



CLIMATE CHANGE AGRICULTURE AND POVERTY ALLEVIATION –CCAP

STUDY TO ASSESS IMPACT OF RADIO PROGRAMMES IN BOTH KILOSA AND CHAMWINO DISTRICTS



FINAL REPORT

Prepared By

Stephen Joseph Nyagonde- STEPER Consulting Co. LTD

JULY 2014

Executive Summary

Number of strategies aiming at addressing all aspects of climate change adaptation and mitigation has been launched in Tanzania with the aim of raising community member's awareness on how they can adapt and/or mitigate effects of climate change. To support that, media as one of the important pillar of the state has been playing a major role to ensure communities are aware with those consequences whilst understanding myriad strategies to reduce their risks or coping with climate change consequences. It is on this background, BBC Media Action through its radio for climate resilient project established a partnership with several NGOs including CCAP partners and several local radio stations around Morogoro and Dodoma region. Such radio programmes are focusing on the contents which deliver information and messages to the listeners (community members) about agricultural interventions, environmental conservation and other economic activities common in most parts of rural areas such as poultry farming. CCAP partners have established 3 listening groups, two in Kilosa at Kisongwe and Ibingu villages and one listening group in Chamwino at Manchali village. The groups are made up of 36 members in total. To date, listening groups at Ibingu and Kisongwe have listened over 21 different radio programmes while the group at Manchali which was established four months ago have listened only 1 radio programmes.

This consultancy was therefore developed to assess the assess impact of the radio programmes to 3 listening groups in CCAP project villages through addressing specific objectives presented in the terms of reference (ToR). Interview and discussions were held with key informants in all 3 villages. This was complemented by secondary data gathered from different sources including reviewing of radio programmes shared with different listening groups in the CCAP project villages in order to capture an insight of what farmers have been learning and apply to the daily livelihoods. To date, since establishment of these 3 listening groups there is considerable impacts especially in Kisongwe and Ibingu villages. Results of the Focus Group Discussions (FGD's) indicate that the level of awareness of local communities of climate change impacts is relatively high in both villages surveyed. Results of the Focus Group Discussions (FGD's) indicate that the level of awareness of local communities of climate change impacts is relatively high in all 3 villages surveyed. Nearly 78% (Kisongwe), 70% (Ibingu) and 62% (Manchali) of respondents know about climate change and its impacts. Specifically, it was found that 80 % (Ibingu), 70% (Kisongwe) and 30% (Manchali) of respondents indicated that they know about mechanisms of responding to the consequences of climate change while remained respondents stated that they do not know about anything about climate change adaptation and mitigation. Number of innovations including farm yard and composite manure preparation, early planting, plating by spacing, preparation of the vegetables gardens, minimum tillage and downhill and uphill trenches has been proving success in some of the villages. These innovations have been shared within and outside the village; however they are still spreading at very small pace, partly because it is still early for some of them to show undisputed and conclusive results.

The study has explored a number of issues regarding obstacles (challenges), if any, whether caused by project or within community members that hinder community members responding to issues they are learning from radio programmes and provide practical recommendations to address them. Little communications amongst the facilitators who serve as liaisons between BBC-Media Action, CCAP field staffs and community members have been cited as the main problem which lead to failure of timely receiving of the new radio programmes, monitoring and close follow up of the programme. Based on these and many others challenges mentioned in this report, several recommendations have been made.

Table of Contents

EXECUTIVE SUMMARY	2
1.0 INTRODUCTION	6
1.1 BACKGROUND.....	6
1.2 LOCAL CONTEXT IN RELATION TO CLIMATE CHANGE IMPACTS:.....	7
1.3 ABOUT RADIO LISTENING PROGRAMMES:.....	7
1.4 OBJECTIVES AND OUTPUTS OF THE STUDY	8
1.5 STRUCTURE OF THE REPORT	8
1.6 LIMITATIONS:	8
2.0 METHODOLOGY	9
3.0 FINDINGS.....	9
3.2 FARMERS' UNDERSTANDING OF THE CLIMATE CHANGE PHENOMENON:.....	10
3.3 LEVEL OF AWARENESS ON ISSUES OF CLIMATE CHANGE ADAPTATION AND MITIGATION:	10
3.4 CHANGES ON THE PRACTICES OF THE MEMBERS OF LISTENING GROUPS:	11
3.5 INITIATIVES OF SHARING THE BEST PRACTICES:.....	13
3.6 PRACTICES WHICH HAVE PROVED SUCCESS:.....	13
3.7 LESSONS LEARNED AND CHALLENGES:.....	13
4 IMPLICATIONS OF FINDINGS AND RECOMMENDATIONS	15
REFERENCES.....	17
APPENDICES	18

Acknowledgments:

The authors of this report would like to thank all the people who were involved in one way or another in accomplishing this report. Special gratitude is due Tanzania Forest Conservation Group (TFCG) management for availing resources for undertaking the assignment. Villagers from Ibingu, Kisongwe and Manchali as well as other stakeholders contacted in the field are thanked for enthusiasm and active participation that simplified the task of this consultancy work. Lastly CCAP staffs; Mr. Elinasi Monga, Mrs Elida Fundi. Mr. Jerome Ernest, Bakary Mongo, Mrs Regina Tairo and Lucas Migani are thanked for their inputs toward accomplishing this assignment.

GLOSSARY

AcT	Accountability Tanzania
BBC	British Broadcasting Company
CCAP	Climate Change, Agriculture and Poverty Alleviation
CSOs	Civil Society Organizations
IPCC	Intergovernmental Panel for Climate Change
MJUMITA	Tanzania -Community Forest Conservation Network
MVIWATA	Mtandao wa Vikundi vya Wakulima Tanzania (Network of Farmers Groups in Tanzania)
REDD	Reduced Emissions from Deforestation and Forest Degradation
NGO's	Non Governmental Organizations District Development Plan
TFCG	Tanzania Forest Conversation Group
TMA	Tanzania Meteorological Agency
TOAM	Tanzania Organic Agriculture Movement
ToRs	Terms of References

1.0 INTRODUCTION

1.1 Background

Climate change is a major issue around which global development policy is being framed over the past few years. Because of low adaptive capacities and the projected impacts of climate change, a consensus has emerged that developing countries are more vulnerable to climate change than developed countries. This is due to the predominance of rain-fed agriculture in their economies, the scarcity of capital for adaptation measures, their warmer baseline climates and their heightened exposure to extreme weather events. According to the Intergovernmental Panel on Climate Change (2007), by 2020, between 75 and 250 million people in Africa could be exposed to increased water stress, and agricultural yields in some areas of the continent could be reduced by up to 50% as a result of climate change, resulting in widespread loss of lives and livelihoods across the continent. Despite the increased socio-ecological impacts of climate change, studies suggest that research uptake at the local level has been limited, partly due to the challenges involved with communicating climate change messages in ways that are appropriate to local stakeholder needs (Gauthier, 2005), as well as failure to meaningfully engage existing local institutions (Agrawal & Perrin, 2009) and local cultural practices (Ensor & Berger, 2009). Even though the few messages delivered at local level has little meaningful in raising awareness to the local communities in adapting and mitigating climate change consequences.

Alongside these challenges, numerous studies have called for increased scientific engagement with local or indigenous ecological knowledge as a valuable source of adaptive practice and a pathway to integrating new approaches to adaptation and mitigation of climate change consequences (Berkes, Colding, & Folke, 2000). Also it is essential that the climate change messages are communicated successfully with many different groups including policy formulators, actors, partners, and local communities (the main beneficiaries). All these, has lead to inauguration of number of strategies aiming at addressing all aspects of climate change adaptation and mitigation through raising community member's awareness on how they can adapt and/or mitigate effects of climate change. To support that, media as one of the important pillar of the state has been playing a major role to ensure communities are aware with those consequences whilst understanding myriad strategies to reduce their risks or coping with climate change consequences.

It is on this background, BBC Media Action through its radio for climate resilient project established a partnership with several NGOs including CCAP partners and several local radio stations around Morogoro and Dodoma region. Such partnership aiming to raise community member's awareness through radio programmes on how they can adapt and/or mitigate effects of climate change. Such radio programmes are focusing on the contents which deliver information and messages to the listeners (community members) about agricultural interventions, environmental conservation and other economic activities common in most parts of rural areas such as poultry farming. CCAP partners have established 3 listening groups, two in Kilosa at Kisongwe and Ibingu villages and one listening group in Chamwino at Manchali village. The groups are made up of 36 members in total. To date, listening groups at Manchali and Kisongwe have listened over 12 different radio programmes while the group at Ibingu which was established four months ago have listened at least 8 different radio programmes.

As such, Tanzania Forest Conservation Group (TFCG) commissioned a field study to assess the impact of the radio programmes to 3 listening groups in CCAP project villages so that the project can get an understanding of how those radio programmes has raised community members awareness on how they can adapt and/or mitigate climate change consequences. The main theme of the study as proposed in the Terms of Reference (ToR) (Appendix 1) was “**Assesing Impact of Radio Programmes**”.

1.2 Local Context in relation to climate change impacts:

Both Kilosa and Chawino districts are amongst the districts experiencing myriad consequences of climate change. According to the baseline study for the climate change, agriculture and poverty alleviation (CCAP) initiative (2013), climate change is having major effects on crop yields, pest and diseases, drying of water sources, increased drought, decreasing of water flow, increase in flood incidents, and loss of plant and animal species. Agriculture sector has been seen as the most vulnerable sector to the impacts of climate change, as most of the small scale farmers in both districts are entirely depending on the rain fed agriculture and water is the main. Low adaptive capacity associated with limited knowledge on how they could adapt and/or mitigate those myriads consequences has been mentioned as one of the major reason for the ongoing climate change impacts in both districts.

1.3 About Radio Listening Programmes:

Most initiatives linking radio programmes and climate change in developing countries currently focus on delivering information and messages to listeners about short and medium-term forecasts for farmers, alerts for extreme weather events, messaging to discourage behaviour which degrades environmental assets and encouraging possible economic activities which diversify economies as the means of adapting to the climate change consequences. While these remain important messages for communicating local climate change adaptation, radio programmes has the potential to do much more by strengthening community voices and providing an accessible space for knowledge sharing between communities. The sense of empowerment that people and communities can feel by engaging in this way can help to build local, institutional and organisational capacity to deal with climate change consequences hence reducing their risks.

In recognition of all these, BBC Media Action through radio for resilient project has been producing a programme at three Radio Stations in Morogoro and Dodoma (Abood FM, Dodoma FM and Ulanga FM). These give the radio stations technical advice and facilitate discussion groups with their listeners. With this support, the stations make their own local version of a programme called Nyakati Zinabadilika (which means "the times/winds are changing" in Kiswahili). The programmes aimed to contribute to the long term impact of increased resilience of Tanzanians most vulnerable to climate related risks. This is through direct actions taken by Tanzanians to increase resilience: and demand for greater accountability and improved governance. The project is in partnership with 12 non-governmental-organisations and civil society organisations including CCAP partners. Since its inauguration, several radio programmes have been delivered and exploring climate smart topics which are varying from farming and livestock practices, environmental conservation and other economic activities (which diversifies their income) common in most parts of rural areas such as poultry farming and honey production.

1.4 Objectives and Outputs of the Study

The overall objective of the assignment as could be deduced from the ToR is to assess impact of the radio programmes to 3 listening groups in CCAP project villages through addressing specific objectives presented in the terms of reference (ToR) (Appendix 2). Specifically they include;

- (a) To assess any changes on the level of awareness on issues of climate change and climate change adaptation and mitigation as the result of the radio programmes.
- (b) To assess any changes on the practices of the members of listening groups as the result of radio programmes, from their traditional practices that put them more prone to the effects of climate change to more climate resilient practices. This can has been achieved through reviewing radio programmes and establish the response of the listening group members to each of the radio programme.
- (c) To assess whether there are any initiatives by listening group members to share with other community members, key lessons they have learned through radio programmes. Sharing can be through different village/ward platforms such as village meetings, MJUMITA and MVIWATA network meetings etc.
- (d) To assess whether there are any initiatives by group members to advocate for the changes of policies and plans at village/ward level to integrate key issues that they have learned through radio programmes and has positive effects to their life, an example here could be like kind of agriculture practices that they learned through radio programmes and tried them and had proved success.
- (e) To identify obstacles, if any, whether caused by project or within community members that hinder community members responding to issues they are learning from radio programmes and provide practical recommendations to address them.

1.5 Structure of the Report

This report is organised into five main sections. The first section, which is proceeding, presents background and objectives of the assignment. The second section covers approach and methodological issues employed by the consultancy team in addressing the assignment objectives. Section three presents findings of the study. Section four presents conclusion and recommendations for advocacy whereas the last section entails appendices. The subsections in the report are arranged in a manner that reflects the chronological arrangement as required in the ToR.

1.6 Limitations:

The resources in terms of time and finance available for conducting the research were limited. Because of the resource constraints the methodology was to be confined to discussion with few selected key informants at all 3 villages as well as in person and telephone interview with CCAP project field officers. Despite these limitations, the assignment generally was accomplished successfully. The report has been compressive enough to provide an over view of how the radio programmes has raised community members awareness on climate change adaptation and or mitigation.

2.0 METHODOLOGY

The consultant adhered to the methodology proposed in the ToRs commensurate to the time and other resources available for this assignment. After inception discussion between the consultant and client, field visits were made to Kilosa and Chamwino districts to collect information on impact of radio program to 3 listening groups in CCAP project villages. The selection of these villages was based on the 3 listening groups established by BBC- Media Action in collaboration with the CCAP partners in the aforementioned villages. Interview and discussions were held with key informants in all 3 villages. This was complemented by secondary data gathered from different sources including reviewing of radio programmes shared with different listening groups in the CCAP project villages in order to capture an insight of what farmers have been learning and apply to the daily livelihoods. A list of people and institutions contacted in the field is appended on this report as Appendix 2. The data collection exercise was followed by synthesis of data collected to create information out of it, organizing and producing this report.

SN	Village	Number of Respondents
1	Ibingu	17
2	Kisongwe	17
3	Manchali	14
	Total	47

Fig 1: Table shows number of participants participated in FGD and key informant interview.

3.0 FINDINGS

3.1 Radio Programmes delivered in both villages:

Based on the survey conducted in all 3 radio listening groups of CCAP project, 21 radio programmes featuring different contents have been delivered in all villages surveyed. Both Ibingu and Kisongwe villages are leading in listening large number of the radio programs compared to Manchali village where only one radio program has been delivered (see table 2 below). According to the members of the radio listening groups in both villages, they have their time table where they meet once per week to listen and discuss different contents of the radio programmes. Their discussion are focusing on how they could transform the knowledge they accrued from the radio programmes into practices. Much of the improvements have been observed in all villages (details are explained in the coming sessions). Delaying to deliver the memory cards on time and fairly poor supervision of the programme has been one of the major challenges in Manchali village. Nevertheless the findings of this study showed that listeners were taking action as a result of listening to these shows especially in Ibingu and Kisongwe villages. The show has also inspired people to demand more support from the government and other actors to improve people's resilience to climate change. Furthermore it has made the farmers to learn more about these impacts and share their experiences of responding to them within and outside the villages. Continuing support this groups in near future will bear fruitful results as the means of coping or reducing associated risks of climate change in both villages surveyed.

SN	Radio programme	Ibingu	Kisongwe	Manchali
1	Early planting:	√	√	
2	Planting by spacing	√	√	
3	Minimum tillage and agro-forestry	√	√	
4	Farm yard manure preparation	√	√	
5	Composite manure preparation	√	√	
6	Fish farming	√	√	
7	Intercropping	√	√	
8	Community saving schemes	√	√	
9	Use of drought resistant crops.	√	√	
10	Use of early maturing varieties with high value (high value crops).	√	√	
11	Poultry farming	√	√	
12	Raffia weaving		√	
13	Preparation of the vegetable gardens	√	√	
14	Food storage		√	
15	Handmade pots.		√	
16	Agricultural Market information		√	
17	Beekeeping			√
18	Contour terracing	√	√	
19	Downhill and uphill trenches	√	√	
20	Crop cover	√	√	
21	Crop rotation	√	√	

Fig 2: Table shows different radio programmes delivered in both villages.

3.2 Farmers' Understanding of the Climate Change Phenomenon:

This study sought to elicit the understanding of the farmers on climate change. Farmers (radio listening groups) were asked to indicate their understanding of the phenomenon. Curiously, half of respondents reported that they understood climate change as “change in weather”. This observation is probably representative of the most basic understanding of the term “climate change”. Others especially from Ibingu and Kisongwe villages related climate change to “poor yield”. Some farmers understood climate change as “heavy rainfall” while others regarded climate change as “excessive sunshine”. Descriptive analysis shows that most of the respondents from Manchali village perceived it as “increased incidence of drought” while the rest understood climate change to mean “high wind and heat waves” which in turn lead to shortage of water and crop failure/poor yield in their area. Also the term climate change has been linked with the ongoing deforestation and clearance of the forest areas for agricultural fields in both Kisongwe and Ibingu villages which has the effect to the many livelihoods options in their villages.

3.3 Level of awareness on issues of climate change adaptation and mitigation:

Level of awareness of climate change adaptation and mitigation is related to availability and accessibility of information on the climate change phenomenon. It is clear evident that radio programmes have been one of the major source of information on the climate change phenomenon in both villages surveyed and has been changed with time. Results of the Focus Group Discussions (FGD's) indicate that the level of awareness of local communities of climate change impacts is relatively high in all 3 villages surveyed. Nearly 78% (Kisongwe), 70% (Ibingu) and 62% (Manchali) of respondents know about climate change and its impacts. Specifically, it was found that 80 % (Ibingu), 70% (Kisongwe) and 30% (Manchali) of respondents indicated that they know about mechanisms of responding to the consequences of climate change while remained respondents stated that they do not know about anything about climate change adaptation and mitigation.

Both Ibingu and Kisongwe villages are more familiar with the climate change impacts and already there are underway efforts initiated as the coping mechanisms with the climate change consequences in their area. Apart from CCAP initiative, such higher level of awareness has been much attributed with REDD project where communities have been trained in different agricultural activities which are in line with the mechanisms of responding to the consequences of climate change. In Manchali village CCAP project has imparted more knowledge and raise awareness to the communities on climate change mitigation and adaptation options, though practice of those options is at very minimal scale and outputs have not been much realized comparable to other villages where CCAP project is implemented.

Following launching of the BBC- climate resilient project which initiate formation of the 3 radio listening has coupled the level of awareness of communities on climate change adaptation and mitigation in both CCAP project villages. The awareness creation, sensitization, support to group formation (listening groups), and training has definitely given the community members greater confidence in their ability to successfully undertake action (s) related to climate change adaptation and mitigation. According to some members of community (Ibingu village), the village has moved from “darkness to light”. Before inauguration of the radio listening group people did not believe they could change the circumstances of their lives so profoundly especially on the agriculture which is the main economic activity.

After adoption of some agricultural adaptation innovations, production has and is expected to increase profoundly. Those innovations include; using of composite manure, farm yard manure, planting by spacing, contour farming and low tillage. When probed further on the sources of these innovative strategies for climate change adaptation, some of them remarked that “we learn the practices from the contents of the radio programme, trainings we have received from CCAP project plus the indigenous knowledge we have”. Some of them further opined that “these measures have served us well in water and soil conservation and management”. Although the farmers acknowledged that “there is an urgent need for them to be equipped with further knowledge on how to adapt and mitigate the risks of climate change especially on agricultural sector which is the main source of their income.

3.4 Changes on the practices of the members of listening groups:

Following establishment of radio listening groups, already there are progressive initiatives established by farmers to practice different activities which are related to the climate change adaptation and mitigation options in their areas. Key practices the communities were found to use to deal with climate adaptation and mitigation are more closed to agriculture and other and other livelihood support activities. These practices include the following;

SN	Practices	Kisongwe	Ibingu	Manchali	Comments
1	Early planting	√	√	√	Excellent
2	Planting by spacing	√	√	√	Excellent
3	Minimum tillage and agro-forestry	√	√		Excellent
4	Farm yard manure preparation.	√	√		Excellent
5	Composite manure preparation.	√	√		Excellent
6	Fish farming.	√			Fairly (need more trainings)

7	Community saving schemes.	√	√	√	Very Good
8	Use of drought resistant crops.			√	Good
9	Poultry farming.	√	√	√	Very Good
10	Raffia weaving.	√			Good
11	Crop rotation	√	√	√	Good
12	Preparation of the vegetable gardens.	√	√		Good
13	Food storage.	√	√	√	Fairly
14	Handmade pots.	√			Fairly
15	Contour terracing.	√	√		Good
16	Downhill and uphill trenches	√	√	√	Very Good

Fig 3: Table shows different practices adopted in both villages

Interviewing some members of the radio listening groups of Ibingu and Kisongwe villages, were complaining that their agricultural production have been dwindling as the result of decreasing of soil fertility and recurrent drought happening in their areas. But through the radio programmes they have been able to adopt and use several agricultural practices which in turn have and are still expecting to increase their agricultural yields. "After starting using composite and farm yard manure production of Maize have been increasing profoundly from 4 bags to 8 bags per acre- said one of the farmer in Ibingu village". Furthermore the women radio listening group at Kisongwe villages are proud of the community saving schemes radio programmes, as it has been stimulating more women to join the loan and saving schemes groups in the village. "The number of loan and saving schemes groups has been increasing twofold in Kisongwe villages"-said the chairman of the women radio listening groups. One woman from Kisongwe village said the programmes had given her valuable advice: "I have been able to learn what to cultivate when there is scant rainfall," she said. "And what to cultivate when the rains are heavy." Also the programmes have been inspired people to demand more support from the government to support agricultural conservation activities in their areas. Also the number of the vegetable gardens has been increasing in both Kisongwe and Ibingu villages, this has attracted many villagers to establish their own gardens to cultivate high value crops which have the huge market in Kilosa town.

However, these practices are varying from one village to another where they are highly practiced in both Ibingu and Kisongwe villages and less practiced in Manchali village. Both in Ibingu and Kisongwe village's communities are aware of the importance these innovations and have realized the need of resilience impacts of climate change in the area. Also good supervision of CCAP project in these two villages has a greatly impact to the performance of the radio listening groups comparable to the Manchali village where it seems to have fairly poor supervision and neglecting of the radio listening group. The case of Manchali village has to be taken into serious consideration as will help to make the group active and participate in the climate change adaptation and mitigation activities. Also there are others radio listening programmes which are not yet practiced or practiced at very low scale despite the fact that has huge potential toward resilience of climate change impacts. These practices including beekeeping, fish farming, zero grazing, farming drip irrigation and etc. Based on the definition of climate change, community-based climate change adaptation and mitigation, CCAP baseline study, consultant

own observations and interview results, we can convincingly state that the contents of the radio programmes addresses climate change challenges, and is based on the needs and priorities of the community. However there is an urgent need to review them accordingly and see the better options which could add value to the existing indigenous mechanisms to cope with climate change impacts.

3.5 Initiatives of sharing the best practices:

Some of the climate change adaptation and mitigation mechanisms/ innovations adopted from radio programmes have been shared within and outside the village; however they are still spreading at very small pace, partly because it is still early for some of them to show undisputed and conclusive results. With results of the agricultural innovations a lot has been realized: farmers have indicated that there have been a good number of improved varieties of maize and beans yield and preparation of the composite and farm yard manure in the village. This has been noted even in the neighbouring villages like Lunenzi and Idole villages which are closed to Ibingu village. In addition poultry farming has been increasing in both Ibingu and Kisongwe villages which have attracted other farmers from neighbouring villages to participate in such activity. Apart from convening group meetings every week, most of these practices have been shared to other community members during the village assembly meetings as well as local area environmental networks meetings conducted by MJUMITA and MVIWATA in the villages. Also farmers have developed a tendency to visiting each other to exchange knowledge and learn the better practices. Group members have developed a routine to visit other households to educate them about the best practices which could be done to adapt and mitigate consequences of climate change. In line with all those also district officials from Kilosa district have been taking part of the programme by encouraging many farmers to be involved in such initiative. For instance District Commissioner of Kilosa district has visited Kisongwe village and record some programmes together with farmers which encouraging farmers to use important climate related agricultural innovations.

3.6 Practices which have proved success:

Amongst all practices enshrined in both villages; farm yard and composite manure preparation, early planting, plating by spacing, preparation of the vegetables gardens, minimum tillage and downhill and uphill trenches have been proving success in some of the villages i.e. Kisongwe and Ibingu villages. A quiet large number of communities have adopted these techniques and already their robust results have been started to be realized. As the result of these techniques agriculture yields have increased two fold in both villages. Nevertheless establishment of the village saving loan associations have been increased in both villages as the result of the knowledge accrued from the radio programmes. These have attracted more women to join the group hence improving the livelihood at the family level whereas women are more responsible to the domestic chores at the family level.

3.7 Lessons Learned and Challenges:

There are several lessons learned and challenges encountered from this initiative of radio programme in both villages surveyed. Therefore in this session consultant summarises the lessons learned and challenges encountered during the study;

1. Lessons Learned:

- (a) The power of the mass media to bring about behavioural change cannot be underestimated. Apart from trainings received from CCAP and REDD projects, farmers indicated that radio programmes were their other main sources of climate change information. Policy makers could tap into the vast potential of the media to disseminate climate change information and create more awareness about causes, and consequences of climate change as well as strategies for climate change adaptation and mitigation starting from village to ward level in both Kilosa and Chamwino districts.
- (b) There is higher number of farmers who are currently applying agriculture practices in their farm as the result of the knowledge accrued from the radio programmes. Specifically in this study the downhill and uphill trenches, contour terracing, preparation of farmyard manure, use of composite manure, cultivation of the vegetable gardens, saving schemes and crop rotation have been highly practiced in both villages of Kilosa district (Ibingu and Kisongwe villages).
- (c) More importantly, the observed adaptive measures are indigenous to the farmers. For example preparation of the farm yard manure has been practiced and has great potential towards increasing agricultural yield in the both villages surveyed. This means that media (BBC Media Action partners), have something to learn from the study area farmers and could assist in diffusing the innovations for widespread adoption in other communities as well as designing programmes which could add value to the existing indigenous innovation and being relevant to both areas.
- (d) The identified indigenous adaptive strategies have Science, Technology and Innovation (STI) policy relevance as such practices of the farmers could help in implementation of the current National Climate Change Strategy.
- (e) Climate change is a real threat to lives and livelihoods in both districts. Then there is need for more robust collaboration among stakeholders for evolving innovative approaches and adaptive measures ranging from local to the district level where capacity building and raising community awareness should be the corner stone of the approaches.
- (f) Most of the best practices adopted are much restricted only to the members of the listeners group in both villages surveyed. Then, urgent need required ensuring widely spread of those innovations to many areas as possible; this could be achieved through the platform of MJUMITA and MVIWATA.
- (g) Transformation of some of the innovations into practices is somehow challenging as it requires more support to the communities in terms of technical and financial support e.g. Fish farming and Beekeeping, however community have their own self initiatives to start those innovation though still requiring further support.
- (h) In addition, communicating research findings to the communities in both districts is imperative in building resilient adaptation to climate change impacts.

Challenges:

- (a) The wider nature of the CCAP project area poses the challenge of effective coordination of activities. Facilitators who serve as liaisons between BBC-Media Action, CCAP field staffs and community members have little communication to ensure timely receiving of the new radio programmes, monitoring and close follow up of the programme.
- (b) There is no clear means of communication to ensure provision of feedback between the communities and the CCAP partners for further reviewing and improvement of the radio programmes. This has completely led to the failure of communities to provide their views and concern regarding to the radio programmes they have received.
- (c) Having review of the radio programmes, most of the climate change information's are somehow in technical language that is hard to understand or translate into interesting stories and local languages hence hard to understand to some of the local communities.
- (d) Poor supervision and irregular monitoring has lead too poor performance of the Manchalis's group. Since its establishment they have listened only one radio programme on beekeeping activity and being visited once after training.
- (e) Delaying delivering of the radio programmes on time has been serious problems especially to Manchali village who have only received a single radio program of beekeeping activities since December 2013.
- (f) Also communities are complaining about the voice of some of the radio programmes are not audible of which has lead to unclear understanding to the most of the communities.
- (g) Adoption of some of the agricultural innovations e.g. the use of composite manure have been not so easily to some villages especially Kisongwe and Ibingu who primarily are not livestock keepers. So it has been a challenge for them to get enough composite manure for their farming activities.

4 IMPLICATIONS OF FINDINGS AND RECOMMENDATIONS

The consultant was requested to identify obstacles (challenges), if any, whether caused by project or within community members that hinder community members responding to issues they are learning

from radio programmes and provide practical recommendations to address them. In spite of the fact that BBC Media Action in partnership with CCAP initiative has made attempts at creating awareness of climate change and its impacts in both Kilosa and Chamwino districts, still there are some challenges encountered during the survey. Therefore consultant proposed the following practical recommendations to address the challenges mentioned in the above session.

- (a) BBC-Media Action in collaboration with other stakeholders in CCAP should come up with a comprehensive strategy for enhancement the involvement of more community members in the listeners groups so as to spread the information widely.

- (b) Regular feedback from the radio listening groups is essential in order to identify listeners' preferences. This will help to review the content of the radio programs regularly to suit with the demand which will be in line with climate change adaptation and mitigation options.
- (c) Apart from improving their daily livelihoods income, poultry farming should be insisted to be practiced in the modern way at both villages in order to collect more composite manure to be used for other farming activities.
- (d) Although developing translations for technical climate change terms into Swahili is very crucial, there are so many technical terms which are likely to be impractical. More promising is to use local examples of environmental problems to illustrate climate change (e.g. tree cutting, droughts) for which local terms already exist to get message across.
- (e) The messages from the radio programmes must strike a balance between utilising the power of indigenous beliefs, and integrating scientific knowledge in order to make easy diffusion of information to the community hence easy adoption and transformation into practices.
- (f) Climate change represents a significant challenge to indigenous ways of understanding the weather and farming – and so people must be supported with additional knowledge and information wherever possible, including the improved dissemination of meteorological information through local radio stations.
- (g) There is the need to re-organize and strengthen the listeners groups by considering gender equity, involvement of the village leaders and marginalized groups who could easily spread the message to the rest of the society in the villages.
- (h) There is an urgent need for the listeners groups to be provided with more than one memory cards of which could be easily for them to continue smoothly and shorten the period of waiting exchanging of information on the memory card.
- (i) Regular and close follow up should be done to assess the progress of the listeners groups. This would help to identify any obstacles on time and provide immediate solutions.
- (j) As a part of sustainability listeners groups must also be trained on how to exchange information in the memory cards, as most of them were worried about the fate of the program after phasing out of the project.
- (k) Apart from learning through radio programme, it is imperative also for the community to learn all those innovations practically of which could stimulate their adoption rate as well as improving their practices. This could done via field visit trainings especially to the areas where there are best practices or TV broadcasting.
- (l) Furthermore practical trainings (learn by doing) are required for more capacity building in order to supplementing more knowledge to the existing one acquired through radio programmes.
- (m) Also further radio programmes which featured different climate change adaptation and mitigation innovations are still required by the farmers. E.g. improved livestock keeping, harnessing of both rainfall and underground water and cultivation of high value crops.

REFERENCES

- Agrawal, A., & Perrin, N. (2009). Climate adaptation, local institutions and rural livelihoods. In W. N. Adger, I. Lorenzoni, & K. O'Brien (Eds.), *Adapting to climate change: Thresholds, values, governance* (pp. 350–367). Cambridge, UK: Cambridge University Press.
- Berkes, F., Colding, J., & Folke, C. (2000). Rediscovery of traditional ecological knowledge as adaptive management. *Ecological Applications*, 10(5), 1251–1262.
- Ensor, J., & Berger, R. (2009). Community-based adaptation and culture in theory and practice. In W. N. Adger, I. Lorenzoni, & K. O'Brien (Eds.), *Adapting to climate change: Thresholds, values, governance* (pp. 227–239). Cambridge, UK: Cambridge University Press.
- IPCC. (2007). Summary for policymakers. In M. L. Parry, O. F. Canziani, J. P. Palutikof, P. J. van der Linden, & C. E. Hanson, (Eds.), *Climate change 2007: Impacts, adaptation and vulnerability. Contribution of working group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 7–22). Cambridge, UK: Cambridge University Press.
- Nambiza, W (2013). Baseline study for the Climate Change, Agriculture and Poverty Alleviation (CCAP) Final Report April 2013 submitted to the CCAP project.
- URT (2006). National Adaptation Programme of Action (NAPA) for Tanzania. Dar es Salaam: Division of Environment-DOE.

APPENDICES

Appendix 1: Climate Change, Agriculture and Poverty Alleviation Project (CCAP)

TERMS OF REFERENCE FOR ASSESSING IMPACT OF RADIO PROGRAMMES

Date: 10th June 2014

1. Project Summary

1.1 Project Partners and duration:

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 (CCAP) initiative is a partnership between five civil society organisations with a commitment to improving accountability and with specific experience in agriculture (ActionAid Tanzania and the 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 aims to 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.

1.2 Project Goal, Objectives and Outputs

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.

The immediate objectives of the CCAP initiatives are: Small-scale farmers and other stakeholders are demanding the integration of climate-friendly agriculture in national policy and policy implementation. Government, private sector and civil society are cooperating to support small-scale farmers to benefit from low GHG emission agriculture that is more climate resilient. Project Outputs

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

Output 2: Information and analysis on the interface between small-scale agriculture and climate change adaptation and mitigation that draws on research from within and beyond Tanzania, is documented and distributed.

Output 3: Small-scale farmers in two 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 4: Elected representatives express support for small-scale climate smart agriculture and use their influence to direct support to small-scale farmers to implement climate change adaptation and mitigation strategies. 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.).

2. About Radio Listening Groups:

In 2013, BBC media through its radio for climate resilient project established a partnership with several NGOs including CCAP partners and several local radio stations around Morogoro and Dodoma region. The objective is to raise community member's awareness through radio programmes on how they can adapt and/or mitigate effects of climate change. CCAP partners have established 3 listening groups, two in Kilosa at Kisongwe and Ibingu villages and one listening group in Chamwino at Manchali village. The groups are made up of 36 members in total. To date, listening groups at Manchali and Kisongwe have listened over 12 different radio programmes while the group at Ibingu which was established four months ago have listened at least 8 different radio programmes. The contents of the radio programmes varied from agricultural interventions, environmental conservation and other economic activities common in most parts of rural areas such as poultry farming.

3. Scope of the assessment of the impact of radio programmes to the listening groups:

3.1 Overall Objectives and approach of undertaking this assignment:

The overall objective of this assignment is to assess impact of the radio programmes to 3 listening groups in CCAP project villages.

Specifically the consultant will assess any changes of behaviour and attitude of listening group members by:

- (i) Assessing any changes on the level of awareness on issues of climate change and climate change adaptation and mitigation as the result of the radio programmes.
- (ii) Assessing any changes on the practices of the members of listening groups as the result of radio programmes, from their traditional practices that put them more prone to the effects of climate change to more climate resilient practices. This can be achieved through reviewing radio programmes and establish the response of the listening group members to each of the radio programme.
- (iii) Assessing whether there are any initiatives by listening group members to share with other community members, key lessons they have learned through radio programmes. Sharing can be through different village/ward platforms such as village meetings, MJUMITA and MVIWATA network meetings etc.
- (iv) Assessing whether there are any initiatives by group members to advocate for the changes of policies and plans at village/ward level to integrate key issues that they have learned through radio programmes and has positive effects to their life, an example here could be like kind of agriculture practices that they learned through radio programmes and tried them and had proved success.
- (v) Identifying obstacles, if any, whether caused by project or within community members that hinder community members responding to issues they are learning from radio programmes and provide practical recommendations to address them.

4. Methodology

The Team is expected to propose an acceptable, efficient and cost effective methodology for executing the assignment; and undertake a participatory consultation with all relevant stakeholders when executing the assignment. The consultants shall undertake, but not be limited to, the following activities in order to reach the main objectives of the assignment:

- (i) Review radio programmes shared with different listening groups in the CCAP project villages.
- (ii) Collect and synthesize inputs by consulting listening groups and project field officers working with groups (e.g. in-person, field visits).
- (iii) Prepare draft and final reports, incorporating feedback comments from CCAP Project Partners.
- (iv) Submit the final report (accepted by TFCG) to TFCG.

5. Outputs of this consultancy:

Report The consultant shall provide a report. This will provide detailed information of the specific evaluation objectives described above. Sections that this report will include are:

- (i) Executive Summary
- (ii) Acronyms
- (iii) Acknowledgements
- (iv) Introduction and background
- (v) Methodology and limitations
- (vi) Results, covering each specific objective.
- (vii) Conclusions and recommendations
- (viii) Annexes (Terms of Reference, Itinerary, Persons Interviewed).

All reports should be delivered in English and submitted in both soft and hard copy (3 copies) formats.

6. Location

Data collection will take place in Chamwino and Kilosa Districts.

7. Timing

This work is due to be completed within two weeks time from the date the contract is signed.

8. Qualities of the consultant required and how to apply

This assignment requires a person with good experience in areas of Agriculture, natural resources management and climate change. Knowledge on communication especially through radio programmes will be an added advantage. TFCG invites eligible consultants to submit technical and financial proposals to undertake this work. Technical and financial proposals should be sent to tfcg@tfcg.or.tz indicating 'Proposal – Assessing impact of radio programmes' in the subject line and should be addressed to Executive Director, Tanzania Forest Conservation Group, PO Box 23410, Dar es Salaam. Proposals should include the CVs for the proposed Consultancy Team. The closing time for receipt of applications is 15th June 2014 at 1700 local time in Tanzania.

Appendix 2: Names of people and contacted for information

SN	FULL NAME	VILLAGE	GENDER	POSITION	TELEPHONE
1	Patrick M. Mkunda	Ibingu	Me	Kikundi cha Radio	0684828086
2	Vistino Azani	Ibingu	Me	Kikundi cha Radio	-
3	Paschali Mwangura	Ibingu	Me	Kikundi cha Radio	-
4	Evelina Bernadi	Ibingu	Ke	Kikundi cha Radio	-
5	Sophia Paskari	Ibingu	Ke	Kikundi cha Radio	-
6	Monika Msavi	Ibingu	Ke	Kikundi cha Radio	-
7	Suzana Yohana	Ibingu	Ke	Kikundi cha Radio	-
8	Bakina Paskali	Ibingu	Ke	Kikundi cha Radio	-
9	Bakari R. Bunga	Ibingu	Me	VEO	0786010918
10	Patrick Yohana	Ibingu	Me	Kikundi cha Radio	0788951254
11	Damasi Msavi	Ibingu	Me	M/Kiti Kijiji	0688677086
12	Lustik B. Furahisha	Ibingu	Me	Kikundi cha Radio	-
13	Anjelina Adliani	Ibingu	Ke	Kikundi cha Radio	-
14	Anselimu Peter	Ibingu	Me	Mwanachi Kawaida	-
15	Joseph Masaga	Ibingu	Me	Mwanachi Kawaida	-
16	Kaundime Bakari	Ibingu	Ke	Mwanachi Kawaida	-
17	Teresia Malobela	Ibingu	Ke	Mwanachi Kawaida	-
18	Triphonia Pius	Kisongwe	Ke	Kikundi cha Radio	-
19	Elis Richard	Kisongwe	Ke	Kikundi cha Radio	-
20	Gaudiosa Herman	Kisongwe	Ke	Kikundi cha Radio	-
21	Renatha Joakim	Kisongwe	Ke	Kikundi cha Radio	-
22	Jenifa Rafaeri	Kisongwe	Ke	Kikundi cha Radio	-
23	Raurentina Francis	Kisongwe	Ke	Kikundi cha Radio	-
24	Honolina Daniel	Kisongwe	Ke	Kikundi cha Radio	-
25	Asteria Wiliamu	Kisongwe	Ke	Kikundi cha Radio	-

26	Suzana Nicola	Kisongwe	Ke	Kikundi cha Radio	-
27	Teresia France	Kisongwe	Ke	Kikundi cha Radio	-
28	Tasiana F. Msemwa	Kisongwe	Ke	Kikundi cha Radio	-
29	Leonia Benedict	Kisongwe	Ke	Kikundi cha Radio	-
30	Laurian Mkuchu	Kisongwe	Me	M/Kiti Kijiji	0786768650
31	Severin Peter	Kisongwe	Me	Mwanachi Kawaida	-
32	Maria Amosi	Kisongwe	Ke	Mwanachi kawaida	-
33	Fredrick Joshua	Kisongwe	Me	Mwanachi Kawaida	-
34	Legonda D. Nhembo	Manchali	Me	Kikundi cha Radio	0765682788
35	Alexander Chisaluni	Manchali	Me	Kikundi cha Radio	0754495048
36	Charles S. Msakazi	Manchali	Me	Kikundi cha Radio	0764118494
37	Samweli Chinugula	Manchali	Me	Kikundi cha Radio	
38	Saimoni Manyangala	Manchali	Me	Kikundi cha Radio	0759340697
39	Belita Magawa	Manchali	Ke	Kikundi cha Radio	0753155065
40	Moleni Mlewa	Manchali	Me	Kikundi cha Radio	0752905151
41	Sophia Sanja	Manchali	Ke	Kikundi cha Radio	0758577731
42	Foibe Ndaliko	Manchali	Ke	Kikundi cha Radio	0754767640
43	Telfena Kabia	Manchali	Ke	Kikundi cha Radio	0766823302
44	Stivin Andrea	Manchali	Me	Kikundi cha Radio	
45	Anthony Magubike	Manchali	Me	Kikundi cha Radio	
46	Leah Chisaluni	Manchali	Me	Kikundi cha Radio	
47	Simon Mwamba	Manchali	Me	Kikundi cha Radio	-