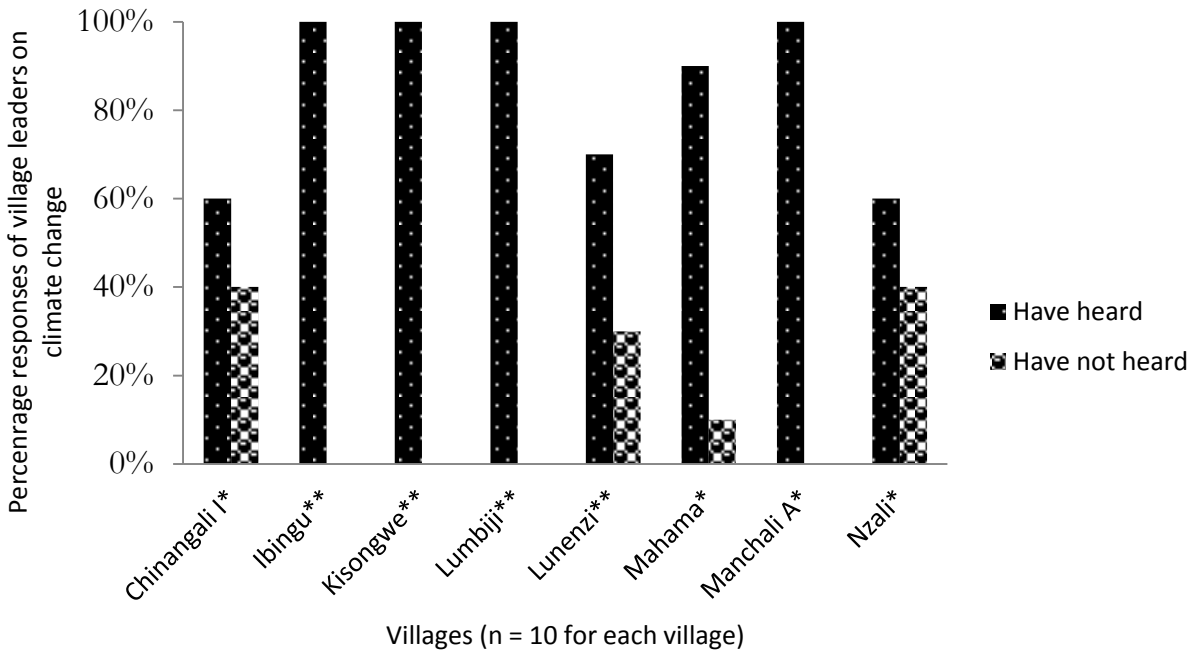

Figure 52. Village council members' response at a village level on whether they have heard about climate change

Note: * Chamwino study villages ** Kilosa study villages

About how Village Council members describe climate change

The study asked Village Council members to describe 'what climate change is'. The Council members mentioned changes in rainfall most frequently, other changes that were mentioned include changes in temperate and wind and cloud patterns (Figure 53 and 54).

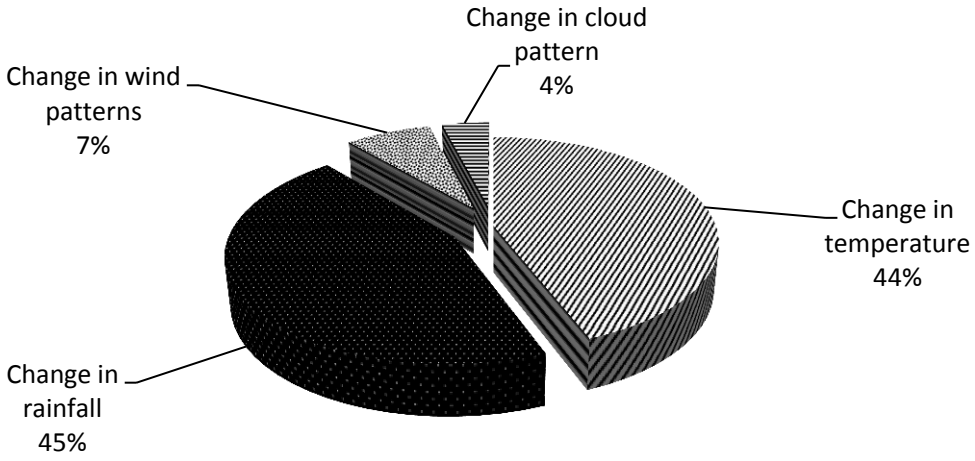

Figure 53. Village council member's response of how they describe climate change (n = 80)

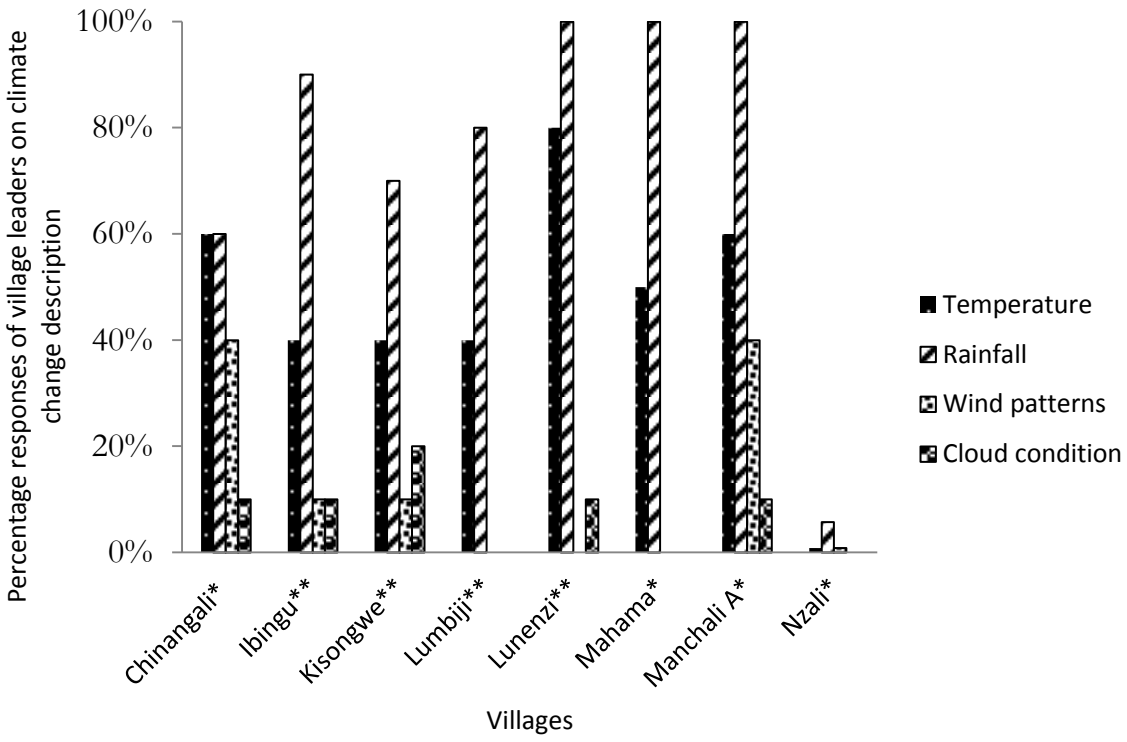

Figure 54. Village council member's responses at village level on how they describe climate change

About the causes of climate change

Note: * Chamwino study villages ** Kilosa study villages

The study also found that village council members in the study areas are aware of deforestation (89%), burning of forests (25%), and emission from agriculture activities (8%), emission from industries (9%) and power generation (4%), pollution from vehicles (3%) and waste disposal (5%), cultivating in water sources (4%) among others in Table 26 as the causes of climate change

Table 26. Village council member's responses on the causes of climate change in the study villages

Causes of climate Change	Chinangali I* n=10	Ibingu** n=10	Kisongwe** n=10	Lumbiji** n=10	Lunenzi** n=10	Mahama* n=10	Manchali A* n=10	Nzali* n=10	Overall n=80
Deforestation	50%	100%	100%	90%	100%	100%	100%	70%	89%
Pollution from vehicles	0%	0%	0%	0%	0%	0%	20%	0%	23%
Emission from industries	0%	10%	0%	10%	0%	20%	20%	0%	9%
Pollution from power generation	0%	0%	20%	0%	0%	0%	10%	0%	4%
Waste and waste products	0%	0%	0(0%	0%	0%	0%	20%	20%	5%
Agriculture activities	0%	10%	10%	10%	0%	0%	20%	10%	8%
Cultivating in water sources	0%	0%	0%	10%	20%	0%	0%	0%	4%
Burning of forests	0%	60%	20%	40%	60%	10%	10%	0%	25%
Shifting cultivation	0%	0%	1%	0%	0%	0%	0%	0%	1%

Note: * Chamwino study villages ** Kilosa study villages

The above table shows that village council members from Chinangali I (the control village in Chamwino) are unaware of most of the causes of climate change. They only mentioned deforestation as the cause of climate change.

About the impacts of climate change

On the impacts of climate change, the village leaders stated that climate change is having a major effect on crop yields (71%), followed by disease (35%), drying of water courses (34%) and increased drought (34%). Additionally, increase in flood incidents (28%) and loss of plant and animal species ranked last (34%). The following Table 27 depicts this information in all villages. Village leaders from Chinangali I and Nzali villages didn't raise drought as among the impacts of climate change and loss of animals and plants was not seemed to be the impacts of climate change in Chinangali I, Kisongwe, Lumbiji and Nzali villages

Table 27. Village council members' responses on the impacts of climate change in study villages

Impacts of climate change	Study villages								
	Chinangali I* n=10	Ibingu** n=10	Kisongwe** n=10	Lumbiji** n=10	Lunenzi** n=10	Mahama* n=10	Manchali A* n=10	Nzali* n=10	Overall n=80
Flood	2(20%)	7(70%)	1(10%)	1(10%)	2(20%)	2(20%)	5(50%)	2(20%)	22(28%)
Change in crop yield	5(50%)	7(70%)	8(80%)	9(90%)	5(50%)	8(80%)	9(90%)	6(60%)	57(71%)
Drying out of water sources	4(40%)	2(20%)	7(70%)	2(20%)	4(40%)	0(0%)	6(60%)	2(20%)	27(34%)
Disease eruption	2(20%)	2(20%)	6(60%)	3(30%)	5(50%)	2(20%)	6(60%)	2(20%)	28(35%)
Loss of animal and plants species	0(0%)	0(0%)	4(40%)	0(0%)	0(0%)	2(20%)	3(30%)	1(10%)	10(13%)
Drought	0(0%)	9(90%)	1(10%)	6(60%)	2(20%)	8(80%)	1(10%)	0(0%)	27(34%)

Note: * Chamwino villages ** Kilosa villages

Awareness of climate change adaptation

The study has found that majority of the village council members are unaware of climate change adaptation. These findings are expounded in Figure 59 whereby only 32% of the interviewed members of

the village council explained to be aware of climate change adaptation in Chamwino and Kilosa study villages whereas 68% of them reported to have not heard about climate change.

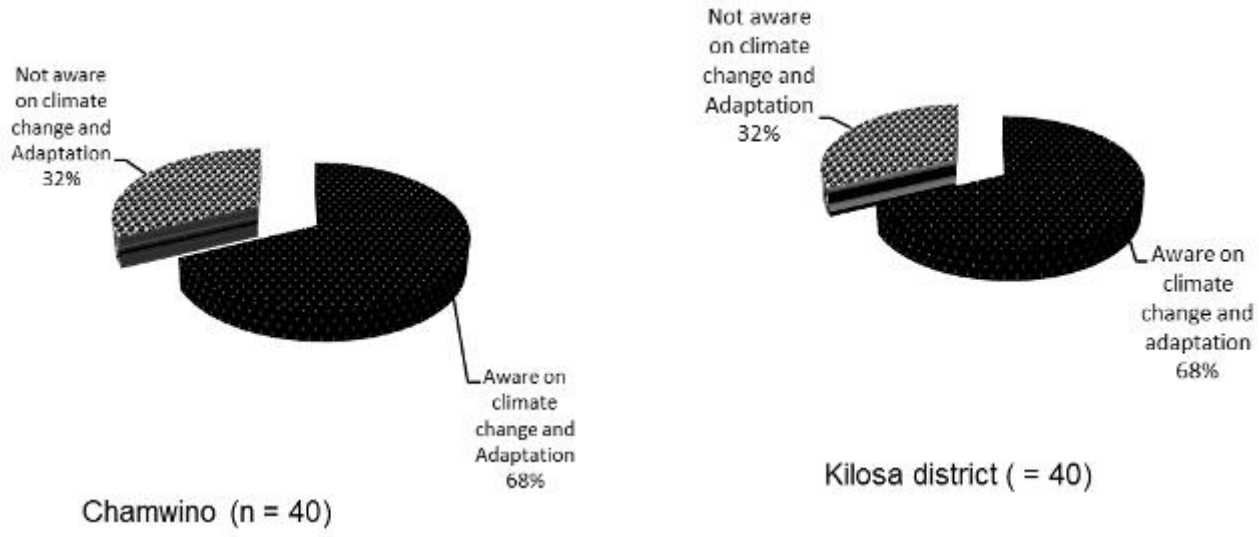

Figure 55. Village council member's responses on awareness of climate change adaptation in Kilosa and Chamwino study villages

At the village level, Table 28 shows that Chinangali I village council members were found to be less aware of climate change adaptation relative to other villages. Mahama and Manchali A villages' council members ranked highest in terms of awareness of climate change adaptation relative to other villages.

Table 28. Village council member's responses on awareness of climate change adaptation at village level

	Study villages								
Respondents awareness	**Chinangali I* n=10**	**Ibingu** n=10**	**Kisongwe** n=10**	**Lumbiji** n=10**	**Lunenzi** n=10**	**Mahama* n=10**	**Manchali A* n=10**	**Nzali* n=10**	**Overall n=80**
Aware on Climate Change and Adaptation	4(40%)	8(80%)	7(70%)	7(70%)	5(50%)	9(90%)	9(90%)	5(50%)	54(68%)
Not aware on Climate Change and Adaptation	6(60%)	2(20%)	3(30%)	3(30%)	5(50%)	1(10%)	1(10%)	5(50%)	26(32%)

Note: * Chamwino villages ** Kilosa villages

Awareness of the link between climate change, agriculture and poverty

The baseline study also probed for awareness of the link between climate change, agriculture and poverty alleviation to village council members and found that more that 50% of the interviewed village council members in both Kilosa and Chamwino study villages are aware of the link that exist between climate change, agriculture and poverty alleviation. However, 48% of them were not aware of the link (Table 29). Of those who were unaware of the link, Nzali village and Chinangali I registered a higher number of members of village council who were not aware of the link.

Table 29. Village council member's response on the link of climate change, agriculture and poverty

Respondents awareness	Study villages								
	Chinangali I* n=10	Ibingu** n=10	Kisongwe** n=10	Lumbiji** n=10	Lunenzi** n=10	Mahama* n=10	Manchali A* n=10	Nzali* n=10	Overall n=80
Aware on the link between CC, Agriculture and poverty	3(30%)	6(60%)	9(90%)	6(60%)	4(40%)	6(60%)	7(70%)	1(10%)	42(52%)
Not aware on the link between CC, Agriculture and poverty	7(70%)	4(40%)	1(10%)	4(40%)	6(60%)	4(40%)	3(30%)	9(90%)	38(48%)

Note: * Chamwino villages ** Kilosa villages

Expect to see

1. Elected representatives participates in awareness raising days and stakeholder meetings on small scale agriculture and climate change when external support is provided

All the village council members in both Kilosa and Chamwino expressed their willingness to participate in awareness raising days and stakeholder meeting about C3S agriculture and climate change when external support is provided. When they were asked if they have ever participated in such awareness and meetings, 38% of them reported to have participated whereas 62% of them reported to have not participated. Some of the reasons that were put forward by those who have not participated were lack of those meetings in their localities and others said they were not invited. For those who participated, mentioned various issues that were covered in that awareness raising (Figure 56).

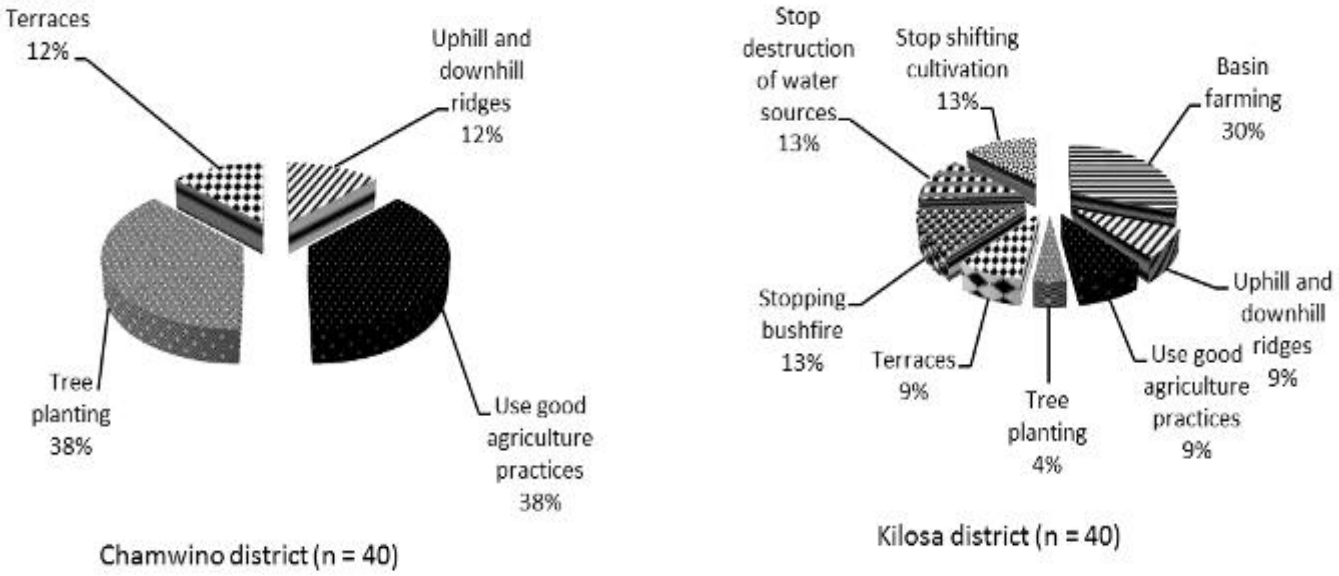

Figure 56. Issues that were covered to village council members who reported to have attended C3S awareness raising in both Kilosa and Chamwino

Table 30 below further shows the issues that were covered to village council members at village level and basin farming (23%) and use of agriculture practices were the most ranked C3S agriculture practices covered followed by tree planting.

Table 30. Issues that were covered to village council members at village level who reported to

Issues covered in C3S awareness raising	Study villages						
	Chinangali I* n=10	Ibingu** n=10	Kisongwe** n=10	Lunenzi** n=10	Manchali A* n=10	Nzali* n=10	Overall Villages n=80
Basin farming	0%	0%	13%	10%	0%	0%	23%
Uphill and downhill ridges	0%	0%	3%	3%	3%	0%	10%
Use good agriculture practices	3%	0%	0%	6%	3%	3%	16%
Tree planting	6%	3%	0%	0%	3%	0%	13%
Terraces	0%	6%	0%	0%	3%	0%	10%
Stopping bushfire	0%	10%	0%	0%	0%	0%	10%
Stop destruction of water sources	0%	10%	0%	0%	0%	0%	10%
Stop shifting cultivation	0%	0%	0%	0%	0%	0%	10%
Total	10%	29%	16%	19%	13%	3%	100%

Note: * Chamwino villages ** Kilosa villages

Furthermore, 51.3% of the village leaders reported to have participated in climate change awareness raising meetings, whilst 48.7% revealed that they have never been involved in climate change awareness raising efforts. Figure 57 and Table 28 shows the various issues/topics that were covered during those climate change awareness raising meetings in Kilosa and Chamwino.

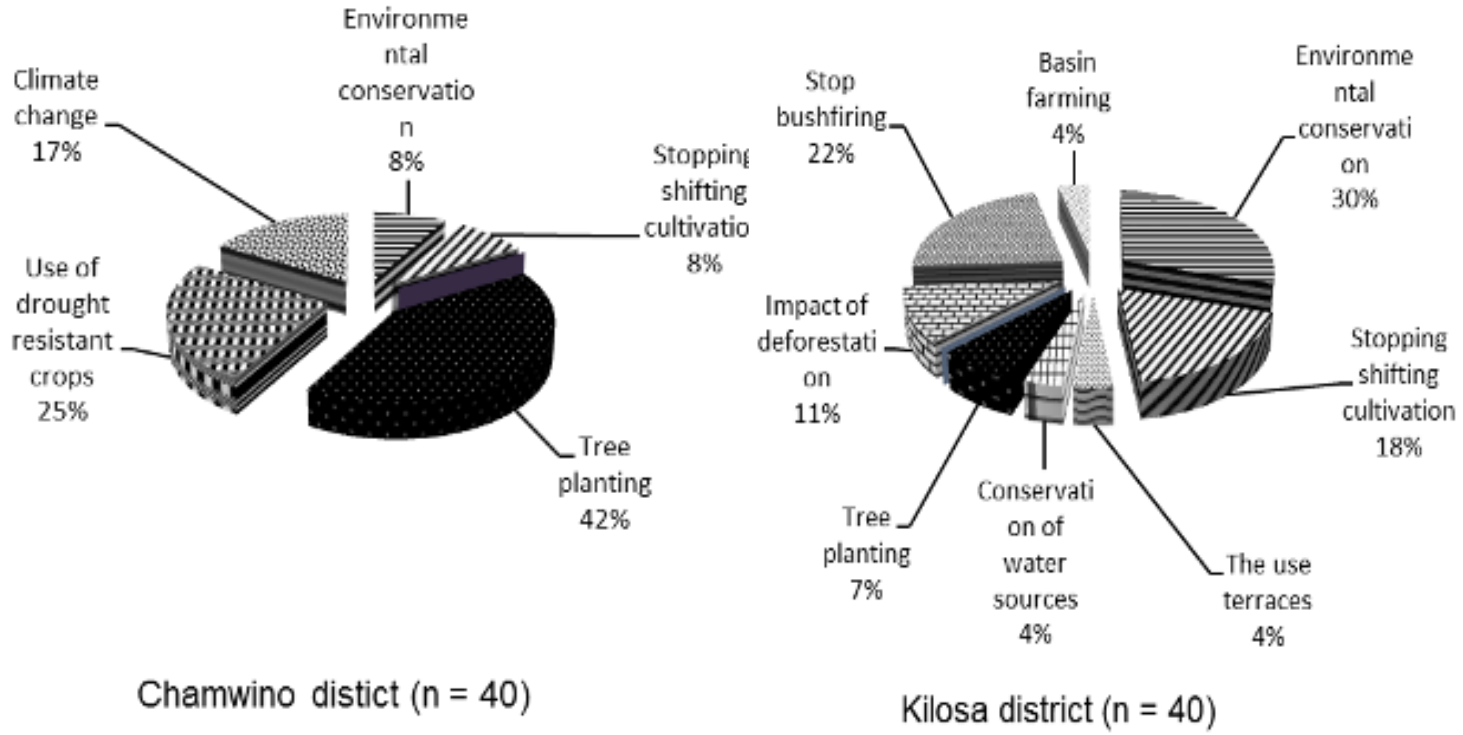

Figure 57. Issues that were covered to village council members who attended climate change awareness meeting in Kilosa and Chamwino study villages

Table 31. Issues that were covered to village council members who attended climate awareness

Issues	Study villages								
	Chinangali I* n=0	**Ibingu**** n=10	**Kisongwe**** n=8	**Lumbiji**** n=2	**Lunenzi**** n=7	**Mahama*** n=6	**Manchali A*** n=1	**Nzali*** n=5	**Overall** n=39
Environmental conservation	0(0%)	1(10%)	2(25%)	0(0%)	5(71%)	0(0%)	0(0%)	1(20%)	9(23%)
Stopping shifting cultivation	0(0%)	1(10%)	2(25%)	2(100%)	0(0%)	1(17%)	0(0%)	0(0%)	6(15%)
The use terraces	0(0%)	0(0%)	0(0%)	0(0%)	1(14%)	0(0%)	0(0%)	0(0%)	1(3%)
Conservation of water sources	0(0%)	0(0%)	0(0%)	0(0%)	1(14%)	0(0%)	0(0%)	0(0%)	1(3%)
Tree planting	0(0%)	0(0%)	2(25%)	0(0%)	0(0%)	2(33%)	1(100%)	2(40%)	7(18%)
Use of drought resistant crops	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	3(50%)	0(0%)	0(0%)	3(8%)
Climate change	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	2(40%)	2(5%)
Impact of deforestation	0(0%)	3(30%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	3(8%)
Stop bush fire	0(0%)	4(40%)	2(25%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	6(15%)
Basin farming	0(0%)	1(10%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(3%)

Note: * Chamwino villages ** Kilosa villages

Like to see

2. Ward councillors and village councillor members push for DADPs to integrate support for C3S agriculture

Currently the study has revealed in the entire study village, there is no any village council member who has pushed for integration of C3S agriculture in DADPs. Some of the interviewed member of village council revealed that they have not done it due to lack of a broad understanding of C3S agriculture and underscored to demand for integration of C3S agriculture in DADPs when they are made more aware of the C3S agriculture. However, 30% of them reported to have made demand for ealy delivery of DADPs projects from the district to the village.

3.3 Current knowledge of and uptake of climate smart, small-scale agriculture and other livelihood initiatives

During the baseline survey it was observed that the small-scale farmers in the 6 project villages and 2 control villages were less knowledgeable on climate change and environmentally friend agriculture. This is based on the fact that only 25% of the interviewed small-scale farmers reported to have heard about adapting to climate change. Furthermore, only 5% of interviewed the small-scale farmers reported that they have happened to participate in C3S agriculture trainings. However, some of C3S agriculture techniques and practices were found to be implemented by some farmers at a low level, and as part and parcel of traditional agricultural practices. The C3S practices that were found to be in place though not broadly and intensively practiced include: use of healthy seeds, drought resistant crops, traditional irrigation practices, use of terraces to control soil erosion and growing of perennial crops. Others include crop rotation, cover crops, minimum tillage, fallowing, weed control, uphill and down hills ridges and use of farmyard manure.

This above finding implies that awareness raising is still needed if the C3S uptake is to be successful. This is due to the fact that most of farmers are still practising unsustainable agriculture practices that are not environmentally friendly and leading to emission of GHG. When famers were asked on how they prepare their farms 79% of them reported that they slash and burn (Table 32). It was only 10% of them who

reported to slash and leave slashes to decay in their farm. It was further found that those who are directly burning without slashing are only 1% of the 80 interviewed farmers.

Table 32. Farm preparation methods to the interviewed farmers

Farm preparation methods	Study villages								
	Chinangali I* n=10	Ibingu** n=10	Kisongwe** n=10	Lumbiji** n=10	Lunenzi** n=10	Mahama* n=10	Manchali A* n=10	Nzali* n=10	Overall n=80
Slash and Burning	9(90%)	5(50%)	9(90%)	10(100%)	7(70%)	6(60%)	9(90%)	8(80%)	63(79%)
Burning	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(10%)	1(1%)
Slash and leaving slashes to decay in the farms	1(10%)	1(10%)	1(10%)	0(0%)	2(20%)	1(10%)	1(10%)	10(10%)	8(10%)
Tilling by hand hoe	0(0%)	4(40%)	0(0%)	0(0%)	1(10%)	2(20%)	0(0%)	0(0%)	7(9%)
Ploughing	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(10%)	0(0%)	0(0%)	1(1%)

Note: * Chamwino villages ** Kilosa villages

Through direct observation, the study saw some of the burnt farms in Lumbiji (control villages) and in Lunenzi and Ibingu in Kilosa study villages. When those farmers who are practicing slash and burning were asked on how they control fire, majority of them admitted that they collect slashes and burn them in the farm while others reported that they use fire break, seek assistance from farmers in neighbouring farms to assist to control farm and other do not do anything (Table 33).

Table 33. Fire management methods by those who reported to use fire in their farm preparations

Fire management methods	Villages								
	Chinangali I* n=9	Ibingu** n=5	Kisongwe** n=10	Lumbiji** n=10	Lunenzi** n=7	Mahama* n=6	Manchali A* n=9	Nzali* n=9	Overall n=65
Collecting Slashes and Burning them	7(78%)	3(60%)	3(30%)	2(20%)	1(14%)	5(83%)	7(78%)	8(89%)	36(55%)
Practicing Fire breaks in Farms	1(11%)	2(40%)	5(50%)	8(80%)	6(86%)	1(17%)	2(22%)	0%	25(38%)
Informing neighbours on burning season	0(0%)	0(0%)	1(10%)	0%	0%	0%	0%	0%	1(2%)
Do not do anything	1(11%)	0(0%)	1(10%)	0%	0%	0%	0%	11%	3(5%)

Note: * Chamwino villages ** Kilosa villages

The study also witnessed some of other agriculture activities that are polluting not only the environment but dangerous to human health. The study saw application of pesticides in Kisongwe village where preparation of chemicals was done in the Mzingwi River that flows to Igugu River a tributary to Wami River (Plate 8). Famers who were preparing chemicals said they have no technical knowledge of the chemicals and the impacts of those chemicals to human health.

3.4 Communication preference for the project's priority stakeholders

The baseline study asked stakeholders of CCAP in the project areas about their communication preferences. The following communication preferences for communication to specific stakeholder were determined.

The National Climate Change Steering Committee (NCCSC) and National Climate Change Technical Committee (NCCTC)

The National Climate Change Steering Committee (NCCSC) and National Climate Change Technical Committee (NCCTC) stated that they prefer a bottom up approach through communication strategies and action plans to disseminate information amongst members. It was clarified that the NCCSC and NCCTC do not prepare action plans. Action plan preparation is the responsibility of the individual sectors. The National Climate Change Strategy and National REDD strategy are the strategies developed by the NCCTC. Within the particular strategy, different sectors are covered and each sector is then responsible for developing plans to implement the strategies developed by the NCCSC and NCCTC. In order to encourage a bottom up approach, the technical committee prefers consultation as a communication channel and the methods for providing technical assistance between NCCST and the various sectors.

The NCCTC and NCCSC do not plan to undertake media work to explain the link between climate change, agriculture and poverty. This is the responsibility of the different sectors including the agriculture sector, wildlife sector, forest sector, local government authorities and department of environment. Communication with small-scale farmers is done through environmental officers in the local government through the Prime Minister Office Regional Administration and Local Government (PMORALG).

District Officials' preference on communication methods

The results of the study indicated that District Officers preferred stakeholder meetings as a communication method with other stakeholders on climate related issues. Almost all officers in the study preferred using the Opportunity and Obstacle to Development (O and OD) method established in 2001 to communicate with small –scale farmers. Some preferred an O and OD method because it provides communities with opportunities to come out with their own problems for the district to incorporate them in District development plans. They also mentioned that they prefer to use specific district officials like District Forest Officers (DFOs), Livestock officers, Agriculture officer and other to communicate with communities and other stakeholders in the specific departments.

Elected representatives' preference on communication methods

Coalition members (Member of Parliaments, Village Council members and Ward Council members), mentioned frequent meetings at sub-village level, practical trainings, forming groups of farmers and meeting with them frequently, visiting communities at home and frequent meeting with technical staff on climate change and agriculture will be helpful for updating them with information and send them to communities.

MVIWATA and MJUMITA network members' preference on communication methods

MVIWATA and MJUMITA respondents were asked for their preferences for communication. Results in Figure 61 indicated that about 46% of people from MVIWATA preferred household visits as their preferred communication method for sharing Climate Change and Agriculture information followed by formal meetings (25%). In contrast, about 41% of MJUMITA respondents' preferred formal meetings as the means of communication followed by organized household visits (23%). In both cases, organized household visits and formal meetings were marginally more popular than other methods. General preference for household visit, formal meetings, awareness raising events, field (farm) visits and posters indicate the need of using multiple methods to ensure that the message are readily received. Therefore, the use of multiple communication methods is necessary in order to better ensure that communication is received by the targeted groups.

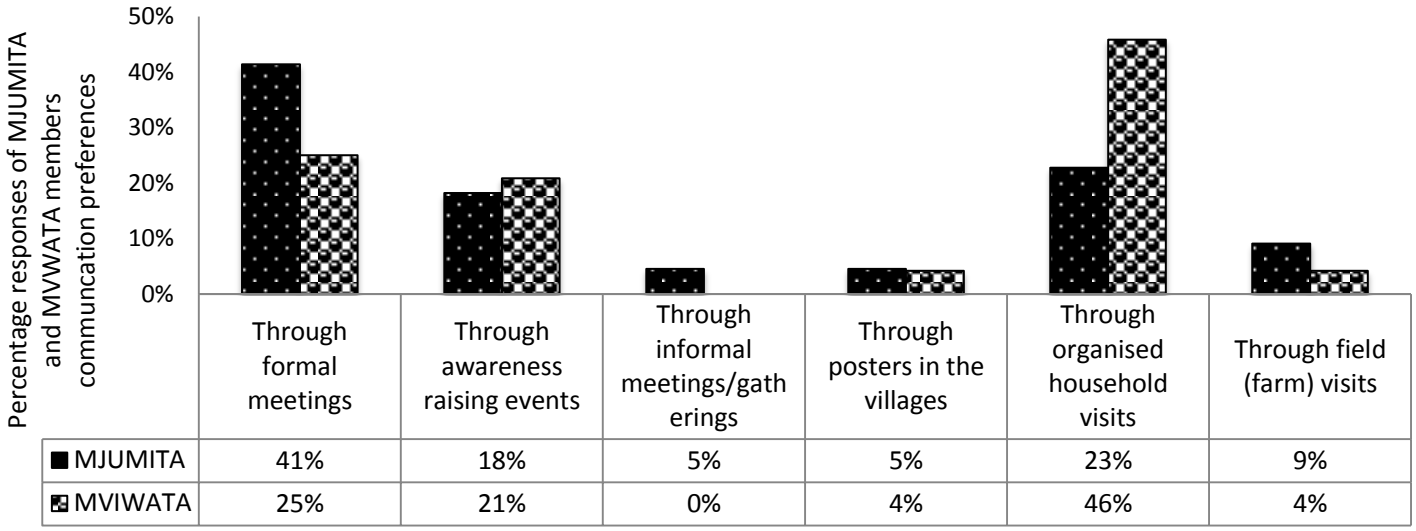

Figure 58. Communication preference in MJUMITA and MVIWATA

Small scale farmers' preference on communication methods

Table 31 below shows that, overall, respondents mostly preferred home visit (75%) as a communication method compared to Religious assembles (13%) and meetings (12%). Therefore, the results show an overall preference for communicating through home visit, although meetings are used more often on a daily basis. Small scale farmers further pointed out that, this communication method increases interaction between farmers and therefore minimize communication related problems or miscommunication.

Table 34. Small scale farmers' preference on communication methods

	Districts		
Small scale farmers Communication preferences	**Chamwino**	**Kilosa**	**Overall**
Through meetings	12%	0%	12%
Home visit	50%	25%	75%
Religious Assembly (the church and mosques)	0%	13%	13%

4. Conclusion

Amongst all stakeholders, there is some awareness of climate change and the linkages between climate change and agriculture. 85 % of Village leaders and 84% of MJUMITA or MVIWATA members had heard of climate change and could describe at least one sign, cause and result of climate change.

At present some farmers are implementing agricultural techniques that will help to make them more resilient to climate change and / or reduce greenhouse gas emissions. However the majority of farmers are not. Barriers to small scale farmers adopting C3S agriculture include knowledge; technical support; access to inputs and credit; and an unfavourable market structure. Few farmers are demanding support from their elected representatives on this and elected representatives including councillors and MPs have not prioritised C3S agriculture although other agricultural issues are prioritised.

Whilst the District Agricultural Development Plans could provide a mechanism for supporting farmers to adopt C3S agriculture, the DADPs do not yet play that role beyond some externally financed initiatives such as the Chamwino Macia seed distribution project. Instead DADP funds tend to benefit a few villages with large investments such as construction of irrigation schemes or provision of tractors and power tillers. In addition late disbursement of DADP funding leads Districts to prefer 'one-off' investments rather than ongoing support for extension services for small-scale farmers.

At national level, the National REDD strategy and National Climate Change Strategy provide general guidance on the linkages between agriculture and climate change. Both strategies rey rely on sectoral action plans to bring about 'on-the-ground action'.

Institutional strategic plans for both MJUMITA and MVIWATA address climate change in general however C3S agriculture is not mentioned as a specific priority by either network. The two networks have not carried out any joint advocacy initiatives and have not organised any media work specifically on this issue.

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Activity report

Activity	Time frame	Location
Survey design and discussion with TFCG	12th – 14th December 2012	Dar es Salaam
Review existing reports and other literature, meeting with Director of Environment in VPO and Christmas holiday	17th December 2012 – 5th January 2013	Dar es Salaam and Morogoro
Travel to Kilosa and Chamwino District for village and district meetings preparation, selection of respondent and preparation of all logistics.	6th – 11th January 2013	Dar es Salaam, Kilosa and Chamwino Districts
Travel to Dodoma for data collection in Chamwino	12th /01/2013	Kilosa and Chamwino Districts
Train enumerators on the data collection process	13/01/2013	Dodoma
Data collection at Mahama Village and Meeting with District Agriculture and Livestock Officers	14/01/2013	Mahama village and Dodoma
Data collection at Chinangali I village	15/01/2013	Chinangali I village and Dodoma
Data collection at Nzali Village	16/01/2013	Nzali village and Dodoma
Data collection at Manchali A village	17/01/2013	Manchali A village and Dodoma
Meeting with Chamwino District Executive Director	18/01/2013	Dodoma
Preparation for Kilosa data collection exercise, and moving from Chamwino to Kilosa	19th -20th /01/2013	Dodoma, Dar es Salaam, Kilosa
Meeting with Kilosa Agriculture Officer, Hon. Chibulunje and data collection at Kisongwe village	21/01/2013	Kilosa, Dar es Salaam and Kisongwe village
Data collection at Kisongwe village and meeting with Kilosa District Executive Director	22/01/2013	Kisongwe Village
Data collection at Lumbiji village and meeting with Hon. Mkulo	23/01/2013	Lumbiji Village and Dar es Salaam
Data collection at Ibingu village	24/01/2013	Ibingu village
Data collection at Lunenzi village	25/01/2013	Lunenzi village
Moving from Kilosa to Dar es Salaam	26/01/2013	Kilosa and Dar es Salaam
Interview with National MJUMITA Chairperson	28/01/2013	Dar es Salaam
Meeting MJUMITA National Secretary	30/01/2013	Dar es Salaam
Interview with MVIWATA National Chairperson	31/01/2013	Morogoro
Meeting with MVIWATA lobbying and advocacy officer	01/02/2013	Morogoro
Data entry and analysis	02nd-10th /02/2013	Dar es Salaam
Report writing and submission	11th – 14th /02/2013	Dar es Salaam

Appendices
Appendix i: Terms of Reference

Title: Baseline Study for the Climate Change, Agriculture and Poverty Alleviation Initiative

Date: 14th December 2012

Prepared by: Nike Doggart, TFCG Senior Technical Advisor

1) Introduction

This terms of reference describes a consultancy to be carried out as part of the project 'Climate Change, Agriculture and Poverty Alleviation' Initiative. The Climate Change, Agriculture and Poverty Alleviation (CAP) initiative is a partnership between five civil society organisations with a commitment to improving accountability and with specific experience in agriculture (ActionAid Tanzania and Tanzania Organic Agriculture Movement) and REDD (TFCG) working with grass-root networks of farmers (MVIWATA) and communities engaged in participatory forest management (MJUMITA). The initiative is an innovative partnership that will bridge the gap between NGOs more traditionally focused on forest conservation and those working on agricultural issues. The initiative aims to steer Tanzania towards an agricultural development pathway that achieves the dual goals of poverty reduction and lower greenhouse gas emissions. The project is financed by the Accountability in Tanzania programme. It is planned that the CCAP initiative will operate for 27 months. The project began on 1st October 2012.

The Goal of the CCAP Initiative is that:

> Poverty has been reduced amongst small-scale farmers in Tanzania and greenhouse gas emissions from agriculture have been reduced through the widespread adoption of climate resilient, low emission agricultural practices.

The Intermediate objective of the CCAP initiative is that:

> Tanzania has developed and is implementing policies and strategies that prioritise support to small-scale farmers to enable them to improve their livelihoods through the adoption of climate smart agriculture and sustainable land and natural resources management.

In terms of geographical scope, the advocacy elements of the project are intended to bring impact at national level. This is alongside local level initiatives in six villages in two Districts: Kilosa (Lunenzi, Ibingu and Kisongwe Villages) and Chamwino (Mahama, Nzali and Manchali.).

<u>Scope of Work</u>

2) Objectives of the consultancy

- To document conditions at the start of the project in relation to the project's indicators and priority stakeholder progress markers.
- To document the current knowledge of and uptake of climate smart, small-scale agriculture and other livelihood initiatives intended to increase resilience to climate change and reduce greenhouse gas emissions in the six project villages.
- To document communication preferences for the project's priority stakeholders.

5) Activities

5.1 Inception planning

Through consultation with the project team, review of existing reports and other literature, the consultant shall prepare an inception report detailing the work plan, methods and sampling intensity to be applied.

The consultant shall propose the questionnaires, key informant interview questions and other methods in detail.

5.3 Baseline surveys in relation to the project's indicators and priority stakeholder progress markers

Using a combination of document review, questionnaires and key informant interviews, the consultant shall document and describe the baseline situation in relation to the indicators outlined in the logical framework in Annex I; and the priority stakeholder progress markers as outlined in Annex II. This will involve interviews with stakeholders operating at village, ward, District and national level.

5.4 *Baseline surveys in relation to the current knowledge of and uptake of climate smart, small-scale agriculture and other livelihood initiatives intended to increase resilience to climate change and reduce greenhouse gas emissions in the six project villages.*

Using questionnaires, key informant interviews and focus group discussions the consultant shall document current agricultural practices including the crops cultivated; yields; market linkages; availability and use of agricultural inputs; crop transportation practices; prevalence of irrigation and soil management practices; and problems faced by farmers. The consultant will also document the status of knowledge and attitudes towards climate change mitigation and adaptation, conservation agriculture and related national policies.

The consultant shall ensure that at least 50 % of the participants in the questionnaires and focus group discussions at village level are women. The consultant shall also ensure that poorer households including those living in more remote sub-villages close to forests constitute at least 50 % of the participants in the questionnaires and focus group discussions.

The consultant shall also gather basic data about each of the participating communities including but not limited to:

Population disaggregated by gender
Number and name of sub-villages
History
Local languages and tribal composition
Whether they have a village land certificate, village land use plan, village forest reserve
Condition of the village office
Whether there are any other development projects being implemented in the village
Regularity of village assembly meetings and village council meetings
Presence of any micro-finance initiatives
Mobile phone access
Radio stations accessible
Condition of public services including schools, health facilities, markets and roads
Land registry
Presence of private sector initiatives in the village
Main economic activities of residents of the communities
% of the village council who are women

6) Outputs

The consultant shall provide three reports:

i. Inception report – this will include a summary of the consultation and document review carried out prior to starting field work. It will also include a detailed work plan and a description of the methods and sampling strategy to be used.

iii. Baseline study

This will provide a detailed description of the baseline conditions for the project's indicators and for the progress markers for the priority stakeholders.

Sections that this report will include are:

- Executive summary
- Table of contents
- Acknowledgements
- List of acronyms
- Introduction outlining the objectives of the consultancy and providing background information to the study
- Sampling strategy this will summarise the criteria for selecting the participants in the data gather exercise;
- Results in relation to the indicators and progress markers. Where necessary the data can also be included in annexes in order to enhance the flow of the document;
- Results in terms of the current situation in relation to agriculture in the project villages
- Conclusions and recommendations
- In the appendices, detailed profiles of each of the villages surveyed
- Conclusion and recommendations: this will summarise any key conclusions and make recommendations with a particular focus on areas where the consultant considers that additional research is required.

iii. Activity report

This will outline the activities undertaken as part of the consultancy including a list of the people who were interviewed.

7) Location

Data collection will take place in Dar es Salaam, Chamwino and Kilosa Districts.

8) Timing

This work is due to be completed before 15th February 2013.

Appendix ii. Small-scale farmers's questionnaires

Informed Consent

Hello. My name is (your name). I am an Interviewer working for TFCG. TFCG is interested in learning more about climate change, agriculture and poverty alleviation in this village.

I am grateful for your participation in this survey. The interview will take about 40/50 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be disclosed to other persons. Participation in this survey is voluntary and you can choose not to answer any individual question. However, we hope that you will participate in this survey since your views are important. At this time, do you want to ask me anything about the survey?

SECTION I: Background Information

1. Name of the Interviewer…..……..…..……..
2. Name of the Interviewee .....…….……
3. Name of the head of the house……
4. Date of the Interview .....……....
5. District……Division…….……Ward……Village……
   Sub-Village……

SECTION II: Respondent Characteristics

6. Sex..Male……Female, Age…. (Years), Ethnic group…….Language…..…...
7. Education levels
   - ☐ No formal education
   - ☐ Primary
   - ☐ Secondary
   - ☐ Tertiary (College and University)
   - ☐ Adult learning program
8. Main economic activity (occupation)

- ☐ Agriculture
- ☐ Trading
- ☐ Tea house
- ☐ Alcohol production
- ☐ Others (please specify)

SECTION III: Status as progress markers, knowledge, attitude and current practices

I would like to ask you about climate change and climate change adaptation

9. Have you heard about climate change?

- ☐ Yes
- ☐ No

If yes can you explain what it is? (More than one box can be ticked)

- ☐ Changes in temperature
- ☐ Changes in rain fall
- ☐ Change in wind pattern
- ☐ Change in cloud conditions

Others (please specify)

Can you explain some of the results of climate change?

☐ Flooding

☐ Changes in crop yields

☐ Drying of water courses e.g. streams

☐ Eruption of diseases e.g malaria

☐ Drought

☐ Loss of plant and animals species

Others (please specify)

Can you explain some of the causes of climate change?

☐ Deforestation

☐ Pollution from vehicles

☐ Pollution from power generation

☐ Pollution from waste

☐ Pollution from agriculture activities

☐ Shifting cultivation

☐ Forest burning

Other, please specify

10. Have you heard of climate change adaptation?

☐ Yes

☐ No

I would now like to ask you about your agricultural practices.

11. What crops do you grow through the year? (More than one box can be ticked).

☐ Maize

☐ Beans

☐ Sunflower

☐ Cassava

☐ Sorghum

☐ Pigeon peas

☐ Sesame

☐ Bananas

☐ Tree crops, please specify.

☐ Others (please specify)

I would now like to ask about the way that you farm, add value to your crop and market your crop

12. Do you:

☐ Purchase seeds every year?

☐ Use seed varieties that are known to be drought resistant?

☐ Use seeds that are known to mature early?

☐ Irrigate your field using traditional irrigation practices?

If so, please describe:

☐ Use terracing to avoid soil erosion?
☐ Use perennial crops?
☐ Rotate crops on a given field from one year to the next?
If so which crops are you rotating?

☐ Cover the soil by using crop covers to avoid soil erosion and store water?
☐ Cultivate the farm every year?
☐ Use mulch to store water in the soil?
☐ Fallow the land to fertilize the soil?
☐ Control weeds?
If so, which methods are you using?

☐ Do you use herbicides? If so which one?

☐ Use uphill and downhill ridges?
☐ Mix crops and trees in your fields?
☐ Do you use pesticides? If so, which ones?

☐ Apply nutrient in the farm according to the plant needs?
☐ Extend crop rotation with perennial crops?
☐ Clear forest to prepare new fields?
☐ Use fertilisers. If so, which ones?

13. How do you prepare your farm?
☐ Slash and burning
☐ Burning
☐ Slashing and leaving slashes to decay in the farm
☐ Tilling by hand hoe
☐ Ploughing
Others:-

14. If you use fire in preparing your field, how do you ensure that you can control the fire?

15. Are you accessing agricultural credit for adding value to your agricultural produce?
☐ Yes
☐ No

16. How do you add values to your crop products?

S/No	Crops	Value adding practices
1		
2		
3		
4		
5		

17. How much do you get from you farms (kg/acre or sacs/per acre)

S/NO	Crops	Yield (Kg/acre or sacs/acre
1		
2		
3		
4		
5		

18. In the last five years, are the crop yields increasing or decreasing?

S/NO	Crops	Increasing / decreasing
1		
2		
3		
4		
5		

19. From your experience what might be the causes of that change?

S/NO	Crop	Reason for the change
1		
2		
3		
4		
5		

20. To whom do you sell your crop?

S/NO	Crop	Customers
1		
2		
3		
4		
5		

21. How do you get your crop customers

S/NO	Crops	Ways to get customers
1		
2		
3		
4		
5		
6		
7		
8		

22. How do you transport your crops to your customer?

S/No	Crop	Means of transport
1		
2		
3		
4		
5		
6		
7		
8		

23. How much money to you earn by selling your crops?

S/NO	Crops	Value in Total
1		
2		
3		
4		
5		
6		
7		

24. Do you access and use agriculture inputs?

S/NO	Input(s)	Access (No/Yes)	Use (No/Yes)	Where do you get it/them?
1	Fertilizers			
2	Seeds			
3	Power tillers			
4	Plough			
4				
5				

Now I would like to ask questions about climate smart-small scale agriculture, your involvement with MJUMITA and MVIWATA local area networks, governance and trainings.

25. Do you receive practical information on measures that you can take to withstand the impacts of climate change?

☐ Yes

☐ No

26. Have you heard of the term climate smart-small scale agriculture?

☐ Yes

☐ No

If yes can you explain to me what is it?

☐ Minimum tillage

☐ Crop rotation

☐ Soil protection

☐ Best seeds

☐ Downhill and uphill ridges

☐ Terraces
☐ Control weeds
☐ Best use of agriculture inputs
☐ Spacing between seedling
☐ No clear forest for agriculture
☐ Fire managements
☐ Other (please specify)

27. Have you ever supported other farmers in other villages on C3S practices, REDD and Natural resource management?

☐ Yes
☐ No

If yes which practice did you support them? (C3S, REDD or Natural resource management?)
……
……

28. How do you prefer to communicate with other stakeholders on C3S agriculture, climate change and natural resource management?

☐ By home visit
☐ Meeting
☐ Using churches and Mosques
☐ Others:

29. Is there any information displayed in the village about

S/No	Issue	Yes/No
1	Climate change?	
2	Climate smart small scale agriculture?	
3	Land tenure?	
4	REDD?	

30. What kind of effort(s) have you made to ensure that your leaders implement good governance in relation with land, natural resource and agriculture?

☐ Demanding information on any transaction involving land, natural resource and agriculture
☐ Reporting those who abuse their office to the village assembly
☐ Holding them responsible for those who abuse their offices
☐ Demanding reports on implementation of plans related with land, natural resource and agriculture
☐ Others:-

31. Have you heard of MJUMITA?

☐ Yes
☐ No

32. Are you working with your local MJUMITA networks to influence support for environmentally friendly agriculture?

☐ Yes
☐ No

33. Have you heard of MVIWATA?

☐ Yes

☐ No

34. Are you working with your local MVIWATA networks to influence supports for environmental friendly agriculture?

☐ Yes

☐ No

35. Have you ever participated in any training and awareness raising event related with;

Event	Yes/No	From which organisation
Climate change		☐ TFCG ☐ MJUMITA ☐ TOAM ☐ MVIWATA ☐ District ☐ TFCG/MJUMITA ☐ ActionAid Tanzania Others ……
Climate smart-small scale agriculture		☐ TFCG ☐ MJUMITA ☐ TOAM ☐ MVIWATA ☐ District ☐ TFCG/MJUMITA ☐ ActionAid Tanzania Others ……
Land tenure		☐ FCG ☐ MJUMITA ☐ TOAM ☐ MVIWATA ☐ District ☐ TFCG/MJUMITA ☐ ActionAid Tanzania Ot ers ……
Microfinance		☐ TFCG ☐ MJUMITA ☐ TOAM ☐ MVIWATA ☐ TFCG/MJUMITA ☐ District

		☐ ActionAid Tanzania Others ……
REDD		☐ TFCG ☐ MJUMITA ☐ TOAM ☐ MVIWATA ☐ TFCG/MJUMITA ☐ District ☐ ActionAid Tanzania Others ……

SECTION IV: District support to small-scale farmers to adapt more climate smart agriculture

36. Is the district supporting you to adopt C3S

☐ Yes

☐ No

If yes what is that support?

☐ Provision of information on how to adapt to climate change impacts

☐ Trainings on soil and water conservation

☐ Training on irrigation agriculture

☐ Provision of irrigation agriculture equipment

☐ Provision of drought resistance crops

Others (please specify)

37. How frequently have you been visited by an agricultural extension officer?

☐ Never

☐ Less than once per year

☐ Once per year

☐ More than once per year

38. Have you received any training on how to respond to climate change from the District?

☐ Yes

☐ No

Appendix iii. MJUMITA local areas network members' questionnaire

Informed Consent

Hello. My name is (your name). I am an Interviewer working for TFCG. TFCG is interested in learning more about climate change, agriculture and poverty alleviation in your network.

I am grateful for your participation in this survey. The interview will take about 50/60 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be disclosed to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question. However, we hope that you will participate in this survey since your views are important. At this time, do you want to ask me anything about the survey?

SECTION I: Background Information

1. Name of the Interviewer…..……..……..

2. Name of the Interviewee .....……..…….……

3. Date of the Interview .....……....

4. District……Division……Ward……Village……

Sub-Village……

5. MJUMITA network…….

SECTION II: Respondent Characteristics

6. Sex: Male….Female….Age (years)……..Ethnic group…….Language……...

7. Education levels

- ☐ No formal education
- ☐ Primary
- ☐ Secondary
- ☐ Tertiary (College and University)
- ☐ Adult learning program

8. Position in MJUMITA network……

9. Main economic activities

- ☐ Agriculture
- ☐ Trading
- ☐ Tea house
- ☐ Alcohol production

☐ Others (please specify)

SECTION III: Status as progress marker, on project indicators, knowledge, attitude and current practices

10. Have you heard about climate change?

☐ Yes (*go to question 11*)

☐ No

Can you explain it?

☐ Prolonged drought

☐ Reduction of rainfall

☐ Cause flooding

☐ Reduction of crop yield

☐ Increase in temperature

☐ Is caused by deforestation

☐ Cause water shortage

☐ Caused by environmental degradation

☐ Cause diseases

☐ Others:-

11. Have you heard of the term climate smart-small scale agriculture?

☐ Yes

☐ No

If yes can you explain to me what is it?

☐ Minimum tillage

☐ Crop rotation

☐ Soil protection

☐ Best seeds

☐ Downhill and uphill ridges

☐ Terraces

☐ Control weeds

☐ Best use of agriculture inputs

☐ Spacing between seedling

☐ No clear forest for agriculture

☐ Fire managements

☐ Other (please specify)

12. Do you currently share this information to others in the communities?

☐ Yes

☐ No

13. Have attended training on climate smart small scale agriculture?

☐ Yes

☐ No

14. Have you demanded any supports through media for climate smart small scale agriculture?

☐ Yes

☐ No

15. Have you demanded any support through media for natural resource management?

☐ Yes

☐ No

16. Have you demanded any support through meetings for climate smart small scale agriculture?

☐ Yes

☐ No

17. Have you demanded any support through meetings for natural resource managements?

☐ Yes

☐ No

18. Have you demanded any support through media for community oriented REDD?

☐ Yes

☐ No

19. Have you demanded any support through meetings for community oriented REDD?

☐ Yes

☐ No

20. Have you heard climate change adaptation?

☐ Yes

☐ No

21. Have you attended training on climate change mitigation and adaptation?

☐ Yes

☐ No

22. What is your communication preference with other stakeholders in C3S agriculture, climate change and natural resource management?

☐ Through meetings

☐ Through awareness rising events

☐ Through news papers

☐ Through television

☐ Through video show

☐ Through posters in the villages

☐ Through organised household visits

Others:-

23. Do you hold responsible your elected representatives on the quality of the support that you receive for the implementation of your activities and livelihood improvements?

☐ Yes

☐ No

If yes, how do you do that?

☐ By reporting them to the higher authorities

☐ By removing them from their post

☐ By not electing them in the next election

☐ Others:-

24. Have you ever shared knowledge on appropriate, climate change adaptation and mitigation strategies with other communities in other countries?

☐ Yes

☐ No

25. What opportunities that do exist for to share knowledge on appropriate, climate change adaptation and mitigation strategies with other communities in other countries?

……

Appendix iv. MVIWATA members' questionnaire

Informed Consent

Hello. My name is (your name). I am an Interviewer working for TFCG. TFCG is interested in learning more about climate change, agriculture and poverty alleviation in your network.

I am grateful for your participation in this survey. The interview will take about 50/60 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be disclosed to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question. However, we hope that you will participate in this survey since your views are important. At this time, do you want to ask me anything about the survey?

SECTION I: Background Information

1. Name of the Interviewer…..……..……..

2. Name of the Interviewee .....……..……

3. Date of the Interview .....…….....

4. District……Division……Ward……Village……..…

Sub-Village……

5. MVIWATA group…….

SECTION II: Respondent Characteristics

6. Sex:Male….Female….Age (years)……..Ethnic group……Language……..…...

7. Education levels

- ☐ No formal education
- ☐ Primary
- ☐ Secondary
- ☐ Tertiary (College and University)
- ☐ Adult learning program

8. Position in MVIWATA group……

9. Main economic activities

- ☐ Agriculture
- ☐ Trading
- ☐ Tea house
- ☐ Alcohol production
- ☐ Others (please specify)

SECTION III: Status as progress marker, on project indicators, knowledge, attitude and current practices

10. Have you heard about climate change?

- ☐ Yes
- ☐ No

Can you explain it?

- ☐ Prolonged drought
- ☐ Reduction of rainfall
- ☐ Cause flooding
- ☐ Reduction of crop yield
- ☐ Increase in temperature
- ☐ Is caused by deforestation
- ☐ Cause water shortage
- ☐ Caused by environmental degradation
- ☐ Cause diseases
- ☐ Others:-

11. Have you heard of the term climate smart-small scale agriculture?

- ☐ Yes
- ☐ No

If yes can you explain to me what is it?

- ☐ Minimum tillage
- ☐ Crop rotation
- ☐ Soil protection
- ☐ Best seeds
- ☐ Downhill and uphill ridges
- ☐ Terraces
- ☐ Control weeds
- ☐ Best use of agriculture inputs
- ☐ Spacing between seedling

☐ No clear forest for agriculture

☐ Fire managements

☐ Other (please specify)

12. Do you currently share this information to others in the communities?

☐ Yes

☐ No

13. Have attended training on climate smart small scale agriculture?

☐ Yes

☐ No

14. Have you demanded any supports through media for climate smart small scale agriculture?

☐ Yes

☐ No

15. Have you demanded any support through media for natural resource management?

☐ Yes

☐ No

16. Have you demanded any support through meetings for climate smart small scale agriculture?

☐ Yes

☐ No

17. Have you demanded any support through meetings for natural resource managements?

☐ Yes

☐ No

18. Have you demanded any support through media for community oriented REDD?

☐ Yes

☐ No

19. Have you demanded any support through meetings for community oriented REDD?

☐ Yes

☐ No

20. Have you heard climate change adaptation?

☐ Yes

☐ No

21. Have you attended training on climate change mitigation and adaptation?

☐ Yes

☐ No

22. What is your communication preference with other stakeholders in C3S agriculture, climate change and natural resource management?

☐ Through meetings

☐ Through awareness rising events

☐ Through news papers

☐ Through television

☐ Through video show

☐ Through posters in the villages

☐ Through organised household visits

Others:-

23. Do you hold responsible your elected representatives on the quality of the support that you receive for the implementation of your activities and livelihood improvements?

☐ Yes

☐ No

If yes, how do you do that?

☐ By reporting them to the higher authorities

☐ By removing them from their post

☐ By not electing them in the next election

☐ Others:-

24. Have you ever shared knowledge on appropriate, climate change adaptation and mitigation strategies with other communities in other countries?

☐ Yes

☐ No

25. What opportunities that do exist for to share knowledge on appropriate, climate change adaptation and mitigation strategies with other communities in other countries? ……

Appendix v. Village Council members' questionnaire

Informed Consent

Hello. My name is (your name). I am an Interviewer working for TFCG. TFCG is interested in learning more about climate change, agriculture and poverty alleviation in this village.
I am grateful for your participation in this survey. The interview will take about 50/60 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be disclosed to other persons. Participation in this survey is voluntary and you can choose not to answer any individual question. However, we hope that you will participate in this survey since your views are important. At this time, do you want to ask me anything about the survey?

SECTION I: Background Information

1. Name of the Interviewer…..……..…..……..
2. Name of the Interviewee .....……..……..……
3. Date of the Interview …….
4. District……Division……..…Ward……Village…….
   Sub-Village……

SECTION II: Respondent Characteristics

5. Sex:Male……Female…….Age(years)……..Ethnic group…….Language……..…
6. Education levels

☐ No formal education
☐ Primary
☐ Secondary
☐ Tertiary (College and University)
☐ Adult learning program

7. Position in the village government ……...

SECTION III: Status as progress markers, on project indicators, knowledge, attitude and current practices.

8. Have you heard about climate change?

☐ Yes
☐ No

If yes can you explain what it is? (More than one box can be ticked)

☐ Changes in temperature
☐ Changes in rain fall
☐ Change in wind pattern
☐ Change in cloud conditions

Others (please specify)

Can you explain some of the results of climate change?

☐ Flooding
☐ Changes in crop yields
☐ Drying of water courses e.g. streams

☐ Eruption of diseases e.g malaria
☐ Loss of plant and animals species
Others (please specify)

Can you explain some of the causes of climate change?

☐ Deforestation
☐ Pollution from vehicles
☐ Pollution from power generation
☐ Pollution from waste
☐ Pollution from agriculture activities
Other, please specify

9. Have you heard of climate change adaptation?
☐ Yes
☐ No
10. Do you understand the linkage between climate change, agriculture and poverty alleviation?
☐ Yes
☐ No
11. What are the initiatives that small-scale farmers have started on their own to address climate change impacts?
☐ Using crop resistant varieties
☐ Using mulching in their farms
☐ Avoiding shifting cultivation
☐ Using irrigation agriculture
☐ Diversification of activities
☐ Maintaining cover crops
☐ Others :-

12. Are you receiving and distributing resources from the districts to support small-scale farmers to adapt more climate, smart small scale agriculture?
☐ Yes
☐ No
13. What are those resources?
☐ Money
☐ Extension services
☐ Irrigation equipment
☐ Drought resistant seeds
☐ Others:-

14. Are there any initiatives in this village that the district or any organisations have started to address climate smart small scale agriculture?
☐ Yes
☐ No
If yes, what are those initiatives?
☐ Conservation agriculture

- ☐ Stopping clearing forest for opening up new farms
- ☐ Stop shifting cultivation practices
- ☐ Avoiding slash and burning practices
- ☐ Others:-

15. Are you willing to participate in awareness raising about C3S and climate change when external support is provided?
    - ☐ Yes
    - ☐ No
16. Have you participated in awareness rising days or stakeholders meetings on

a. Small scale agriculture?
    - ☐ Yes
    - ☐ No

    If yes what kind of issues that were covered in that meeting or event

……
……

b. Climate change?
    - ☐ Yes
    - ☐ No

    If yes what kind of issue were covered in that meeting or event

    ……
    ……

17. Is there any capacity building that members of this village are providing to other villages with regards to:-

a. Climate smart small scale agriculture
    - ☐ Yes
    - ☐ No

    If yes what is that?
    - ☐ Providing agriculture inputs
    - ☐ Providing technical assistance on C3S
    - ☐ Training on crop rotation
    - ☐ Training on cover crop
    - ☐ Training on minimum tillage
    - ☐ Information dissemination on C3S
    - ☐ Others:-

b. Sustainable land and natural resource management?
    - ☐ Yes
    - ☐ No

    If yes what kind of capacity building is that?
    - ☐ Provide resources for land and natural resource management
    - ☐ Sharing good practices in land and natural resource management
    - ☐ Training on good natural resource governance
    - ☐ Sharing the importance of land use planning
    - ☐ Providing technical skills for land use planning
    - ☐ Others:-

18. In which ways have you participated in helping small-scale farmers in this village to;

a. Fight against the impacts of climate change?
   - ☐ Awareness rising about bad agricultural practices contributing into climate change
   - ☐ Advocating climate smart small scale agriculture
   - ☐ Demanding supports from the district to adapt to climate change impacts
   - ☐ Provision of material support provided by the village government to address climate change
   - ☐ Other:-

b. Addressing farming and crop marketing problems?
   - ☐ Enacting village bylaws that prohibit prices hiking by crop buyers
   - ☐ Demanding early delivery and implementation of district agriculture development plans guidelines
   - ☐ Provision of extension services for good agriculture practices
   - ☐ Stopping slash and burning in the village
   - ☐ Demanding good seeds from district agriculture offices for small-scale farmers
   - ☐ Others:-

c. Conserving environment?
   - ☐ Conservation education provision
   - ☐ Implementation of environmental laws
   - ☐ Enacting bylaws that prohibits environmental destruction in the village
   - ☐ Holding responsible those who destroy environment
   - ☐ Informing farmers to adapt conservation agriculture
   - ☐ Other:-

19. What ways do you think are effective ways for you to raise awareness about climate smart small scale agriculture and climate change?

……..……
……..
……..……

20. Have you demanded for more support to small-scale farmers and sustainable land and natural resource management?
   - ☐ Yes
   - ☐ No

21. What do you think is the most effective way for you to communicate with other stakeholders in climate change, agriculture and natural resource management?
   - ☐ Through regular structured meetings with them were we have opportunity to share information
   - ☐ Through general media
   - ☐ Through workshop or information days
   - ☐ Through radio/television
   - ☐ Formal and informal dialogues
   - ☐ Through professional media
   - ☐ Others:-

Appendix vi. Ward councillors and Members of Parliament checklist questions

INTRODUCTION: I am interested in learning about climate change, agriculture and poverty alleviation in your ward/constituency. I would like your permission to ask you questions about climate change, small scale agriculture/farmer, poverty alleviation and any other issue related with climate change, agriculture and poverty alleviation. I hope the answers to these questions will help to improve interventions that will address climate change, poverty and agriculture; I expect our discussion to last about 30 minutes and individual confidentiality will be respected.

Name of the Councillor/Member of the Parliament
……
Constituency/Ward……..….
District……..
Date……...

1. Are you aware of the existence of a National Climate Change Steering Committee? What do you comment on its effectiveness?
2. Have you ever participated in any meetings or event organised by NCCSC/TC?
3. Have you ever participated in awareness raising days and stakeholder meetings on small-scale agriculture and climate change when external support was provided?
4. Have you ever demanded improvements of service to support small-scale farmers to adopt climate smart small scale agriculture? Can describe what was that improvement?
5. Have you ever made any effort to influence any law, policy or plan submitted to you for approval so that it integrate support for small-scale farmers in relation to climate change adaptation and mitigation? If so please can you describe it?
6. Have you ever made any statement in the media to demand more support for small-scale farmers and sustainable land and natural resource management? If yes what issues did you cover in that statement?
7. What was the response of that statement to the relevant authorities?
8. What do you think is/are effective way(s) for you to communicate with other stakeholders in climate change, agriculture and poverty alleviation?
9. Do you monitor and follow up on the implementation of national policies and laws relating to small-scale farmers and climate change adaptation and mitigation?
10. Have you made any changes to national climate change related policies to reflect the interest of communities and small-scale farmers?

Appendix vii. Checklist questions for District Officials

INTRODUCTION*: I am interested in learning about climate change, agriculture and poverty alleviation in this District. I would like your permission to ask you questions about climate change, small scale agriculture/farmer, poverty alleviation and any other issue related with climate change, agriculture and poverty alleviation. I hope the answers to these questions will help to improve interventions that will address climate change, poverty and agriculture; I expect our discussion to last about 40/50 minutes and individual confidentiality will be respected.*

Name of the Officer……District……..…
Title……..……
Date……

1. Have you participated in awareness raising event about climate change, REDD and agriculture? If so what was that event and what issues were covered in the event?
2. Have you integrated support for climate friendly agriculture in your plans and budget including the DADP?
3. Have you supported integration of community plans in DADPs when external support was provided?
4. Do you involve communities in the planning, budgeting, implementation and monitoring of DADPs? If so, how do you involve them and at what stage?
5. Does your district receive supports to assist small-scale farmers to adopt more climate smart agriculture? And if so, for what kinds of activities? And how much was received in the 2011 / 12 finance year?
6. How long does it take for the DADPs guideline to reach the District, wards and villages for implementation? What kind of improvement do you suggest?
7. What kind of awareness that the district is raising about climate change, climate friendly agriculture and gender amongst communities in the district?
8. How is this awareness being raised?
9. What opportunities do exist for the District to support climate smart agriculture and integrate it in DADPs?
10. How do you ensure multi-stakeholder coordination in your District in relation to support for small-scale farmers?
11. Are you currently taking actions against individuals engaging in corrupt practices that undermine efforts to promote pro-poor, climate-friendly agriculture? (example)
12. Are supporting best practices in terms of supporting climate change resilient and low greenhouse agriculture integration in DADPs? (example)
13. Are you disbursing any funds for implementation of climate friendly agriculture in DADPs? If so how much was disbursed this year?
14. Have you considered supporting communities to implement actions that reduce deforestation? What are those actions?
15. Are you assisting communities to access REDD finance? If so how?

Appendix viii. Checklist for National MJUMITA and MVIWATA leaders

INTRODUCTION*: I am interested in learning about climate change, agriculture and poverty alleviation as part of your work. I would like your permission to ask you questions about climate change, small scale agriculture/farmer, poverty alleviation and any other issue related with climate change, agriculture and poverty alleviation. I hope the answers to these questions will help to improve interventions that will address climate change, poverty and agriculture; I expect our discussion to last about 40/50 minutes and individual confidentiality will be respected*.

Name of the Leader……..…

Network……Date……

1. Have you heard of climate smart small scale agriculture? Can you explain it?
2. Have you attended trainings on climate smart- small scale agriculture and climate change mitigation and adaptation?
3. Are you providing information to local networks on the linkage of climate change, climate smart small scale agriculture and sustainable natural resource management? If so what is that information?
4. Are you demanding support for conservation agriculture (C3S) and improved natural resources governance through media and meeting? (for example)
5. Is climate change integrated in your strategic plans (how?)
6. Are you regularly consulted by policy makers on climate change related issues and provide recommendations to Kilimo Kwanza, ASDP and SAGCOT?
7. Are you currently offering trainings and support to local network members on adoption of climate smart agriculture, REDD and other climate smart agriculture techniques? (for example)
8. What do you think are supports that local network need to be supported to address climate change, climate smart agriculture and sustainable natural resource management.
9. Have you ever been invited to participate in policy formulation, monitoring and evaluation forums at national and international level? If so, can you explain what was that policy?
10. Are holding responsible elected representative for misuse of their power? (example)

Appendix ix. Checklist questions for National Climate Change Technical and Steering Committee Chairperson

INTRODUCTION*: I am interested in learning about climate change and how National Climate Change Steering Committee and National Climate Change Technical Committee work. I would like your permission to ask you questions about climate change, small scale agriculture/farmer, poverty alleviation and any other issue related with climate change, agriculture and poverty alleviation. I hope the answers to these questions will help to improve interventions that will address climate change, poverty and agriculture; I expect our discussion to last about 30 minutes and individual confidentiality will be respected.*

1. When was the last meeting of the NCCSC?
2. How many meetings of the NCCSC were held in 2012? In 2011? In 2010?
3. When was the last meeting of the NCCTC?
4. How many meetings of the NCCTC were held in 2012? In 2011? In 2010?
5. Did any private sector representatives participate in any NCCSC meetings in 2012?
6. Did any research institution representatives participate in any NCCSC meetings in 2012?
7. Did any civil society representatives participate in any NCCSC meetings in 2012?
8. What is the current status of the National Climate Change Strategy and Action plan? Are there any reports published documenting progresses on implementation? How gender is addressed in the NCCS?
9. Over the last five years, have NCCSC or NCCSC members carried out any media coverage in relation to linkages between small-scale agriculture and climate change?
10. If so, when was this?
11. What issues were covered?
12. Has the NCCSC considered policy harmonisation in relation to CC mitigation and adaptation including issues around Small-scale agriculture and REDD?
13. If so, please can you describe any policy changes that have been made as a result?
14. Please can you describe any meetings hosted by NCCSC for communities, to provide inputs on the National Climate Change strategy?
15. Please can you describe any meetings hosted by NCCSC for civil society organisations to provide inputs on the National Climate Change strategy?
16. Have NCCSC representatives participate in civil society events related to linkages between Small-scale agriculture, climate change and REDD?
17. Has the NCCTC provided technical support to the Ministry of Agriculture on measures needed to ensure that the Agriculture Sector Development programme effectively promotes pro-poor, climate change mitigation and adaptation?
18. Has the NCCTC provided any information resources on climate friendly agriculture for distribution to Local Government with the District Agricultural Development plan guidelines?
19. Does the NCCSC or the NCCTC have any plans or programmes currently in place to improve adaptation for small-scale farmers? Please can you describe these?
20. Does the NCCSC or the NCCTC have any plans or programmes currently in place to enhance linkages between climate change adaptation and mitigation?

Appendix x. Checklist questions for community trainers

Name……..

Village……..

Ward……..

Division……..

District…….

1. Have you ever participated in C3S agriculture training? Yes/No
2. If yes from which organisation
3. What issue were covered in that training

Appendix xi. Village profiles

	Chinangali I	Mahama	Nzali	Manchali A	Kisongwe	Lunenzi	Lumbiji	Ibingu
Number of Sub-village	12	10	14	4	3	2	3	4
Names of sub-villages	Kawawa, Lusinde A, Lusinde B, Azimio, Siasa, Chibwe, Bwawani, Msasani, Mahata A, Mahata B, Kigamboni and Juhudi	Nyerere, Mwinyi, Lusinde, Jenjoni, Mlimani, Kawawa, Muungano, AbduJumbe, Mgongolofu and Nhonya sub-villages	Mapinduzi, Viganga, Chapakazi, Nguvukazi, Nhambaliza, Jamhuri, Chibwe, Azimio, Mwenge, Chang'ombe, Kambarage, Mwongozo, Nyangalu and Muungano.	Mbuyuni, Majengo, Chibwe and Mkoka	Kisongwe, Mlenga and Kilumbi	Lunenzi and Manyomvi	Lumbiji, Kisale and Mkenge	Msufini, Shuleni, Kokoto, Ngalamilo
History of the village, presence of village land certificate, land registry, land use plan and village forestry	The village was established in 1975 with only 4 sub-villages namely Lusinde, Kawawa and Siasa sub-villages. It borders Majereko village in the north, Manchali Village in the South (Figure 2), Chalinze village in the East and Chamwino village in the West. It has the land certificate but it does not have the land use plan. Similarly, there is neither the land registry nor the village forest reserve.	Mahama village was established in 1972 with four sub-villages, Nyerere, Kawawa, Lusinde and Mwinyi. It is bordering Nyasungwi River and Nzali village in the North, Chinangali I village in the South, Majereko Village and Nzali village in the East (Figure 2) and with Mahama Forest Reserve in the West. The village has land certificate but it does have neither the land use plan nor the land registry. The village has a village forest reserve called Mahama forest reserve in the Westside of the village.	Nzali was established in 1972. I was supposed to be established in 1971 but due to its lower household number, the process took a year to establish Nzali village. When it was established it had only 253 households and now it has 1009 households. In the North the village borders Mlimwa and Mende Villages, in the South it borders Mahama village (Figure 2), Mejereko village in the East and Kawawa village in the West. There is a land certificate that was issued in 2012 and the village has the land use plan. The village currently has no land registry but there is a room in the village that is to be used as the	The village was established in 2009 following separation of the by then Manchali village into Manchali A and Manchali B villages. To its part Manchali village was established in 1971 with nine sub-villages that are now spread in Manchali A and Manchali B. The village is bordered by Chinangali 1 in the north (Figure 2), Koja Village in the south, Chinangali 2 village in the west and Manchali B in the East. There is no land certificate, land registry and the land use plan	The village was established in 1975 with three sub-villages that still exist. The village borders Mwinyisagara village in the North, Rudewa Village in the South, Lumbiji village in the East (Figure 3) and Lukado village in the West. There is no land certificate but it is in the process to be issued. There is a land use plan that was obtained in 2010. There is land registry in the newly constructed village office. The village has five village forest reserves namely Palamahoe, Mesoning'ina, Irangi, Mikuvi and Mihande forests.	Lunenzi village was established in 1999 after it sprint from Ibingu village. The village borders Kihasigwa and Kikundi village in the North, Ibingu village in the South (Figure 3), Chabima and Mzaganza village in the East and Ibingu village in the West. The village has no land certificate. It has a land use plan that is in the final process. It has been signed at the village level and waiting to be passed at the District level for implementation. The village has four village forest reserves namely Msalaza, Madaha, Ng'ombela and Misani forests.	The village was established in 1975 and it borders Mtegwa, Kisongwe and Unone villages in the North (Figure 3), Kisongwe and Liwemba village in the West, Ludwa Ngogoni in the East and Idete and Mfulumi villages in the South. The village has no village land certificate; it does not have a Village land use plan as well the village land registry. There are three village forest reserves namely Kombwe, Lugeni and Bena Forest Reserves	The village was established in 1974 with only two sub-villages namely Msufini and Shuleni. The village is bordered by Upendo forest in the North and Nyari Village, Ng'omblela forest and Kibasigwa village in the South, Ng'ombela and Lunenzi village in the East (Figure 3) and Idole village in the West. The village has village forest reserves namely, Ng'ombela Kaloe, Upendo and Idete village forest reserves. The village has no land certificate. It has a land use plan that is under final stages. The land use plan has been signed by

	Chinangali I	Mahama	Nzali	Manchali A	Kisongwe	Lunenzi	Lumbiji	Ibingu
History of the village, presence of village land certificate, land registry, land use plan and village forestry			village land registry in future after the renovation is completed. There is no village forest reserve but an area called Viganga has been set aside where the village forest reserve will be established					the village government and now waiting to be passed at the district level for implementation.
Composition of women in the village council, meetings of village assembly village council	The village council is made up of 25 members among them women constitute 32% of all village council members. The village council meets after every month whereas the village assembly is convened four times a year after every three months.	The village council has 25 members among them women constitute 32% of the members. The village assembly is held four times a year after every three months. The village council meets after every month making a total of 12 meetings a year.	The village government council is made up of 25 members whereas women constituent 32% of the council members. The village assembly meetings are convened four times a year after every three months whereas the village council meets after every one month	The village council is made of up 25 members among them women constitute 32% of the members. Meeting of Village assembly at Manchali A village is conducted twice a year contrary to the Local Government Act that mandates these meetings to be held at least once after three months. On the other hand the village government council meets eight times a year	The village council is made up of 25 members and women make up 28% contribution in the village council. The village assembly meetings are conducted twice a year and the village council meets nine times a year.	The village council is made up of 25 members and women constitute 32% of the council members. The village assembly meeting are conducted four times a year and the village council meets 4 times a year.	The village has 25 village council members and among them women are 20% of the village council members. The village assembly meet three times a year whereby the village council meet seven times a year.	The village has 25 village council members and the council is made up 28% female. The village assembly meetings are conducted twice a year and the village council meet 6 times a year.
Number of tribes, language spoken and main economic activities	All communities in Chinangali I one village are Gogo by tribe. They use Gogo language as their local language. Majority can speak Swahili though some elders who did not go to school cannot speak fluent Swahili	The village is populated by Gogo ethnic group amounting 99% of the population whereas Zigua and Warangi have a population of 1% each. Languages spoken in Mahama village are Gogo, Zigua and Kirangi local languages. Communities in Mahama village are involved in agriculture, livestock keeping and small business. Farmers	Nzali villagers are Gogo and Nguu ethnic groups and speak gogo language as their traditional language. Most of them are involved in agriculture, livestock keeping, small business and selling alcohol. Farmers start their planting period in November on the start of the rain season.	Residents of Manchali A village are Gogo and speak gogo language as their local language although most of them speak Swahili except some of the elders who cannot speak fluent swahili. Manchali A residents are involved in agriculture, livestock keeping and small business as their economic activities.	Kisongwe village is populated by Kaguru tribe and speak Kaguru language as their traditional language. Communities are involved in agriculture activities, small businesses, selling alcohol and selling food and tea	Lunenzi communities are from Gogo, Sagara and Hehe tribes. They speak gogo, sagara and hehe local languages. They are involved in agriculture, small businesses, selling alcohol, food and tea	Lumbiji village is made up of 1 ethnic group, the Wakaguru tribe and the local language spoken is Kikaguru language. Members of this village are involved in Agriculture activities, Selling alcohol and some do small business like owning small kiosks.	There are 4 tribes in Ibingu namely Sagala, Kaguru, Gogo, and Hehe tribes. Members of these tribes speak Sagara, kaguru, gogo and hehe language. They are involved in agriculture activities, small businesses, selling and selling of alcohols

	Chinangali I	Mahama	Nzali	Manchali A	Kisongwe	Lunenzi	Lumbiji	Ibingu
Number of tribes, language spoken and main economic activities		start planting their crops in December and January		Most of the business that is practiced is selling chicken, agriculture crops that involve maize, groundnuts, sesame and sunflower.				
Population size and availability of land	Total = 3214 Female = 1972 Female = 1442 There is no scarcity of land	Total = 4011 Men = 2087 Women = 1924. There is scarcity of land in the village and members of the village borrow farms from nearby villages	Total = 3110 Male = 1500 Female 1610. There higher scarcity of land for farming and members of the village borrow farms from Membe and Mlimwa villages	Manchali A has a population of 2368 people among them female are 1215 and male are 1153. The village has scarcity of land for agriculture activities and livestock keeping.	Total = 4256 Female = 2410 Male = 1846 There is no land scarcity in the village	Total = 936 Female = 534 Male = 402 There is no land scarcity in Lunenzi village.	Total: 2918 Female: 1479 Male: 1439 Currently there is no land scarcity but due to lack of land use plans there are land conflicts among farmers	Total = 1080 Female = 538 Male = 542. There is no land scarcity in the village. Villagers have plent land for their agricultural activities
Presence of private sector initiative and development project (s)	There is no any development activity currently being implemented in the village though there is a farmers' information hub that was introduced by INADES formation Tanzania as a private sector initiative in the village.	There are four private organisations working in the village that include Action Aid, Pamoja Tuwalee, TOAM and Mtoto Seremala. The village currently is embarked on construction of a health centre; a development project that is financed by the villagers themselves and the centre is still at the foundation stage.	There is no any development project being implemented in Nzali village at the moment. There are four private organisations working in the village including Action Aid involved in helping children living under hard conditions, Donate dealing with environmental conservation and advocating women rights, TOAM promoting organic agriculture and Watoto Selemala assisting children.	There is one development activities taking place which is construction of labour ward at the village dispensary which is financed by the Chamwino district council and Manchali A residents. The only private sector that was reported to work in the village is Tanzania Organic Agriculture Movement (TOAM) with its activities to promote organic agriculture.	Currently there are two development activities being carried in the village which are construction of Lumbiji secondary school, a development activity being implemented by Lumbiji and Kisongwe village in support of the Kilosa District council. The other one is construction of secondary school teacher's house also funded by the villagers and the Kilosa district. TFCG and MJUMITA has also started REDD initiative in the village as private sector initiatives	The current development project being implemented is the construction of village office that is financed by TFCG and MJUMITA through their REDD project. TFCG and MJUMITA has also started REDD initiative in the village as private sector initiatives	There is one development project taking place in the village which is construction of Lumbiji secondary, the project that is done between Kisongwe and Lumbiji villages funded by the two villages and Kilosa District Council. One the other hand, the village has no any private sector working in it.	There is one development activity carrying on at the moment. The District Council is rehabilitating the road at a gravel level and TFCG and MJUMITA through their REDD project have built a village government office. TFCG and MJUMITA has also started REDD initiative in the village as private sector initiatives

	Chinangali I	**Mahama**	**Nzali**	**Manchali A**	**Kisongwe**	**Lunenzi**	**Lumbiji**	**Ibingu**
Condition of public services	**Health facilities:** There is a newly constructed health centre that has started offering services. It is in good condition though medicine and other equipment are lacking. For instance it does not have diagnostic equipment. There are only three staffs and are reported to be overwhelmed by patients. **School:** There are two primary schools, Chinangali I and Mahata Primary Schools. Both are faced with inadequacy of teachers and houses for the teachers. Mahata for example has only two classrooms **Road:** The road is in good condition and is passable the entire year **Market:** There is no market for agricultural crops and farmers sell their crops to buyers who visit them at their home. Water service: Availability of water in Chinangali I is a problem. The village is.	**Road:** The village has a gravel road that is in good condition and the road is accessed throughout the year. **Market:** The village has no crop market, the situation that leads farmers to sell their crops to individuals who visit them at home. This kind of transaction is reported not to offer good prices for farmers' crops. They normally have a free market (gulio or mnada in Swahili) every Sunday but it is a market for clothes and other goods where crops and not sold. **Health service:** There is no health centre and health services are obtained in Nzali village, a nearby village which is not easily accessed during heavy rain when Nyasungwi River is flooded. **School:** Mahama village has two primary schools, Chilonwa and Mahama Primary School and one Secondary School (Chilonwa Secondary	**School:** There is one Secondary school (Chilono Secondary School) and two primary schools, Nzali Primary School and Mapinduzi Primary School. All these schools have inadequate teachers, books and houses for the teachers. Mapinduzi primary school in particular has only one teacher with only two classes while Chilono Secondary School has only three teachers with no laboratory and without enough books. **Market:** The village has no crop market and most buyers buy crops by visiting farmers at home though some of the farmers do transport crops to Dodoma town by using vehicles. **Health service**: The village has a village dispensary; though medical services are available, the dispensary lacks enough medicine and it has only two staffs.	**Road:** Manchali A is accessed by gravel road that is in good condition and is reported to be accessed easily for the entire year. We observed also on-going construction of curvets across the road. **Schools** The village has a primary school (Lusinde Primary School) that has inadequacy of teachers and teachers' houses. **Heath services:** There is a health centre in the village though it lacks enough medicine, medical equipment, staffs and houses for workers. **Market:** There is no any market for agricultural crops and buyers buy crops at farmers' households and are reported to determine crop prices.	**School** The village has two primary schools, Mlenga primary school and Kisogwe primary school. However Mlenga primary school is yet to be registered. Mlenga primary lack enough teachers and rooms for classrooms while Kisongwe primary school lack enough rooms for classrooms. **Health services** There is no any health centre in the village and communities use Lumbiji health centre to obtain health services. **Market** There is no market for selling crops but rather farmers their crops to buyers who visit them. It was reported that these buyers come with their one litter tins and use those tins to measure or weight the crops especially maize and beans. **Road:** The road to the	**School:** There is no any school in the Lunenzi village and pupils use Ibingu primary school **Health service:** There is no health center in the village. Member of Lunenzi village use health centre in Idole village **Market:** There is no crop market in Lunenzi and members sell their crops to buyers who visit them at home. This kind of transaction was reported to not offer good prices to farmers. Buyers are reported to bring their tins to measure crops, the act that exploits farmers. **Road:** There is no good road network in Lunenzi village due to the village to be located in a hilly area. Road are accessed by foot in most of the area except in Manyomvi village where motorbike can be used to access it. **Water service**: Lunenzi village is not	**School:** There are two primary schools, Lumbiji Primary School and Kisale Primary School. Lumbiji primary school has inadequate teachers, lack teachers' houses and it does not enough classrooms apart from having no enough desks. Kisale primary school as Lumbiji primary school lacks enough classrooms and it does not have toilets. **Health services:** The village has Lumbiji dispensary that is owned by the Roman Catholic Church. Though services are available the dispensary lacks enough workers as of current there is only one nurse serving the dispensary. Apart from that it is always overwhelmed with patients as it does not have enough patients resting rooms **Market** There is no any market at Lumbiji village but they normally have a free market every Sunday where other things are sold and no crops	**School:** There is one primary school, Ibingu primary school that lacks enough teachers, teachers' houses, it does not have water services and there are no enough classrooms. **Health:** The village has no health centre but there is a clinic for children every month at the village office. The regular health services are obtained at Idole village where there is a health centre. **Market:** There is no village market and villagers sell their crops to buyers who visit them at home **Road:** The village has a good road netwok that connect the three sub-villages. The road is accessed throughout the year and we also observed on going rehabilitation of the main road that

	Chinangali I	Mahama	Nzali	Manchali A	Kisongwe	Lunenzi	Lumbiji	Ibingu
Condition of public services	not served with tape water but access water from traditionally dug wells and in rivers and small tributaries	School). All these schools have inadequate teachers, houses for the teachers and lack enough classrooms for the case of Chilonwa Primary School. **Water service:** There are water taps but the infrastructure lacks maintenance to the fact no water is accessed from those taps. Members of the village access water from Nyasungwi River and some buy water from one person who has a well at his household.	**Road:** The road is in good condition and accessed throughout the year but it closes Nyasungwi river (figure….) with a drift bridge where the village borders Mahama village. During heavy rains, this part of the road is not accessed and hence blocking communication between Nzali Village and Mahama village on the way to the main road to Dodoma. **Water service:** The village is not served by taped water instead members use water from the river and traditionally dug wells.	**Waters service**: Residents of Manchali A have a problem of water where they get it from rivers and traditionally dug wells that however, dry during the dry season	village is in good condition though there are some places along the road which are in bad condition to render them not being passable in rainy seasons. The two sub-villages Kisongwe and Kilumbi are easily accessed from the centre of the village but Mlenga sub-village is neither easily accessed by motorbike nor bicycle. **Water services:** The village is server by tape water that have their water sources in the mountains	served by tape water rather communities use water from rivers and traditionally dug wells.	are sold in the market **Road** The village has no good road networks. The gravel road ends at the village centre from Kisongwe village and there is no good road network to connect Mkenge, Kisale and Lumbiji sub-village. The available roads can neither be accessed by motorbike nor bicycles as they pass through hills and flood plains. They are accessed by foot but due to lack of culverts, these roads are not accessed during the rainy season and hence disconnecting these three sub-villages especially Mkenge Sub-village. **Water Service**: There are tape waters with their water source being up in the mountain in some of the areas especially Lumbiji Sub-village. Kisale and Mkenge sub-villages are not served with tape water. They obtain water from rivers and traditionally dug wells .	passes through the village to lumuma-Idole village. **Water service:** The village has well that has water pumps but due to lack of maintenance they are not currently working. Instead villagers get water from rivers and traditionally dug wells

	Chinangali I	Mahama	Nzali	Manchali A	Kisongwe	Lunenzi	Lumbiji	Ibingu
Condition of the village office	The village has a village office and it is in good condition though it lacks enough furniture and other rooms for other village council activities. It has one room where all administrative works are carried out.	There is no village office instead the village use Chilonwa Division Office as its office. It also lacks enough office equipment like furniture and other rooms to accommodate both Chilonwa division activities and Mahama council activities	There is no village office; they are using a godown as their office. Plans are there to complete construction of a village office that is still under construction	The village has a village office that is still under construction. They have rented a room where all administration activities are taking place	The village office is in good condition. It was constructed by TFCG and MJUMITA through their REDD project. It has four rooms and enough chairs and tables.	There is village office that is still under construction. It is funded by the REDD project that is implemented in the area by TFCG and MJUMITA. The office however, has no furniture.	The village has the village office which is still under construction. It is constructed by mud bricks with four rooms; however, one room is still under construction. The office has only two chairs and one table.	The village has a recently constructed office that was constructed by TFCG and MJUMITA through their REDD project. It is the higher standard office constructed by using cement bricks and with good roofing. However, currently there is no enough office equipment. The office has only one bench and one table. There are no shelves to store documents. The office has four rooms.
Radio stations and mobile phone accessed	**Mobile Phones**: Voda, Tigo and Airtel **Radio stations**: TBC 1, TBC 2, Radio One, Capital Radio, Radion Free Africa, Cloud FM, Radio Mwangaza, Uzima FM, Radio Kifimbo, Cloud FM, Radio Maria	**Mobile phones**: Mahama village is mostly assessed by Airtel whereby Tigo and Vodacom are not reliable. **Radio station** The village can assess most of the radio stations including, RFA, Mwangazo FM, Dodoma FM, Radion One, Cloud FM, TBC 1, TBC 2, Nanyemo FM, Kiss FM and Capital Radio	**Mobile phones**: Airtel, Vodacom and Tigo. **Radio stations** The village access lots of radio stations involving Cloud FM, Radio One, Dodoma FM, Radio Dodoma, Radio Kifimbo, Radio Uzima, Times FM, TBC 1, Taifa FM, Radio Mwangaza, Radio Uhuru and Kiss FM.	**Mobile phones**: Vodacom, Airtel, and Tigo though Tigo is not reliable. **Radio stations:** The villages access most of radio stations including TBC 1 and FM, Radio One, Cloud FM, Mwangaza FM, Dodoma FM, Uhuru FM, Aboo Media, Capital Radio, Radio Free Africa and Imani FM among other radio stations accessed in the village	**Mobile phones:** The village is accessed by Airtel but network is obtained at some places in the villages **Radio stations:** The radio stations accessed are TBC 1, TBC 2, Radio Maria, Radio Ukweli and Mwangaza FM	**Mobile phones:** The village is accessed by Airtel, though its network is available in some places in the village. **Radio stations**: Lunenzi village can access Radio Tumain, Radio Ukweli, Radio Abood, Top Radio, TBC 1, Radio Maria and Radio Free Africa	**Mobile phone:** The only mobile phone accessed is Airtel but accessed at some places in the village. **Radio stations:** The village access Radio one, TBC 1, TBC 2, Radio Maria, Radio Ukweli Abood FM and Radio Free Africa	**Mobile:** The village is accessed by Airtel but the network is accessed in some of places in the village. **Radio stations:** Radio stations accessed are TBC 1 TBC 2, Radio Tumain and Radio Maria
Presence of microfinance institution	There is no any microfinance initiative in the village	There are six VICOBA groups that were established in 2012.	The village has VICOBA and FINCA microfinance initiatives working but the available SACCOS is not working	There are village community bank (VICOBA) and FINCA since 2008 and 2012 respectively.	There is no any microfinance initiative in the village at the moment.	There is no any microfinance initiative in the village	There is no any microfinance in the village	There is no any microfinance initiative in the village

Appendix xii. The list of respondents interviewed and administered questionnaires

a. Elected Representative

S/No	Name	Designation
1.	Hon. Mustafa Mkulo	Member of Parliament – Kilosa Constituency
1.	Hon. Ezekiah V.N. Chibulunje	Member of Parliament – Chilonwa (Chamwino) Constituency
2.	Hon. Herman Msakila	Ward Councilor – Lumbiji Ward, Kilosa
3.	Hon. Beatrice Elisha Kasanda	Ward Councilor – Lumuma Ward, Kilosa
4.	Hon. Yaleji Sinoni	Ward Councilor – Chilonwa Ward, Chamwino

b. District Officials

S/No	Name	Designation
1.	Lameck M. Masembejo	Kilosa District Executive Director
2.	Adrian Jungu	Chamwino District Executive Director
3.	Tatu Kachenje	Kilosa District Agriculture Officer (DALDO)
4.	Augustino Mboya	Kilosa District Agriculture Officer
5.	Geofrey Mnyamale	Chamwino District Agriculture and Cooperative Officer (DACO)
6.	Augustino C. Kibaya	Chamwino District Livestock and Fisheries Officer (DLFO)
7.	Said I. Msemo	Chamwino District Forest Officer
8.	Dembo Ibrahim	Kilosa District Land, Natural Resource and Environment

c. National Climate Change Steering Committee and National Climate Change Technical Committee

S/No	Name	Designation
1.	Dr. Julius Ningu	Chairman of National Climate Change Technical Committee - DoE in Vice President Office

d. MJUMITA National Leaders

S/No	Name	Designation
1.	Revocatus Njau	MJUMITA National Chairman
2.	Rahima Njaidi	MJUMITA National Secretary
3.	Habibu Simbamkuti	MVIWATA National Chairman
4.	John Thomas Laiser	MVIWATA Lobbying and Advocacy Officer

e. MJUMITA Local Area Network Members

S/No	Name	Sex	Network	Designation	District	Ward	Village	GPS Points	
								X	Y
1.	Modesta Philip	F	UMIKIM	Member	Kilosa	Lumbiji	Kisongwe	0277642	9267062
2.	Octavia Joseph	F	UMIKIM	Member	Kilosa	Lumbiji	Kisongwe	0277580	9267146
3.	Yuvinus Epimak	M	UMIKIM	Member	Kilosa	Lumbiji	Kisongwe	0277669	9267100
4.	Donath Dominick	M	UMIKIM	Member	Kilosa	Lumbiji	Kisongwe	0277573	9266458
5.	Telesphory John	M	UMIKIM	Member	Kilosa	Lumbiji	Kisongwe	0277576	9266660
6.	Dofrosa Joseph	F	UMIKIM	Chairman	Kilosa	Lumbiji	Kisongwe	0277674	9267096
7.	Luca Fabian	M	UMIKIM	Secretary	Kilosa	Lumbiji	Kisongwe	0275482	9262661
8.	Tilifonia Pius	F	UMIKIM	Member	Kilosa	Lumbiji	Kisongwe	0277670	9266800
9.	Thomas Jehoya	M	UMIKIM	Treasurer	Kilosa	Lumbiji	Kisongwe	0277665	9266772
10	Susana Thobias	F	UMIKIM	Member	Kilosa	Lumbiji	Kisongwe	0282254	9264618
11	Kasian Kibozi	M	UMILUI	Member	Kilosa	Lumuma	Lunenzi	0253816	9245704
12	Maria Mkunda	F	UMILUI	Member	Kilosa	Lumuma	Ibingu	0246657	9243690
13	Apronia Mtware	F	UMILUI	Member	Kilosa	Lumuma	Ibingu	0246392	9243511
14	Christina Maile	F	UMILUI	Member	Kilosa	Lumuma	Ibingu	0247747	9241530
15	Maria Jeremia	F	UMILUI	Member	Kilosa	Lumuma	Lunenzi	0250102	9243760
16	Secilia Lucian	F	UMILUI	Member	Kilosa	Lumuma	Lunenzi	0249157	9245354
17	Thomas Mkunda	M	UMILUI	Secretary	Kilosa	Lumuma	Ibingu	0246695	9243493
18	Yohanex Adam	M	UMILUI	Member	Kilosa	Lumuma	Ibingu	0246711	9243612
19	Justine Hassan	M	UMILUI	Member	Kilosa	Lumuma	Lunenzi	0249272	9245566

S/No	Name	Sex	Network	Designation	District	Ward	Village	GPS Points	
								X	Y
20	Job Mwite	M	UMILUI	Member	Kilosa	Lumuma	Lunenzi	0253722	9245864

f. MVIWATA Members

S/No	Name	Sex	Group	Designation	District	Ward	Village	GPS Points	
								X	Y
1.	Kilian Nikola	M	Juhudi	Member	Kilosa	Lumbiji	Kisongwe	0277750	9265630
2.	Honorina Daniel	F	Juhudi	Member	Kilosa	Lumbiji	Kisongwe	0277459	9266196
3.	Josephine Michael	M	Juhudi	Member	Kilosa	Lumbiji	Kisongwe	0277380	9265244
4.	Tasiana France	F	Juhudi	Member	Kilosa	Lumbiji	Kisongwe	0277670	9267132
5.	Thomas Francis	M	Juhudi	Member	Kilosa	Lumbiji	Kisongwe	0277681	9267080
6.	Antony Mkunda	M	Juhudi	Member	Kilosa	Lumbiji	Lumbiji	0277391	9269494
7.	Beatrice Maneno	F	Juhudi	Member	Kilosa	Lumbiji	Lumbiji	0277053	9268338
8.	Paulo Michael	M	Juhudi	Member	Kilosa	Lumbiji	Lumbiji	0277519	9269518
9.	Nicholaus Amandusi	M	Juhudi	Member	Kilosa	Lumbiji	Lumbiji	0276172	9269784
10.	Sesilia Francis	F	Juhudi	Member	Kilosa	Lumbiji	Lumbiji	0275530	9269340
11.	Athumani Nyangalu	M	Mshikamano	Member	Chamwino	Chilonwa	Nzali	0184132	9331946
12.	Esta Mboru	F	Mshikamano	Member	Chamwino	Chilonwa	Nzali	0184044	9332150
13.	Asha Shooshoo	F	Mshikamano	Member	Chamwino	Chilonwa	Nzali	0184180	9331868
14.	Regina Mloli	F	Mshikamano	Member	Chamwino	Chilonwa	Nzali	0184074	9331967
15.	Leonard Moina	M	Mshikamano	Member	Chamwino	Chilonwa	Nzali	0184145	9331991
16.	David Moina	M	Mshikamano	Member	Chamwino	Chilonwa	Nzali	0184248	9331914
17.	Rashid Ally	M	Mshikamano	Chairman	Chamwino	Chilonwa	Nzali	0184261	9332143
18.	Anastazia Madeje	F	Mshikamano	Member	Chamwino	Chilonwa	Nzali	0184271	9332108
19.	Thabit Mambosasa	M	Mshikamano	Secretary	Chamwino	Chilonwa	Nzali	0184331	9332139

g. Village Government Members

S/No	Name	Gender	Designation	District	Ward	Village
1.	Bernadeta Mariki	F	Member	Kilosa	Lumbiji	Lumbiji
2.	Secilia Makoo	F	Member	Kilosa	Lumbiji	Lumbiji
3.	Aporinary Matenga	M	Acting VEO	Kilosa	Lumbiji	Lumbiji
4.	Angela Francis	F	Member	Kilosa	Lumbiji	Lumbiji
5.	Charles Antony	M	Chairman – Mkenge Sub-village	Kilosa	Lumbiji	Lumbiji
6.	Selina Mariki	F	Member	Kilosa	Lumbiji	Lumbiji
7.	Asteria Martini	F	Member	Kilosa	Lumbiji	Lumbiji
8.	Augustino Vincent	M	Village Chairman	Kilosa	Lumbiji	Lumbiji
9.	Joram Lemuje	M	Chairman – Kisale Sub-village	Kilosa	Lumbiji	Lumbiji
10	Benjamini Kingunya	M	Chairman – Lunenzi Sub-village	Kilosa	Lumuma	Lunenzi
11	Sabina Mwidowe	F	Member	Kilosa	Lumuma	Lunenzi
12	Damian Andrew	M	Assistant Village Chairman	Kilosa	Lumuma	Lunenzi
13	Emilian Mduma	M	VEO	Kilosa	Lumuma	Lunenzi
14	Lucan Hassan	M	Member	Kilosa	Lumuma	Lunenzi
15	Samweli Ng'ongwa	M	Chairman – Manyomvi Sub-village	Kilosa	Lumuma	Lunenzi
16	Petronila Mdoma	F	Member	Kilosa	Lumuma	Lunenzi
17	Daudi Nyenyelkia	M	Member	Kilosa	Lumuma	Lunenzi
18	Tadei Nyaumba	M	Member	Kilosa	Lumuma	Lunenzi
19	Sabina Paulo	F	Member	Kilosa	Lumuma	Lunenzi
20	Aziza Shooshoo	F	Member	Chamwino	Chilonwa	Mahama
21	Mahawi Makasi	F	VEO	Chamwino	Chilonwa	Mahama
22	Henry Sudayi	M	Member	Chamwino	Chilonwa	Mahama
23	Asha Sadala	F	Member	Chamwino	Chilonwa	Mahama
24	Asheri Mkosi	M	Member	Chamwino	Chilonwa	Mahama
25	Kezia Mwalimu	F	Chairman – Mngongolofu Sub-village	Chamwino	Chilonwa	Mahama
26	Gritha Mzungu	F	Member	Chamwino	Chilonwa	Mahama

S/No	Name	Gender	Designation	District	Ward	Village
27	Hezron Sudai	M	Member	Chamwino	Chilonwa	Mahama
28	Stephano Mkavu	M	Chairman – AbduJumbe Sub-village	Chamwino	Chilonwa	Mahama
29	Swalehe Jumanne	M	Village Chairman	Chamwino	Chilonwa	Mahama
30	Moleni Chilenga	F	Member	Chamwino	Majereko	Chinangali I
31	Ana Mbishai	F	Member	Chamwino	Majereko	Chinangali I
32	Msafiri Yohana	M	Chairman – Chibwe Sub-village	Chamwino	Majereko	Chinangali I
33	Jackson Mwinga	M	VEO	Chamwino	Majereko	Chinangali I
34	Kileni Mlulu	F	Member	Chamwino	Majereko	Chinangali I
35	Ernest Resilwa	M	Village Chairperson	Chamwino	Majereko	Chinangali I
36	Noha Namga	M	Member	Chamwino	Majereko	Chinangali I
37	Julia Milangasi	F	Member	Chamwino	Majereko	Chinangali I
38	Masena Chimondya	M	Chairman – Lusinde B Sub-village	Chamwino	Majereko	Chinangali I
39	Ezekiel Mazengo	M	Member	Chamwino	Majereko	Chinangali I
40	Janeth Sinoni	F	Member	Chamwino	Chilonwa	Nzali
41	Peter Lemenga	M	Member	Chamwino	Chilonwa	Nzali
42	Julius Petro	M	Chairman – Chapakazi Sub-village	Chamwino	Chilonwa	Nzali
43	Yohana Meeda	M	Village Chairman	Chamwino	Chilonwa	Nzali
44	Amina Moshi	F	VEO	Chamwino	Chilonwa	Nzali
45	Stanley Mahanze	M	Chairman – Mapinduzi Sub- Village	Chamwino	Chilonwa	Nzali
46	Rukia Said	F	Member	Chamwino	Chilonwa	Nzali
47	Magreth Lemenga	F	Member	Chamwino	Chilonwa	Nzali
48	Nicholaus Mpondi	M	Member	Chamwino	Chilonwa	Nzali
49	Rhoda Mzulami	F	Member	Chamwino	Chilonwa	Nzali
50	Aliya Ndaliko	M	Member	Chamwino	Manchali	Manchali A
51	Stephen Chibago	M	Member	Chamwino	Manchali	Manchali A
52	Cleopa Maganga	M	Member	Chamwino	Manchali	Manchali A
53	Amos Matumbi	M	Member	Chamwino	Manchali	Manchali A
54	Juma Chinyele	M	Member	Chamwino	Manchali	Manchali A
55	Kedomini Ndulani	M	Village Chairman	Chamwino	Manchali	Manchali A
56	Moleni Mlewa	F	Member	Chamwino	Manchali	Manchali A
57	Joseph Mahelela	M	Chairman – Mbuyuni Sub-village	Chamwino	Manchali	Manchali A
58	Joina Msakazi	F	Member	Chamwino	Manchali	Manchali A
59	Ivan Chibago	M	Chairman – Majengo Sub-village	Chamwino	Manchali	Manchali A
60	Binaus Mtiwanje	M	Chairman – Shuleni Sub- Village	Kilosa	Lumuma	Ibingu
61	Anyese Emmanuel	F	Member	Kilosa	Lumuma	Ibingu
62	Getrude Leo	F	Member	Kilosa	Lumuma	Ibingu
63	Ernest Maliwa	M	Member	Kilosa	Lumuma	Ibingu
64	Maria Jeremia	F	Member	Kilosa	Lumuma	Ibingu
65	Anjerina Adrian	F	Member	Kilosa	Lumuma	Ibingu
66	Damas Msavi	M	Village Chairman	Kilosa	Lumuma	Ibingu
67	Adrian Kisani	M	VEO	Kilosa	Lumuma	Ibingu
68	Patrick Kimeka	M	Chairman – Ngalamilo Sub-village	Kilosa	Lumuma	Ibingu
69	Maria Gasi	F	Member	Kilosa	Lumuma	Ibingu
70	Fanuel Mganga	M	VEO	Kilosa	Lumbiji	Kisongwe
71	Beltha Leonsi	F	Member	Kilosa	Lumbiji	Kisongwe
72	William Mkuchu	M	Chairman – Kilumbi Sub-Village	Kilosa	Lumbiji	Kisongwe
73	Gelard Maungo	M	Member	Kilosa	Lumbiji	Kisongwe
74	Sesilia Simoni	F	Member	Kilosa	Lumbiji	Kisongwe
75	Leonia Benedict	F	Member	Kilosa	Lumbiji	Kisongwe
76	Maria John	F	Member	Kilosa	Lumbiji	Kisongwe
77	Monica Msechu	F	Member	Kilosa	Lumbiji	Kisongwe
78	Patrick Dominic	M	Chairman – Kisongwe Sub-Village	Kilosa	Lumbiji	Kisongwe
80.	Laurian Mkuchu	M	Village Chairman	Kilosa	Lumbiji	Kisongwe

h. Community Trainers

S/No	Name	Sex	District	Ward	Village
1.	Anna Mkada	F	Kilosa	Lumuma	Lunenzi
2.	Mlisho Damiani	M	Kilosa	Lumuma	Lunenzi
3.	Kaeni Ng'ongwa	M	Kilosa	Lumuma	Lunenzi
4.	Agripina Pweleza	F	Kilosa	Lumuma	Lunenzi
5.	Yohanex Adam	M	Kilosa	Lumuma	Ibingu
6.	Jackson Samila	M	Kilosa	Lumuma	Ibingu
7.	Agripina Adrian	F	Kilosa	Lumuma	Ibingu
8.	Barnabas Michael	M	Kilosa	Lumbiji	Kisongwe
9.	Octavian Joseph	M	Kilosa	Lumbiji	Kisongwe
10.	Lusiana Maliki	F	Kilosa	Lumbiji	Kisongwe
11.	Anna Simono	F	Kilosa	Lumbiji	Kisongwe

i. Small Scale Farmers

S/No	Name	Sex	Head of the Household	District	Ward	Village	GPS Points	
							X	Y
1.	Madawa Maliki	F	Maliki Mathias	Kilosa	Lumbiji	Kisongwe	0279796	9265232
2.	George Raphael	M	George Raphael	Kilosa	Lumbiji	Kisongwe	0277358	9267375
3.	Valentina Simon	F	Valentina Simon	Kilosa	Lumbiji	Kisongwe	0284378	9263208
4.	Julius Thomas	F	Julius Thomas	Kilosa	Lumbiji	Kisongwe	0277621	9266776
5.	Onesta Claud	F	Venance Sebastian	Kilosa	Lumbiji	Kisongwe	0277681	9267080
6.	Heri Maliki	M	Heri Maliki	Kilosa	Lumbiji	Kisongwe	0277853	9266241
7.	Faustin Lician	M	Faustin Lician	Kilosa	Lumbiji	Kisongwe	0274583	9262541
8.	Martha Msakila	F	Martha Msakile	Kilosa	Lumbiji	Kisongwe	0277303	9267401
9.	Mark Gregory	M	Mark Gregory	Kilosa	Lumbiji	Kisongwe	0274612	9262824
10.	Efraim Abdu	M	Efraim Abdu	Kilosa	Lumbiji	Kisongwe	0276155	9264836
11.	Michael Mlondwa	M	Michael Mlondwa	Kilosa	Lumbiji	Lumbiji	0276573	9269604
12.	Theresia Augustino	F	Mgayo Malata	Kilosa	Lumbiji	Lumbiji	0276477	9270012
13.	Antoni Mayowa	M	Antoni Mayowa	Kilosa	Lumbiji	Lumbiji	0276716	9269404
14.	Morris Sume	M	Morris Sume	Kilosa	Lumbiji	Lumbiji	0277015	9268254
15.	Agnes Kilongola	F	Felician Sinjeni	Kilosa	Lumbiji	Lumbiji	0277424	9268511
16.	Adriana Michael	F	Adrian Michael	Kilosa	Lumbiji	Lumbiji	0276960	9268415
17.	Alfonce Pascal	M	Alfonce Pascal	Kilosa	Lumbiji	Lumbiji	0276749	9268536
18.	Lucia Joseph	F	Joseph Kaloli	Kilosa	Lumbiji	Lumbiji	0274467	9273403
19.	William Merikio	M	William Merikio	Kilosa	Lumbiji	Lumbiji	0274228	9273519
20.	Elizabeth Thomas	F	Elizabeth Thomas	Kilosa	Lumbiji	Lumbiji	0274860	9272450
21.	Maligalita Martin	F	Maligalita Martin	Kilosa	Lumuma	Ibingu	0246346	9243890
22.	George Msagati	M	Gabriel Msagati	Kilosa	Lumuma	Ibingu	0249628	9238612
23.	Dora Masinga	F	Dora Masinga	Kilosa	Lumuma	Ibingu	0253601	9240292
24.	Veneranda Kassimu	F	Veneranda Kassimu	Kilosa	Lumuma	Ibingu	0246643	9243536
25.	Vincent Pesambili	M	Vincent Pesambili	Kilosa	Lumuma	Ibingu	0246238	9243850
26.	Angelina Zaeli	F	Antoni Tujele	Kilosa	Lumuma	Ibingu	0246571	9243888
27.	Julieth Rashidi	F	Kaloli Kajuti	Kilosa	Lumuma	Ibingu	0246858	9243912
28.	Alex Tujeli	M	Alex Tujeli	Kilosa	Lumuma	Ibingu	0247297	9242001
29.	Yona Maguvu	M	Yona Maguvu	Kilosa	Lumuma	Ibingu	0247430	9241580
30.	Michael Mgana	M	Michael Mgana	Kilosa	Lumuma	Ibingu	0248735	9241188
31.	Paulo Mwagula	M	Paulo Mwagula	Kilosa	Lumuma	Lunenzi	0249822	9244073
32.	Pascal Masugu	M	Pascal Masugu	Kilosa	Lumuma	Lunenzi	0249086	9243927
33.	Franco Mwikola	M	Franco Mwikola	Kilosa	Lumuma	Lunenzi	0249185	9245919
34.	Herumada William	F	Alphonce Stamani	Kilosa	Lumuma	Lunenzi	0249639	9245130
35.	Chukia Asheri	F	Albert Sendwa	Kilosa	Lumuma	Lunenzi	0249181	9245793
36.	William Chinyeli	M	William Chinyeli	Kilosa	Lumuma	Lunenzi	0253817	9245752

S/No	Name	Sex	Head of the Household	District	Ward	Village	GPS Points	
							X	Y
37.	Daniel Kibembo	M	Daniel Kibembo	Kilosa	Lumuma	Lunenzi	0253640	9246400
38.	Joseph Kavalata	M	Joseph Kavalata	Kilosa	Lumuma	Lunenzi	0253649	9246532
39.	Elimina Pweleza	F	Majuto Maliwa	Kilosa	Lumuma	Lunenzi	0253605	9246090
40.	Sala Selemani	F	Nyika Nyika	Kilosa	Lumuma	Lunenzi	0253600	9245984
41.	George Moina	M	George Moina	Chamwino	Chilonwa	Mahama	0184330	9330549
42.	Dickson Msuta	M	Dickson Msuta	Chamwino	Chilonwa	Mahama	0183595	9330648
43.	Janeth Matata	F	Janeth Matata	Chamwino	Chilonwa	Mahama	0183584	9330515
44.	Gradice Matata	F	Leonard Magoha	Chamwino	Chilonwa	Mahama	0183567	9330531
45.	Moses Mataligana	M	Moses Mataligana	Chamwino	Chilonwa	Mahama	0180820	9331728
46.	Raheli Nyawaga	F	Raheli Nyawaga	Chamwino	Chilonwa	Mahama	0182348	9330913
47.	Juma Matonya	M	Yohana Matonya	Chamwino	Chilonwa	Mahama	0181295	9331211
48.	Joyce Nyau	F	Andrea Nyau	Chamwino	Chilonwa	Mahama	018289	9330742
49.	Daniel Matonya	M	Daniel Matonya	Chamwino	Chilonwa	Mahama	0180320	9330814
50.	Moleni Chomola	F	Moleni Chomola	Chamwino	Chilonwa	Mahama	0179719	9331980
51.	John Maloda	M	John Maloda	Chamwino	Majereko	Chinangali I	0185887	9324181
52.	Mariam Kamoga	F	Stephano Kamoga	Chamwino	Majereko	Chinangali I	0188236	9324468
53.	Mazengo Mwaluko	M	Mazengo Mwaluko	Chamwino	Majereko	Chinangali I	0187598	9324707
54.	Marium Mirangasi	F	Marium Mirangasi	Chamwino	Majereko	Chinangali I	0187553	9325293
55.	Rahel Mlemele	F	Emmanuel Mlemela	Chamwino	Majereko	Chinangali I	0187558	9325711
56.	Philemoni Chiluwika	M	Philemoni Chiluwika	Chamwino	Majereko	Chinangali I	0185923	9323567
57.	Meleya Mpilimi	F	Jonas Mpilimi	Chamwino	Majereko	Chinangali I	0186163	9324182
58.	Enock Masing'oti	M	Enock Masing'oti	Chamwino	Majereko	Chinangali I	0185685	9323206
59.	Richard Mgoha	M	Richard Mgoha	Chamwino	Majereko	Chinangali I	0187495	9325289
60.	Vumilia Mazengo	F	Gabriel Mazengo	Chamwino	Majereko	Chinangali I	0187556	9325709
61.	Christina Chiwambi	F	Pius Chiwambi	Chamwino	Chilonwa	Nzali	0184140	9332092
62.	Dina Chungu	F	Dennis Njoriba	Chamwino	Chilonwa	Nzali	0184308	9333080
63.	Rosemary Mbezwa	F	Rosemary Mbezwa	Chamwino	Chilonwa	Nzali	0184954	9333176
64.	Monica Maile	F	Benedini Mpondi	Chamwino	Chilonwa	Nzali	0184278	9331954
65.	Melea Miagala	F	Hassan Miagala	Chamwino	Chilonwa	Nzali	0184656	9334920
66.	Wilson Mwalimu	M	Wilson Mwalimu	Chamwino	Chilonwa	Nzali	0184954	9335000
67.	Said Chilamba	M	Said Chilamba	Chamwino	Chilonwa	Nzali	0184739	9335264
68.	Philipo Chiwanga	M	Philipo Chiwanga	Chamwino	Chilonwa	Nzali	0184732	9334766
69.	Robert Kilema	M	Robert Kilema	Chamwino	Chilonwa	Nzali	0188006	9336198
70.	Wilson Lemanga	M	Wilson Lemanga	Chamwino	Chilonwa	Nzali	0189424	9337914
71.	Songa Sanja	M	Songa Sanja	Chamwino	Manchali	Manchali A	0186024	9321302
72.	Edna Ndulani	F	Kedimo Ndulani	Chamwino	Manchali	Manchali A	0186721	9320110
73.	Marium Miraji	F	Marium Miraji	Chamwino	Manchali	Manchali A	0185764	9321055
74.	Anjelina Maduka	F	Anjelina Maduka	Chamwino	Manchali	Manchali A	0186167	9321174
75.	Judith Leng'anda	F	Judith Leng'anda	Chamwino	Manchali	Manchali A	0185725	9321146
76.	Egra Zebedayo	F	Zebedayo Chidugo	Chamwino	Manchali	Manchali A	0186728	9320766
77.	Leonard Chibago	M	Leonard Chibago	Chamwino	Manchali	Manchali A	0185722	9321285
78.	Mazengo Leng'anda	M	Mazengo Leng'anda	Chamwino	Manchali	Manchali A	0185704	9321026
79.	Nason Mganga	M	Nason Mganga	Chamwino	Manchali	Manchali A	0187021	9320787
80.	Joram Matonya	M	Joram Matonya	Chamwino	Manchali	Manchali A	0186571	9319560

Appendix xiii. Wealth ranking indicators

Households are categorized into three ranks using locally specific indicators:
Top rank: own a brick wall house with corrugated iron sheet roof and with cement floor. All of these characteristics must be in place for a household to be classified within this category subject to the presence of additional variables as listed below.
Middle rank: own or rent a mud brick wall house thatched with grass and may or may not have cement floor. Some but not necessarily all of these characteristics must be in place for a household to be classified within this category.
Bottom rank: own or rent a mud and poles wall house thatched with grass. All of these characteristics must be in place for a household to be classified within this category.

Additional variables[1]
If a household meets any one of the following characteristics, they should be classified as being in the top rank regardless of house structure:
Owning more than 100 coconut trees
Owning a shop
Owning a motorcycle

If a household meets any one of the following characteristics, they should not be classified in the bottom rank regardless of house structure:
Owning more than 30 coconut trees
Owning a bicycle
Owning a shop or kiosk

[1] Whilst the size of a farm has also been recommended as a good wealth indicator, given the intention of the project to encourage agricultural intensification and avoid clearance of forest for the expansion of agricultural land, size of land holding has been excluded.