CGIAR Research Program on
Climate Change, Agriculture and Food Security (CCAFS)

Village Baseline Study: Site Analysis Report for Yatenga – Tougou, Burkina Faso (BF0107)

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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://ccafs.cgiar.org/resources/baseline-surveys).

Abstract

The village baseline study of Kononga village in the CCAFS site Yatenga-Tougou in Burkina Faso took place from 19th to 21st July 2011. Focus group discussions were conducted separately for men and women.

Male and female participants believe that the natural resources in the village are deteriorating due to population increase and labour shortages related to the exodus of young people to gold mining sites. The village's vision of the future includes more productive and fertile farmland, a denser forest, deeper and wider water reservoirs, and more boreholes.

The men identified 21 organisations in the village, including 9 operating at the community level, while women identified 17 organisations, 10 of which operate at the community level. Men are considered the most important personal source of information in the village. The regional directorate for agriculture, hydrology and fishery resources (DRAHRA) is the single most relevant institutional source of climate and weather information for both male and female participants. Men and women gather information from outside the village via radio broadcasting and particularly Radio "Voix du paysan" (Voice of the Farmer). The market is the most important channel of information access for women.

Women have a substantial role in agriculture and livestock production, as well as natural resource management but they have limited access to land or to improved technology or equipment, and few training opportunities.

Keywords

CCAFS Baseline; Burkina Faso; village study; participatory mapping; organisations; access to information

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Introduction

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a strategic ten-year partnership between the Consultative Group on International Agricultural Research (CGIAR) and the Earth System Science Partnership (ESSP) to help the developing world overcome the threats posed by a changing climate, to achieving food security, enhancing livelihoods and improving 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 organizations 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 are implementing 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.

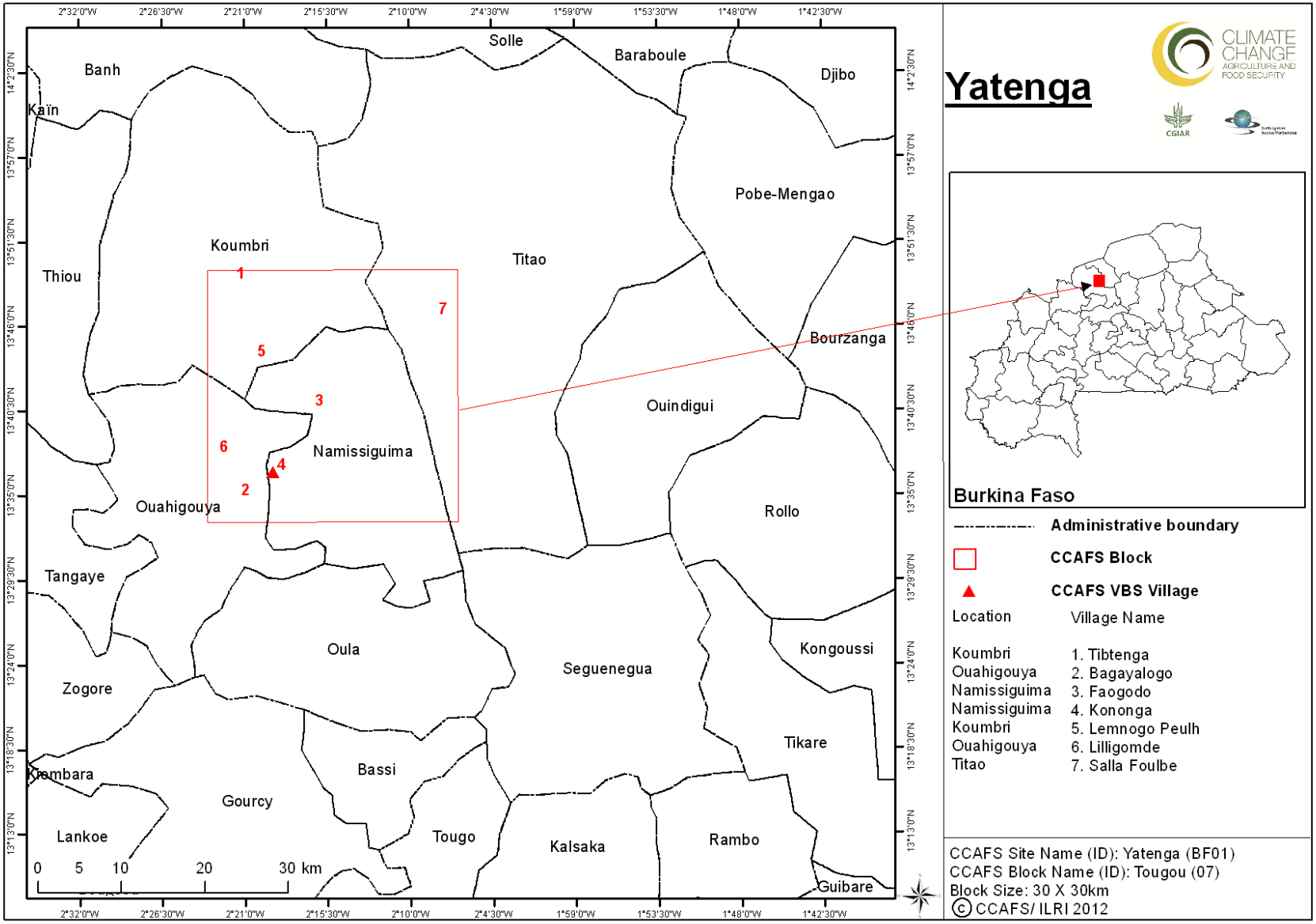
The focus of this site analysis report is the village baseline study (VBS). To date, fifteen VBS were conducted in the three CCAFS regions. The VBS aims to provide baseline information at the village level about some basic indicators of natural resource utilisation, organisational landscapes, information 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 village baseline study 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 village baseline study 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 Kononga village in the Yatenga site, Burkina Faso



This report presents the results of the VBS conducted on July 19 to 21, 2011 in the village of Kononga, Burkina Faso (Map 1). The village geocoordinates are 13.609, -2.319. Back in May 2011, Faongodo village was deemed best suited for the VBS based on one of the requirements that the village be located at the centre of the CCAFS block. However, the results of the household survey showed that the majority of the inhabitants of this village were nomadic Peulh herdsmen. It therefore became difficult to identify the households involved in the household survey. It is in this context that the local site team leader, Dr. Léopold Somé, suggested replacing Faongodo village with Kononga village. Kononga was second placed in terms of proximity to the centre of the block.

On 16-17 July 2011 the preparatory stage of the VBS took place. The local team leader and two translators, who are agricultural extension officers based at Ouahigouya, visited the village. Given that the meeting fell on a weekend, the team was unable to meet administrative authorities (the mayor and the area police chief). However, the village representative, the local authority councillor, the chairman of the village development council and the agricultural extension officer were present.

Considering that the VBS coincided with the planting and replanting season characterized by a great deal of work in the fields, the local site team feared that not all the randomly identified households might be available. To counter this, and without deviating from the CCAFS VBS guidelines regarding household selection, the team invited 20 participants instead of the recommended 15. Instead of invitation letters, 3 boys dispatched cards to each sampled household, which bore the household number and the day for the invitation. The men received blue cards while the female heads of households received orange cards.

In conformity with CCAFS guidelines, the research team held a meeting to harmonise the understanding of the local and regional teams in terms of the tools to be used in data collection. The meeting also gave the team the opportunity to review the program for the three days' work in the field. Meanwhile, the translators were trained to ensure a clear understanding of key concepts. The fact that three team members understood the local Mooré language also worked to the team's advantage.

The actual study took place from 19-21st July 2011. On the first day, the local team leader led a public community meeting. After the usual greetings, he introduced the visitors (the regional team) to the people present. He presented the key findings of the household baseline survey that had been conducted earlier (see the household baseline analysis report for Burkina Faso on the CCAFS website http://ccafs.cgiar.org/resources/baseline-surveys), and then gave the villagers a chance to comment. The villagers expressed that the research results were accurate and consistent with the villagers' experiences. The three-day program was presented to the invited participants for the VBS. Furthermore, in order to create the future vision of the village, the local authorities helped to choose two young men and three young women, who knew how to read and write, to take photographs of landmarks in the community about which they felt proud or not.

The focus group discussions took place in two classrooms of the village's primary school, which was made available by the village's Association of Parents of Pupils. Men and women met to discuss separately. Each group addressed the prescribed topics, namely the identification and management of natural resources by the community, the interpretation of satellite images, the analysis of organisational landscapes and information networks, and the community's vision for the future.

During the three days of the study, the note-takers progressively filled in the debriefing report, recording results of discussions on which there was consensus. After completing the debriefing form, the team proceeded to draft the site analysis report. Following the example of other countries, each person had a section of the report to write. This was done in a revolving manner so that each person had a chance to analyse each part of the report. The different parts of the report were then merged, followed by individual reading of the report. The group then met to fine-tune the report.

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 perceived drivers of change. Another 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 on http://ccafs.cgiar.org/resources/baseline-surveys).

A. Current resources

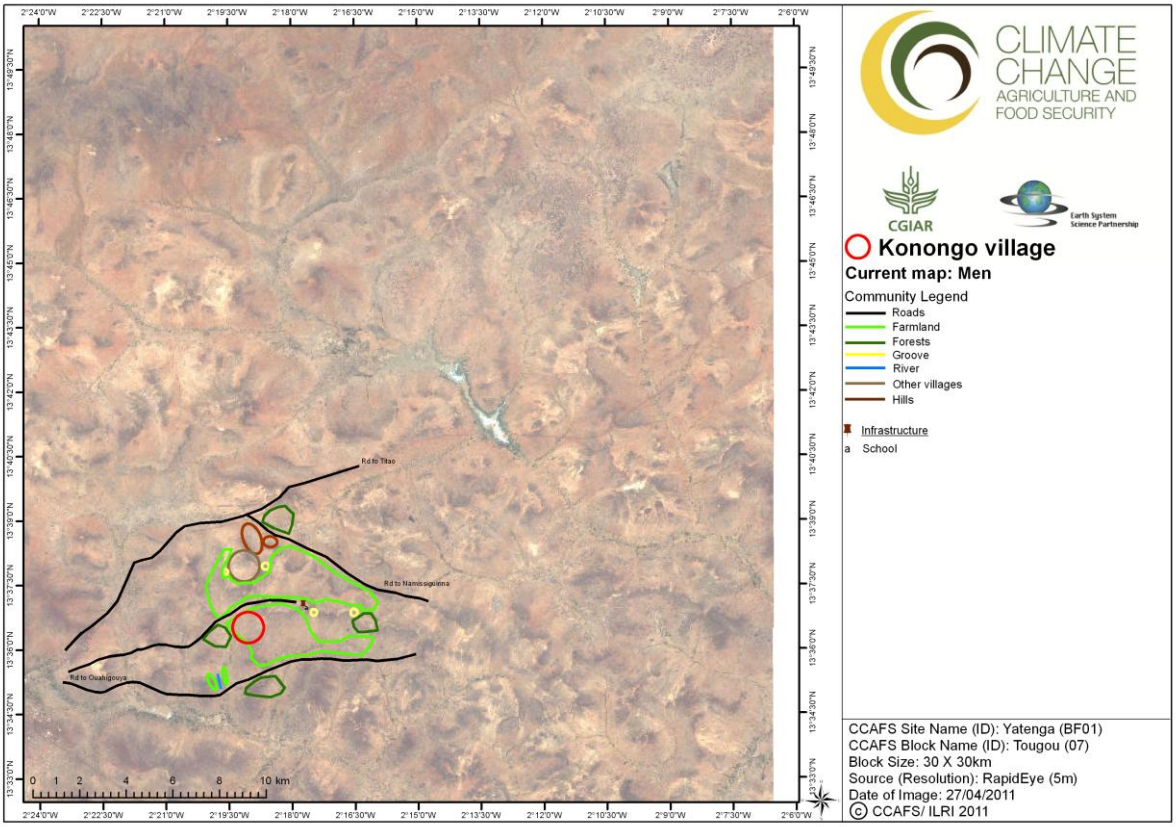
On the blackboard of the classrooms at Kononga Primary School, where the discussions were held, the groups of men and women drew maps with the natural resources and infrastructure in the village. The maps were then transferred to flipcharts, as the example below shows (Photo 1).

Photo 1. Village map as designed by women

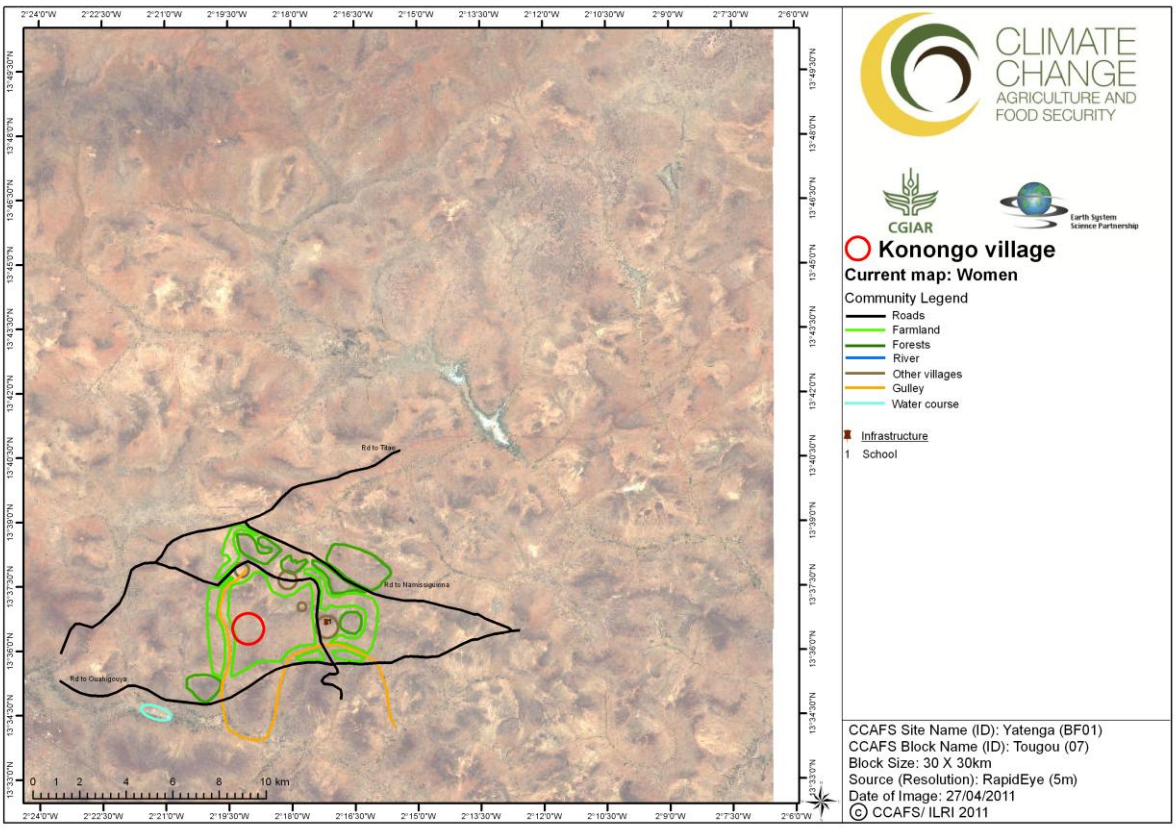
The CCAFS team then showed the satellite image to the two groups. The men first identified the three neighbourhoods as well as the village primary school on the satellite image. Iron-roofed houses guided them in identifying the neighbourhoods. The women also identified the three neighbourhoods using three white dots visible on the satellite image. According to them, the fourth point in the middle was the school.

Once the men were familiar with the satellite image, they identified shrubland, tree plantations, groves, water reservoirs and farmland of generally poor quality (Map 2). Men also identified socio-economic infrastructure. This included a primary school, an Islamic religious school, mosques, grain mills, boreholes, wells, a health centre (CSPS), a market and a vaccination centre.

Map 2. Men's map of current community resources



Map 3. Women's map of current community resources



Women identified the resources of the village as farmland, water resources (ponds, backwaters, etc.) and bushes, and mentioned that the quality of those resources was poor (Map 3). Former forests have today turned into scrubland; a lot of plant species are disappearing, and gullies were noted. The infrastructure includes boreholes (with pump) and modern or improved wells and traditional wells, mosques, the multipurpose arena, grain mill, market, dispensary, church, public school, 3 Islamic religious schools, cereal bank, and the literacy centre. This relatively vast infrastructure is more or less freely accessible.

Both men and women identified three types of natural resources that are listed in Table 1, below. These resources are vegetation (trees and shrubs), surface water and farmland. Participants identified the following uses made of vegetation: pasture for animals; collection of firewood (important for women); small-scale hunting of small game (partridges, hare), timber (construction of sheds and houses); and wood for energy. Non-ligneous forest products (liana, shea), firewood and timber are collected from the trees remaining in the fields. Bluestem grass is also collected for roofing of houses. Water makes it possible for men to engage in irrigated horticultural production (onions, tomatoes, cucumber, cabbage, and lettuce), to water their animals and to make bricks. It was difficult for the male and female groups to estimate the time taken to access these resources. Also, often the environmental benefits as well as opportunities offered by these resources were not well stated.

Generally speaking, the current state of natural resources does not present a very encouraging picture, as they are in a state of continued degradation. Shrubs, bushes and the sacred grove are all degraded, and the landscape is devoid of any thick vegetation. People cut down trees in order to get firewood and building materials. The village has committees that regulate the use of natural resources including boreholes, wells, the water reservoir and communal land.

Table 1. Summary of current situation, as perceived by men (M) and women (F)

Land cover class	Community determined land use	Location Names	Current state (quality)	Time to resource	Management/ ownership issues	Environ-mental Benefits	Opportunities	Limitations
Shrubs (M)	Grazing land. Gathering of firewood by women. Hunting small game (Partridge, hare)	Tamiougou, Ignongma	Degraded	50 min on foot	Community resource. Free access	Refuge for wild animals	Provides opportunity for young people to discover certain animals	- Loss of vegetation - Arbitrary cutting down of trees.
Bushes (F)	Collection of firewood. Gathering of wild leaves and fruits for eating and processing.	Sabsin hill Goubre hill and Tingandin hill in the South	Trees are weak, roots superficial; often uprooted by strong winds. Trees are destroyed through cutting down, by termites due to drought. Landscape is clear of thick vegetation. Tree yield is irregular. Depending on species, yield is good 1 yr out of 2 or 3. This year, shea yield was good.		Community bushes. Management committee metes out punishment for cutting down of live trees; payment of fine or ban on cutting down trees.	Bushes act as barriers against strong winds. Animals feed on vegetation.	Promotion and processing of non-ligneous forest products such as shea butter, creepers, neem	Trees are no longer strong. Trees are dying due to the effect of strong winds, termites and the cutting down of live trees. People have been known to fall off these weak trees.
Tree plantation (M)	- Timber (for construction of sheds and houses)	Tree plantation at school - Tree plantation at water reservoir	Neem and eucalyptus in good condition		Plantations at water reservoir under community management Those at school managed by State.	- Protect soil from dryness, improve soil fertility - Wind breakers - Shade	-The plants are not edible	Insufficient rainfall - Random cutting down of trees.
Sacred grove (M)	Use prohibited	Several names	Degraded	2 to 3 min.				

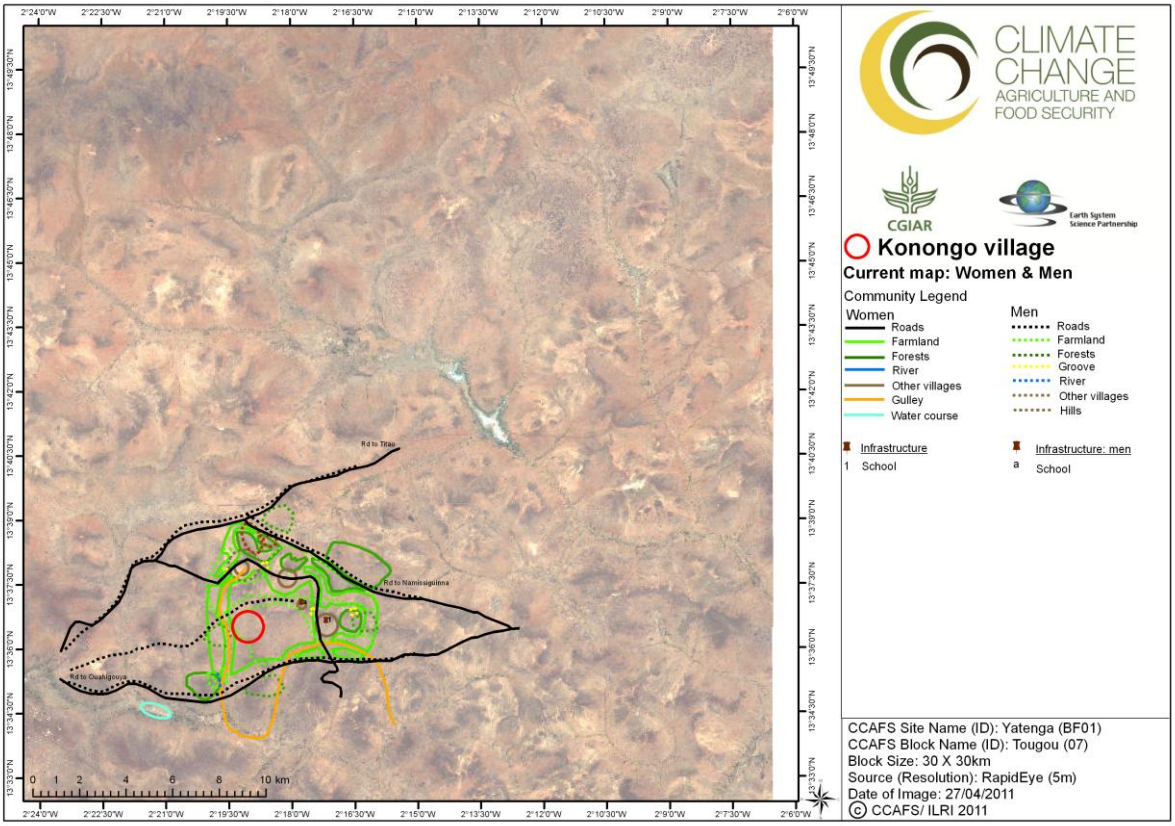
Land cover class	Community determined land use	Location Names	Current state (quality)	Time to resource	Management/ ownership issues	Environ-mental Benefits	Opportunities	Limitations
Water reservoir (M)	- Horticulture (onions, tomatoes, cucumbers, cabbage, lettuce etc.) -Drinking water for animals -Brick-making	Canare	-Wide but not deep - Temporary water source (dries up 2 months after rainy season) - Decrease in reservoir's water holding capacity.	40 min on foot	Land around reservoir belongs to Madi Ganame. To grow vegetables, one only needs to ask him.	Renewed growth of trees, shrubs at water reservoir - Refuge for animals	-Horticultural production - Drinking water for animals	-The reservoir is filling with sand
Water resources (ponds, back-water boreholes, wells) (F)	Men practise horticulture around backwater. Women wash clothes. Herdsmen water animals.	Backwater is called Sampala. Pond is situated in Tingandin. There are 5 boreholes in Kononga village. There are wells in all three localities	The backwater has been filling with sand over time. It was a type of dam and the presence of water is no longer permanent as the flow of water is drying up earlier	1 to 3 Km (distance differs)	Under management of the community	Trees adjacent to water points do not die. The water table rises and animals drink the water.	Improved availability of surface water will enhance horticulture, extend activity to women who want to practise it	Water dries up. Two boreholes in Tingandin do not satisfy needs of community. Wells are dry 3 months out of 12. Several wells are damaged and cannot be used.
Farmland (M)	Fields of sorghum, millet, cowpeas, sorrel, sesame, groundnuts, vouandzou, fonio, maize.	Infields/ outfields named after bushes		40 to 50 min for infields that are furthest from the village	Individuals or families -Acquired through inheritance - Given as usufruct	-Pasture for animals	-Collection of non-ligneous forest products (creepers, shea nuts), firewood, timber from trees in fields. Collection of bluestem grass for roofing.	Insufficient rainfall Poor soil needs fertilizer Population increase Lack of agric. materials Lack of labour due to exodus of young people to gold mines

Land cover class	Community determined land use	Location Names	Current state (quality)	Time to resource	Management/ ownership issues	Environ-mental Benefits	Opportunities	Limitations
Farmland (F)	Cultivation of millet, sorghum, groundnuts, sorrel, vouandzou and maize to a lesser extent.	Poubilin in the North, Tambega in the East, Tanmigui in the South	Vast but infertile land. People use traditional soil conservation techniques such as Zaï, stone contours. Use of organic manure is indispensable if one is to expect a harvest. These techniques are mandatory. They aid water retention and infiltration thereby ensuring better soil moisture.		Husbands give women plots of land. The head of family allocates to each housewife a piece of the communal land	Compost enriches and improves soil structure. It enhances water infiltration and retention	Accessing plough to restore soil fertility	Lack of land for women who have no access to manure and no means to buy chemical fertilizer. Young women do not have training in making of compost.
Gulley (F)	It is named the road of "Kosoré" water	It goes from North of the Goubré hill to the South West	Non-existent before but it is getting progressively wider and deeper		Managed by the local authority	None		Uproots trees, destroys crops. Renders village inaccessible during rains
Infrastructure								
Roads (M)	Means of communication with adjacent villages	-Bagyalga road -Rikou road.	2 laterite roads in fairly good condition, 1 dirt road that is unusable during rainy season because of gullies.		Public resource			
Roads (F)	Movement between villages and neighbour-hoods	North road on village fringes and road that cuts across 3 neighbour-hoods, North (to Bagyalgo) to South (to Rikou)	The main track has been filled and widened and is in a better condition		Managed and maintained by local authority. Free and unrestricted use.			

B. Gender-differentiated comparison of current conditions

Map 4 compares the current conditions of resources identified by male and female participants. The listing of resources was more or less exhaustive for the male and female groups. Both groups largely coincided on the resources and infrastructure they cited in the appreciation of the quality of and access to those resources. Some differences were noted, however, in the naming, listing and utilisation of resources. For instance, the women called "bushes" what men referred to as shrubs/scrubland. The names given to some places were also different. The women referred to the resource called Canaré as a backwater, which means water reservoir. The women preferred the term backwater because the source dries up early. The terms used by men and women for farmlands were also different. The women said they received patches of land from their husbands who give them a portion of their farms. From this standpoint the women referred to farmlands using the term that the men used for the bush. Only the men identified other resources, such as tree plantations and a sacred grove.

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



The men and the women of both groups listed the different resources according to how they specifically view each resource. For example, the men listed as additional resources the tree plantation and the sacred grove and omitted the multipurpose arena that is run by the women but used by the entire community. The women listed the main gulley but did not mention the livestock vaccination centre, since they are not involved in livestock keeping. Apart from the rare omissions, one can say that each group identified the resources that interest them or which have a bearing on their activities.

The infrastructure cited by the men encompassed a primary school, an Islamic religious school, mosques, grain mills, boreholes, wells, a health centre, a market and a vaccination centre. On the other hand, the infrastructure named by the women included boreholes (with pumps), modern and improved or traditional wells, mosques, the multipurpose arena, the grain mill, the market, the dispensary, the church, the school and the literacy centre.

As far as the use of resources is concerned, it emerged that farmland is located in infields and outfields and that the land is used differently by men and women. The men cultivate maize, sorghum,

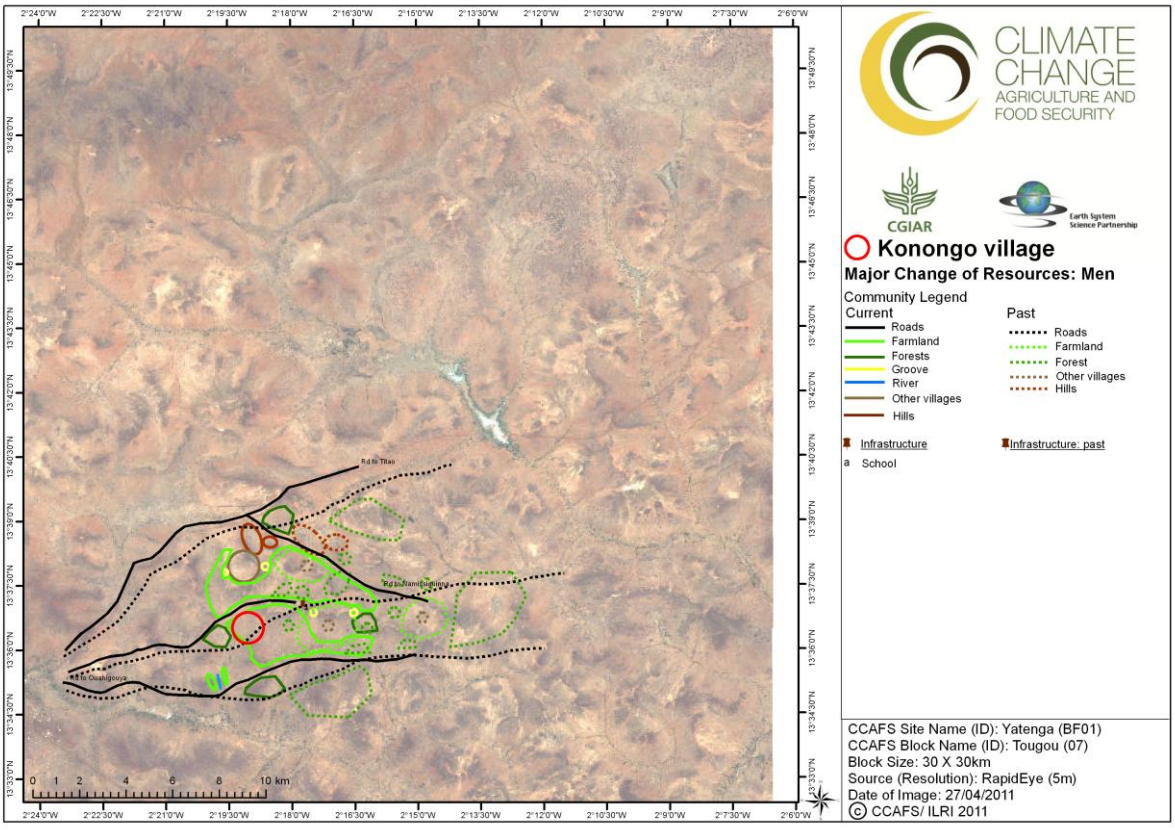
sesame, fonio (*Digitaria exilis*) and vouandzou (*Vigna subterranea*), while the women generally produce millet, sorrel (*Rumex acetosa*), groundnuts and several varieties of cowpeas.

The groups of men and women cited numerous constraints in relation to the community's management of natural resources. These constraints include low fertility of soils; difficulty accessing organic manure and no means to buy chemical fertilizer to improve their output; loss of vegetation; indiscriminate felling of trees; and insufficient rainfall. The management of resources was also perceived as being affected by an increase in population and increasing needs and labour shortages due to the exodus of young people to gold mining sites. Women have a substantial role in agriculture and livestock production, as well as natural resource management in the village. This notwithstanding, they have limited access to land (they are allocated a piece of the communal land), access to improved technology or equipment, and few training opportunities. For instance, female participants said that they had never been trained in compost production (they learn as they work with their husbands).

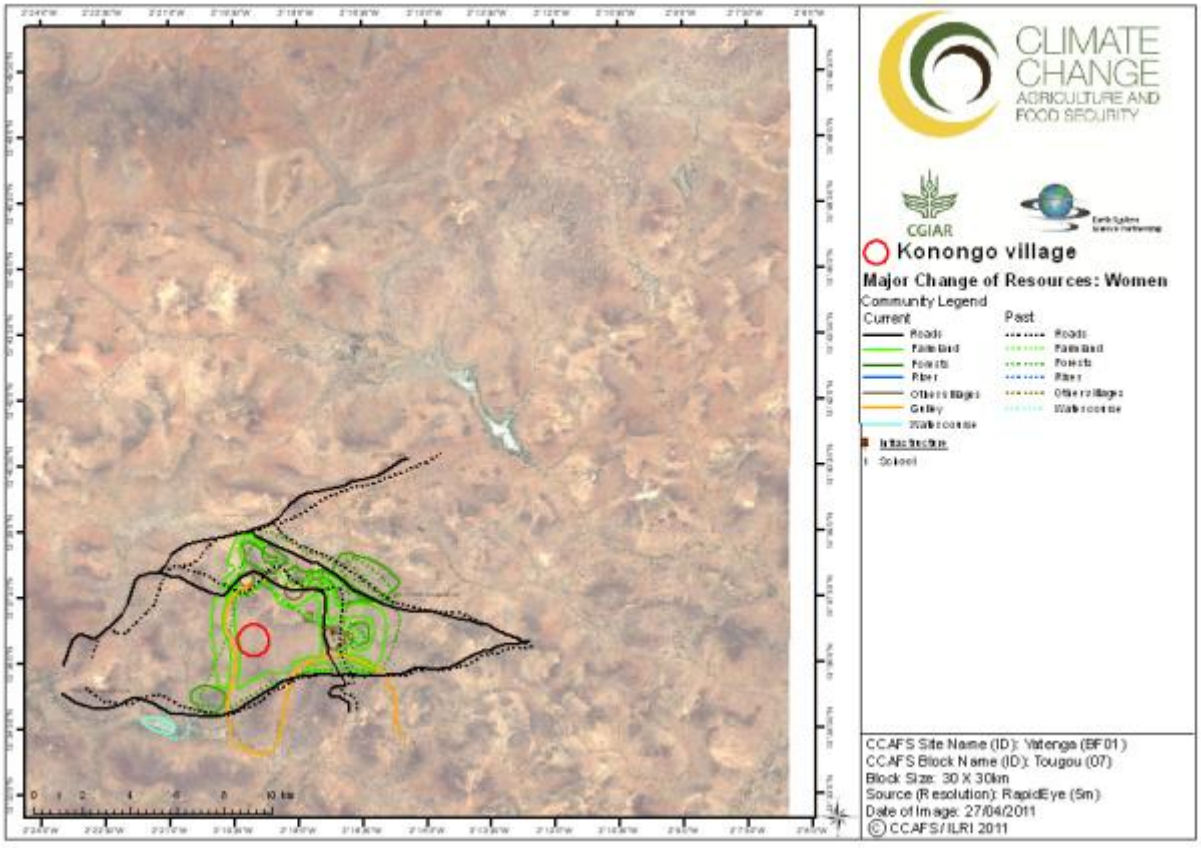
C. Major changes of resource conditions

Participants were asked to consider the resources they had in their community, to discuss the history of land use and to identify major changes that had occurred in the landscape in the past 10 years. In addition, participants were to examine how the resources got to the current condition and the major drivers of changes; as well as opportunities and constraints into the future. In the following pages the results of those discussions are summarized both on maps traced on top of the satellite images for the village (Maps 5 and 6), and a table that includes the major changes and drivers of change, as perceived by male and female participants.

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



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



An analysis of Table 2 reveals differences and similarities in the perception of males and females regarding changes in the state of natural and other resources in the last 10 years, as well as the driving factors of the changes recorded. The description of the past state of the forests is basically the same in both groups, but women presented a more precise description of the past state, and also had a more detailed description of the drivers of change. Thus, men included reduction in rainfall and increase in human population among the drivers of change that explain the current state of the forest while women identified a wider array of drivers. These included:

- The disappearance of trees due to termites' attacks, which increased as a result of drought stress
- Gullies that uproot trees
- The weakness of trees due to the superficial nature of their roots
- Low density of vegetation worsened by water erosion leaving the ground bare
- Current heavy pressure on the forest by humans and animals

The descriptions of the past and current states in farmland were similar for both males and females but in this case men were more precise and more detailed in their description of drivers of change. While women mentioned drought, erosion, soil degradation and increase in human population, men named the following drivers of change for farmlands:

- Reduction in rainfall
- Reduction of soil fertility
- Increase in human population
- Increase in the area under cultivation
- Introduction of inappropriate techniques of soil use by GERES (in the 1960s), which led to soil erosion

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

Resources	Past state	Current state	Drivers of change
Forests (M)	Dense forest with long grass and wild animals (hyenas, lions, antelopes, deer etc.)	Degraded.	- Lower rainfall. - Population increase.
Forest (F)	A truly thick forest, not far from the houses. Vegetation was dense and there were wild animals	The trees are weak and their roots superficial. They are often uprooted by increasingly strong winds.	Disappearance of trees due to termites, which are driven to eat the roots under drought conditions. -Gullies that uproot trees. - Trees weak due to superficial roots. -Low density of vegetation worsened by water erosion that leaves ground bare. - Current heavy pressure on the forest by humans and animals.
Farmland (M)	Very fertile land.	Poor and degraded land.	- Reduction of rainfall. - Reduced soil fertility. - Increase in population. -Increase in land area under cultivation. - Introduction of inappropriate techniques of soil use by GERES leading to soil erosion.
Farmland (F)	Small farms but with significant productivity.	Vast but infertile land. People use soil conservation techniques such as zaï and stone contours.	Drought and erosion. Soil degradation. Increase in human population.
Sacred Grove (M)	Dense and bushy.	Degraded.	- The advent of Islam. - Government policy placed the management of forests under water and forests chiefs rather than land chiefs.
Water Resources (F)	The backwater was a dam of some sort. Flow of water from wells was good and regular.	The presence of water is no longer permanent in the backwater. The flow of water is drying up earlier.	In-filling by sand over time. Reduction of rainfall.
Roads (M)	Poor condition (smaller and narrower).	Two laterite roads in fairly good condition and one dirt road that is unusable during the rainy season because of gullies.	--Population increase. - Increase in wealth. - Increase in knowledge.
Roads (F)	Small and not well demarcated.	Main track was filled, widened and is in better condition.	Involvement of local authorities in filling and demarcating the road.

Regarding roads, the description of the past state is similar for men and women. The description of the current state is also similar, except for the assertion that a gully renders one of the dirt roads impassable during the rainy season. The drivers of change are however described differently by the men and the women. The men mentioned that it is the increase in traffic, as a result of population increase, that made the rehabilitation of the road necessary. The women, on the other hand, think that it was due to decentralization that the local authority repaired the road.

As stated above, only men mentioned the sacred grove and only women mentioned the water reservoir.

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 the work completed in the previous sessions. In addition, the exercise took into account the photos of the landscape, including things they are proud of and things that need to be improved upon in the future, that a group of young people had produced.

In the section below we include the map that shows Kononga village's vision of the future (Map 7). We also include some of the photographs taken by the youth. These images illustrate the collective vision of the future.

Map 7. Future map of the community

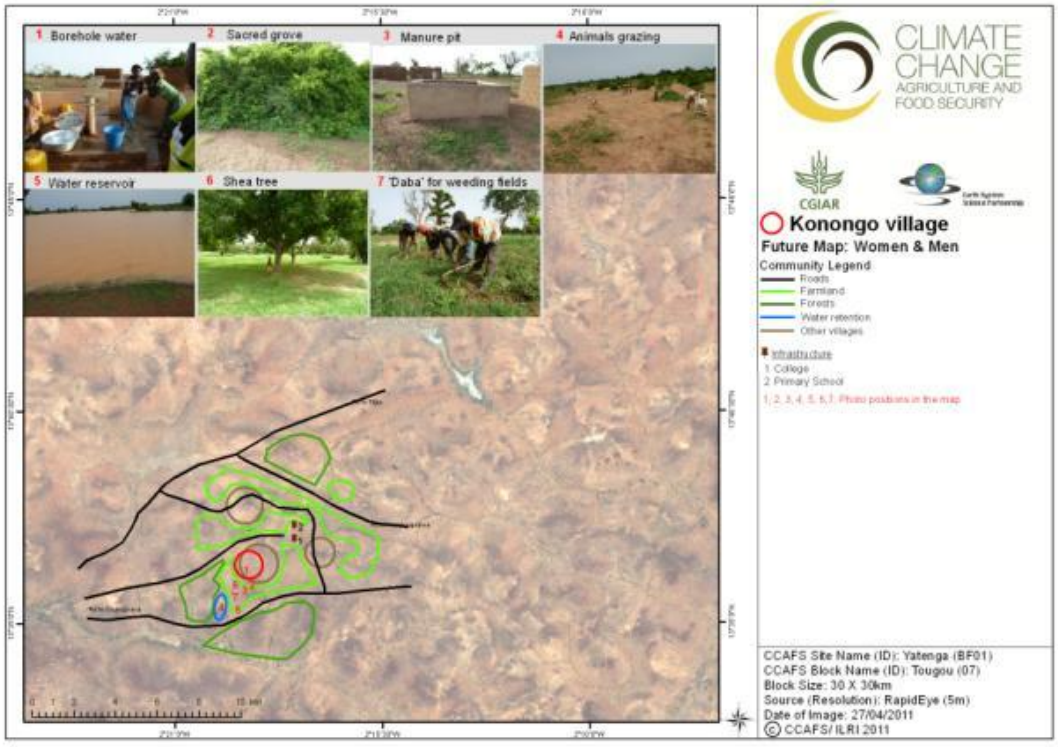


Photo 2 shows that there are many women for one borehole. The young male photographer wished that there would be more boreholes to accommodate all the demands in the village. Photo 3 depicts the community's sacred grove. The male photographer hoped that the village community would stop cutting down trees. The sacred grove enables the growth of more trees and shrubs as felling of trees is forbidden in this place. The ban on the cutting down of trees helps to preserve the forest.

Photo 4 shows a manure pit. According to the male photographer, it is impossible to get a good harvest without the use of organic fertilizers. He wished that other farmers would construct manure pits like the one he photographed. Photo 5 portrays animals grazing in an area that is lacking in pasture because of reduced rainfall. The male photographer expressed his desire to have trees planted in this area.

According to the young man who took Photo 6, the water reservoir is a resource to be conserved so that horticultural activities may continue. Photo 7 highlights a shea tree (Vitellaria paradoxa). Elsewhere the shea tree is called karité. A child is holding a plate of shea butter under the shea tree. According to the female photographer who took the picture, the tree needs to be protected for the future. The tree is important for the consumption and production of shea butter extracted from the nut of the tree and traditionally used as cooking oil, medicinal product, for candle making and for hairdressing. Finally, Photo 8 depicts a group of farmers weeding a field that was cultivated with "daba" (hoe). Using the daba, the farmers use a method of direct planting without first ploughing the land. It promotes minimal disturbance of the soil. This explains the abundance of weeds in the field.

Photo 2. Women draw water from the borehole

Photo 3. Sacred grove

Photo 4. Manure pit

Photo 5. Animals grazing

Photo 6. Water reservoir

Photo 7. Shea tree

Photo 8. Weeding a field with “daba”

The village’s vision for the future is summarized in the Table 3, below. It contains the resources identified by the young male and female groups, the ideal conditions that the groups wish for, what would enable the realization of those conditions, the possible limitations as well as the organisations that need to be involved for those conditions to be realized. These were discussed with the broader community group present.

Generally speaking, the mixed group wished to see, as their vision for 2030, greater mobilization of financial resources for the rehabilitation of natural resources, which have suffered a lot of degradation due to human activity. The community, especially the youth, have hope and ambition for the future. To achieve these ambitions they are counting on themselves but also on partners. In the face of the constraints they encounter, the people are resorting to soil and water conservation practices such as the Zaï and stone bunds. The production and use of organic manure is indispensable and has been mastered by the men but not yet by the women. The people warned that if nothing was done in the near future in this village the young people would flee in risk of their lives and head to Namissiguima where some gold-mining sites have become the centre of attraction for young people from the area.

Table 3. Vision of the future

Resources	**Preferred condition for 2030**	**Opportunities**	**Constraints**
Roads	Ouahigouya – Titao; Rikou-Namissiguima; and Rikou-Goubré tarmac roads. Ouahigouya – Kononga road, larger and filled with laterite	The celebration of Maouloud every year at Ramatoulaye. Gold mining sites.	Disagreement and lack of unity among the people
Farmland	More productive and more fertile farmland	Promotion and popularization of manure pits. - Practising water and soil conservation Protection and restoration of soil (CES/DRS)	Disagreement among the people. Famine, lack of means.
Forest/ vegetation	A more dense forest	Reforestation campaign/tree planting; Agroforestry and promotion of Assisted Natural Regeneration (RNA); Fight against indiscriminate tree cutting	Lack of seedlings; Drought; Disagreement among the people
Water	A deeper and wider water reservoir; More boreholes	The fight against water erosion, treatment of backwater	Disagreement among people; Lack of partners; Lack of leadership

Topic 2: Organisational landscapes

This topic aims to show evidence of organisational capacities that help address food security and manage natural resources. This could inform CCAFS about how prepared the village is to respond to the challenges envisaged as a consequence of climate change or other 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, etc.

A. Basic spheres of operation

Participants were asked to draw three 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 organizations working in the area, names were written on cards, and cards placed in the appropriate circle. Thus, the group placed in the inner circle the cards of organizations that worked in the community, in the middle circle cards of organisations operating in the locality, and in the outer circle those that operated beyond the locality (see Photo 9). The results are shown in the images that follow.

Photo 9. The organisational landscape activity in progress

According to the administrative structure of Burkina Faso, the village represents the community level, while the local authority (commune) or the district (department) embodies the locality, province or region. The national and international levels represent organisations beyond local spheres of management.

Based on this structure, the men identified 21 organisations in the village of Kononga, including 9 operating at the community level, 9 at the local level and 3 at the national and international levels (Figure 1). Out of the 5 top organisations ranked by men, the first 3 are technical arms of the ministries of animal resources, agriculture and health operating at the local level (in the region), while 2 are community-based village organisations. The latter include the Association of Madrasa Pupils (AEM) and the Wendrabo group.

The women identified 17 organisations, 10 of which operate at the community level, 5 at the local level and 2 beyond the local level (Figure 2). Unlike men, the top 3 organisations ranked by women were community based, and included the Noongtaba de Goubré Group, the Koom Association and the Sougri Nooma de Sabsin Group. The fourth top organisation, the National Federation of Naam Groups (FNGN), operates at the local level while the fifth organisation (Health Services/dispensary) operates at the community level.

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 Yamlatuma group
2 Yabtenga
3 Wendrabo
4 Zai Association
5 The Cooperative group
6 Zaka Association
7 Naam group
8 Koom Association
9 Sougriyde group
10 Red Cross
11 FNGN (National Federation of Naam Group)
12 DRAH-RH (Regional Directorate of Agriculture, Water and Fishing Resources)
13 DRECV (Region Directorate of the Environment and Living Quarters)
14 DRRA (Regional Directorate of Animal Resources)
15 PNGT2 (National Program for Land Management)
16 APE (Association of Parent Pupils)
17 AEK (Association of Pupils Kononga)
18 DRS (Regional Directorate of Health)
19 AEM (Association of Madrasa pupils)
20 CGF (Borehole Management Committee)
21 DREB (Regional Directorate of Basic Education)

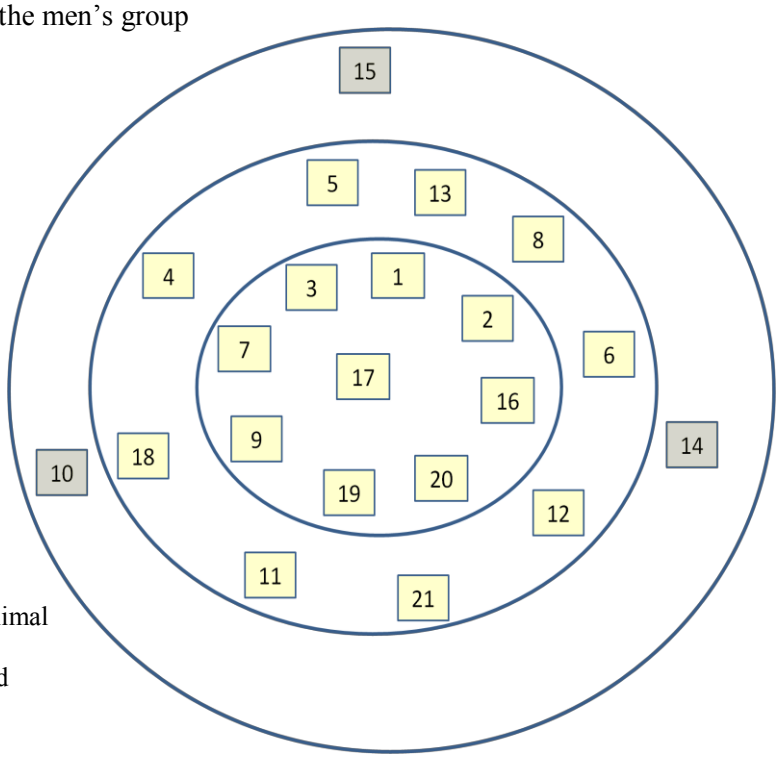


Figure 2. Organisational landscape of the women's group

Legend

1 The Nongtaaba de Goubré Group
2 Koom Association (village level)
3 The Sougrinooma Group
4 Wendpanga Association
5 FNGN (National Federation of Naam Group) (OHG)
6 The Agricultural Service
7 Koom Association (OHG)
8 Naam Group (village level)
9 The Multipurpose Arena
10 PNGT
11 Water and Forest Services
12 Livestock services
13 Association of former and current pupils
14 Health services
15 The Sougr N'yide group
16 Yam La Touma group
17 Education services

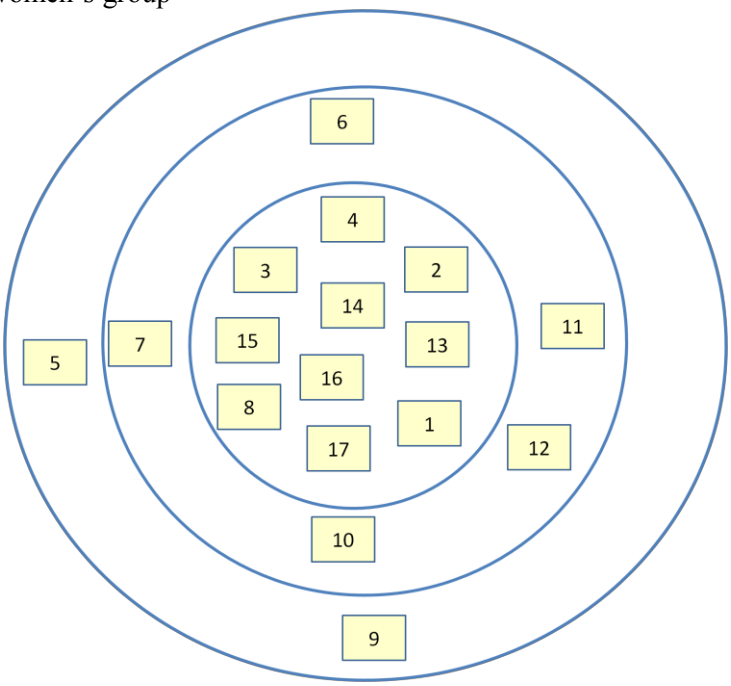


Table 4. Information on the first five organisations ranked by the men

							For community groups		
	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**	**Sources of funding (members, external, both)**	**Existed how long (less than 1 yr, 1-5, longer)**	**Formal or informal**
1	DRRA (Regional Directorate of Animal Resources)	Veterinary care and vaccination of animals			State	Local	External	More	Formal
2	DRAHRH (Reg. Directorate of Agriculture, Water and Fishing Resources)	Provision of seeds Training in agric. production techniques Training in water and soil conservation techniques (Zaï, stone contours, dykes) Support of agricultural equipment (carts, ploughs, animals for ploughing) Establishment of cereal banks and sale of cereal at friendly prices Training/support in manure production			State	Local	External	More	Formal
3	DRS (Reg. Directorate of Health)	Provision of treated mosquito nets Free maternity care.			State	Local	External	More	Formal
4	AEM (Association of Madrasa pupils)	Mutual help between members Communal farms (groundnuts) Education/Literacy Aid in form of educational supplies School canteen	35	Membership fee 1000 CFA/ person; monthly contribution of 50 CFA Francs	Local	Local	Members	More than 29 years	Informal
5	Wendrabo group	Communal farms (groundnuts, cowpeas, sesame); Mutual help in farm work	35	Membership 1000 CFA/P. Must be married	Local	Local	Both	More than 15 years	Formal

Table 5. List of first five organisations ranked by the women

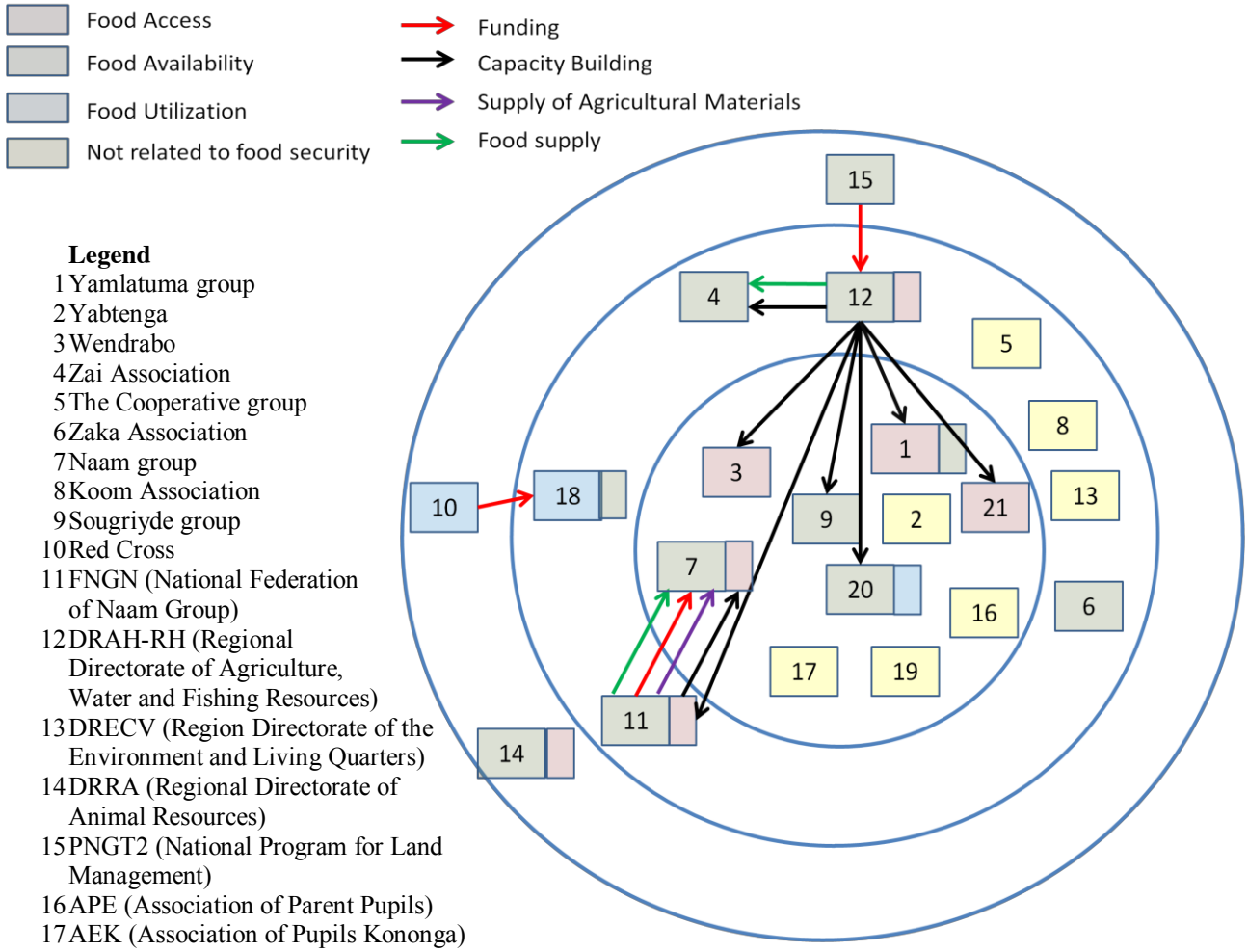
							For community groups		
	Organisation name	**Main activities**	**Number of members (estimate)**	**Access (open or restricted to…)**	**Origin (indigenous, state, NGO, project)**	**Sphere of operation: community, local, beyond local**	**Sources of funding (members, external, both)**	**Existed how long (less than 1 yr, 1-5, longer)**	**Formal or informal**
1	Nongtaaba de Goubré Group	Cultivation of groundnuts in a communal farm	100	Open	Neighbour-hood community group	Community	Revenue from sale of groundnuts from communal farm. Fines for absence or lateness of members	1-5 years	Informal
2	The Koom Association	Literacy classes for women; follow-up for first 2 years of initial and secondary literacy, third year of functional literacy. After women are literate, they give credit. Following this, a local association was formed. Some members were beneficiaries of improved cowpea seeds	30 beneficiaries each year	Restricted to 30	Local	Village and local	The Koom "mother" Association	1-5 years	
3	The Sougri Nooma of Sabsin	Cultivation of a communal farm of groundnuts, sesame and cowpeas.	> 100 women	Open to all women of Sabsin	Community	Community	Membership fee of 1000 CFA Francs	1 year	Formal
4	The National Federation of Naam Groups (FNGN)	Implementation of multipurpose arena project in Kononga. Support in form of equipment for managing gullies, constructing anti-erosion dykes and stone contours: Provision of material e.g. pickaxes, wheelbarrows. Training in production and use of compost.	Sougri Nooma Yam la Touma		NGO	Beyond local		Plus	Formal
5	Health service/ dispensary	Provides medical care to the people: food and food supplements to children.			State	Community			

B. Organisational landscapes of food security

The goal of this exercise was to get an improved understanding of how the organisational landscape contributes to food security of the group. Food security is mostly measured at the household level. Nonetheless, community-level organisations and interactions influence food security of different 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.

Not all organisations listed by men and women were involved in food security (Figures 3 and 4). Fourteen out of the 21 organisations listed by men, and 15 out of 17 listed by women, were involved in food security. The activities of 11 organisations cited by men and 13 cited by women revolved around food availability through support in agricultural production, which included provision of seeds, materials and equipment, and training in agricultural production techniques. Seven organisations identified by men and 5 identified by women had food access interventions. These interventions were mainly focused on the establishment of cereal banks, sale of food at reduced prices and support to income generating activities that increase financial capacities of households. Very few organisations are involved in food utilization (3 for men and 4 for women). These are the Health Service, Red Cross and CGF (Borehole management Committee) for men. For women, these are Health Service, Multipurpose arena, National Federation of Naam Groups (FNGN), and Education Service.

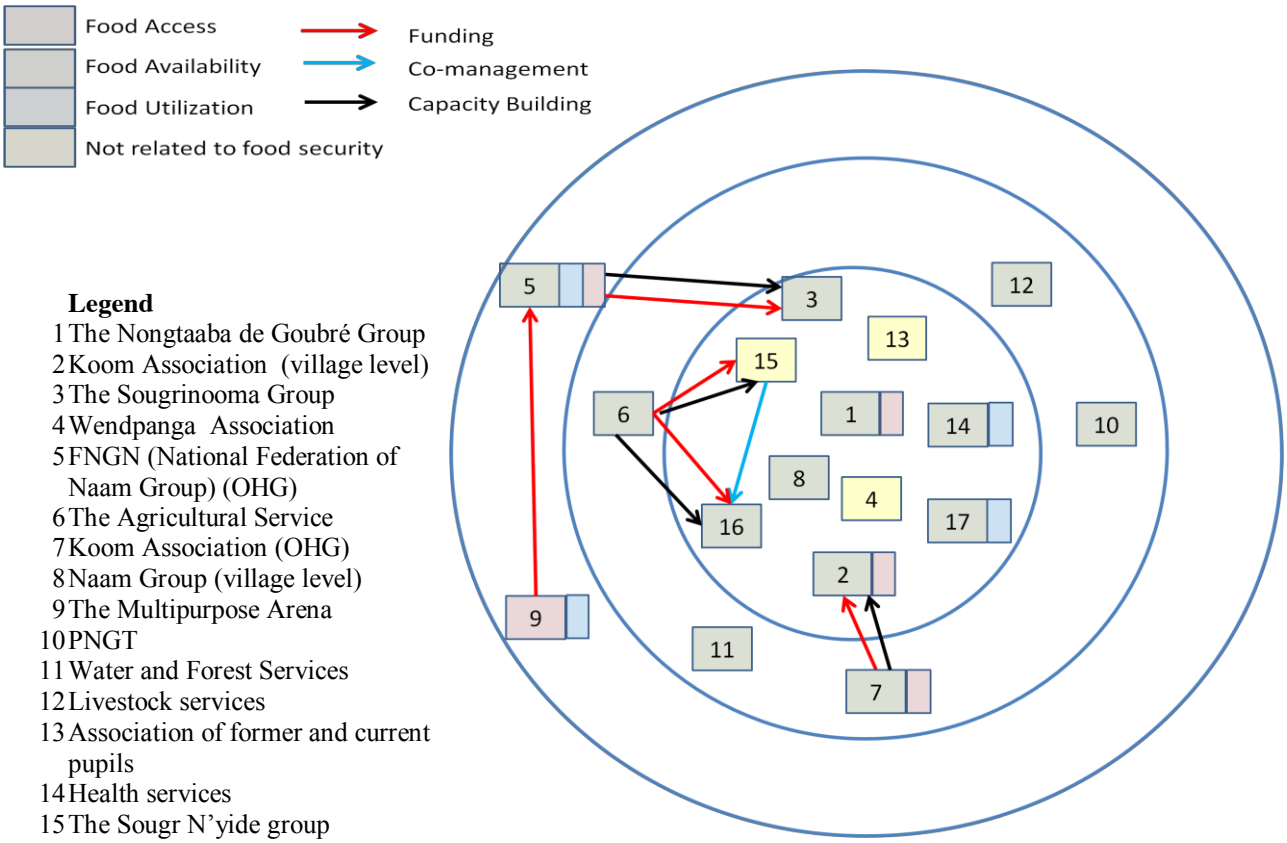
Figure 3. Organisational landscape of food security – men



Legend

1 Yamlatuma group
2 Yabtenga
3 Wendrabo
4 Zai Association
5 The Cooperative group
6 Zaka Association
7 Naam group
8 Koom Association
9 Sougriyde group
10 Red Cross
11 FNGN (National Federation of Naam Group)
12 DRAH-RH (Regional Directorate of Agriculture, Water and Fishing Resources)
13 DRECV (Region Directorate of the Environment and Living Quarters)
14 DRRA (Regional Directorate of Animal Resources)
15 PNGT2 (National Program for Land Management)
16 APE (Association of Parent Pupils)
17 AEK (Association of Pupils Kononga)
18 DRS (Regional Directorate of Health)
19 AEM (Association of Madrasa pupils)
20 CGF (Borehole Management Committee)
21 DREB (Regional Directorate of Basic Education)

Figure 4. Organisational landscape for food security – women



Legend

1 The Nongtaaba de Goubré Group
2 Koom Association (village level)
3 The Sougrinooma Group
4 Wendpanga Association
5 FNGN (National Federation of Naam Group) (OHG)
6 The Agricultural Service
7 Koom Association (OHG)
8 Naam Group (village level)
9 The Multipurpose Arena
10 PNGT
11 Water and Forest Services
12 Livestock services
13 Association of former and current pupils
14 Health services
15 The Sougr N'yide group
16 Yam La Touma group
17 Education services

C. Organisational landscapes of food crisis situations

The purpose of this exercise was to understand how organisations help people to cope in times of food crisis. Participants identified a food crisis situation that they remembered (e.g. a bad year or the lean season), and discussed how the organisational landscape of food security operated in that situation.

Participants identified one year when there was a food crisis on which to focus the discussion. The men chose 2005, while the women selected 2004/2005. Both groups coincided on defining these times as critical because drought destroyed crops and unleashed a major food shortage. According to the men, the crisis had its roots in the poor harvests of 2003 and 2004. Not only did rainfall stop early during the flowering stage of the crops but also the people used all their cereal stocks in those years. When 2005 arrived they had almost no reserves left. There was nothing to harvest during that year (cowpeas, oilseeds or cereals). The animals would die whenever they consumed straw or stalks of crops that became toxic, perhaps because they had not fully flowered.

According to the men, 4 organisations were involved in managing the food crisis of 2005 (Figure 5). These were World Food Program (PAM), the Regional Directorate of Agriculture, Water and Fishing Resources (DRAHRH), the Yamalatuma Group and the Sougriyidè Group. For their part, women indicated that the Burkinabe State and the Red Cross were institutions that helped in the 2005 food crisis (Figure 6). For both men and women, those organisations assisted with services related to food availability and food access. The Red Cross was involved in the area of utilization, and provided enriched porridge for babies.

Figure 5. Organisational landscape for food crisis situations – men

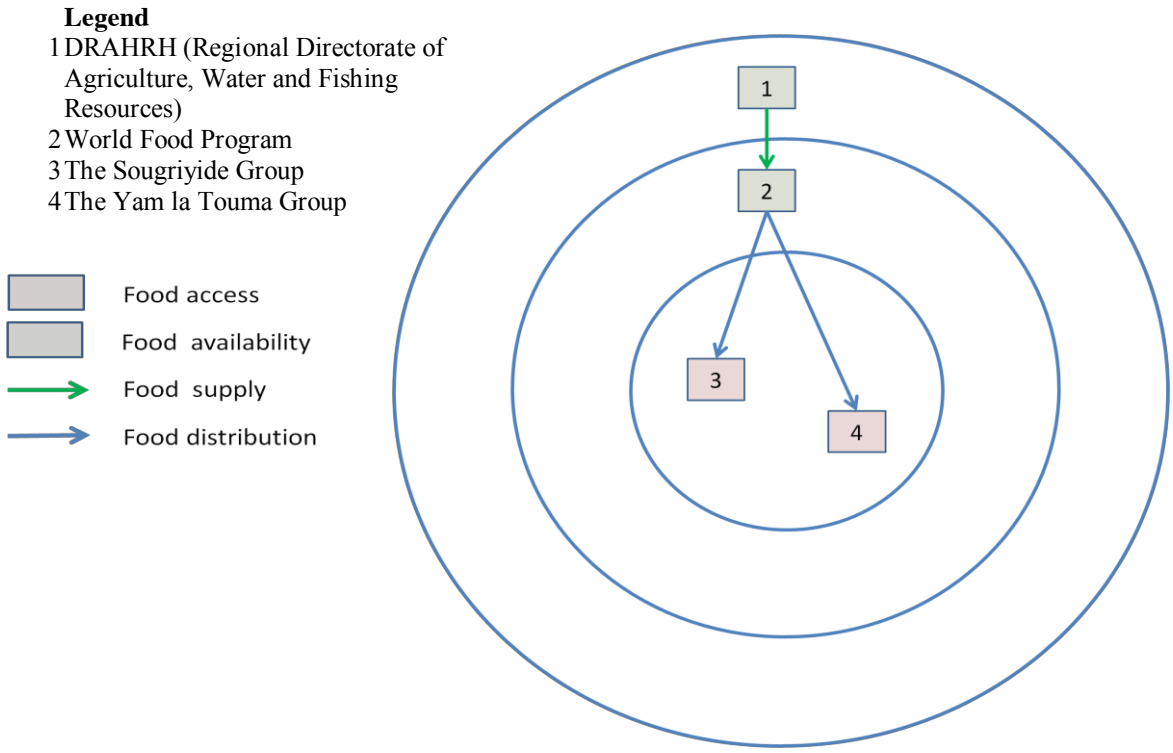
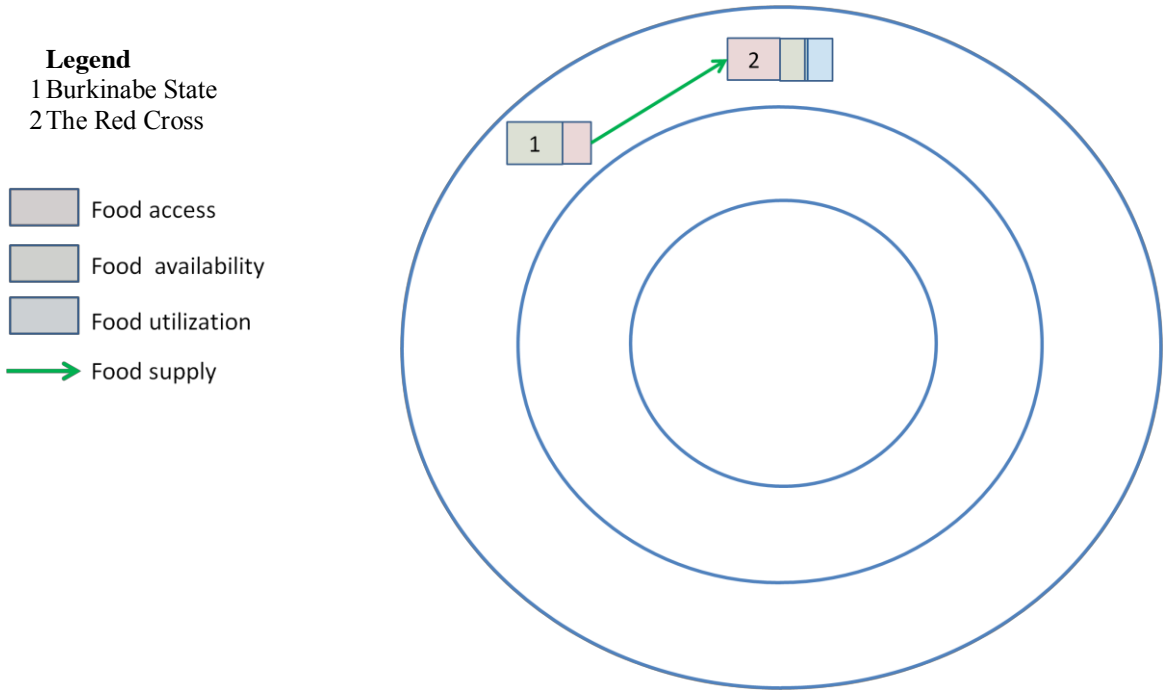


Figure 6. Organisational landscape for food crisis situations – women



Managing a food crisis requires a one-off response whereas managing food security is based on a more or less permanent arrangement. According to the men, only 3 out of the 14 organisations involved in food security provided support during the food crisis of 2005. Among the women, none of the organisations involved in food security were involved in the food crisis of 2005. New organisations such as World Food Program (WFP) for the male participants, and the Red Cross for the female participants were involved in managing the food crisis of 2005.

D. Organisational landscapes of natural resource management

In this section, the organisational landscape in relation to natural resource management (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.

According to the men, 9 organisations are involved in NRM (Figure 7). Two organisations are engaged in forestry through planting of trees, while 7 others support farmland management by providing technical and financial support, as well as agricultural equipment and materials, for soil rehabilitation and restoration. The women identified 7 organisations participating in the management of farmland or soil (Figure 8). The organisations dealing with farmland issues included the National Federation of Naam Groups, Soudr Ny'ide Group, the Yam la Touma Group, the Naam Village Group, Agricultural Services and PNGT. The Water and Forest Services was the only organisation involved in managing trees/vegetation.

Figure 7. Organisational landscape for natural resource management – men

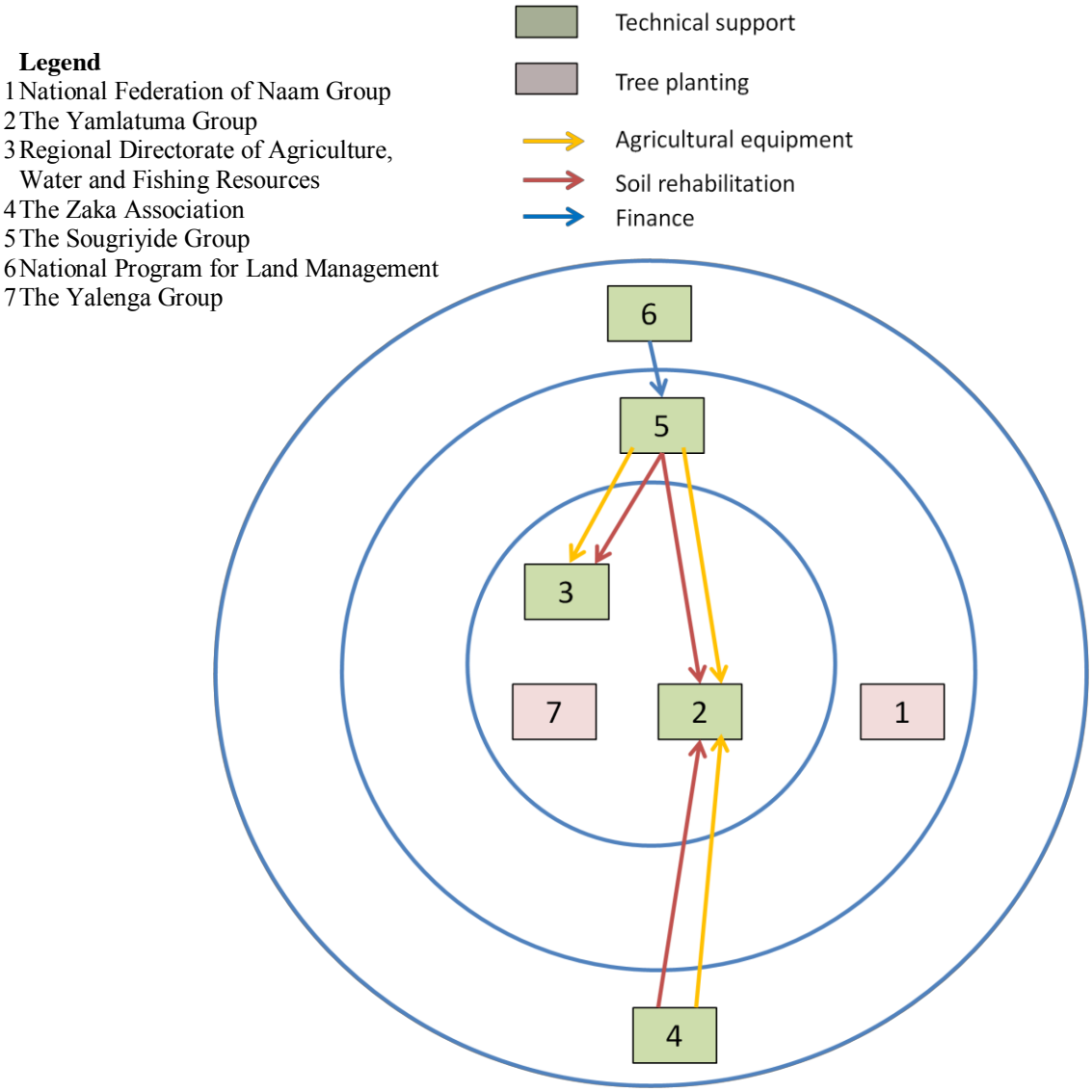


Figure 8. Organisational landscape for natural resources management – women

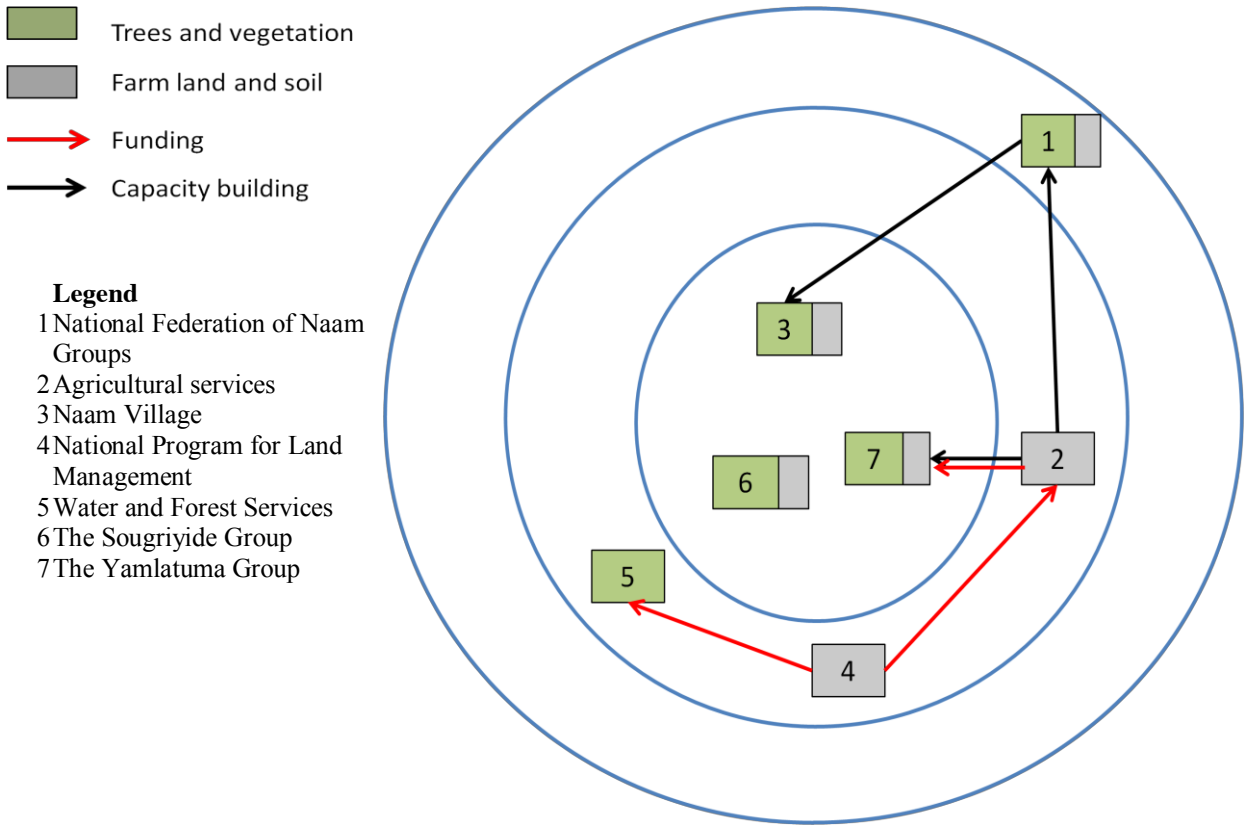


Table 6 below summarizes information on the number of organizations identified separately by male and female participants. The organizations are classified according to their role in supporting food availability, access and/or utilization, as well as the provision of relief in times of food crisis, and the management of natural resources. The results indicate the importance of specific organizations in contributing towards the different activities.

Table 6. Information on highlighted organizations of men and women (1=yes/0=no)

	Organisation	Food availability	Food access	Food utilization	Food crisis	NRM	Other	Total
Men	DRRA (Regional Directorate of Animal Resources)	1	1	0	0	0		**2**
	DRAHRH (Regional Directorate of Agriculture, Water and Fishing resources)	1	1	0	1	1		**4**
	DRS (Regional Directorate of Health)	1	0	1	0	0		**2**
	AEM (Association of Madrasa Pupils)	0	0	0	0	0	1	**1**
	The Wendrabo Group	0	1	0	0	0		**1**
	FNGN (National Federation of Naam Groups)	1	1	0	0	1		**3**
	The Yamlatuma Group	1	1	0	1	1		**4**
	DRECV (Regional Directorate of Environment and living Quarters)	0	0	0	0	0		**0**
	DREB (Regional Directorate of Basic Education)	0	0	0	0	0	1	**1**
	The Zaï Association	1	0	0	0	1		**2**
	The Zaka Association	1	0	0	0	1		**2**
	The Sougriyidè Group	1	0	0	1	1		**3**
	The Naam Group	1	1	0	0	1		**3**
	CGF (Committee for the Management of Boreholes)	1	0	1	0	0		**2**
	PNGT2 (National Program for Land Management, phase 2)	1	0	0	0	1		**2**
	The Yalenga Group	0	1	0	0	0		**1**
	The Cooperative Group	0	0	0	0	0	1	**1**
	The Koom Association	0	0	0	0	0	1	**1**
	The Red Cross	0	0	1	0	0		**1**
	APE (Association of Parents of Pupils)	0	0	0	0	1		**1**
	AEK (Association of Pupils of Kononga)	0	0	0	0	0		**0**
	PAM (World Food Program)	0	0	0	1	0		**1**
	Total	*11*	*7*	*3*	*4*	*9*	*4*	***38***

	Organisation	Food availability	Food access	Food utilization	Food crisis	NRM	Other	Total
Women	The Nongtaaba de Goubré Group	1	1	0	0	0		**2**
	The Koom Association (village level)	1	1	0	0	0		**2**
	The Sougri Nooma Group	1	0	0	0	0		**1**
	National Federation of Naam Groups (FNGN)	1	1	1	0	1		**4**
	Health Service /dispensary	1	0	1	0	0		**2**
	The Wend Panga Association (Kononga)	0	0	0	0	0	1	**1**
	The Multipurpose arena	0	1	1	0	0		**2**
	Agricultural services	1	0	0	0	1		**2**
	The Koom Ouahigouya Association	1	1	0	0	0		**2**
	Association of former and current pupils	0	0	0	0	0	1	**1**
	The Sougr N'Yide Group	0	0	0	0	1		**1**
	The Naam Village Group	1	0	0	0	1		**2**
	The Education Service	1	0	1	0	0		**2**
	PNGT (National Program for Land Management, phase 2)	1	0	0	0	1		**2**
	Water and forest services	1	0	0	0	1		**2**
	Livestock Services	1	0	0	0	0		**1**
	The Yam la Touma Group	1	0	0	0	1		**2**
	The STATE	0	0	0	1	0		**1**
	The Red Cross	0	0	0	1	0		**1**
	Total	*13*	*5*	*4*	*2*	*7*	*2*	***33***

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.

In the village of Kononga, the men's group identified the following 4 topics for which they seek advice/information:

1. Rainfall and the beginning of the planting season
2. Farming practices and techniques
3. Mechanisms for accessing technical, financial and material support in agriculture and livestock production.
4. Short-term (fast maturing) varieties

Meanwhile, the female participants identified 5 different topics. These were:

1. Characteristics of improved seeds
2. Forecasts on rainfall/drought pockets, violent winds, floods
3. Benefits/positive effects of vegetation cover
4. Construction and maintenance of water reservoirs
5. Feeding, care and keeping of animals

Only the women identified improved seeds and information and alerts on climatic risks (drought, strong winds, and floods).

From the summary table presented below (Table 7), it emerges that the main channels for disseminating information are individuals, organisations, and media. The men and the women use the same channels of information to access information on agriculture, forestry and livestock development in the village. The women identified the market, baptism ceremonies and village gatherings as other commonly used sources of information. No information was gathered on the perceived quality of information that is being accessed.

Regional organisations (for example DRAHRH and DRRA) and some village groups and associations generally provide information pertaining to improved seeds, farming practices/techniques and mechanisms for accessing technical, financial and material support. The summary table above shows that DRAHRH is the main channel for disseminating agro-pastoral information for men and women. It is an important source of information in decision-making in the agricultural sector.

The "Voix du Paysan" radio is the main source of information for producers in the village. It plays an important role in decision making in the agricultural sector and in the management of climate related risks. Local organisations use "Voix du Paysan" and the regional radio to disseminate information on weather and climate patterns.

Some men and women constitute privileged sources of information. These include the village chief and the spiritual leader (Marabout). The village chief often validates information from certain sources before passing it to the people. Social occasions (markets, baptism ceremonies, village gatherings and meetings) also enable people to gain information on a variety of themes.

Table 7. Information networks of men and women (1=yes/0=no)

	Topics (women)				**Topics (men)**				
	Characteristics of improved varieties	Rainfall/ weather forecasts	Positive effects of vegetation cover on ground	Feeding, keeping animals	Rainfall, start of season	Farming techniques/ practices	Mechanisms to access support for agric. Prod.	Fast maturing varieties	Total
Individuals									
Men	1	1	1	1	1	0	1	0	6
Women	1	0	0	0	1	0	0	0	2
The Aged	0	0	0	0	1	0	1	0	2
Organisations									
DRAHRA	1	1	1	1	1	1	1	1	8
DRRA	0	0	0	1	0	0	1	0	2
DRE	0	1	1	0	0	0	0	0	2
Project	1	1	1	0	0	0	0	0	3
The Koom Association	1	0	0	0	0	0	0	0	1
FNGN (Nat. Fed. of Naam Groups)	0	0	0	0	0	1	0	0	1
Naam Groups	0	1	1	0	0	1	0	0	3
The Sougriyidè Group	0	0	0	0	0	1	0	0	1
The Wendrabo Group	0	0	0	0	0	1	0	0	1
The Yamlatuma Group	0	0	0	0	0	1	0	0	1
Media									
Rural Radio (Voix du Paysan)	1	1	1	1	1	1	1	1	8
Radio de l'Amitié	0	0	0	0	1	0	0	0	1
Regional radio	0	0	0	0	1	0	0	0	1
National radio	0	0	0	0	1	0	0	0	1
National television	0	0	0	0	1	0	0	0	1
Other									
Village Chief	0	0	0	0	1	0	0	0	1
Councilor to the municipality	0	0	0	0	0	0	0	0	0
Market	1	1	1	1	0	0	0	0	4
Mosque	0	0	0	1	0	0	0	0	1
Village gatherings	0	1	1	1	0	0	0	0	3
Baptism	0	1	1	0	0	0	0	0	2
Village meetings	0	1	1	0	0	0	0	0	2

Conclusion and recommendations

Male and female participants in the Kononga village survey expressed that their livelihoods are closely dependent on the careful use of natural resources. The women generally produce millet, sorrel, groundnuts and cowpeas (they use different varieties of cowpeas), whereas the men cultivate maize, sorghum, sesame, fonio and vouandzou. Farmlands are located in infields and outfields. The villagers pay special attention to vegetation (trees and shrubs), surface water and farmland. They use vegetation for pasture, collection of firewood (critical for women), small-scale hunting of small game (partridges and hare), timber (construction of sheds and houses), and wood for energy. Non-ligneous forest products (liana, shea), firewood and timber are collected from the trees remaining in the fields.

There is a perception shared by male and female participants that those natural resources are deteriorating. Low density of vegetation is worsened by water erosion, which renders the ground bare, increases soil erosion and reduces soil fertility. To compensate for lower productivity, people have increased the area under cultivation and encroached on forested areas. All of this has been complicated by reduction in rainfall and increasingly common drought periods. According to the women of Kononga, the tree roots are superficial, which explains their frequent uprooting by increasingly strong winds.

Participants perceived that the management of resources was affected by an increase in pressure on the land by human and animal populations, and at the same time labour shortages due to the exodus of young people to gold mining sites. Women have a substantial role in agriculture and livestock production, as well as natural resource management in the village. This notwithstanding, they have limited access to land, access to improved technology or equipment, and few training opportunities. Women learn as they work with their husbands. The production and use of organic manure is indispensable and has been mastered by the men but not yet by the women.

The community, especially young people, has hopes and ambitions for the future. According to the participants the ideal conditions for 2030 include improved roads, better fertility and productivity of the farmlands, the thickening of forests, and increase in the width and depth of the water reservoir. To realize these ambitions, the villagers depend on themselves. Most NRM interventions in Kononga are related to rehabilitation and restoration of farmlands. In the face of these constraints, the community has resorted to soil restoration practices and techniques such as the zaï and stone contours, which are considered mandatory. Villagers organize reforestation campaigns, awareness raising and practice of agroforestry, and fight against the indiscriminate felling of trees. Many soil conservation/restoration activities continue to be conducted by men's groups and associations using equipment given by former partners. The village groups, however, are less strong in forestry activities, the adoption of new improved crop varieties and food crisis management. Also, the village has a tendency of conducting more and more individual rather than collective interventions, especially in the area of soil rehabilitation and restoration.

Yet, it is acknowledged in Burkina Faso that the Yatenga region where Kononga village is located has a long tradition of organizing farmers. Since the country's independence in 1960 this area has been a pioneer in soil and water management, restoration and conservation interventions (see the GERES project of 1960). Over the years the so-called top-down approach used in crop related interventions in the country as well as in the village of Kononga has gradually given place to local home-grown interventions, initiated by the farmers themselves and most often with the support of technical services. In Kononga this shift has involved many actors, interventions and organisations including NGOs, associations and groups. Out of the 4 sites studied in West Africa, Kononga has the highest number of organisations operating in a village. These organisations include grassroots groups and associations operating at the community or local level; decentralized technical bodies representing different ministries in charge of livestock, agriculture, health, environment and living quarters, and basic education and others such as the National Program for Land Management (PNGT), the Program for Decentralized Rural Development (PDRD), the National Program for the Restoration of Degraded

Land (PN-RTD). They also include non-governmental organisations such as The Red Cross and the World Food Program.

Given the different projections or ideal conditions for 2030, there is a lot of work that remains to be done in this village. The natural resources have suffered serious degradation due to human, animal and climatic activities and require the mobilization of significant financial and human resources for their rehabilitation as well as good organisation and consensus among the members of Kononga village. There are organisations already in operation while others are still being born.

Implications for CCAFS

Given the above scenario, the most important implications for CCAFS activities are:

1. Research: There is a need for research on improved seeds (drought resistant, fast maturing), improvement of soil fertility and agroforestry. Also, mechanized agriculture or improvement of means of production could be topics for research. Trials and publicizing of results could be done through farmers' organisations and groups already on the ground.
2. Development interventions: The people wish for the financing of some or several interventions to help the farmers in agricultural production and livestock rearing. These interventions include, among others, cleaning of the water reservoir, setting up of hydro-agricultural infrastructure, and construction of boreholes to relieve the women from water-related labour and thereby improve the academic performance of girls. Last but not least, to get better harvests from their communal farms, the women must be equipped and trained.

In light of these results, CCAFS interventions should be directed towards:

1. Reforestation policies (for example, the introduction of adapted species)
2. Support for the establishment of systems for managing food crises (early warning systems for example).
3. Supporting of soil rehabilitation and restoration.

CCAFS can therefore work:

1. At the grassroots level with groups and associations of which the Yamlatuma Group, the Sougriyidè Group and the Naam Group are the most active. Special supports needs to be given to women's associations (informal groups and those in the process of formation) so as to boost agricultural production in their individual farms whose yields are used to feed the family and as a source of income.
2. At the local level with decentralized State bodies (DRRA, DRAHRH and DRECV) and grassroots organisations (the Zaï association and the Koom association). It should also work with decentralized extension services (private and public), development projects, men's and women's organisations. It should collaborate in areas such as afforestation, popularizing good agro forestry practices and techniques, training in production and use of organic manure, management and maintenance of manure pits (especially women's), improvement of Zaï techniques through research, etc.
3. At the national level with agricultural research bodies such as the Institute for the Environment and Agricultural Research (INERA), the Ministries in charge of agriculture, livestock, environment, and grassroots umbrella organisations (National Federation of Naam Group).