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**Village Baseline Study:
Site Analysis Report for Chicualacuala,
Maluana, Mozambique (MO0145)**

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The tools and guidelines used for implementation of the village baseline study across all CCAFS sites, as well as the mapping outputs at a higher resolution can be accessed on our website (<http://ccaafs.cgiar.org/resources/baseline-surveys>).

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Abstract

This is the report of the village baseline study of Maluana village in the CCAFS benchmark site of Chicualacuala, Mozambique from May 5-12, 2013 to complement an earlier household baseline survey done in the same village.

Maluana is in a relatively isolated area two hours walk from the main market of Mapai and in a region lacking paved roads and communications. Its wooded grasslands and naturally occurring ponds are strained due to economic exploitation and limited water resources. Charcoal production, subsistence farming and animal husbandry are the dominant sources of livelihoods but offer little returns. The village faces challenges from lack of sufficient rainfall, poor water quality, marginal soils, limited market access, deforestation, and low access to social services. The main crop produced is sorghum and other crops include maize, cowpeas, pumpkins, cashew nuts and watermelon. Agricultural potential of the land is low, and as a result there is low agricultural productivity and the community is unable to meet its food security needs.

A total of 17 organisations were identified by the community; seven by women and 10 by men. Out of the 17 organisations identified 41% operate in the community, 18% in the locality and 41% beyond the locality. Among the organizations food security was addressed by 53% and natural resources by 47%. Women reported most of the food security groups operate within the village, which indicates food security is a concern in the community and particularly among the women. Findings show the domination of vertical organizational linkages and limited local initiative, weak presence of civil society and a strong government presence. Organizations best placed to mobilize the village are identified among local administrative and community groups given perceived authority and legitimacy, however increases in horizontal linkages and capacity development are needed. Given a current lack of funding linkages, external organizations are best placed to mobilize these resources.

Maluana's isolation and community organizations impact its information network. Communication was reported as poor and villagers felt marginalized. Cell phones with radio capability are owned by most people and are the main source of information. With limited transport opportunities and poor infrastructure some information is exchanged informally at markets and by word of mouth. Information also comes from the 17 organizations identified, including community groups, NGOs and public agencies. Government information flows from Mapai to the village level while other organizations engage throughout the network to provide services and information.

The study identified a range of opportunities for research and development interventions given Maluana's food security and natural resource management challenges. Alternative livelihoods, agriculture diversification and livestock promotion are suggested as a means to reduce environmental stresses and increase food security and income generation. The introduction of more drought resistant crop varieties as well as soil management practices can be promoted to improve agricultural output. Findings also support sustainable forest management to protect the forest from overexploitation as well as the development of water resources such as wells and rainwater harvesting. In addition, improvements in social services and infrastructure are cited as key for increased village stability and prosperity. It is suggested that the well-connected local administration and local groups are engaged at the village level to help mobilize the community. Capacity building can also be used to address gaps in the organizational landscape, encourage linkages between organizations, and promote collective action among community members.

Keywords

Baseline; Mozambique; village study; participatory mapping; organisations; access to information

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Contents

Abstract.....	3
Keywords.....	3
About the Authors.....	4
Contents	5
Introduction.....	6
Data analysis	9
Topic 1: Community resources – participatory satellite imagery interpretation and visioning.....	9
A. Current resources.....	9
B. Gender-differentiated comparison of current conditions.....	15
C. Major changes of resource conditions	15
D. Vision of the future.....	18
Topic 2: Organisational landscapes	19
A. Basic spheres of operation.....	19
B. Organisational landscape of food security.....	23
C. Organisational landscape of natural resource management.....	24
Topic 3: Information networks	27
Conclusion and recommendations	27
Implications for CCAFS.....	28
Recommendations for major opportunities	29

Introduction

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a strategic partnership between the CGIAR and Future Earth to help the developing world overcome the threats posed by a changing climate, achieve food security, enhance livelihoods and improve environmental management. In 2010, CCAFS embarked on a major baseline effort at household, village and organisation levels across its three target regions, namely East Africa, West Africa and South Asia (more information about CCAFS sites is available on our website <http://ccafs.cgiar.org/where-we-work>). CCAFS trained survey teams from partner organisations in the three regions to conduct the baseline.

The baseline effort consists of three components – a household survey, village study and organisational survey. The household baseline survey, a quantitative questionnaire on basic indicators of welfare, information sources, livelihood/agriculture/natural resource management strategies, needs and uses of climate and agricultural-related information and current risk management, mitigation and adaptation practices, was implemented by CCAFS partners in 35 sites (245 villages) with nearly 5,000 households in 12 countries to date. CCAFS partners implemented village baseline studies (VBS) and organisational surveys in one out of the seven villages within each CCAFS site where the household survey was implemented. The plan is to revisit these villages in roughly 5 years, and again in 10 years, to monitor what changes have occurred since the baseline was carried out. The goal is not to attribute these changes to the program, but to be able to assess what kinds of changes have occurred and whether these changes are helping villages adapt to, and mitigate, climate change.

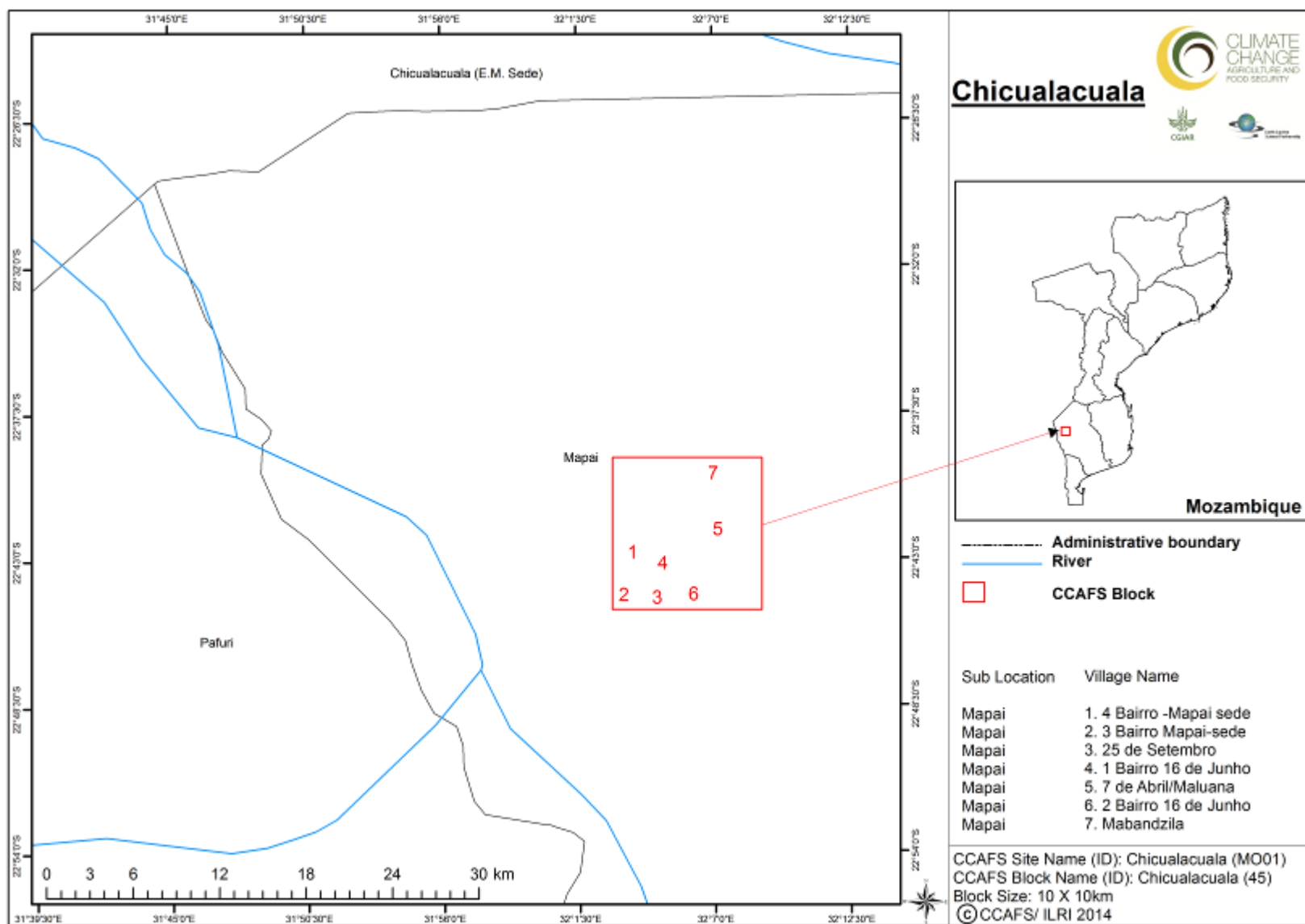
The focus of this site analysis report is the VBS. To date, seventeen VBS have been conducted. The VBS aims to provide baseline information at the village level about some basic indicators of natural resource utilisation, organisational landscapes, information networks for weather and agricultural information, as well as mitigation baseline information, which can be compared across sites and monitored over time.

The objectives of the VBS are to:

- Provide indicators to allow us to monitor changes in these villages over time. In particular, changes that allow people to
 - Manage current climate risks,
 - Adapt to long-run climate change, and
 - Reduce/mitigate greenhouse gas emissions
- Understand the enabling environment that mediates certain practices and behaviours and creates constraints and opportunities (policies, institutions, infrastructure, information and services) for communities to respond to change
- Explore social differentiation:
 - Perceptions of women and men will be gathered separately to be able to present different gender perspectives.
 - Focus group participants will be selected to present perceptions of groups differentiated by age.

The detailed tools and guidelines used for the implementation of the VBS across all CCAFS sites, as well as the manuals, data and analysis reports can be accessed on our website (<http://ccafs.cgiar.org/resources/baseline-surveys>).

Map 1. Location of the Maluana village in the CCAFS benchmark Chicualacuala site, Mozambique



This report presents the results of the VBS conducted on May 5-12, 2013 in the village of Muluana, Mozambique (Chicualacuala site) (Map 1). Maluana village also goes by the name 7 Abril (seventh April). It was chosen for the village baseline study because of its relative central location in the block. The study team was composed of two facilitators, two note takers and two translators. Each pair was male and female. Consultations were made with the village authorities concerning time and place of meeting. They selected 7 Abril Center as an appropriate venue.

Invitations were sent out by the site team leader to three sets of participants who were chosen using random sampling. Each group was composed of 15 men and 15 women. Three consecutive days were selected for the study and on each day only one set of participants was expected to participate in the study. The whole community was invited on the first day of the exercise for an introductory session where this study was explained and results of an earlier household survey shared. After the introductory session the rest of the community was set free and only the invited group of 15 men and 15 women remained behind to carry on with the study. This was repeated at the end of the third day when the study was completed. The whole community was again invited to attend a debriefing session where summaries of the findings were shared.

The study used participatory methods of data collection. Throughout the data collection process groups of male and female members of the community worked separately. This was to allow for collection of gender-differentiated information.

The task on day one was to introduce the community group to a satellite image of the area and work with each group to identify and map/sketch resources that are important to the community, their current state, their past state and what caused the changes. The outputs were maps and sketches. The process of working with the community to identify the resources that are important to them depended entirely on how well they were able to understand and interpret the image.

The task on day two was to work with each group to understand the organisational landscape and the links that exist between the organisations in relation to food security in a normal year, in a year of crisis and in relation to natural resource management. The outputs were diagrams showing the organisational landscape. Information on each organisation was also captured cards. The links between the organisations were shown using lines and arrows on the diagrams.

There were two main tasks on day three. One was to work with each group on understanding information networks in relation to weather elements and farming activities. The outputs were diagrams. The second task was to bring the two groups together and generate a vision of what the community would like their village to be like in the future. The output was a map/sketch showing “the vision of the community.”

Information generated from the study was captured on sketches, maps, flip charts, information cards and notes, which were brought together in an initial debriefing document and ultimately this final report. Photographs were also taken of all the activities and information generated at each stage. The study materials were then labelled and packed for off-site processing. The debriefing report was prepared in the field so that it could benefit from the presence of the site team. The photographed sketches and maps were inserted in the debriefing report. In this site analysis report proper maps and diagrams derived from the field outputs replace them.

Data analysis

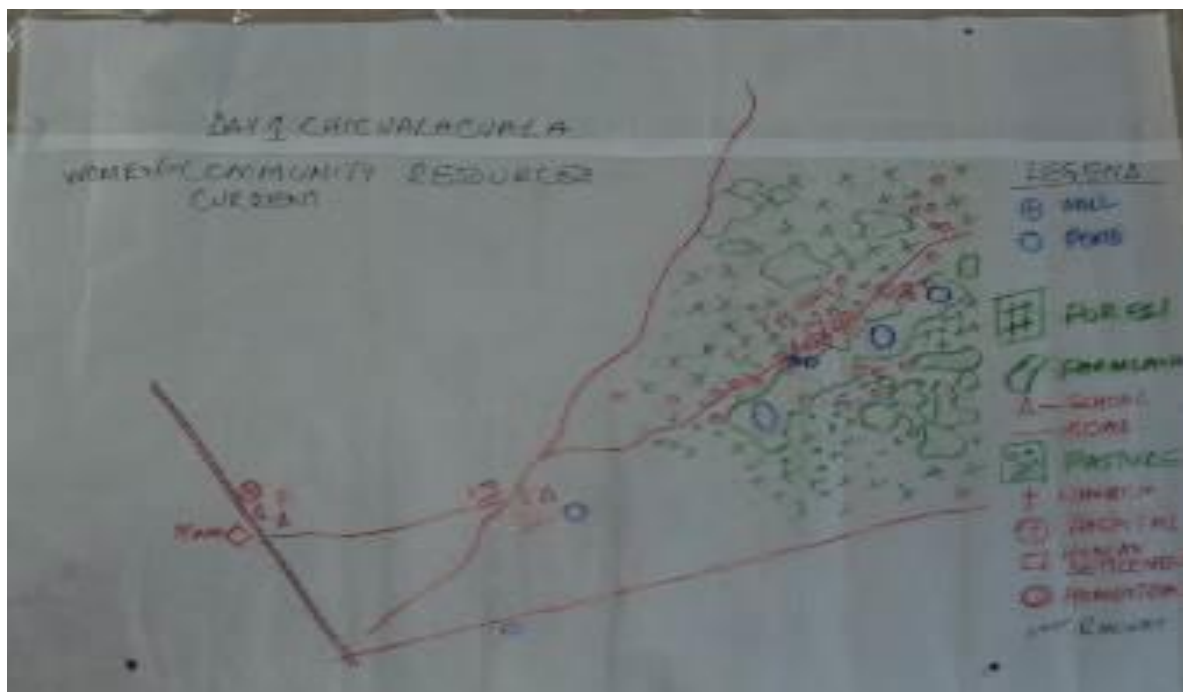
Topic 1: Community resources - participatory satellite imagery interpretation and visioning

Community infrastructure and resources and gender-differentiated access and utilisation of those resources have been analysed, based on a process of participatory visual interpretation of high-resolution satellite imagery (RapidEye). The aim was to create a basic understanding of existing community resources, as well as of community dynamics in relation to its environment. The participants discussed the current state of those resources, in terms of quality, access, management, history and potential drivers of change. Later on, a mixed group developed an image of village resources and human well being into 2030 to understand opportunities, constraints and aspirations for the future. The detailed approach to this exercise is outlined in the CCAFS Village Baseline Study Implementation Manual (follow the link to the baseline study from our website <http://ccafs.cgiar.org/resources/baseline-surveys>).

A. Current resources

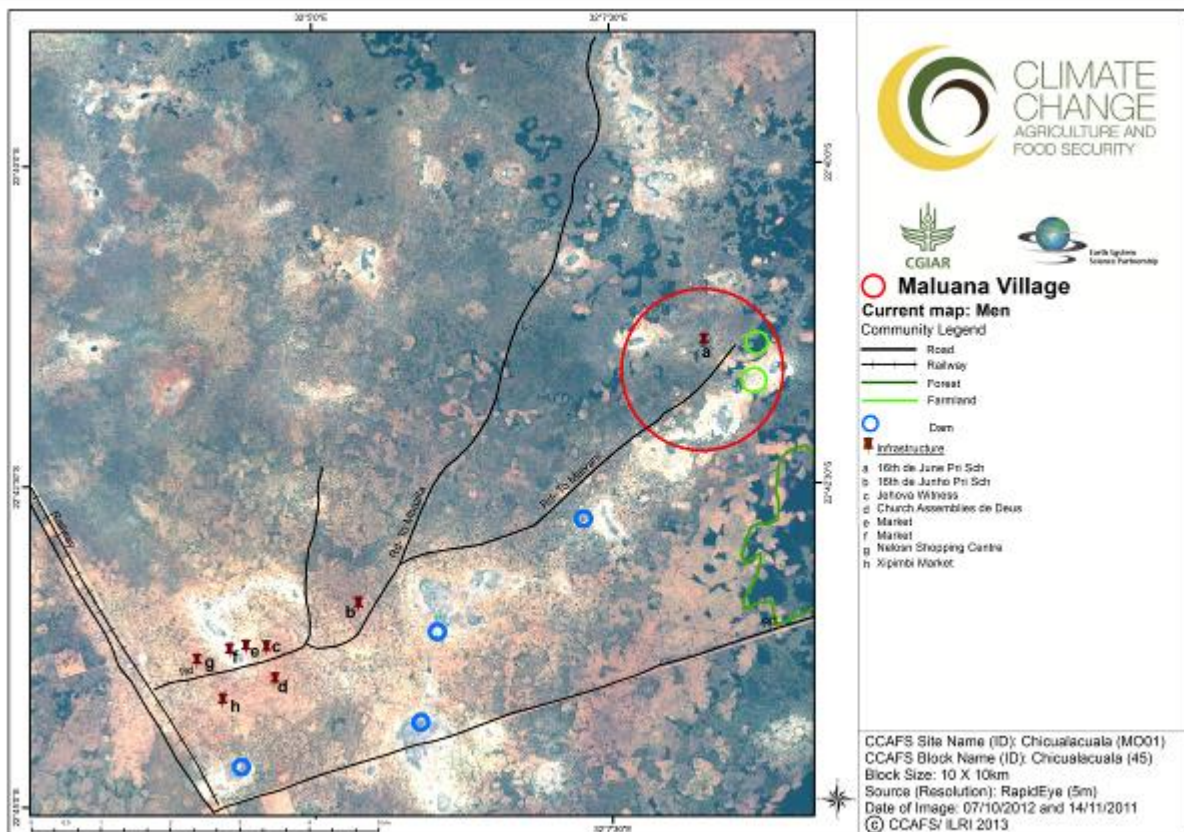
Separate meetings of male and female participants took place in the 7 Abril Center. Findings from the CCAFS household baseline survey done in the same village were summarized and participants agreed with the results. To begin the identification of community natural resources and infrastructure, groups generated initial diagrams on the floor as a basis for discussion and consensus before final versions were transferred to flipcharts by the research team. Following this activity groups were shown satellite imagery of their region to compare and confirm their maps. The appreciation of scale was important for participants to get their bearings. The exercise could not be rushed and took a lot of time, but both groups were ultimately able to identify key features from the images (Photo 1).

Photo 1. Current conditions mentioned by women regarding natural resources and infrastructure

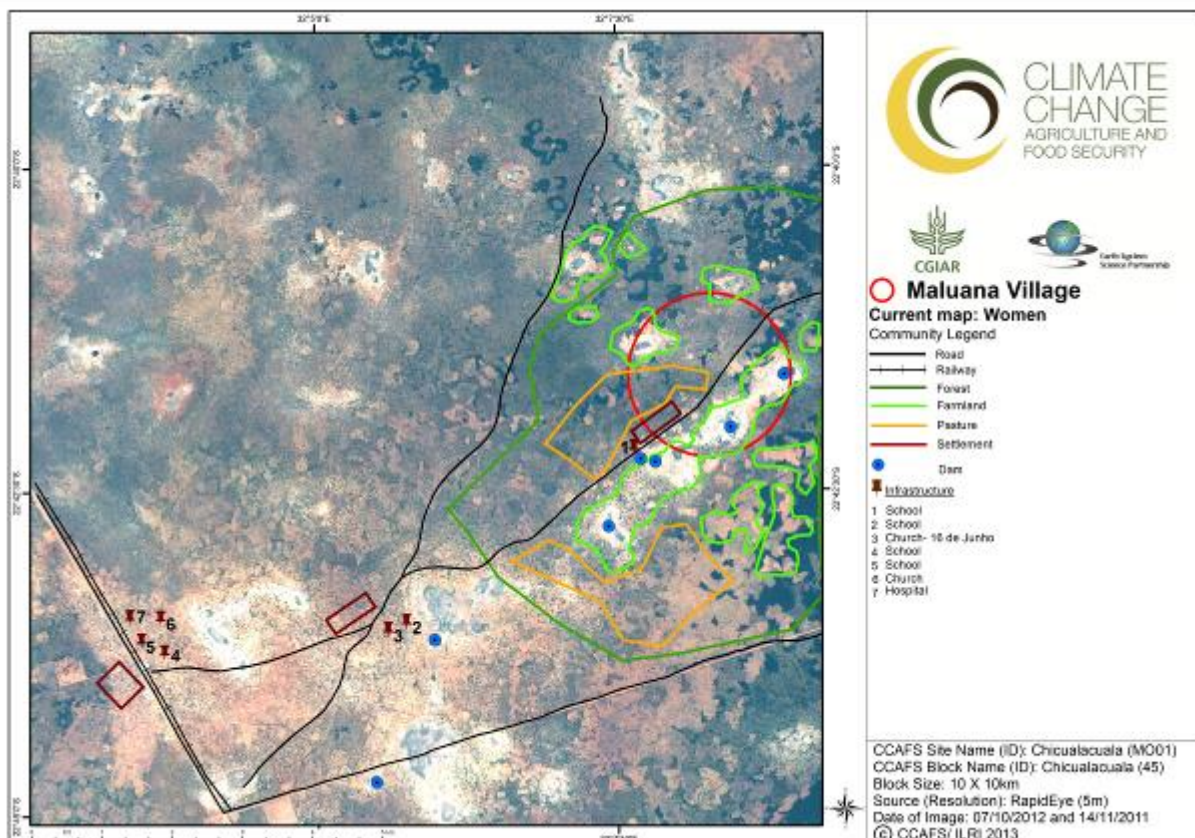


Maps 2 and 3 represent the current conditions in the community regarding natural resources (water, forest, grazing, farmland, degraded land) and infrastructure (roads, markets, education, health) according to, respectively, male and female participants. The maps lay out information prepared by the community participants super-imposed on a satellite image.

Map 2. Men's map of current community resources



Map 3. Women's map of current community resources



Male and female participants provided the following information on their community's resources, including infrastructure (summarized in Table 1).

Forests: The natural vegetation type of the village can be classified as wooded grasslands. There are extensive forest areas in village, such as Litsotso and Lingana forests. The forests are managed and owned by a community leader called Lidu. Forests are cleared for cultivation of crops and establishment of pasture. Forests are also used for grazing livestock, however there are few livestock in the community. The community claims that their livestock was taken by soldiers during the war. Burning is used as a means of managing pasture. This affects the neighbouring forests and re-growth of deforested areas. The forest area is reducing in size because of uncontrolled exploitation of the forest resources. Resources from the forest include construction material such as poles, firewood and charcoal. Nobody manages the forest. The clearing of forest and burning of charcoal is not restricted. Charcoal burning is a major economic activity but the locals gain very little money. It is sold for as little as 150 MT¹. As it moves through the middlemen the cost rises from 200 to 350 to 500 and by the time it gets to Maputo it is 700 MT. The economic gain to the community is very low yet their forest cover is constantly reducing. Some form of control needs to be established.

Water: There are several ponds in the village from which the people obtain water for domestic use and watering livestock, including Maluana, Chilhivarime, Ngondzo, Nhalove and Baipai. The ponds are naturally occurring and have no particular owners and managers. Most of them have dirty water. Some are used only for planting crops and others for watering animals. There is cultivation done around the ponds. Zuna pond is the only pond with clean water. It is used for drinking and the community tries to control misuse of the resource. It is believed that the location of the village was influenced by the location of the ponds. The people located close to the dams so that they could be closer to their farms. The government has constructed a well and pump in the village to ease the water problem. There is the need of additional wells since the quality of water is better than the ponds. The ponds could then be left for livestock and farming.

Farmlands: The farmland is scattered across the landscape. The farms are not very large because cultivation is manual and most farmers lack the capacity to cultivate large portions of their land parcels. The farms are owned and managed by individual farmers. The soils in the village are generally sandy with very low moisture retention. Land in the village is owned by the government but is administered through a customary system that allocates land to individual households to cultivate and manage. Crops produced include maize, cowpeas, pumpkins, cashew nuts, watermelon and sorghum, among others. Maize does not do well so the main crop is sorghum. Rainfall totals are very low therefore farmers can only plant crops during the rainy seasons. The crops produced are purely for subsistence but there are times when they barter crops for other items such as salt. Food production in the area is very low and there is need to introduce other drought resistant crops to improve the food security situation. During dry seasons people plant crops next to ponds. Unfortunately after two years of drought there was heavy rain, which washed away crops.

Schools: The schools which the children of the village attend are 7th de Abril, 16th de Junho and Mapai, which are 1 minute away, 1 hour away and 2 hours away respectively. The main school is in 16th de Junho and all the others are satellite branches of the school. The primary section is in poor condition. The secondary school is in a good condition. The school is owned and managed by the government of Mozambique. The fees are minimal (10 MT annual fee). The facilities are too small for the population so the students learn in shifts. Access to education is still very limited and needs to be improved.

Market centres: Market centres include Nelson and Xipimbi. The land in the market is owned and managed by the government. Goods sold in the markets include foods such as oil, spices, sugar, salt, etc. They also provide markets for charcoal. Xipimbi is a meeting point for men to enjoy the local brew. There are fees charged for selling commodities in the markets. For example charcoal attracts a 500MT license or a fine of 15MT is charged per sack. Trade is very limited in the community. Only very basic things can be obtained from the markets. Higher-level goods must be obtained from the

¹ The exchange rate as of Dec. 2013 is approximately 30 Mozambican Metical to 1 USD.

periodic Mapai market, which is the main market for the region.

Roads: All the roads in the regions do not have tarmac, such as Masanchane road and Chicualacuala-Chokwe road. They are narrow, dusty and in poor condition. Roads get worse during the rainy season. Both the community and the Government of Mozambique manage the roads.

Railway line: The Zimbabwe-Chokwe railway line passes through Mapai. It takes 2 hours by foot from the village to the railway line. The line is owned and managed by the Government of Mozambique. It offers cheaper transport than the road. It is used to transport food and charcoal. Floods limit the effective benefits from the railway line.

Hospitals: There is a hospital in Mapai, which is owned and operated by the government. It is not adequately equipped to serve the whole population of Mapai administrative posts.

Table 1. Summary for Layer 1: current conditions, as perceived by men (M) and women (F)

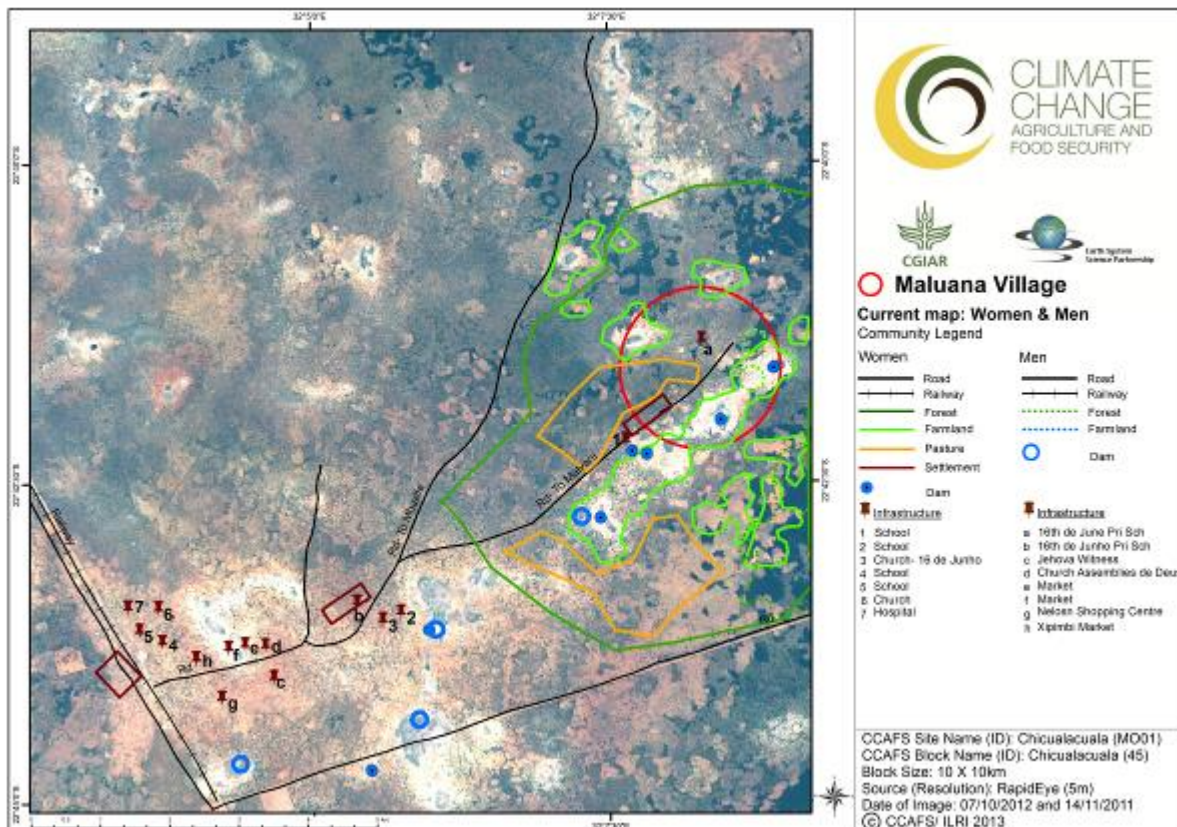
Land cover class	Community determined land use	Location Names	Current state (quality)	Time to resource	Management and ownership issues	Environmental Benefits	Opportunities	Limitations
Forest (M)	Grazing, farming, charcoal and house construction		Good though reducing in size	2 hours by foot from Mapai. 10 hours by foot from village	Original owner dead and nobody manages. They use it freely currently.		Used for poles and pasture. Land cleared for women to cultivate	
Forest (F)	Pasture, grazing, firewood and charcoal	Litsotso and Lingana	Thinning due to settlement and cultivation	4 minutes and 2 minutes away from village respectively	Owned and managed by leader named Lido			Clearing of forest and burning charcoal not regulated
Rivers (M)	Drinking water for village and livestock. Also clothes washing	One example: Zuna Dam	All sources are dirty but they have no other options. Zuna Dam is the only source with clean water.	2 hours by foot from village	Natural sources and no owner or manager. As Zuna Dam is clean the community maintains	Provides for agriculture production	Source for drinking water and clothes washing	
Ponds (F)	Water for cultivation, livestock and domestic use	Maluane, Chilhivarime, Ngondzo, Nhalove, Baipai	Naturally occurring	2 minutes away	Water points are community managed			
Farmlands (M)	Farming of maize, cowpea, sorghum, etc.				Owned and managed by individuals, who can sell if desired		Farming	Cultivated only during rainy season as area is generally dry
Farmlands (F)	Cultivating crops		Bare with few cover crops like pumpkin		Owned by Government but managed by households		Lots of land still available for cultivation	Poor soil fertility
School (M)		16 de Junho	Primary section in poor state with roof missing; Secondary school is in good condition	10 minute walk from village	Government of Mozambique		Learning and knowledge acquisition	No cost except 10 MT annual fee

Land cover class	Community determined land use	Location Names	Current state (quality)	Time to resource	Management and ownership issues	Environmental Benefits	Opportunities	Limitations
School (F)		7 th de Abril, 16 th de Junho and Mapai	The main school is in 16 th de Junho and all the others are satellite branches of the school	1 minute away, 1 hour away and 2 hours away respectively	Government of Mozambique			The facilities are too small for the population hence learning in shifts.
Market Center (M)		Nelson and Xipimbi		2 hours by foot	Managed by government but space given for vendors to manage themselves		Sources of food (oil, spices, sugar, salt); market for their charcoal; and Xipimbi is a meeting point for local brew enjoyed by men	Fee charged for selling commodities, e.g charcoal requires 500 MT license or payment of 15 MT fee per sack.
Hospital (F)		Mapai		2 hours	Government of Mozambique			Inadequate to serve entire population of Mapai administrative post
Roads (M)		Masanchane road, Chicualacuala-Chokwe road, and other access roads	Not in good state. Paved and straight roads preferred		Owned and managed jointly by Government and community		Access to the forest and markets to sell and buy commodities	Roads get worse during rainy season and become impassable
Roads (F)		7 th de Abril to Mapai, 7 th de Abril to 16 th de Junho, 16 th de Junho to Mabandzila	Narrow and dusty		Managed by community		Can be expanded	
Railway (M)		Zimbabwe-Mapai railway line		2 hours by foot	Government of Mozambique		Cheaper than road transport. Provides transport of food and charcoal.	Floods limit the benefits of the railway

B. Gender-differentiated comparison of current conditions

Men and women reported on the majority of the same resources, however women did not mention markets or railways and men did not mention hospitals. The men's group also did not mention pasture in their discussion of forests, which is likely due to children being responsible for pasture. The region is the main supplier of charcoal to Maputo and as such the charcoal business is very widespread and is dominated by men in the community. Both groups noted forests are thinning but only the women expressed concern over lack of regulation limiting charcoal burning and land clearing. In general it was noted that women carry out most of the work in the community. The men said that most of their time is spent constructing houses, which takes a long time as wood used for construction is not easy to find and limits their availability to do other activities. Map 4 illustrates an overlay of the men's and women's current resources maps.

Map 4. Overlay of current conditions, comparing men's and women's maps



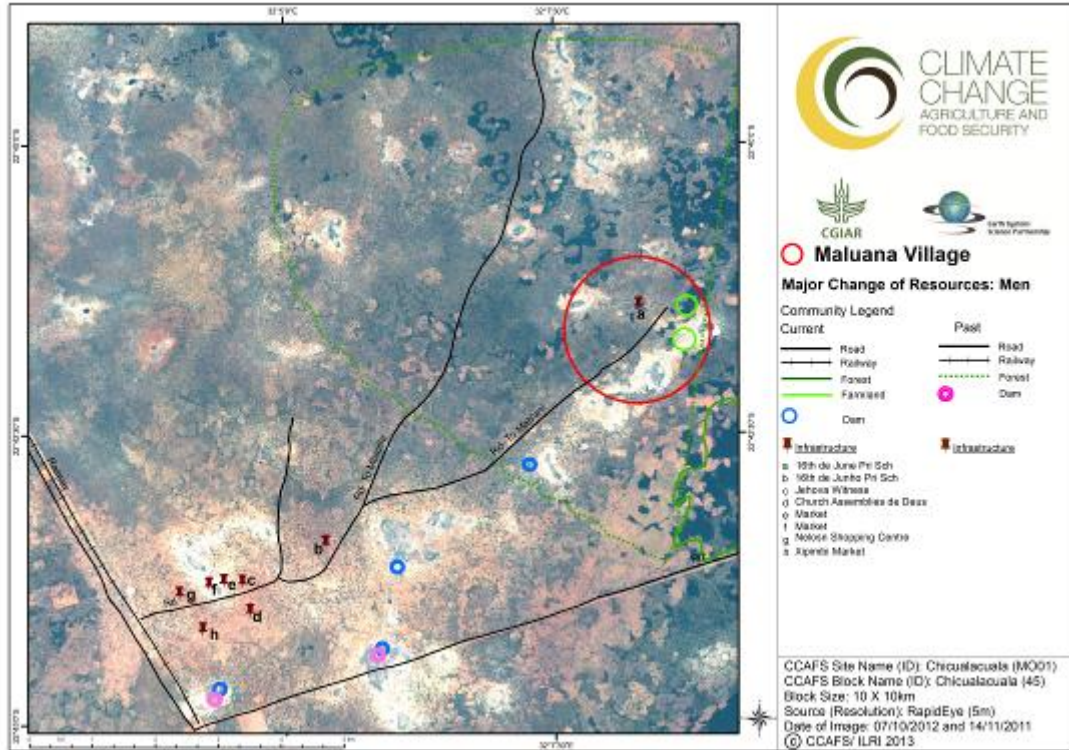
C. Major changes of resource conditions

Maps 5 and 6, and Table 2, show the most relevant changes in community resources as expressed by male and female participants. It was reported that in the past forests were thick and expansive. They have since reduced in density and size. Forest used to have wild animals such as elephants and lions. There were also wild fruits of different varieties. None of these now exist. Changes were attributed to the reduction in forest cover due to unregulated clearing for settlement, cultivation, charcoal and firewood. There has also been an increase in wood harvesting and logging. The establishment of scattered human settlements contributed to the clearing of forests for new villages. The current location of 7 de Abril village was originally a forest. Villagers also noted that the rail guards for the Zimbabwe – Chokwe line that passes through Mapai used to be made of wood but are now made of steel as the wood was burned during the war and trains would crash.

Since the war there has been an expansion of markets starting in 2005 to serve the expanding population and creation of new villages. The satellite school was also created to expand education services to the growing population. Given the increased settlement in the area available farmland has become smaller and more spread out. Villagers reported that ponds in the region used to be

surrounded by thick vegetation, however cultivation now dominates the landscape. As the village is relatively young, most of the people moved into it as adults. As a result the knowledge level among men and women is low. Both men and women appeared to have no knowledge of traditional ways of conserving crops. They say that food production has always been low therefore there has been no need to use any method to keep crops safe from vermin for any length of time. In the past the community was engaged in hunting but this has since been made illegal so they have resorted to charcoal burning and trading as their major source of livelihoods.

Map 5. Major changes in resources (comparing past and present) for men



Map 6. Major changes in resources (comparing past and present) for women

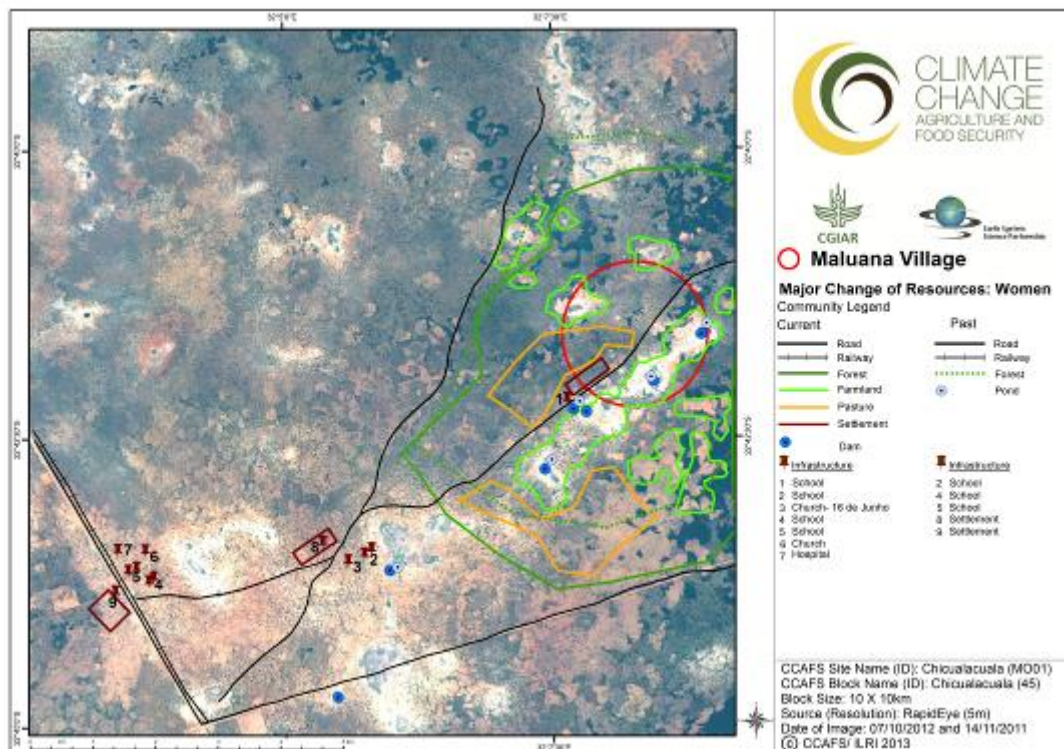


Table 2. Major changes and drivers of change in the last 10 years, as perceived by men (M) and women (F)

Land cover class	Community determined land use	Location Names	Past state (quality)	Time to resource	Drivers of change	Management and ownership issues	Environmental Benefits
Forest (M)	Farming, wood harvesting/ logging and scattered human settlements	7 de Abril	The current village was originally forested with trees and grass	It used to take a whole week from Mafukuyani through the forest by foot	Exploitation for wood and farming. The war's end led to migrations from densely populated villages like Mafukuyani.	The forest belonged to the "Ndindani" traditional leaders who managed	The area used to experience regular rainfall. Wild animals were in forest. Wild fruits of different varieties were also available
Forest (F)	Pasture, fire wood and charcoal burning	Litsotso and Lingana	Forests were dense and expansive	4 minutes and 2 minutes away from village respectively	Unregulated clearing for settlement, charcoal and firewood	Managed and owned by the Lidu (leaders) chosen by the people	
Water (M)	Dams		Same sources as before but they used to not be surrounded by farms and had clean water.				
Water (F)	Water for cultivation, livestock and domestic use	Maluane, Chilhivarime, Ngondzo, Nhalove and Baipai	Surrounded by thick vegetation all round	2 minutes	Cultivation around the pond	Water points are communally managed	
Roads (M)	Road to Masanchane						
Farmland (F)	Cultivation		Smaller and widely spread out	2 hours	Increased settlement in the area	Owned by the government but managed by the community	
Railway (M)	Zimbabwe-Chokwe railway line		Rail guards used to be made of wood but were burned during the war.		Now made of steel so trains don't fall		
Markets (M)			New markets opened starting around 2005		New settlements and expanded population		

D. Vision of the future

With a mixed group of men and women, the goal was to develop an image of village resources and human wellbeing into 2030 to understand the opportunities and constraints, as well as aspirations for the future. This exercise built upon all the work completed in the previous sessions. In the section below we include the map that encapsulates Maluana village's vision of the future (Map 7).

Opportunities identified by men include the following: availability of forest resources such as wood fuel and construction materials; availability of pasture for their livestock; availability of fields for cultivation; availability of water for domestic and livestock use; crop production; opportunities for learning and knowledge acquisition; and cheap rail transport from Mapai. The women on the other hand identified fewer opportunities. These included plenty of land for cultivation and many roads that can be expanded and improved.

The major constraints identified by men included the following: due to dry weather conditions the community can only cultivate during rainy seasons; there is taxation on the sale of charcoal which reduces the little money the community gets from the trade; poor roads which are impassable during the rains; and regular flooding interferes with transport and communication. Women identified the following constraints: clearing of forest and burning of charcoal is not restricted; poor soil fertility that limits food production; and educational facilities are too small for the population so learning is done in shifts. Other constraints that were identified by both groups included include lack of knowledge, marginalisation, and no electricity and radio communication network. The people feel they have done enough and they want the government to do something.

Table 3 summarizes the information about the community's vision for the future.

Map 7. Future map of the community

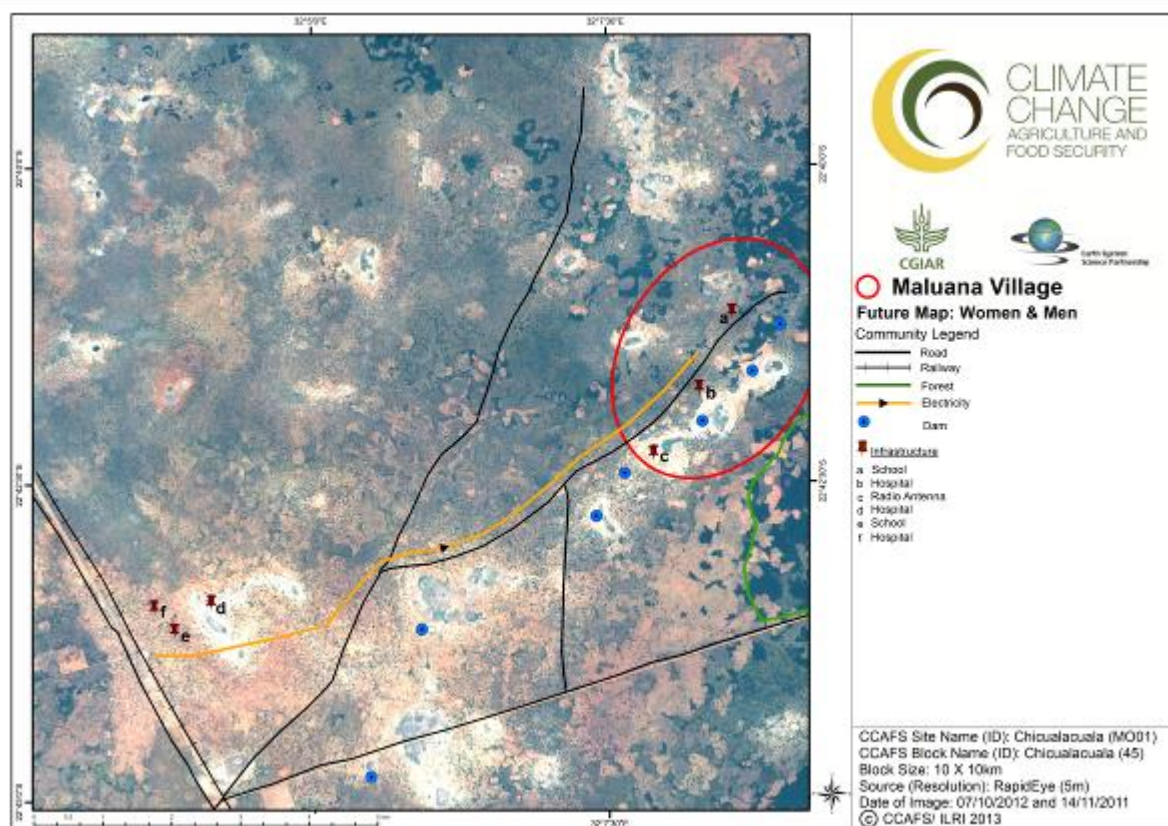


Table 3. Vision of the future

Items from the 2 map legends	Preferred condition for 2030	Opportunities	Constraints	Organisations to involve
Pond	Bigger ponds and pumped water wells should be expanded	Ponds already exist	Currently dirty sources of water and don't meet community needs	Government
Roads	Widened and paved	The roads already exist and are accessible	Currently in poor shape and impassable during rainy season	Government
Railway	Maintained and an electrical one added alongside the old one	A route already exists	Flooding now impacts service	Government

Topic 2: Organisational landscapes

This topic aims to show evidence of organisational capacities that help address food security and manage resources. This will inform CCAFS about how prepared the village is to respond to the challenges envisaged as a consequence of climate change or other future challenges and to engage with CCAFS partners at a collective level.

Specifically, this section presents the different formal and informal organisations involved in the community in general terms, as well as with respect to food security in different situations (i.e. average and crisis conditions), and natural resources management (NRM). It also elaborates on what types of activities the organisations are engaged in, who their members are, whether the organisations are useful, etc.

A. Basic spheres of operation

Participants were asked to draw three large concentric circles on the ground. The inner circle would represent the community, the middle circle the locality and the outer circle beyond the locality. Participants were then asked to name organisations working in the area, whose names were written on cards, and place the cards in the appropriate circle. Thus, the group placed in the inner circle the cards of organisations that worked in the community, in the middle circle the cards of organisations operating in the locality, and in the outer circle those that operated beyond the locality. See Photo 2 for an example of the activity as carried out with the study participants. The results are shown in the diagrams that follow.

Photo 2. The organisational landscape activity in progress



Based on this structure, the men identified 10 organisations in the village while the women identified 7. Although the names of organisations chosen by men were different from those chosen by women, there were many similarities in the roles they played in society. Groups identified by the men’s group were involved in activities such as provision of health services, community development, education services, law enforcement and community mobilisation. Those identified by women were involved in environmental health, community arbitration, community needs assessment, governance and mobilisation of financial resources from women for women.

In Tables 4 and 5, more detailed information is provided on the five most important organisations as they were ranked by the men’s and women’s groups.

Figure 1. Organisational landscape of the men’s group

	Legend
1	Bloco 1
2	Bloco 2
3	Bloco 3
4	Bloco 4
5	Ministry of Education
6	Ministry of Health
7	Polícia Voluntario
8	IUCN
9	Ministry of Agriculture
10	Samaritan Purse

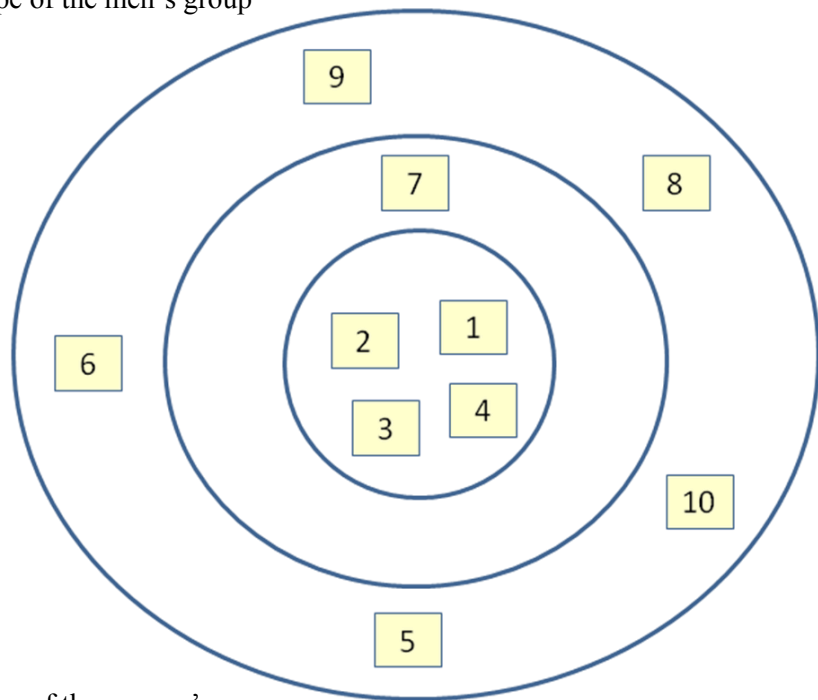


Figure 2. Organisational landscape of the women’s group

	Legend
1	Community water point group
2	Traditional midwife
3	Zion Church
4	Local Chief
5	Community chief
6	OMM (Mozambique Woman organization)
7	Frelimo

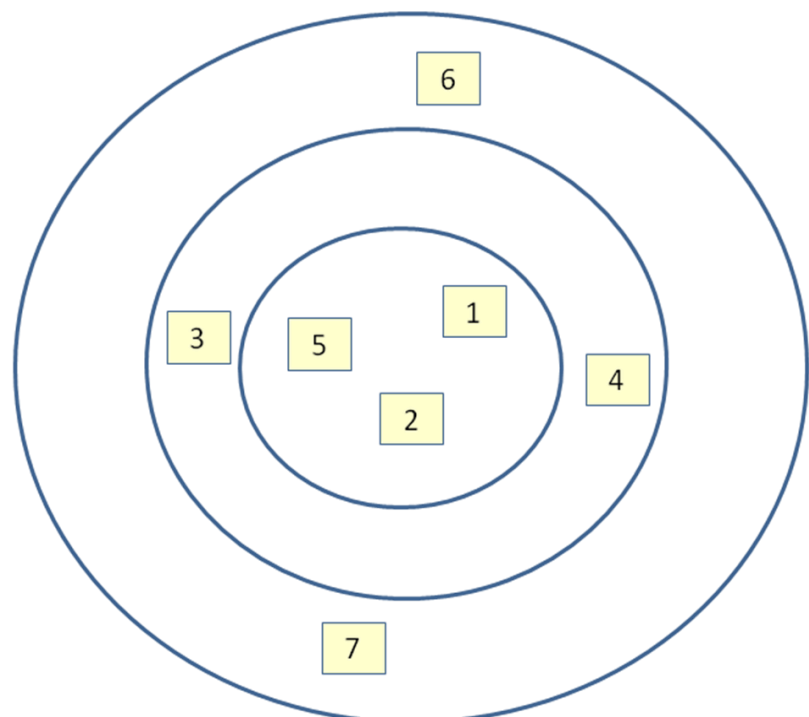


Table 4. Information on the first five organisations ranked by the men

Organisation name	Main activities	Number of members (estimate)	Access (open or restricted to...)	Origin (indigenous, state, NGO, project)	Sphere of operation: community, local, beyond local	For community groups		
						Sources of funding (members, external, both)	Existed how long (less than 1 yr, 1-5, longer)	Formal or informal
1 Ministry of Health	Provision of health services. Referrals are taken to Chicualacuala or Chokwe	Broad community	Open	Public agency	Beyond local. Throughout Mozambique	External – from State	More than 5 years. Since independence in 1975	Formal
2 IUCN	Community development	Unknown	Open	NGO	Beyond local. Throughout Mozambique	External – from State	Less than one year	Formal
3 Ministry of Education	Education services	School children	Open	State	Beyond local. Throughout Mozambique	External – from State	1-5 years. Since 2009.	Formal
4 Policia Voluntario	Keep law and order	7 members from village	Open	State	Beyond local	Funded through voluntary service and bribes from lawmakers	More than 5 years. Since 2007.	Formal and recognized by government
5 Bloco1	Responsible for mobilization of community for meetings	15 members	Restricted. Must be member of Frelimo party	State	Beyond local. Operates to district level and Chicualacuala	Self funded	More than 5 years. Since 2007.	Formal and recognized by government

Table 5. Information on the first five organisations ranked by the women

Organisation name	Main activities	Number of members (estimate)	Access (open or restricted to...)	Origin (indigenous, state, NGO, project)	Sphere of operation: community, local, beyond local	For community groups		Formal or Informal
						Sources of funding (members, external, both)	Existed how long (less than 1 yr, 1-5, longer)	
1 Community Water Point Group	Manages community well and toilets	6	Restricted	State	Community	External	1-5 years	Formal
2 Frelimo	Governance	60	Restricted	State	Beyond local	Both	Longer than 5	Formal
3 Community Chief	Maintains list of community needs	6	Restricted	State	Community	Both	Longer than 5	Formal
4 Local Chief	Addressing needs identified by Community Chief, like land adjudication	1	Restricted	State	Local	External	Longer than 5	Formal
5 OMM (Mozambique Women's Organization)	Collects funds from women	Unknown	Open	State	Beyond local	Members	Longer than 5	Formal

B. Organisational landscape of food security

The goal of this exercise was to get an improved understanding of how the organisational landscape contributes to the food security of the group. Food security is mostly measured at the household level. Nonetheless, community-level organisations and interactions influence the food security of groups within the community differently. Male and female participants were asked to discuss the concepts of food availability, access and utilization, and then review each organisation they had previously identified by asking which of them had activities that fell under these categories.

Nine organisations were identified as being involved in food security out of the total 17 groups identified. Most groups identified by women (6 out of 7) were involved in food security. These figures seem to indicate that food security is a concern in the community and that the women relate more closely to food security matters.

This study determined three spheres of operations, which were used to analyze the organisations identified by the discussion groups. The three levels are community level, locality and beyond locality. Community refers to the village. Locality refers to the region immediately surrounding the village. Beyond locality extends beyond national boundaries. Most of the groups involved in food security operated within the community and women identified them. This further supports the view that women relate more closely with food security than men. There are very few links between organisations addressing food security. Both men and women identified only food supply links, but no links of capacity building or funding.

Participants were asked to define organizations involved in providing assistance in food crisis situations. The purpose of this exercise was to understand how organizations help people to cope under those conditions. The community is very food insecure and only produces enough food for 2 months a year, yet they reported no change in the organizational landscape during times of food crisis. Groups also did not differentiate between organizations addressing food access, utilization or availability.

Figure 3. Organisational landscape of food security – men

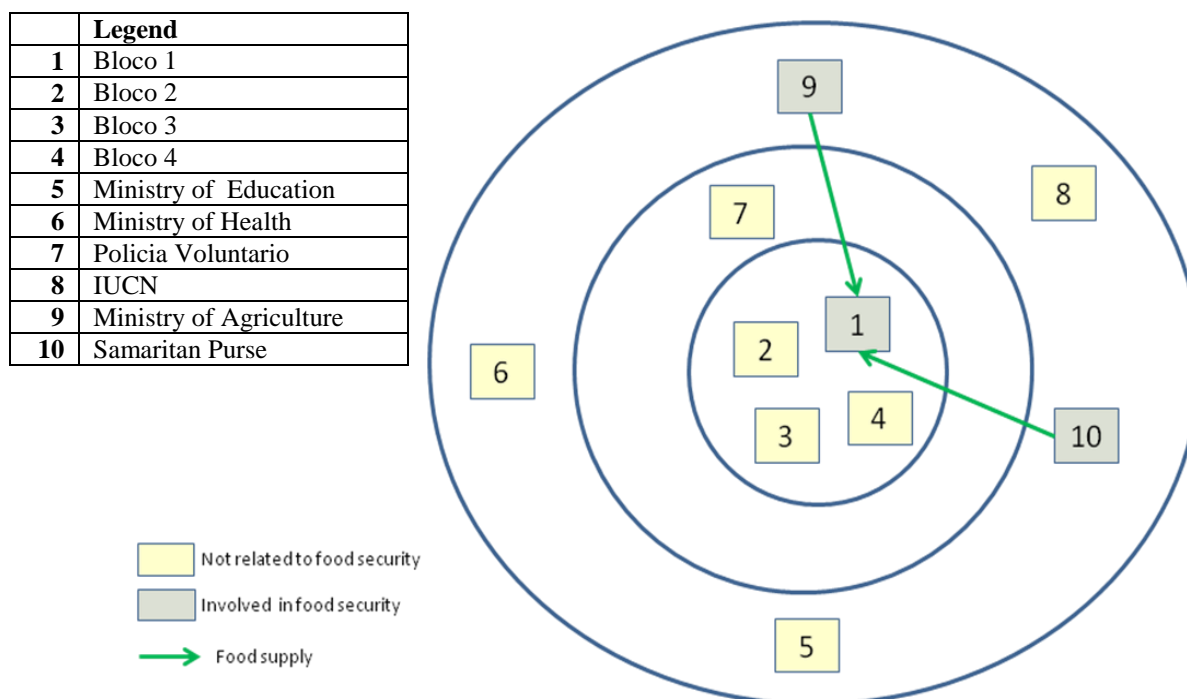
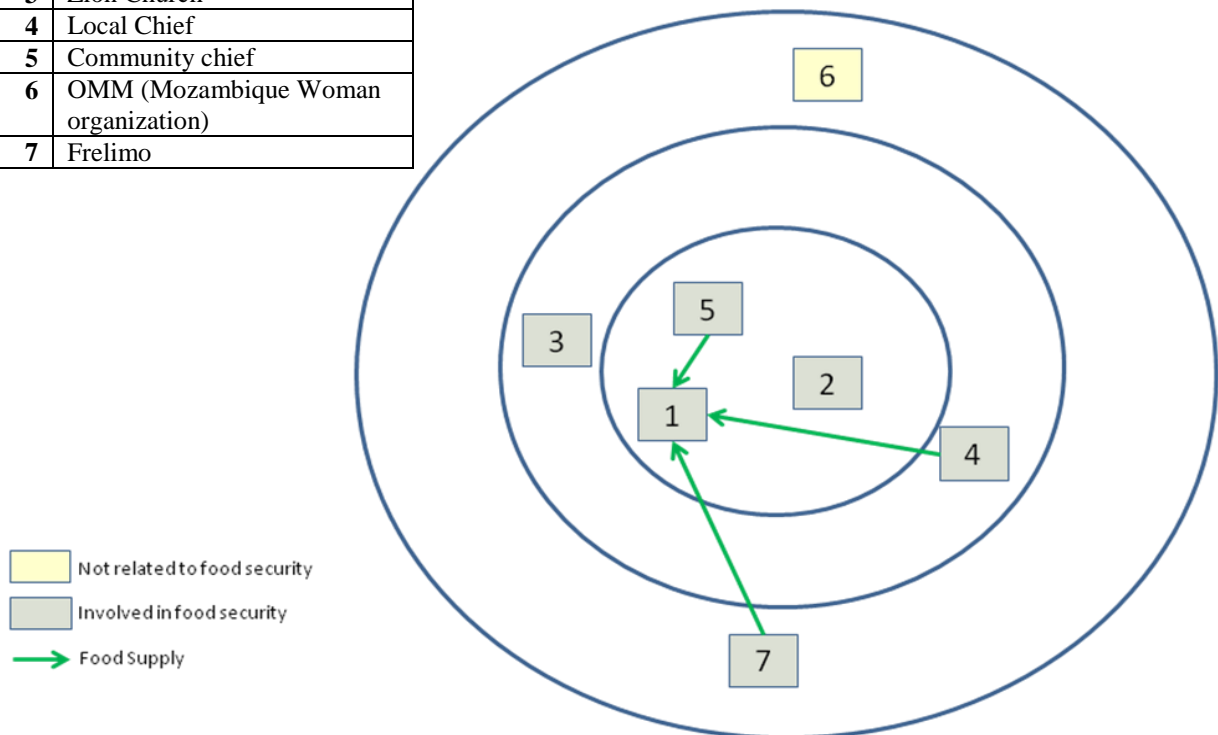


Figure 4. Organisational landscape of food security – women

Legend	
1	Community water point group
2	Traditional midwife
3	Zion Church
4	Local Chief
5	Community chief
6	OMM (Mozambique Woman organization)
7	Frelimo



C. Organisational landscape of natural resource management

In this section, the organisational landscape in relation to NRM is discussed. Specifically, what organisations were actively working to protect the environment, manage natural resources, etc.? The process entailed asking the group to highlight what organisations are involved in the management of natural resources in the community; developing a list of natural resources important to the livelihoods of the community; and asking the group to decide on a symbol for each type of natural resource listed.

There were a total of 8 groups identified who were involved in NRM. Most of the ones identified by women addressed NRM (86%). Since there are vast areas of forest, it may not have caught the attention of the community that the current methods of forest exploitation are not sustainable and more resources are needed.

Half of the organisations that address NRM were groups operating within the community. The other half was equally divided between the locality and beyond locality. This is a good spread and indicates more action at the community level, which results in greater benefits and community involvement. Those within and beyond the locality rely on a limited number of facilitators with varied capacity to mobilize resources and strengthen communities. Both men's and women's discussion groups identified only one link in relation to NRM and this link was on capacity building.

Figure 5. Organisational landscape of natural resource management – men

Legend	
1	Bloco 1
2	Bloco 2
3	Bloco 3
4	Bloco 4
5	Ministry of Education
6	Ministry of Health
7	Policia Voluntario
8	IUCN
9	Ministry of Agriculture
10	Samaritan Purse

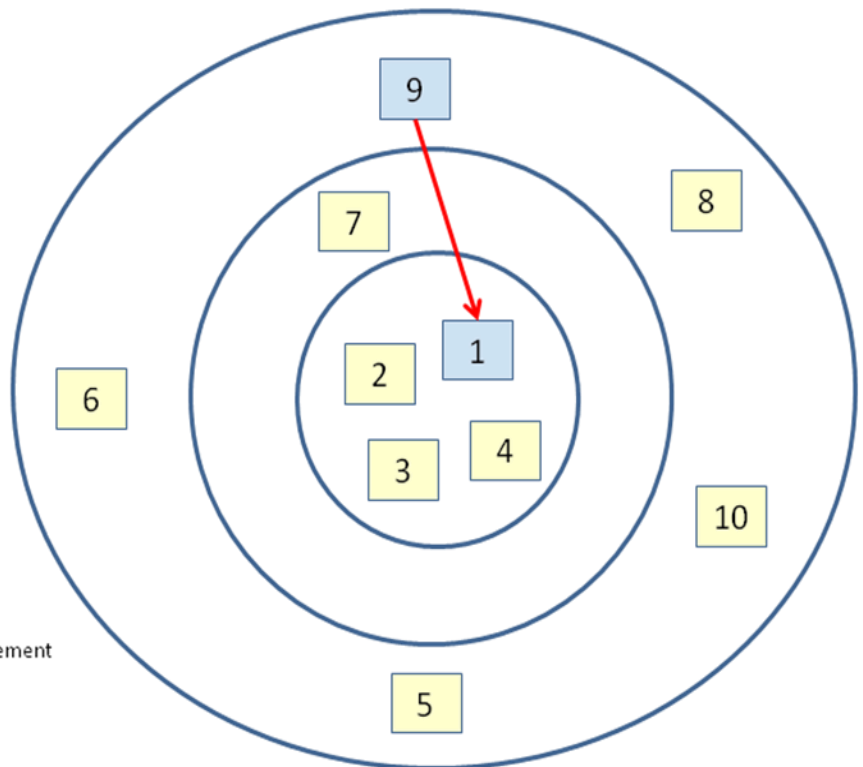
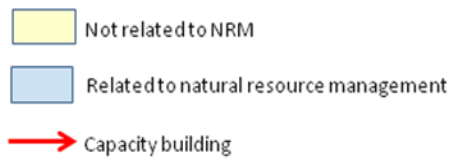


Figure 6. Organisational landscape of natural resource management – women

Legend	
1	Community water point group
2	Traditional midwife
3	Zion Church
4	Local Chief
5	Community chief
6	OMM (Mozambique Woman organization)
7	Frelimo

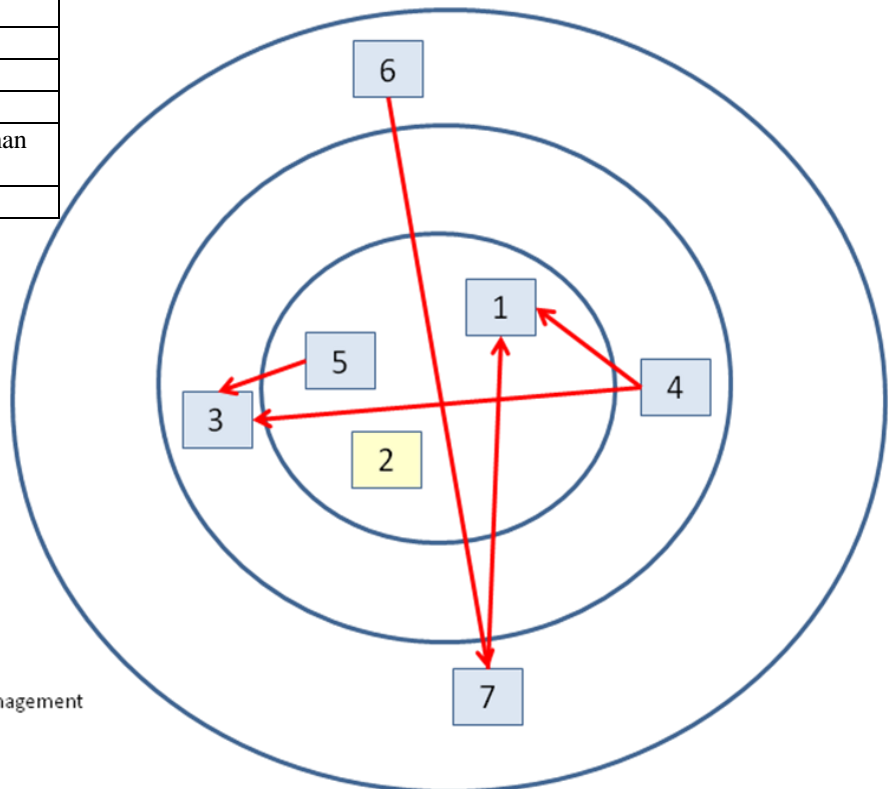
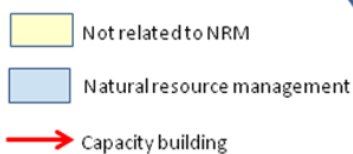


Table 6 below summarizes information on all the organisations identified separately by male and female participants. The organisations are classified according to their role in supporting food security and the management of natural resources.

Table 6. Information on highlighted organisations of men and women (unless otherwise noted, 1=yes, 0=no)

Organisational Landscape	Men				Women			
	Org. ID by men	Sphere. 1=Village 2=Locality 3=Beyond locality	Food security	NRM	Org. ID by women	Sphere. 1=Village 2=Locality 3=Beyond locality	Food security	NRM
1. Blocco1	1	Village	1	1	0			
2. Blocco2	1	Village	0	0	0			
3. Blocco3	1	Village	0	0	0			
4. Blocco4	1	Village	0	0	0			
5. Ministry of Education	1	Beyond locality	0	0	0			
6. Ministry of Health	1	Beyond locality	0	0	0			
7. Ministry of Agriculture	1	Beyond locality	1	1	0			
8. Policia Voluntario	1	Locality	0	0	0			
9. IUCN	1	Beyond locality	0	0	0			
10. Samaritans Purse	1	Beyond locality	1	0	0			
11. Community Water Point Group	0				1	Village	1	1
12. Zion Church	0				1	Locality	1	1
13. Midwives Association	0				1	Village	1	1
14. Local Chief	0				1	Locality	1	1
15. Community Chief	0				1	Village	1	1
16. OMM: Mozambique Women's Organization	0				1	Beyond locality	0	0
17. Frelimo	0				1	Beyond locality	1	1
TOTALS	10	Village=4 Locality=1 Beyond locality=5	3	2	7	Village=3 Locality=2 Beyond locality=2	6	6

Topic 3: Information networks

The aim of this exercise was to understand the diversity of options people use for accessing information on agriculture and weather; how people take advantage of sources of information available, and if some sources are not used and why. We want to describe networks of how people access and share information within the community.

Communication was reported as poor and people felt marginalised. Most people own cell phones rather than radios as their main source of communication technology and information. Cell phones were cited as being more portable, capable of accessing radio and available at low cost. It was estimated that one could get a phone for as cheap as 100 MT the equivalent of \$3USD. The common mode of transport for the area is bicycle and very few people own vehicles or can afford to hire them. In addition, the road infrastructure is poor and lack of paved roads results in transportation difficulties, particularly in the rainy season. The road network is currently under renovation, which is expected to improve communication in the region.

The community information network flows from the identified 17 organizations and include community groups, NGOs and public agencies. Market centres in Nelson, Xipimbi and Mapai also serve as sources of information exchange when open and accessible. Information is largely informal and there is no newspaper sold in Mapai. The flow of official information typically goes from the Local Chief in the Mapai Administrative Post to the village through the Community Chief. The Ministry of Agriculture follows this process to provide communities advice on water and forest management. Other organizations engage throughout the network to provide services and information.

Table 7. Networks of information

Source	Topic (men)					Topic (women)		Total
	Start/end of rainfall	Type of seeds	Start and end of drought	Floods	Market	Seeds	Weather	
<i>Individuals</i>								
Family	0	1	0	0	0	0	0	2
Friends	0	0	0	0	0	0	0	2
Neighbour	0	0	0	0	0	0	0	0
Elderly people	0	0	0	1	0	1	0	2
Organisations	1	1	1	1	1	0	0	5
<i>Media</i>								
Radio	0	0	0	0	0	0	0	0
TV	0	0	0	0	0	0	0	0
Newspaper	0	0	0	0	0	0	0	0
<i>Other</i>								
Observation	0	0	0	0	0	0	1	1
Witch doctors	1	0	0	0	0	0	0	1
Religious Leaders	0	0	0	0	0	0	1	1

Conclusion and recommendations

Population pressures, isolation and a marginal production environment have resulted in limited livelihood options, tenuous food security, reduced natural resources and degradation of water sources. The important community resources are forests, water ponds, farmland, schools, market centres and hospital. Exploitation of forest resources is not regulated and is therefore unsustainable. Water resources are poorly developed and maintained. Agricultural potential of the land is low and the farming methods applied are not innovative. As a result, there is low agricultural productivity and the community is unable to meet their food security needs. The dominant source of livelihoods is charcoal production, which has negative impacts on the forests and does not generate high returns. Roads are

unpaved, narrow and in poor condition, limiting connectivity and access to local and regional markets. The schools and hospitals are not adequately equipped to serve the current population.

Location-specific concerns include the forests, water resources, farmland and roads. Forests are exploited without restriction. Fire is used to manage pasture in the forests and this affects the growth of forests. The charcoal trade and the expansion of land for cultivation are leading to continuous felling of trees. The forest is therefore an endangered resource and needs specific attention that will ensure it is protected and sustainably managed. The pond ecosystem is also threatened by cultivation, which has encroached on its riparian reserve and cleared all surrounding vegetation. This exposes the ponds to degradation and has resulted in only one pond now suitable for drinking water. The carrying capacity of the land is low and the farmlands are susceptible to soil erosion as a result of continuous cultivation. Soil and water conservation are not actively practiced.

Women appear to have more details than the men on resources and also on groups and organisations that work in the area. Women identified most of the organisations addressing food security and natural resources. Men on the other hand were able to identify more organisations but were not able to provide the details on what these organisations do. A report from the household survey indicates that women do most of the community work in this village, which the findings of this report support.

The groups identified a total of 17 organisations: 7 by women and 10 by men. Out of the 17, a total of 53% were involved in food security and 47% in NRM. Forty-one percent operated in the community, 18% in the locality and 41% beyond the locality. Most organisations are formal and state organised. Members fund half and 40% are funded by the state. External funding is very limited. There appears to be no projects that have led to the creation of groups in the community. The low level of knowledge on the attributes of the groups was almost equal between the men and the women. The results imply limited local initiative, weak presence of civil society and a strong government presence. There were 6 links identified related to food supply and 4 links related to capacity building. There were no links related to funding. The absence of funding links supports the earlier observation that there is little presence of civil society. That said, the political landscape is also changing from a one party state to a multiparty state/democracy. This may mean more space for civil society and less government influence in the organisational landscape.

Maluana's isolation and community organizations impact its information network. Communication was reported as poor and villagers felt marginalized. Cell phones with radio capability are owned by most people and are the main source of information. With limited transport opportunities and poor infrastructure some information is exchanged informally at markets and by word of mouth. Information also comes from the organizations identified, including community groups, NGOs and public agencies. Government information flows from Mapai to the village level while other organizations engage throughout the network to provide services and information.

Implications for CCAFS

There are a range of ways in which CCAFS can support the village in addressing its challenges, including: 1) Capacity building to mitigate gaps in the organizational landscape; 2) Build community capacity on collective action to promote more community organisation and strengthen civil society; 3) Create awareness on the need for organisations to interact horizontally and vertically; 4) Build capacity on alternative livelihoods, agricultural diversification and animal husbandry; 5) Build capacity on resource mobilisation as an approach to addressing food crisis; and 6) Build capacity on sustainable resource management.

Organizations that are best placed to mobilize the community at the village level are the local administration and local groups. The local administration has the stamp of authority for legitimacy and the community groups have the good will of the community. These combined attributes create a favourable environment for community mobilization and meaningful participation. The results of this study indicate that such pairing is possible, for example the office of the local chief and the community Chief/Bloco1 can combine with the Community Water Point Group for greater impacts. Organizations best placed to mobilize resources are organizations that operate beyond the locality because external linkages are important for resource mobilization. Government's recognition and

goodwill is also important for the operations of such organizations in addition to its network to scale up and replicate interventions. In view of this a working combination of civil society and public agency is ideal. Among the organizations noted by the groups, those presented in Table 8 are of particular interest for CCAFS.

Table 8. Potential CCAFS partners

ORGANISATION	SPHERE OF OPERATION	ACTIVITIES	STRENGTH
IUCN	Beyond Locality	NRM	Forest protection
Ministry of Health	Beyond Locality	Health	Health interventions
Ministry of Agriculture	Beyond Locality	Agriculture and Food Security	Agriculture interventions
OMM	Beyond Locality	Community Development	Affiliation with Frelimo
Community Water Point Group	Village	NRM	Water resources

Recommendations for major opportunities

Food security and natural resource management are significant issues and capacity building and resource mobilization would greatly benefit the village. Forest resources in the community are at risk due to uncontrolled harvesting. There is need to implement sustainable forest management to protect the forest from overexploitation. Water ponds are the main sources of water in the community, however the water quality is poor and the ponds are under increasing pressure from over extraction and encroachment by cultivators. There is need to develop other water resources such as wells and rainwater harvesting to improve the quality and quantity of water available to the community. Plenty of land exists for farming but it is not viable due to water limitations, poor soils and lack of mechanisation. There is the need to introduce more drought resistant crop varieties and as well as soil and water conservation technologies to improve agricultural output. Livestock such as cattle, sheep, goats and poultry should be promoted to increase the livestock numbers that are currently very low. Ideal species must be identified. The carrying capacity of the land is low therefore it is important to identify viable alternative livelihood activities to reduce the pressure on natural resource based livelihoods such as agriculture and charcoal production. Social services such as health and education need to be expanded and improved and trade promoted to strengthen the wellbeing of the community. Communication infrastructure such as roads, railways and radio should be improved to provide quick and timely connectivity. These challenges provide a basis for opportunities that can be supported through research and development interventions, as highlighted in Table 9.

Table 9. Recommendations for major opportunities

Gaps in knowledge/ current constraints that could provide opportunities/niches for CCAFS and partners	Opportunities for research (CCAFS)	Opportunities for action research (CCAFS partners)	Development interventions (Partners)
1. Improve soil fertility	X	X	
2. Sustainable forest management		X	X
3. Diversification of crops		X	
4. Diversification of livelihoods		X	
5. Strengthen community organisations			X
6. Improve formation of groups/improve collective action		X	X
7. Empowering women/creation of awareness		X	X
8. Extension service to help improve livestock production/pig/sheep/goat/chicken		X	X
9. Watershed management/water resource management	X	X	X