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# Common lands in Western Serengeti

Problems, Challenges and Opportunities

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Bachelor Thesis  
Van Hall – Larenstein University of Applied sciences  
Host organisation: SNV Tanzania, Lake Zone Portfolio



VAN HALL – LARENSTEIN UNIVERSITY OF APPLIED SCIENCES

BACHELOR THESIS TROPICAL FORESTRY

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Supervisor: Arjen Hettema

Key words: Common lands, Western Serengeti, Tanzania

## Preface

This paper beholds my final thesis for the bachelor degree in Tropical Forestry. I have spent half a year in northern Tanzania, putting theoretical knowledge into practice. This research has been my second work experience in a development country, but the first experience in practicing social research methods. The placement has been with SNV, Lake Zone Portfolio in Mwanza, who had arranged for a work place with a local NGO named SEPDA (Serengeti Environmental Protection and Development Association).

Although this report is written for Larenstein University with the purpose to complete my study, it did not feel as an assignment or study obligation. I have enjoyed every part of this final exercise, from finding a placement, to doing the research, till writing the final report. The social research I executed is precisely the reason for me to have chosen the study tropical forestry. To work with and amongst local people in a development country in order to try and improve their lives has been the main goal of my study years.

The research took place in a small village in Western Serengeti. The work environment was no more than some tables, chairs, bookcase and my own laptop. The basic needs were low, with rice and beans as evening diner and laundry by hand, but the friendliness of the villagers was stunning to me. I did not expect to be welcomed so warmly and openly by these people and to create a whole new family in Tanzania.

There are a couple of people I would like to thank. First of all I would like to thank Eric, who has always supported me and believed in me, especially in those times when I had lost all hope. Secondly a big thank you needs to go to Alfred Mniko, my right hand and partner in this research. He has been a true friend and colleague and this research would not have been so successful without his help. I would also like to thank SNV for giving me the possibility to work with and for them and by providing me with a placement in their company. Thanks goes to the whole team of SNV Mwanza, where I could always go to with questions. And special thanks to Anna who retrieved my bag pack and took care of all my visa applications.

Nienke van Keulen

Arnhem

2011

## Abstract

This research is about the open areas/ common lands of three villages (Iharara, Motukeri and Makundusi) in Western Serengeti. Open areas are the general lands of Tanzania, meaning, in this research, common lands with no land use plan. The local communities do not benefit from the available resources in their open areas. The open areas are poorly managed, susceptible to conversion into other uses, easily acquired by new comers and investors and seasonally invaded by livestock from drought prone areas. Besides this, they struggle with increasing land use pressure and pressure on natural resources. This is caused by a high demand for land for various uses, population increase and commercial interest in the resources. These pressure constraints of the open area have led to competition and conflicts amongst the various users.

The reason for this research is a high and fast depletion of these natural resources without ownership or management of the area. Within SNV there is little knowledge present about the open areas in Western Serengeti. So far most of the literature found conducted in the area, is based on research about wildlife, or wildlife in combination with communities. No data is available about current land use practices, or past practices for that matter. The findings of this research will be used to develop a management proposal for these areas together with the district council and in collaboration with the respective stakeholders.

The purpose is to get a better understanding about the existing dynamics in land use and the interest in natural resources in the open area in Western Serengeti. This is in order to improve the open area management through sustainable governance arrangements among various users.

The data collection was done with different techniques. Sample surveys were used, in the form of questionnaires and unstructured interviews. Participatory methods such as focus group discussions (FGDs) were applied, together with observation techniques, field visits and literature studies. Capacity building was based on process development, coaching interpretation, and analysis of data and information. Together with support in report writing, in preparing stakeholder meetings and technical support like development of tools and methodology.

The main research question is what the existing dynamics in current landuse in the open area of Western Serengeti are and what the opinions, ideas and conflicts of the different stakeholder groups involved with respect to current and future management are.

The stakeholders are 9 in total; the villagers, the village councils, pastoralists from drought prone areas, Grumeti Fund, Serengeti district council, Mawalla Trust Ltd., Makundusi Holdings, SHIMWAJAWA and wildlife.

Each stakeholder has its own unique use and interest in these open areas, leading to conflicts amongst them. The villagers and pastoralists from drought prone areas have a conflict based in historical use and cultural habits of the pastoralists and new laws established by the national government.

The governmental institutions show an uninvolved attitude and lack of transparency leading to frustrations with the villagers, who themselves are lacking to ask for clarity and transparency.

The investors aim is to make money and with that tend to make false promises towards the villagers and village council. The villagers believe to make money, receive hospitals, schools and other social benefits. Their conflict lies between the bad communication and false promises from the investors point and no sense of reality and lack of participation by the villagers.

The villagers have a high frustration towards wildlife as they feel they are unable to act upon the problems wildlife causes. Investors and the district council can provide support in this problem, but show no sign of doing so. This adds to the already existing conflicts between the villagers, the district council and the investors.

Within SEPDA, not the entire office, but the project officer has been capacitated, due to the reason that he had been present for the whole duration of the exercise.

Recommended is to tap into the existing high value and economic possibilities of the area. To create a balance between wildlife and humans and to educate the villagers on what to do with money earned.

Concluded can be said that the land use dynamics have not changed, but highly intensified leading to the destruction of the natural environment. The stakeholders involved do want to tackle this problem, but all with their own best interest in mind and with making money along the way. They do not want to give up their existing practices, do not see their own contribution in the problem and prefer to blame the whole situation on the other stakeholders. They are unwilling to look at the situation for what it is, and to acknowledge their own role in this matter.

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## 1. Introduction

Local people have for many years been considered by policy makers, academics and development workers to be incapable of managing common property resources in a sustainable manner. It was thought that the way to avert an environmental disaster was for the state to take charge and impose an external solution, namely privatization or nationalization. [Hesse & Trench, 2000, p.5] Although the states attempts were with the best interest for the environment and its people, their interference had not always success. As an attempt to find new solutions for the failure of top-down approaches to “development” and “conservation”, community based management was introduced based on the recognition that local people must have the power to decide over their natural resources in order to encourage sustainable development [Shackelton & Campbell, 2000, p.10]. In this research, based in Tanzania, the first attempt is given to empower the local communities to make decisions about their own natural resources.

The United Republic of Tanzania is located in Eastern Africa, bordering the Indian Ocean between Kenya and Mozambique. The country is topographically varied. There are high grasslands and mountain ranges near the coast and to the south. Around Lake Victoria you'll find Rift Valley branches with several high volcanic peaks (Mount Kilimanjaro), bordered by the plain lands of Serengeti to the west. [African Study Centers] Over 30% of the country's land surface is devoted to wildlife conservation under different protected areas categories (i.e. National parks, Ngorongoro Conservation Area and Game Reserves). Human settlement is prohibited in the land occupied by National parks, Game Reserves and open areas and allowed in Ngorongoro Conservation Area and Game controlled areas. [Kideghesho, 2008, p.1]

Tanzania is in the bottom 10% of the world's economies in terms of per capita income. The economy depends heavily on agriculture, which accounts for more than 40% of GDP; it provides 85% of exports, and employs 80% of the work force [CIA, 2010]. However, cultivation activities are low in Tanzania as most of the soil is insufficient fertile or unready for use with lack of water access or the soil is just too dry or too wet for high agricultural productivity [African Study Centre]. Due to this, topography and climatic conditions, only 4% of the land area is used for crop cultivation [CIA, 2010]. In Western Serengeti District, where this research is set, there are agricultural activities present. The area is used for growing cassava, millet, maize, cotton, sweet potatoes, beans, rice, finger millet, tobacco, sunflower, groundnuts and a little sesame [Serengeti District Profile, 2009].

Serengeti District is located in the west of Tanzania, bordering Lake Victoria and Kenya, occupying a

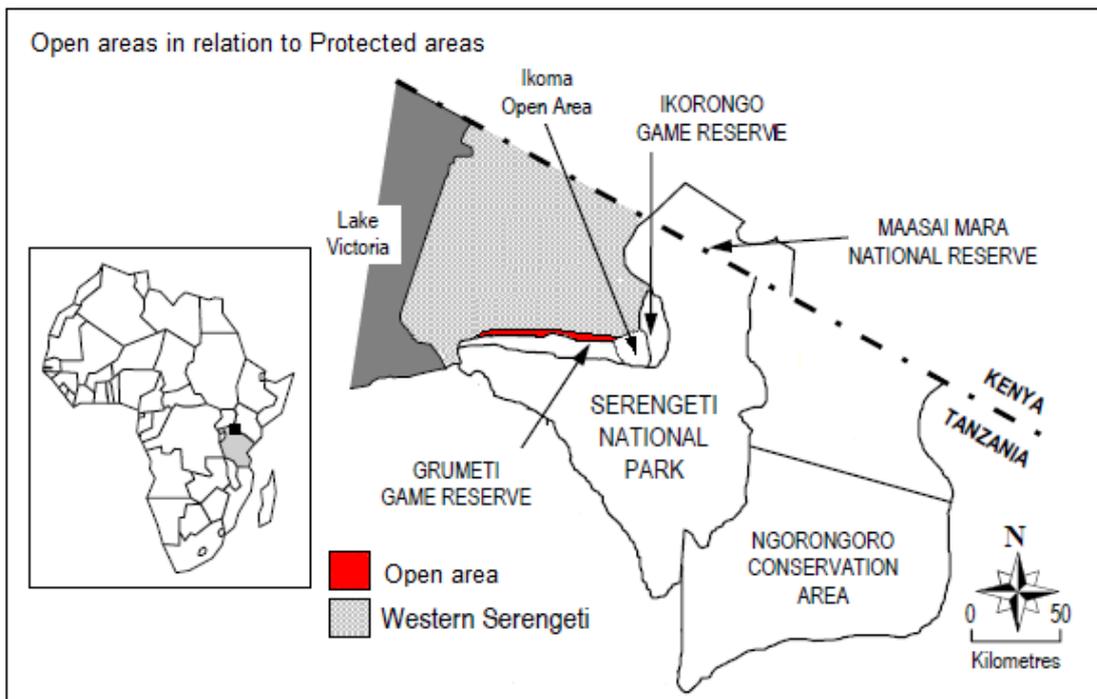


Figure 1. Location of the open areas in relation to the surrounding protected areas [Emerton & Mfunda, 1999]

total of 10,373 km<sup>2</sup>. Of this 7,000 km<sup>2</sup> is occupied by Serengeti National Park, 189.68 km<sup>2</sup> by Ikorongo Game Reserve, 68.37 km<sup>2</sup> by Grumeti Game Reserve and 2,456 km<sup>2</sup> is open area. The remaining area of 659 km<sup>2</sup> is the area for agriculture, livestock keeping and residence [Serengeti District Profile, 2009]. Along with prolific resident wildlife species, a big part of the district is critical as dispersal areas, buffer zones for the park and a corridor for wildlife species migrating between Serengeti National Park and Maasai Mara in Kenya. [Kideghesho, 2006, p.1865] The middle lands (1,401-1,860 masl), where the research area is located, receive between 1,000-1,200 mm annually. The temperature in the district depends on the rainfall patterns. During the first rains between August and December and the second rains between February and April the average temperature is 24°C, while in the dry season the average temperature is 26°C. [Serengeti District Profile, 2009] This report is on the open areas in the western part of Serengeti district (see figure 1). The open areas are a buffer zone and functions as a broad boundary around the national park and game reserve so wildlife and human settlement have some distance from each other. The villagers are not allowed to build residences in the open areas.

The open areas of Western Serengeti are dealing with a fast depletion in natural resources. The open areas in this research were once under local (traditional) and collective resource governance arrangements and practices. But due to historical and policy reasons most open areas have been left entirely ungoverned (open access) leading to depletion of resources. [Concept note, SNV]

A new law, from 1999, put the open lands under management of the Villages. This 'ownership' and 'right of management' did not solve the problem of open utilization of the land. At present, neither local people nor the state appears able to regulate competing land use needs among different users in an equitable and sustainable way. This is seen in the existing conflicts between the different users of the land and the ongoing depletion of natural resources.

These conflicts and ongoing depletion in the open areas has been recognized by the Serengeti district council and they have asked SNV<sup>1</sup> Lake zone Portfolio for support in writing a management proposal. In order to write a management plan it is necessary to know the opinions, ideas and problems of the communities using these areas. The collection of this information was done by SEPDA<sup>2</sup> and myself. I was placed within SEPDA by SNV to support and capacitate them during this research. For SNV it is very important to capacitate a local NGO, they have to be able to continue with the received knowledge without support. The timeframe of this research was 5 months from May till October.

During this time the task was to discover the current land use dynamics in the open area by asking the villagers about the changes in land use over the past years and by field visits to the open areas. The stakeholders connected to the open area needed to be discovered by means of questionnaires and their interest in the open area was asked. The sources and reasons for conflict between these stakeholders and their opinions and ideas about future management were discovered using questionnaires, focus group discussions and unstructured interviews. The local governance institutions currently in place and their role in the open area were found with unstructured interviews at the different governance levels. While collecting this information ownership towards the villagers and capacity building towards SEPDA had to be reached.

The methodologies used were a sample survey with questionnaires and unstructured interviews, participatory methods with Focus Group Discussions, and observation, field visits and literature.

This report is written for the University of Applied Sciences Van Hall-Larenstein as thesis for a bachelor degree. It has 5 main sections existing of a problem description, methodology, results, discussion and analysis, and conclusions and recommendations.

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<sup>1</sup> SNV (Dutch Development Organization) Lake Zone Portfolio is based in Mwanza, Serengeti District. SNV was founded in 1965 as an international, non-profit, development organization. It came in practice in Tanzania during the 1970s as a Dutch volunteer agency and since then grown into a multi-faceted international development organization. It utilizes the experience of professional advisors from throughout Africa and the world. Its core mission is to provide professional thematic and change management advice to mesa-level clients. Their aim is to alleviate poverty by enabling those on the lowest incomes to be part of social and economic networks and so increase their income and employment opportunities. They achieve this by strengthening local organizations.

<sup>2</sup> SEPDA (Serengeti Environmental Protection and Development Association) is a service oriented non-governmental organization based at Issenye ward, Serengeti District and functioning since 1999. Their mission is to develop the community in their involvement, with emphasis upon youth, women and sustainable management of their environment and natural resources. This with the purpose to improve knowledge and skills to CSO's on project planning and problem identifications, project implementation, management, monitoring and evaluation, reporting, community outreach techniques, understanding national policies and attitude uplift. (SEPDA Profile, 2010)

## 2. Problem description

Local communities do not benefit from available resources in their open areas. This was the discovery of SNV in 2009 during a quick scan in western Serengeti, revealing that open areas are poorly managed, susceptible to conversion into other uses, easily acquired by new comers and investor, and seasonally invaded by livestock from drought prone areas.

Besides the lack of benefit from these lands, they struggle with increasing land use pressure and pressure on natural resources (natural vegetation and wildlife). This is caused by a high demand for land for various uses, population increase and commercial interest in the resources. These pressure constraints on the open area have led to competition and conflicts amongst the various users. There are conflicts between agriculture and (agro) pastoralism<sup>3</sup>, between (agro) pastoralists and itinerant seasonal pastoralists from drought striking areas, between tourism and other land use activities, between conservation and various users over access and utilization of natural resources.

Open areas are the 'commons' of village land. The commons were traditionally defined as the elements of the environment - forests, atmosphere, fisheries or grazing land - that we all share [The Commons Institute]. These common lands have open access, meaning the absence of well-defined property rights, where access is unregulated and open to anyone [Bremner & Lu, 2006, p.501]. Common lands are public goods, which are used simultaneously or sequentially by different users because of difficulties in claiming or enforcing exclusive rights, or because they are so sparse or uncertain that it is not worth doing so [Hesse & Trench 2000, p.6].

Open areas are known as the general lands in the Tanzanian law. The general land means all public land which is not reserved land or village land [village land act, 1999, p.14]. Reserved lands are forest reserves, national parks, Ngorongoro Conservation Area, Game reserves, hazardous lands, areas of land reserved for drainage systems, watercourses and public recreation grounds [Josefsson & Åberg, 2005, p.10]. Village lands are all that land declared to be village land under and in accordance with section 7 of Village Land Act, 1999 and includes any transfer or land transferred to village. Including parcels of land (land not reserved) which have been used by village for at least 12 years before enactment of the Village Land Act No. 5, 1999. [Juma, 2003, Cited in Josefsson & Åberg, 2005, p.10]

The local (traditional) and collective resource governance arrangements and practices are from before colonialism. The title to the land was based on traditions and customs of respective tribes. Ownership of land was communal owned by family, clan or tribe. Chiefs, headmen and elders had the powers of land administration in trust for the community. These powers continued through the colonial era though they were limited by the newly introduced German and later British land tenure system under which all lands were declared to be crown and public lands respectively. The customary land tenure is still in place, but since 1963 the chiefs, headmen and elders have been replaced by elected village councils. [Sijoana, 2001, Cited in Josefsson & Åberg, 2005, p.4]

Under German colonialism all land, whether occupied or not was treated as un-owned crown land and vested in the empire [Sijoana, 2001, Cited in Josefsson & Åberg, 2005, p.4]. This is still the case today as the Village Land Act 1999 states; to recognise that all Land in Tanzania is public Land vested in the President as trustee on behalf of all citizens. This means that all general lands, common lands, or open areas belong to the state and is not owned by the people who actually use the land. All men will use the land for his personal benefit, without limitation in an area with limited natural resources. Garrett Hardin describes this feature fairly well in his article 'The tragedy of the commons' [1968, p.1244]:

*Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching and disease keep the number of both man and beast well below the carrying capacity of the land. When the day comes of social stability the inherent logic of the commons remorselessly generates tragedy. As a*

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<sup>3</sup> The practice of pastoralism, is human populations who live on the products of their domestic animals in arid environments or areas of scarce resources [Fratkin, 2007, p.235]. Most pastoralists live a nomadic live, roaming around with their cattle from area to area.

*rational being, each herdsman seeks to maximize his gain and adds more animals to his herd. The positive component is the addition of one animal which weights heavier than the negative component of the additional overgrazing that is shared by all the herdsmen. Each herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd, and another..., therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit – in a world that is limited. Ruin is the destination towards which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.*

With the new laws, Land Act 1999 and Village Land Act No. 5 of 1999, the property rights and ownership has changed. The open areas are now under ownership of the Village Council of the respective village. According to Deininger [2003, p.xx] this secure property right will increase the incentives of households and individuals to invest. The ownership or possession of it, and conflicts pertaining to it are resolved through formal or informal means and will have far-reaching social and economic effects.

Providing people with access to land and improving their ability to make effective use of the land they occupy is central to reducing poverty and empowering poor people and communities [Deininger, 2003, p.xx]. Unfortunately, this is not yet the case in the study area. The village is given the ownership of the area, but they have no knowledge on how to manage the area or how to establish a land use plan. This leads to poor management of the area, resulting in an area still open to invasive pastoralists from drought prone areas, and land still easily acquired by new comers and investors.

For most of the poor in developing countries, land is the primary means of generating a livelihood and a main vehicle for investing, accumulating wealth, and transferring it between generations [Deininger, 2003, p.xix]. The people of western Serengeti are typically (agro) pastoralists i.e. relying on a combination of livestock keeping and cultivation for their sustenance. Agriculture is mainly a small-scale operation involving growing of maize, cassava, millet and sorghum (for food) and cotton (for cash). Most households own relatively small land holdings, with two-thirds owning between 0 and 10 acres. Over 70% of the households own livestock (cattle, goats, sheep, pigs, donkeys and poultry). Annual income from livestock ranges from US\$ 45 to 130. Agriculture and livestock account for 80% of the household income. The remaining 20% is sponsored by off-farm activities such as hunting, charcoal burning, making local brews and formal employment. The estimated proportion of the people earning income from activities other than livestock keeping and agriculture is about 33%. [Kideghesho, 2006, p.1866]

There is a high commercial demand to conserve the area through investment. An investor is a company or organization (mostly involved in tourism) that rents a part of land either from the national/ local government or from a village. If an investor is present in the land belonging to a village, that part of the open area cannot be used for cattle grazing or other (off)-farm activities. There is a high demand for land use that becomes bigger with the population increase affecting the area. Small population size account for ecologically intact environments, if this characteristic changes, so will the environment. [Bremner & Lu, 2006, p.500]

The total population in Tanzania is 41,048,532 [CIA, 2010]. The population growth rate was estimated at 2,9% in 2009 [The World Bank, 2010]. In 1988 Serengeti District had a population of 111,710 (average density 25,5 people/ km<sup>2</sup>). In 2002, the population rose to 176,057 (average density 40,2 people/ km<sup>2</sup>) [Kideghesho, 2006, p.1866]. The population is both natural, through a high birth rate and by invasion of people from other areas [SNV].

The purpose of this research is to get a better understanding about the existing dynamics in land use and the interest in natural resources in the open area in Western Serengeti. This in order to improve the open area management through sustainable governance arrangements among various users.

The motivation is the little knowledge present about the open areas in Western Serengeti within SNV. So far most of the research conducted in the area is based on wildlife, or wildlife in combination with communities [Personal search in literature]. No data is available about current land-use practices, or past practices for that matter.

The ultimate management proposal, that should derive from the collected information, is given to the district council. They will, in turn, call a meeting where all stakeholders are invited to. The purpose of the focus group discussions applied is to empower the stakeholders for this meeting. This way they

can stand up for themselves, explain the situation they are in and tell the district council what they need and want for future management activities in the open areas.

Besides this my time at SEPDA will be used to get a better insight into this local NGO, to support them in the activities and to increase their knowledge on research methodologies, data analysis and report writing. On arrival at SEPDA, their main skills were based on how to capacitate the local communities. They capacitate by establishing and training of village environmental committees, and training on fish farming projects, bee-keeping projects and tree planting nurseries on primary and secondary schools. [SEPDA profile, 2010]

In order to collect the correct information and to support the local NGO the best way possible, a main research question with sub-questions was established.

**Main research question:**

What are the existing dynamics in current landuse in the open area of Western Serengeti and what are the opinions, ideas and conflicts of the different stakeholder groups involved with respect to current and future management?

**Sub questions:**

- What are the current land-use dynamics in the open area?
- Who are the stakeholders and what is their interest in the natural resources of the open area?
- What are the sources and reasons for conflicts between the different stakeholders?
- What are the opinions and ideas of the different stakeholders about future management?
- Who are the local governance institutions currently in place and what are their roles in the open lands?
- How has ownership of the project by the villagers and capacity building towards SEPDA been achieved?

A land use dynamic is the behaviour of a land use in space and through time [Paegelow & Olmedo, 2008, p.3]. This means to discover how the current uses of the land effect the surrounding environment and if the uses have changed over the past years. The hypothesis is that the current land uses are agriculture, livestock grazing, firewood collection and wood collection for fencing and other application. And that these land uses effect the environment in a negative way.

The hypothesis on the other issues is that there is a difference in opinion between big farms and small farms, between pastoralists and farmers, and men and women in the problems they experience with respect to the open areas. A big difference is expected between the role of governance institutions on paper and their actual role in the field, and between their opinion and the opinions of the other stakeholders. Expected is a good turn-up for the sample surveys and participatory method and the suitability of SEPDA as a Local Capacity Builder (LCB).

### 3. Methodology

The data collection was done with five different techniques; sample surveys, participatory methods, participatory observation, field visits and literature.

The first technique was sample surveys, in the form of questionnaires and unstructured interviews. A sample survey is a (relatively) systematic, (mostly) standardized approach to collect information on individuals or organizations [Marsden & Wright, 2010, p.3] through the use of representatives of a society. This with the aim to find objective, quantifiable and measurable information [Ellis, 2000, p.184]. Unstructured interviews mean the interviewer has a plan of topics in mind; but with minimum control over the informant's responses. The aim is to get people to open up and express themselves in their own terms at their own pace. [Dusseldorp & Southwold, p.76] The strength of this technique is the almost complete freedom in terms of content and structure, like; freedom of the wording used and the way questions are explained to the respondents [Kumar, 2005, p.123]. The unstructured interviews served as a mean to collect information and to cross-check the information derived from the questionnaires and focus group discussions. Chosen was to start with questionnaires as an exploratory research [Steward & Shandasani, 1990, p.12] to obtain statistically significant data [Van Dusseldorp & Southwold, p.79] and to follow up with focus group discussions that give a clearer insight into the results of the pre-planned sample survey [Ellis, 2000, p.198].

The second technique was the participatory method with focus group discussions. A focus group discussion is a group discussion that gathers together people from similar backgrounds or experiences to discuss a specific topic of interest to the researcher [Dawson *et al*, 1993, p.1]. They are part of the rich and diverse set of methods of the Participatory Rural Appraisal (PRA) and help for eliciting information in rural communities as well for involving members of communities themselves in setting priorities for project policies. The emphasis of these methods is an active involvement by respondents, the outsider as learner rather than teacher, and qualitative priority of ordinal ranking of variables and options, instead of the quantitative measurement of them. [Ellis, 2000, p.193] The advantage of FGDs is the flexibility of questioning, which can result in discovering attitudes and opinions that might not be revealed in a survey questionnaire [Dawson *et al*, 1993, p.11] and to obtain large and rich amounts of data in the respondents own words [Steward & Shamdasani, 1990, p.16]. A disadvantage to take into consideration is if the facilitator is not well trained, he can easily force the participants into answering questions a certain way [Dawson *et al*, 1993, p.11] towards the type of responses and answers that are desirable [Steward & Shamdasani, 1990, p.17].

Neither sample surveys nor participatory methods provide, as separate packages, a complete approach. A combination of the two is required, each serving different but complementary roles within an overall research design [Ellis, 2000, p.198]. Focus group discussions have as disadvantages that the results can usually not be used to make statements about the wider community, they indicate a range of views and opinions, but not their distribution [Dawson *et al*, 1993, p.11]. The questionnaires provide this missing data and provide information about the distribution of the views and opinions.

Both the questionnaires and focus group discussions were combined with the third technique of observation. Observation is a typical qualitative approach to data, which implies that data cannot really be reduced to figures [Strydom, p.279]. It is useful for gaining an understanding of the relationships among and between people, ideas, norms and events and people's behaviours and activities [Family health international, 2006, p.14]. The observation applied was a combination of unobtrusive observation and participant observation. The unobtrusive observation means that the objects observed do not realize that they are observed, because either they cannot see the observer, or they do not recognize him/ her as an observer. Participant observation takes place when the researcher is recognized by his environment, because he is participating in their activities and accepted by the community. [Dusseldorp & Southwold, p.59-60] Observation was used to receive more background information about the people's livelihoods and activities. During the FGDs it was used to discover the physical and verbal behaviour, and human traffic [Family health international, 2006, p.20] while discussing the open areas.

The fourth method in data collection was field visits. These visits were short and simple with the aim to get an impression on the surroundings of the open area.

Literature study is the final methodology used to collect the necessary data. The literature study is used to collect background information about the study area and the existing questions at hand, to describe the methodologies used in more detail, and for clarification purposes. The literature was collected through internet, libraries and SNV. Different websites were used for data collection, like the online library of the University of Wageningen, Springerlink, Elsevier, Science direct, Google scholar and more.

### 3.1 Study area and villages

This study has been conducted in three rural villages in Western Serengeti in Serengeti District. Two of them in Nata Ward and one in Issenye Ward. At first attempt 6 villages were selected, but due to lack of time, this was reduced to three. The reduction happened after discussion with SNV and the problematic start of the first research village Iharara. The three villages were selected on basis of whether or not they had an investor in their open area. Of these three villages there is one village that has no investor, one village that is in the process of getting an investor and one village that had an investor for the last 4 years. For the location of the research villages see figure 2.

Travelling from Bunda to Mugumu (see orange dots in figure 2) you'll first enter Issenye Ward, just after the red-dotted line followed by Nata Ward that starts just before Motukeri. Iharara is one of the four villages in Issenye and direct neighbour village to Nyeberikera, where SEPDA office is located. Iharara is a small village, consisting out of 4 sub-villages, with no real village centre and with 5 times more farmers than pastoralists. The open area of Iharara is 600 hectare. Iharara was selected as a village with no investment. Only during the course of the research, it was discovered they have a small part invested by Grumeti Fund<sup>4</sup> for a radio pole and watchtower.



Figure 2. Location of the three research villages in Serengeti District. 1 = Iharara, 2 = Motukeri, 3 = Makundusi. Number 4 = Nyeberikera where SEPDA office is located. Orange dot left = Bunda. Orange dot right = Mugumu.

Motukeri and Makundusi are two of four villages located in Nata and the second and third research village. Motukeri consists out of 4 sub villages, is bigger than Iharara, and looks richer in appearance as it has more stone houses. The open area of Motukeri is 3,500 ha, of which 1,500 is going to be invested. Makundusi has 3 sub villages and can be divided into two parts, one rich part and one poor part. It has part of its open area under investment with Grumeti Fund, but both the Village Council and Grumeti Fund did not know the size of this area. Grumeti Fund has a big terrain in this area; one part bought from a private owner, the other part is from the national government, and a small part is from

<sup>4</sup> Grumeti Fund is a tourist company and the official name is: Singita Grumeti Game Reserves Limited. It was founded in 2002 by a rich American named; Paul Tudor Jones. The Singita Grumeti Game Reserves Limited, is divided into two sub organisations. First there is Grumeti Community and Wildlife Conservation fund, known as Grumeti fund, who deals with the community programmes and wildlife conservation. And second there is Grumeti Reserves Limited who deals with the tourism part of the organisation.

the open area of Makundusi. These different areas make it unclear to Grumeti which part belongs to who and for this reason they do not know the specific size of land they are renting from Makundusi.

### 3.2 Preparation phase

The start within SEPDA was setting up the outline of the project. What is the problem under investigation? What is the purpose of this research? What are the questions that need to be answered? To get all this, the first priority was to write a research proposal with SEPDA.

A meeting was held with the whole office staff to establish a research proposal. The problem of the open area was discussed, the objectives and research questions formulated (see figure 3 for research questions) and an existing questionnaire was shown around. It was decided to use half the content of this questionnaire, and add new questions regarding the open area. The questions about the open area were used to answer the research questions established with SEPDA and my own research questions.

The first step in getting answers to the research questions was to develop questionnaires. The choice was made to start with questionnaires to collect a first impression of the problems, solutions,

conflicts and different stakeholders. This first impression would be the basis for preparing the Focus Group Discussions. Besides this, it was important to get the real opinion of the people, without hesitation or fear that might occur in group meetings. By letting people complete a questionnaire unanimously and independent it would provide the personal opinion of the participant. Sometimes people do not speak out in the presence of other people or in big groups, while their opinion is just as important. With the questionnaires this obstacle was overcome as the questions about the open area were formulated as open questions, focussing on their opinion. The chief advantage of the open questions is the freedom that it gives to the respondents. To obtain his idea in his own language, expressed spontaneously [Oppenheim, 1966, p.41], varying in length and articulation and giving a very precise judgment of each individual respondent [Burgess, 2001, p.8].

- *What is the current land use in the open area?*
- *How do the communities benefit from the open areas?*
- *Who is the owner of the open area according to the villagers?*
- *What is the knowledge of the villagers on other stakeholders that use the open area?*
- *What is the knowledge of the villagers on the current laws?*
  - *Land act 1999*
  - *Environmental act*
  - *Wildlife conservation*
  - *Governance law*
- *What are the solutions towards the invasive pastoralists according to the villagers?*
- *What activities and management should be carried out in the open areas in the future?*
- *What kind of capacity building do the villagers need to enable them to manage their own open area?*
- *What is the best way of income generation from the open area according to the villagers?*

Figure 3. Research questions SEPDA

The construction of the questionnaire in Kiswahili was based on the situation analysis from the Terms of Reference showing the information SNV wanted to gather with this research. The existing questionnaire was used on the subjects other than the open area. The reason for adding more subjects than just the area of our interest was explained by the team leader as followed:

*'To prevent them from giving us the information they think we want to hear, we add different kinds of subjects, besides only the open area to give them the impression we are gathering overall information. And this information can be used later, for other projects within SEPDA.'*

The questionnaire was made with 10 subjects; Identification particulars, Household particulars, Soil conservation aspects, Practices to improve soil fertility, Forest development, Village water supply, Health, Capacity building, Open areas and Law. Most of the questions were multiple choice and therefore easier to answer. All the questions about the open area were open questions.

After formulation of the questions in English, they were double checked to see if the questions were indeed open, and could not be answered with yes or no. The final questionnaire contained 64 questions, with 22 open questions about the open area. The questionnaire, which was produced in English, was translated into Kiswahili and copied multiple times for distribution.

In the first attempt to select participants who would complete a questionnaire, it was decided to get 60% of the village population. But it was discovered this would be impossible as each village has an average of 2,350 inhabitants. This would mean 1,412 questionnaires per village. There was no time to

process this information. Then the second selection was made. The expectation was that women and men, farmers and pastoralists, and the youth would have different opinions with respect to the open area. So it was important to have these five stakeholders answering questions. The CBOs (Community Based Organisations) operate in different villages and the anticipation was they would have an overview of the problems in the area. This was the same for the FBOs (Faith Based Organisations) who have members in their churches from different villages. Grumeti Game Reserve borders the open areas and the opinion of the employees would add a different view. The primary and secondary school teachers were added to provide data from people with different jobs than farming or pastoralism.

The selection contained 8 stakeholder groups, see table 1. The women and men are divided under the pastoralists and farmers. Of each of these groups 50% men and 50% women. The different classes and amount of people per class is explained in table 2. This selection of stakeholders would give us 845 questionnaires in total. The answering would be done through gathering of the different groups in one place and let them complete the questionnaires separately. When applying this technique it was discovered, that people were reluctant to come to these

Stakeholder groups	Class	Classes
Youth	Sex	Boy, girl (age: 18-24)
Farmers	Farm size	<=1, 1-2, 2-3, 3-4, > 4 (in ha)
Pastoralists	Heads of cattle	<=10, 11-30, 31-50, 51-70, 71- more
CBO	No indication	No indication
FBO	10 churches	Of each church 1 men, 1 women
Grumeti Fund	Investor	Ask 5 different people
Prim. school	10 Teachers	One per village
Sec. school	10 Teachers	All 3 schools in research area

Table 1. The stakeholder groups and the different classes they contain

Stakeholder groups	classes	people per class	No. of Q per village	No. of villages	Q per group
Youth	2	10	20	6	120
Farmers	5	10	50	6	300
Pastoralists	5	10	50	6	300
CBO	1	10	10	1	10
FBO	10	2	20	1	20
Grumeti Fund	1	5	5	1	5
Prim. School	1	10	10	6	60
Sec. school	1	10	10	3	30
<b>Total</b>	<b>26</b>	<b>67</b>	<b>175</b>	<b>6</b>	<b>845</b>

Table 2. Classes per stakeholder group. The amount of people per class. The number of Questionnaires it will bring per village. The number of villages involved, and the total amount of Questionnaires per stakeholder group. Abbreviations: 'Prim.' = Primary, 'Sec.' = Secondary

general meetings to complete a questionnaire. The selected stakeholders, the villages, and the methodology of how to complete the questionnaires, was adjusted again. The first adjustment was the amount of villages. From 6 research villages it was decided, together with SNV, to continue with only 3 research villages. It was better to do 3 villages thoroughly than 6 superficial.

The second adjustment in methodology was the change from general meetings into self-administered questionnaires. This means that the questionnaires were presented by an interviewer at the location of the respondent. The purpose of the inquiry was explained, and then the respondent was left alone to complete the questionnaire, which was collected later [Oppenheim, 1966, p.36]. This technique worked and the stakeholders chosen were farmers, pastoralists, men, women and youth. Because this technique took more time the schools, CBOs and FBOs were taken out as stakeholders. The schools were taken out as teachers were not necessarily from the research area, the CBOs because it was not sure if there were any and the FBOs were used as pilot group. The total amount of questionnaires came to 365 (see table 3).

Stakeholder groups	classes	People per class	No. of Q per village	No. of villages	Q per group
Youth	2	10	20	3	60
Farmers	5	10	50	3	150
Pastoralists	5	10	50	3	150
Grumeti	1	5	5	1	5
<b>Total</b>	<b>26</b>	<b>67</b>	<b>175</b>	<b>6</b>	<b>365</b>

Table 3. Number of questionnaires after the final selection of stakeholders.

Each village consisted of sub villages that were all visited and per sub village a selection of the population was used through probability sampling [Van Dusseldorp & Southwold, p.79]. Whoever was home was asked to fill a questionnaire. The first village to visit was Iharara as it was closest to the office and easiest to reach either on foot or on motorcycle. The second village was Motukeri and the third Makundusi. In Iharara and Motukeri an introduction meeting with the Village Council was held

first, to explain the content of the research, show them the questionnaire and inform them of the research activities for the coming months. In Makundusi there was just a meeting with the village chairman, who gave the go ahead for conducting the research in his village.

### 3.3 Data collection with Questionnaires, unstructured interviews and field visits

The survey design was a cross-sectional survey, whereby all the data was collected in one interview campaign [Social methodology, ch.7, p.99]. The collection was done in a few successive days and weeks, with sometimes an office day or Sunday in between the sequence. The questions of the questionnaire can be found in annex 1.

Before the field survey started a pilot run was held at the office with the people of the FBOs. They said the questionnaire was not too long, as all questions were equally important, although it took them 1 ½ hour to complete. We had our doubts, but 100 questionnaires had already been copied and it would be a waste of money and paper not to use them. Before starting with the questionnaires in the villages there was a meeting with the village council showing them the questionnaires. SEPDA explained that it was not possible to go around the village with a different, shorter questionnaire than the one shown to the village council. If the village council found out, this could lead to distrust and effect the continuation of the research.

The response to the questionnaires was different in each village, which resulted into different amounts of completed questionnaires (see table 4). Motukeri was the village with the highest respondents in the least amount of days. Only 3 days were needed to collect 94 completed questionnaires. In Makundusi it took 4 days to collect 65 questionnaires. Here the households and sub villages are more widespread, which brought about more time needed to reach different households. The village Iharara was a project on its own, as it took 7 days to collect 46 questionnaires. People here were reluctant to cooperate and did not want to complete the questionnaire; the specific reason for this is unknown. Iharara took twice the days of Motukeri to collect only half of the questionnaires. In total 205 sufficiently completed questionnaires were collected. Not the total amount of 365 from table 3, but enough to give as much of a good impression to continue with the focus group discussions.

Questionnaire statistics									
Village	Q.	Population				Profession			
		Men	Women	Boys	girls	Farmers	Pastoralists	Farmer/pastoralists	Other
Iharara	46	25	14	2	5	36	4	6	0
Motukeri	94	54	35	4	1	70	11	12	1
Makundusi	65	29	21	5	10	50	4	9	2

Table 4. Questionnaire statistics. First column (Q) shows the total amount of questionnaires collected per village, the other columns show the distribution of those questionnaires between the different stakeholder groups.

To get the questionnaires completed, three people went out to the field. The project officer and myself as one team, and the office attendant as the second team. The introduction was given, the questionnaire handed over and the next household paid a visit. When enough questionnaires were distributed with enough time left to pick them up, the completed questionnaires were collected again. The transport to the villages was by foot, local bus, motorcycles, jeeps or trucks that would stop to take us along. This meant that some days, which were dedicated for information collection, did not happen, as no transport was available to take us to the village. This also meant, that the days of a no show, meant losing a whole day as waiting for transport and walking up and down to a village could take hours.

The questionnaires only gave information about the opinions of the villagers. In order to get a clear overview of the whole situation other stakeholders needed to be questioned. This was done through personal contact by conducting unstructured interviews. Some of these interviews were in English and others were in Kiswahili. There were two meetings with Grumeti Fund, three meetings with the District Council, two meetings with SHIMWAJAWA (pastoralists' organization) and one meeting with Mr. Hassan who works as freelancer for IBDI and SNV.

At Grumeti Fund the meetings were held with the community outreach manager and the conservation officer/ wildlife manager. The community outreach officer provided information on the development activities Grumeti carries out in the communities. The problems they experience with the community and the mistakes made in the past by Grumeti. The conservation officer supplied information on the

history of Grumeti and the management of the company. The different investments they have in the villages, how much they pay for that and how Grumeti operates towards these villages.

The meetings with the District Council were with the natural resource officer, who supplied information on the regulations of the open area. The district veterinary officer who gave data on livestock numbers in the district and the difficulty in knowing the exact numbers. And one meeting was held with the planning officer that provided us with numbers on population growth in the research area.

The meetings with SHIMWAJAWA consisted of one introductory meeting and one follow up meeting. The first meeting was to get to know each other. Both SEPDA and SHIMWAJAWA knew of each other's existence, but had never met. The second meeting was on the research of the open area and if and how SHIMWAJAWA could support us.

Mr. Hassan is active in tourist enterprise mapping for IBDI. This means inspect investments made in different villages in Western Serengeti and map the differences between the villages in relation to communal benefits. One of the villages he just started to inspect was Makundusi, one of the villages in this research. The meeting was to exchange data and to learn about the difficulties with the Makundusi village council.

There were two field visits to the open areas, one to the open area of Iharara and one to the open area of Motukeri. The visit to the open area of Iharara was guided by the former chairman Mr. Benjamin. The visit to Motukeri open area was with the whole village council. The investor had arranged transport for them to find the boundary poles of the area. I could tag along with them to get an impression of the surroundings of the open area. The Makundusi open area was not visited for two reasons. The first reason was lack of time and the other reason was the complexity of the specific location and size of the area.

### 3.4 Data analysis and preparation for FGDs

During the analysis of the data collected with the questionnaires, different questions arose. Some answers were unclear in their meaning, other answers did not make sense to the question asked. Another discovered was that some questions were translated incorrectly into Swahili, because all the answers did not correspond with the question in English. Elaboration on how this could happen is explained in the first part of the results.

Before processing the questionnaires, a form (see annex 2) was made to process the answers by hand. On a separate paper the characteristics (men/ women/ youth, age, farmer/ pastoralists and farm size) of the person was written. This was used as a remembrance of where to score on the form. After this, the questions were handled one by one, and from questionnaire to questionnaire, marking the questionnaires that were finished. The project officer translated the answers from Kiswahili to English, and I scored the form. It was possible to process 40 questionnaires per day. The hand written processing forms were digitalized afterwards and the results are in annex 3. For digitalization EXCEL was used to supply the overview and to calculate the percentages of the different answers given. It was also used to derive the difference in answers between men, women, youth, farmers and pastoralists. This digital information was used to prepare for the Focus Group Discussions.

The most common rule of thumb is that most projects consist of four to six focus groups. The typical justification for this range is that the data become 'saturated' and little new information emerges after the first few groups, so moderators can predict what participants will say before they say it [Morgen, 1996, p.144]. The optimal number of participants is 8 - 10. If a group is too small, one person in the group may dominate it; if it is too big, then it may be difficult to control [Escalada, 1997, p.3].

In Iharara and Motukeri four FDGs were planned; a group of farmers, pastoralists, youth and the village council. In Makundusi the groups were changed into, youth, people employed by Grumeti Fund and people not employed by Grumeti Fund. The village council was not added as a group, as it was said by Mr. Hassan [IBDI, 2010] that this would be too risky. The village councillors are not on good terms with each other and calling a meeting with them could end up in a fight. The groups were formed by entering the village and asking the respective villagers if they were willing to join the FGD.

The FGDs had as goal to bring back the information gathered with the questionnaires and to verify if the collected information and the interpretation of the data were correct. This with the purpose to inform the villagers on the data collected with the questionnaires, to stimulate their thoughts about the problems and solutions of the open area, to give them ownership of these areas and to motivate them to take action about the future management.

First the answers of the questionnaires were analyzed. The questions that needed further deepening and answers that were unclear were selected. From these questions and subjects were prepared to discuss in the focus groups. The idea was to have 3 hour meetings but according to Steward & Shamdasani [1990, p.10] a typical focus group session will last from 1 ½ to 2 ½ hours.

The first group had a more structured meeting, dividing the questions in subjects. After the first FGD new questions arose that were added and other questions deleted as they were answered sufficiently. This happened after every FGD and every FGD had some different questions. The subjects that stayed the same were map drawing, investors, and problems and solutions of the open area. The FGDs with questions and answers are in annex 4.

The best way of learning is through sight, which implies it is good to have visual aides as part of any learning activity [EC, 2004, p.121]. Therefore a Problem Tree was made, to visualize the problems and show how they lead up to the main problem of depletion of natural resources. The tree was established on the computer and from there translated into Kiswahili and hand written on big A5 papers for everyone to see. The problems are written at the bottom, and step by step they lead to the main problem 'depletion of natural resources'. During the discussions the problem tree was shown to the participants, to get their opinion and to see if any problems were missing. Unfortunately a problem tree was difficult for them to understand and the response was practically nothing. Therefore this data is not used in the results.

### 3.5 Focus group discussions

The FGDs were held in Swahili and afterwards translated into English. The team consisted out of three members, The project officer as facilitator, the office attendant as secretary and the intern as observer. The FGDs were not going as smoothly as hoped and therefore a big difference occurred between the focus groups of the three villages and the amount of attendances (see table 5). The FGDs were held with a learn and adapt attitude which resulted in different approaches for each new FGD held.

Village	Focus group	Attendances	Date
Iharara	Pastoralists	24	23-8
Iharara	Farmers	11	24-8
Iharara	Youth	5	18-9
Motukeri	Village Council	20	20-9
Motukeri	Youth/ mixed	19	24-9
Makundusi	Mixed	10	28-9
Makundusi	Mixed	8	29-9

Table 5. Focus Group Discussions. The different focus groups per village, amount of attendances and the date.

#### Iharara village

The first village was Iharara with a pastoralist group. When arriving in the village, the veterinarian association was already there to talk to the pastoralists. Fortunately, they thought the amount of pastoralists (25) that had shown up was too small for their meeting and they left. This gave a good opportunity for SEPDA to take over and work with the pastoralists that were already gathered. The meeting went to our satisfaction, multiple people responded and gave their opinion and it lasted about 1 ½ hour. This first meeting also showed the skills of the facilitator. He only asked the questions established before hand and unfortunately did not elaborate on issues that were raised during the discussion. Some questions were discovered to be closed questions, and only answered with a yes or no. Unfortunately also here the facilitator did not ask further questions.

The second FGD was the farmers group in Iharara. This group had 11 attendances that were difficult to gather. The farmers were busy and not interested. After a while there was already a group of farmers together under a tree on a farm and they were willing to cooperate with the FGD.

This group was not so participative and it was more the facilitator talking than the participants responding. The facilitator did try to ask them their opinion, but only three persons responded and the rest stayed quiet. This meeting took one hour.

The youth group of Iharara was the most difficult one to form out of all the FGDs. Youth was there, but usually in groups of 2 and always only boys, the girls were working at the house. For a few days in a row SEPDA went to Iharara to try and collect the youth. But they were either not found, or they did not show up at the set place and time. After spending a few days going to Iharara for nothing, the idea came that most of the Iharara youth boys were playing pool outside the SEPDA office. So just ask who of them comes from Iharara and invite them in the office. This was easy, as the Tanzanian culture expects young people to obey the elder. For this group 5 boys were found and after days spent collecting them, 5 participants, unfortunately only boys, were good enough. This meeting took 1 hour.

The Iharara village council was one of the FGD groups that were on the list. But after many unsuccessful attempts of getting them together, it was decided to move on to the other village.

#### Motukeri village

The second village was Motukeri. First the methodology of just going there and finding a group of people was tried. But the inhabitants of Motukeri were angry, a lot of research had been done in their village, without any improvements and this was the reason they did not want to cooperate. There was also the bad luck of an American student just visiting them a day before we came, asking a lot of questions. The second methodology was to contact the village chairman and asking him to arrange a group of pastoralists and farmers. He told us they would be present on a specific day, but after arriving, nobody was there and the village chairman told us to contact the village secretary for arranging the groups. The secretary, however, was impossible to reach and also unwilling to cooperate. After a few days of trying the team leader of SEPDA came back and had a meeting with the village council of his own, that we could tap into. The meeting with the village council was frustrating. They were uninterested and said they had not shown up to hear about the open area, but to hear what the team leader had to say about the investor.

The team leader of SEPDA was both involved in this research and in getting Motukeri the investor. This fact and his presence during the FGD made it difficult to ask the village council their opinion about the investor, and if they are aware of the risks that an investor brings. The meeting was short (one hour) and only shallow questions were asked, as the facilitator felt insecure in the presence of the team leader and the hostile sphere of the village council.

No support could be expected from the village council and the adults were unwilling to cooperate so the youth group was tried as final FGD in Motukeri. It started as a youth group, but soon transformed into a mixed group of 19 participants, as more people who passed by stopped to listen. This FGD, taking 2 hours, gave different opinions than the village council about the upcoming investor. And this group gave insight on how to deal with cattle grazing, once the investor is present.

#### Makundusi village

The last village was Makundusi. Time was running short and with all the problems of getting people together it was decided to get whoever wanted to participate instead of fixed groups of farmers, pastoralists or youth. In the first meeting the village chairman of Makundusi was present. This had both an advantage and a disadvantage. The village chairman could answer specific questions, but it also withheld to ask questions about investment and the problems arising from there. It was known that people would not speak freely with a member of the village council present.

The second meeting in Makundusi was in Makundusi sub village. This specific sub village borders the entrance to the Grumeti Fund offices and is the poorest part of this research area. It was easy to get a group of people together in this part. One farm was consulted and the members of this household went out to collect more people from other farms in total there were 8 participants. The participants were very willing to talk. They said that nobody had previously asked them about their opinion. For this reason the FGD lasted for 2 ½ hours and was the longest of the 7.

### **3.6 Observation**

The two different observations were done by myself in different settings. The unobtrusive observation was used during the FGDs. These FGDs were held in Kiswahili and due to lack of understanding, I started to observe these meetings. I looked for physical and verbal behaviour within the participants and the facilitator, and human traffic within the participants. The physical behaviour consisted out of what people did (e.g. pay attention or sleep), and who interacted and who didn't. The verbal behaviour was more focused on the tone of their voice e.g. if they spoke in anger or not. The human traffic included people who entered, left and spend time at the observation site [Family Health International, 2006, p.20].

The observation spot was in front of the meeting with the other team members. Because of this spot and my remote behaviour I expect the participants not to have recognized me in the roll of an observer. However the anticipation should be there that the presence of a white woman could have changed the course of their answers. For example, the thought that a white person can do more, so the more we complain the more we will get.

The participant observation was used during transport, during my work at the office and during my daily activities. Through time I became part of the village I lived in, and accepted by the community as one of them. The observation was during participation in the daily activities, like buying food at the market, walking from home to work and going to church on Sundays. But also during work hours when walking from the office to the Iharara village, walking through the villages during time of questionnaires and visits from villagers to the office. The participant observation focused more on the activities of the villagers; the time of agricultural work in the field, the amount of cows they took grazing, the firewood they collected, the grass burning, the specific crops grown in the fields, the location of water pumps/springs, etc. This observation gave background information about their livelihoods and if what they answered in the questionnaires corresponded with what was seen in the field.

### **3.7 Capacity building, Ownership and Participation**

Besides collecting information the task was to capacitate SEPDA. Together with SEPDA, ownership and participation of this project should be brought to the villagers. This research provided the first introduction of the plans about the open area to the villagers.

Capacity building is a coordinated process of deliberate interventions to upgrade skills, improve procedures, and strengthen organizations, which refers to the investment in people, institutions and practices [web.worldbank.org].

The capacity building of SEPDA was based on process development, coaching interpretation and analysis of data and information. Together with support in report writing, in preparing stakeholder meetings and technical support like development of tools and methodology (see also figure 5). The capacity building within SEPDA was a shoulder to shoulder learning experience with a high level of participation from the project officer. It was the first time for SEPDA to run an official survey with questionnaires and to facilitate in Focus Group Discussions.

To build capacity small interferences were made by the intern. The capacity building of the survey consisted of formulating open and clear questions, processing of the questionnaires and analyzing the data. The capacity building of the group discussions was more on how to be a good facilitator and to ask additional questions to get a clear answer.

To know the basis of their capacity the activity was started without previous training. With the formulation of questions for the questionnaire, some questions were formulated in such a way that the answer looked for, would not be given. To point this out, I would ask them the answer they wanted to receive and if this question, the way it was formulated, would give that answer. Or I would show them that the question formulated could be answered with a simple yes or no. This was usually enough for them to reformulate the question in a more proper way.

With running the questionnaires, no capacity building was needed. They were naturals, explaining the participants the usefulness of answering the questions and most respondents answered without complaints.

Processing the pile of questionnaires was something new to SEPDA. They gave the impression, that once the questionnaires were filled the work was done. It actually needed explaining that once the questionnaires were answered they needed to be processed in order to analyze the data.

Both SEPDA and myself made a processing sheet and discussion was done afterwards. It was not possible to process the questionnaires in a computer program, as the project officer I worked closest with was no expert with computers, and no capacity would have been build. SEPDA made a sheet that mentioned whether a question was given yes or no. It was explained that this was good, but still insufficient in telling what answer was given and which answer was given the most. I showed them my processing sheet that was discussed and with some adjustments used to process the questionnaires.

The data analysis was done with the digital information from the questionnaires. I set down with the project officer and discussed each question separately. If questions were unclear in their answer, they were written down again to be discussed in the FGDs. Or if answers needed more clarification, they were put on the list of FGDs.

The project officer functioned as facilitator in the FGDs. He was good in speech, holding the attention and getting people to respond, but was lacking in asking additional questions in order to get a better understanding of what they meant. I would ask him these questions after the meeting, while working out the minutes, and showed the facilitator the importance of the questions. During the course of the FGDs the facilitator experienced the need of asking additional questions and with every meeting, more questions, then established before hand, were asked.

At the end of the project SEPDA had to submit a report to SNV, something they had never done before. The outline of the report was discussed, the content and the sequence of the chapters. From there the project officer started to write. Unfortunately his report was not finished before the end of the project, and it was not possible to give feedback on the content of the report

The participation of the community in this project did not go fluently, as is discussed in the previous chapters. Participation of the community stands for procedures whereby members of a community participate directly in decision-making about developments that affect the community [PHAC, 2008, p.9] which can achieve empowerment and ownership [CCD, 2010].

Participation may take on various forms, and occur in varying intensities depending on the nature of the activity and the roles and responsibilities of the people and groups involved [EC, 2004, p.119]. The scale and scope of the project were small and resulted to information sharing rather than initiating action within the villages and with the participants (see figure 4). To get them to participate and own the project the reason of our visit was explained; the data collected would be used to write a land use plan, and their opinion was needed so their wishes could be taken into consideration. With this individual explanation people participated and shared their knowledge on the open area by completing a questionnaire. In return SEPDA shared the collected data from the questionnaires during the group discussions. People were not paid for their participation, but the pencils used to complete the questionnaire, were mostly not returned. It was hard to get the village councils involved, the expected reason for this are the zero payments. As there was no money involved in this project, there was no personal benefit in the eyes of the village council.

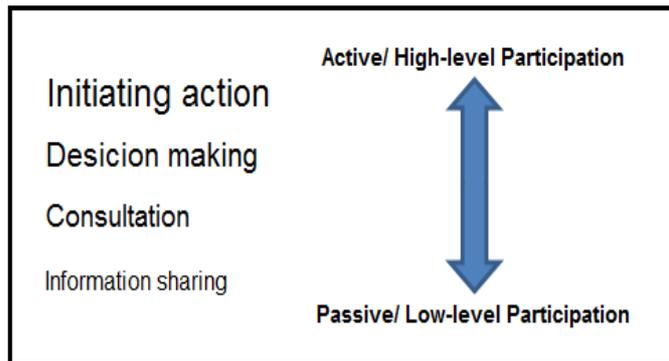


Figure 4. Levels of participation [EC, 2004, p.119]

## 4. Results

The results in this chapter are subdivided into 6 categories, corresponding with the research questions mentioned in chapter 2. The results, however, have been affected to some extent by management problems that arose within SEPDA during time of research. Before explaining the results the management problems are discussed and how these affected the results.

The contract between SNV and SEPDA was signed by the team leader, who started SEPDA 10 years ago. In the terms of references, attached to the contract, the outline of the project and the tasks of all the parties involved were written (see figure 5). The tasks were as followed:

Role SNV	Role SEPDA	Role Intern
<ul style="list-style-type: none"> <li>Engage and place intern in SEPDA</li> <li>Provide advice on the process during implementation</li> <li>Follow ups for quality control</li> </ul>	<ul style="list-style-type: none"> <li>Supervise the intern and lead the study team</li> <li>Orientation of the intern in Issenye</li> <li>Compose the study team (intern + SEPDA official)</li> <li>Provide logistical and practical support (e.g. interpreter) to the intern</li> <li>Organize the study and field work (e.g. introductions, informing various stakeholders, prepare appointments)</li> <li>Ensure implementation of activities and quality of the outputs</li> <li>Organize and facilitate stakeholders meetings</li> <li>Write the synthesized and final reports</li> <li>Share and distribute the final report to relevant stakeholders and SNV</li> </ul>	<ul style="list-style-type: none"> <li>Provide technical support (e.g. develop tools, methodology etc) and capacity building (e.g. process development, coaching, interpretation and analysis of the data and information etc) during the study</li> <li>Conduct the study with SEPDA,</li> <li>Provide support in reports writing (the synthesized and final reports)</li> <li>Provide support in preparing stakeholders meetings,</li> <li>Present study outcome and process to SNV</li> </ul>

Figure 5. Fragment from terms of reference: Role of SNV, SEPDA and Intern

Although the tasks were clear and a contract was signed, a lot of the tasks directed to SEPDA, and specifically to the team leader did not happen. The study team was composed out of three people. First the team leader, second the project officer and third myself, the intern. The role of the project officer was to be an interpreter, to help in the fieldwork, to help with the preparations, and to be overall involved in all the small activities. The role of the team leader was to lead the study team, to organize the study and fieldwork, organize and facilitate stakeholder meetings, write the synthesized report and share this with relevant stakeholders and SNV. Within all these activities I was placed within SEPDA to provide technical support, to conduct the study together with SEPDA, provide support in report writing and in preparing stakeholder meetings.

The management problems occurred due to lack of communication and participation of the team leader. The contact moments with him were short and remote, and no leadership or organization was given by him. The project officer and myself told him many times the importance of his involvement and elaborated on his necessity for leadership and organization within this project. However, this did not help and instead of a more active involvement, the opposite happened, and his presence became even more remote.

This repeated absence of the team leader has had such consequences for the project, that a lot of time was lost waiting for him and that a shift in composition of the study team had to be made. The project officer took over the tasks of the team leader, which meant, organizing and facilitating the FGDs, writing the report and give the final presentation at SNV. The tasks of the project officer were partly given to the office attendant, who helped with organizing the FGDs and taking minutes during the discussions.

These changes worked out well, as the project officer seemed competent in doing these tasks. Nevertheless the absence of the team leader had consequences for the results of this research. To start with, an extra opinion was missed with analyzing of the collected data. Although the team leader had a lot of knowledge about laws, the study area and the residence, it was not possible to tap into this knowledge during the data analysis.

The second problem occurred with holding the FGDs. People were reluctant to show up, which resulted into calling meetings, going to the villages and with no cooperation of the villagers or the village council, and going back with business undone. A lot of days were lost with going to a village for

no reason. The people did not seem to see the aim of our research or how they would benefit from it. An extra person was missed here, to go to the villages before the gathering for the FGDs and explain the importance of these meetings.

A third problem occurred in the translation of the questionnaires from English to Swahili. They were translated by the project officer, but had to be checked on correctness of the translation by the team leader. As no other person, besides the project officer, in the office spoke English.

The management problems within SEPDA also lead to problems between SEPDA and SNV. The collaboration between SEPDA and SNV was sealed with a contract, but based on a great deal of trust. The trust of SNV has been violated by the team leader of SEPDA. Something that would not have been noticed without the presence of a separate party (myself) providing SNV with a different perspective. The team leader claimed to have worked his days according to the contract and to have participated in the research. This was not confirmed by the intern, who provided SNV with information on the internal management problems mentioned previously. To gain more insight in the matter, a SNV employee came to the SEPDA office to discuss the matter with the staff.

The end conclusion was that the team leader had violated SNV's trust and had misled them in his skills and personality. Because of these problems, the contractual flaws of the SNV contracts were seen. It was found that the contract had no specifications that could help SNV to summon SEPDA and annul the contract.

The positive effect of this all is the learning material it provided to improve future contracts with LCBs. My placement was the first time for SNV to place an intern in a small locally based NGO. And it provided information on how a NGO deals with the agreements of the contract.

The specifications of the contractual issues discovered are unknown to me. I have discussed this with SNV, but they mentioned it was not my place to know about the specific details of the contract. However, I do know that SNV discovered that the contracts with the LCBs all had different set-ups. And that each contract had different costs that could be claimed.

#### 4.1 Open area and Land use dynamics

The Motukeri open area is an open, flat area with no hills. Some parts are covered with grass and full grown acacia trees. Other parts are completely open with only grass, and some areas are covered with acacia shrubs. Towards the Rubana river the area gets greener with high grass, tighter vegetation and more deciduous trees. The specific acacia species is unknown, the villagers did not know the scientific name of the species in their area. Literature study supplies some species like *A. xanthophloea*, *A. drepanolobium* [TANAPA] *A. tortilis*, [TANAPA, FAO] *A. nilotica*, *A. albida*, *A. mellifera* [FAO]. The acacia trees have different functions but are used most for medicines, fuel, fodder and construction. *A. tortilis* has a high quality firewood and charcoal and survives heavy grazing. *A. mellifera* has durable wood for construction, is termite resistant and is used for live fences and hedges. [FAO].

Motukeri was the only village with an official map, indicating the village location, the open area and the area that would go under investment. It is difficult to collect official maps in Tanzania, as the District Council only has a limited amount of maps. Grumeti Fund has detailed maps, but only about their own areas. Making maps is of high costs and only possible if the needed money is available, for example paid for by an investor. For Iharara and Makundusi, no official map was available.

A sketch map of Iharara (see annex 6) was made by the youth on paper and digitalized by myself. During the field visit the map was cross-checked and is sort of correct, only there are two hills, instead of one, and the radio pole and watchtower are located on top of the highest hill. The open area of Iharara is not open grassland as such, trees are scattered around the area which does not give a feeling of 'open'. Mr. Benjamin explained that in the past these lands were covered with a lot of trees but nowadays only a few have remained. Most trees stand as separate trees surrounded by bushes, small plants and shrubs at their trunk. A small plot with planted trees was present near the village.

In the past 10 years a lot of changes have occurred in the open areas. During the Iharara FGD a respondent said: "10 years ago there were plenty of trees for building poles, plenty of grass for fetching our houses, there was plenty of pasture for our cattle and the environment was good."

The English version of the questionnaire had two questions related to the changes of the open area but differently formulated to give two different perspectives. The first question was how the participants use had changed in the last 10 years. The second question was which *things* had changed over the past 10 years. Unfortunately the questionnaires in Kiswahili had these two different questions written in exactly the same way, both asking *what* had changed. Therefore the answers given are almost identical. In figure 6 the answers of the two questions are combined, for the separate answers to each question see annex 4, questions 39 and 41.

### What has changed in the open area in the last 10 years?

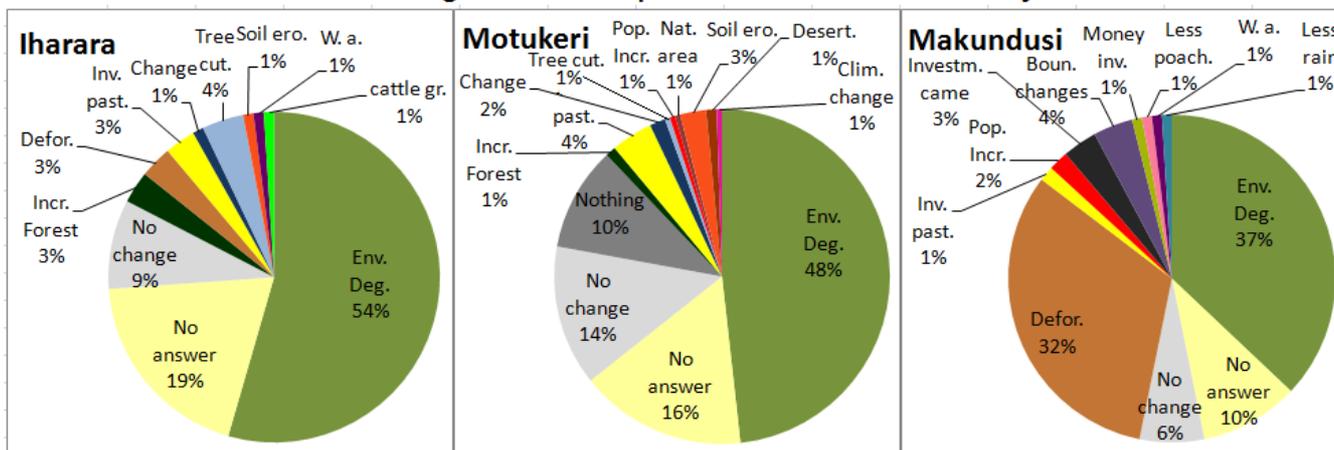


Figure 6. What has changed in the open area in the last 10 years? Abbreviations: gr. = grazing, Env. Deg = Environmental Degradation, Incr. = Increase, past. = pastoralism, Defor. = Deforestation, Inv. Past. = Invasive pastoralists, cut. = cutting, pop. Incr. = population increase, Investm. = Investment, ero. = erosion, W. a. = Wild animals, Desert. = Desertification, Clim. = Climate, Boun. = Boundary, inv. = investor, poach. = poachers.

The biggest change is said to be environmental degradation, but right after that other participants answered that there is no change, nothing. Another contradictory is found in increase of forest cover directly followed by deforestation. Some answers are given only by Makundusi village, like investment came, boundary changes, money investor and fewer poachers. All these answers correspond with the investment that the two other villages don't have.

There is a big difference in villages with respect to deforestation. In Iharara it is only mentioned with 3%, in Motukeri not at all, but in Makundusi deforestation counts for 32% of the answers.

The boundary changes answered by Makundusi were explained during the FGD of Makundusi. They explained that the agreement with Grumeti Fund was that they were allowed to go 4 km beyond the Grumeti river to graze their cattle and collect firewood. That was the location of the boundary. At present they are not allowed to enter the river, the river is now the boundary.

These changes don't occur without a reason, shown in figure 7. The most frequent given reason for environmental change is cattle grazing, only in Makundusi they called it overgrazing caused for a big part by their own cattle increase [Makundusi FGD]. The second most given answer is that the change is caused by the invasive pastoralists. But with the FGD In Makundusi, they mentioned only to have a few invasive pastoralists who are allowed by the village council and cause no problem.

Tree cutting is mentioned by all villagers, but deforestation only by Makundusi. During the FGD they said that the area where Sasakwa Lodge is located was covered with forest in the past, but now many trees have been cut, the hill is almost naked since Grumeti Fund is there.

The degradation of the environment is seen by all villagers, but strongest in Makundusi. The depletion started very recently, not more than 10 years ago and is related to overgrazing, increase in population, cattle and wildlife, especially elephants that come to the village [Makundusi FGD].

Other answers given that cause the change are drought, soil erosion, firewood collection, poverty, coming of investor and Grumeti Fund. The lack of land use plan is mentioned by Motukeri and Makundusi as reason for negative changes in environment.

### What is the reason for the changes in environment?

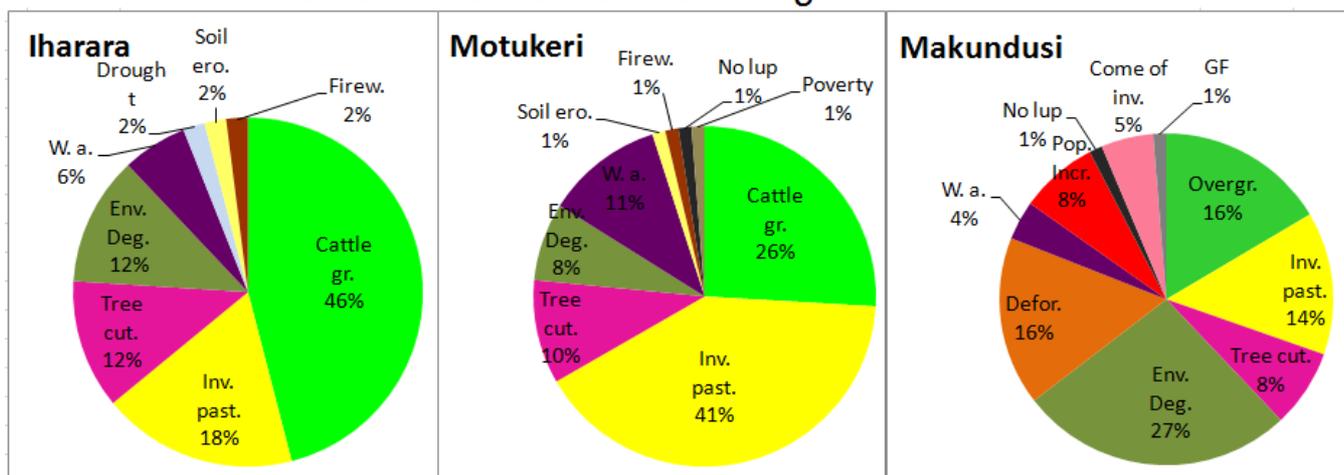


Figure 7. What is the reason for changes in the environment? Abbreviations: gr. = grazing, Overgr. = Overgrazing, Inv. Past. = Invasive pastoralists, cut. = cutting, Env. Deg. = Environmental Degradation, Defor. = Deforestation, W.a. = Wild animals, ero. = erosion, Firew. = Firewood collection, Pop. Incr. = Population increase, No lup = No Landuse plan, Inv. = Investor, GF = Grumeti Fund

During the FGDs the changes of the open area were discussed as well, resulting in opinions like; “Formally the livestock was in small numbers and there were only few people, a low population. But the last 10 years there is a big increase in population together with a big increase in livestock.”

[Iharara]. The demographic features of table 6 show an increase in population in the district, the two wards and the three villages. The 2010 numbers are not exact but a projection of the census from 2002 with growth rate of 3,3% annually [Population and Housing Census, 2002].

Demographic features of the research villages					
	Men	Women		Men	Women
<b>Serengeti District</b>			<b>Issenye Ward</b>		
2002	83,758	91,832	2002	3,437	3,381
2010	110,546	117,162	2010	4,483	4,849
<b>Iharara village</b>			<b>Motukeri village</b>		
2002	711	760	2002	866	892
2010	941	967	2010	1,125	1,134
			<b>Makundusi village</b>		
2002			2002	1,107	1,127
			2010	1,408	1,394

Table 6. Demographic features of Serengeti District, Issenye and Nata ward and the research villages; Iharara, Motukeri and Makundusi.

Cattle grazing is the major reason for change in the area. The specific intensity of the grazing however is unknown. Research showed that people are reluctant to tell the exact amount of cattle they have. The most correct data are the number of cattle collected at dipping<sup>5</sup> points or during vaccination. But no owner will vaccinate or dip his whole herd and usually only bring around 50 to 70% of his cattle. Besides this, livestock comes into the district illegal. Officially, any cattle that comes in the district has to be approved upon by the livestock officer, but high officials buy their cattle from other districts without registering. Livestock data collected from a village chairman is also incorrect as they randomly pick numbers because they are not paid extra to do this task.

The data on amount of cattle per village that is known at the district council is in table 7. But to get a more accurate number of livestock per village, the number of cows should be multiplied by 2 or 3.

One day, in Makundusi, the district livestock officer went to vaccinate cattle, after a disease had killed several cows. The livestock number in Makundusi is 4,325, but when vaccinating, they found themselves vaccinating around 5000 cows in one sub village alone, with still 2 other sub villages to go.

Village	No. Of cows per village in 2009		
	Cows/ village	Registered	Unregistered
Iharara	3,816	3,499	317
Motukeri	5,843	3,919	1,924
Makundusi	4,325	3,545	780

Table 7. Number of cows per research village in 2009 [Kagize, 2010]

<sup>5</sup> Dipping of cattle, means bringing your cattle to a place with a small pool in which to ‘dip’ your cattle. The pool is filled with chemicals that kills the bacteria’s, diseases and tics in the cattle skin.

## 4.2 The stakeholders and their interests

The villagers were asked, by means of questionnaires, if there were other users of the open area besides themselves. The most frequently mentioned users were invasive pastoralists, followed by investors like, Grumeti Fund and Makundusi Holdings. Without the questionnaires the existence of Makundusi Holdings would have been unknown to the research team. Nobody had heard of this investor previous to the questionnaires.

There are 9 different stakeholders in the area in total. The villagers from the three respective villages, pastoralists from drought prone areas and their representatives SHIMWAJAWA. The village councils and the district council. The investors; Grumeti Fund, Mawalla Trust Ltd (SEHL), and Makundusi holdings. And the final stakeholder wildlife.

The villagers are the main stakeholders in this area. The biggest part of the villagers practices farming and pastoralism and most households practice both. Other economic activities they practice are small business enterprises, small scale industries and employment in various organizations [Serengeti District Profile, 2009].

The villagers use the area to provide in their basic needs, like; cattle grazing, agriculture, firewood collection, building poles, grass for fetching roofs, water and general tree cutting (see figure 8). Basic needs may be defined as those that comprise a minimum of food and water, protection from fatal diseases and adequate shelter [Streeten & Burki, 1978, P.413]. Local communities (sedentary and nomadic) are highly dependent on natural resources for their subsistence needs [IIED, 2009, p.21]. The Motukeri village council, during the FGD, explained that not all villagers have the capacity to build brick houses, instead they need building poles.

### What do you use the open area for?

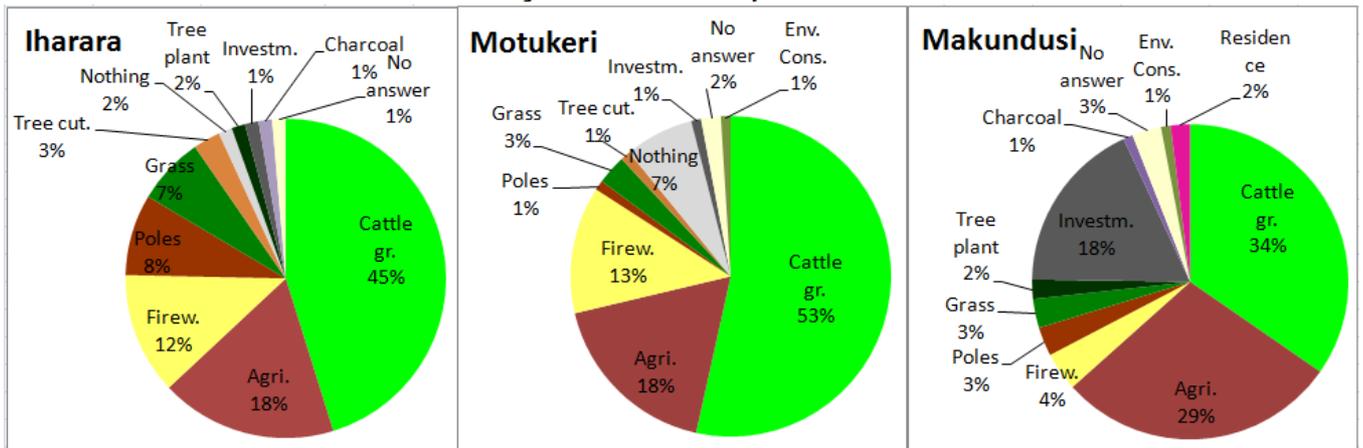


Figure 8. What do the villagers use the open area for? Abbreviations: gr. = grazing, Agri. = Agriculture, Firew. = Firewood, Poles = Collection of building poles, Grass= Grass for fetching roofs, cut. = cutting, plant. = planting, Investm. = Investment, Charcoal = Charcoal burning, Env. Cons. = Environmental Conservation.

During the FGD of Iharara the question was asked if there is a specific land use in the open area that they cannot live without, as they are not available anywhere else. They responded to use the land for pasture, agriculture and water. There was no evidence of agriculture in the area, it could be they meant future agricultural land or the collection of non timber forest products, like fruits.

In Motukeri they mentioned to need the area to reach the Rubana river to water their cattle and get water for domestic use.

The villagers gave the impression to have no active role in their own lives. They are reluctant to show up at their own general meetings. In these meetings decisions are made and information shared. Furthermore they have a big cry for investment that gives the impression that they rather want money to be brought to them and poverty to be solved by outsiders, then to actively tackle it themselves.

In Makundusi, where people are employed by Grumeti Fund, they use their income to buy more cows. People are not used to bring their money to a bank and instead they put their money in cows. Cows are a status symbol to how rich a person is and the more cows he owns, the richer he is.

The second stakeholders are the pastoralists from drought prone areas. Pastoralists live on products of their domestic animals in arid environments or areas of scarce resources [Fratkin, 2007, p.235]. Most pastoralists live a nomadic life, roaming around with their cattle from area to area. They need to use these lands to graze their cattle as there are no alternative locations to graze in the dry season. The pastoralists depend on these lands for their cattle to survive.

The FGDs in Iharara explained the background to the meaning of an invasive pastoralist. These are cattle herders from Bunda District, Shinyanga region and some from Mwanza region. They are not specified by tribe or location, but are anybody who is not from that village but still grazing his cattle there. They are invited by a villager or the village council from that village. They can be a relative or a friend who has all this cattle and nowhere to graze. The village chairman/ council know this person is there to graze his cattle and therefore they are no longer invasive pastoralists, but invited pastoralists. These pastoralists only visit during the dry season, when the suffering is at its highest. In Iharara it is said that 70% of the cattle grazing in the area is from pastoralists from drought prone areas. They put their cattle with a relative in the village and that relative will say it is his own herd. This is the way the cattle enters illegal without consent of the village council.

The pastoralists are represented by SHIMWAJAWA another stakeholder in this region. They represented 94 members at time of research, who are all pastoralists. SHIMWAJAWA is a new organization, founded in 2001, but officially registered nationally in 2009. During this research they gave the impression of not being organized yet, but that they will function as a good representative for the pastoralists in the future. The interest of SHIMWAJAWA is not so much in the open area itself, but more to make sure the pastoralists are not forgotten as stakeholder of the area.

The village council is a separate stakeholder from the villagers. They are seen as owner of the open areas by the villagers, because people have to ask their permission to use the land. Furthermore they hold different ideas about the use of the land. The village council is responsible for the coming of investors into the area and for making a land use plan. They are also the ones benefitting most from pastoralists from drought prone areas, as they receive the money for their stay. Furthermore research showed that the village councils of all villages are not transparent and show signs of corruption.

The district council is the contract giver of this research and has their own interest in the area. The district is driven by the National Government, who most of all, wants to make money with these areas. According to the natural resource officer at the district their main interest in the open area is to get it under investment. The government will earn more money with investment than if the area would be e.g. used for agriculture and cattle grazing. Likewise with the village council, the district council is not transparent and shows signs of corruption.

Grumeti fund is the investor in two of the villages and counts for a lot of development activities in the region. Their interest in Tanzania and the area is animal conservation. Grumeti was founded by a rich American, named Paul Tudor Jones in 2002. He bought the hunting licenses<sup>6</sup> for the area now known as Grumeti Game Reserve. Local people were no longer allowed to enter this area and in exchange they launched several development projects to support the people, being;  Employment,  Trade (buying of local goods),  Contribution to village level development projects,  Boreholes,  Primary school with extensive library,  Establishment of Community groups,  Bee keeping,  Fishponds ,  Alternative sources of energy (energy saving stoves/ conversion of industrial waste into energy bricks, sold against subsidized price),  Scholarships (payment for education from primary school till university).

In the past the beehives inclusive of bees, special clothes and training was supplied by Grumeti Fund for free. But over time, the beehives were used as firewood. Now Grumeti Fund asks 20% (16.000 TZS (+/- €8,-)) of the costs of the beehives as input from the villagers in order to create ownership and responsibility for the beehives. [Ndaskoi, 2010]

Grumeti had made false promises in the past, to get people on board. To tackle these false promises, they are having formal and systemized meetings in villages. The minutes of these meetings, with the promises and issues discussed in writing, are handed out afterwards to be revered to in case of

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<sup>6</sup> Hunting of any wild animal is generally prohibited unless authorized by the law. In order to hunt, one has to apply for a hunting license. [LEAT, 2010] Hunting without these license is illegal and prosecutable. Tanzania is divided into Hunting blocks, each block having its own limit of licenses and of animal kills in that area. Grumeti Fund bought all hunting licenses for the hunting blocks in Grumeti Game Reserve, providing the animals with same passage as hunting in these areas is now illegal.

questions. Secondly Grumeti is not handing out money for projects as they did in the past, but pays for the costs made for specific projects.

Mawalla Trust Ltd. is an investor from Arusha. They invested in the open area of Motukeri, during this exercise and function as legal advisor for Makundusi Holdings. They are investing under the name Serengeti Estates Holding Limited (SEHL). Mawalla Trust is a law firm, having services in real estate, trust and management, corporation, and asset management.

Makundusi Holdings is a company created by the Makundusi village itself. In the past they decided to put the remaining of their land under own investment. They claimed the title deed on the land and with this protected it from more investments. They use the land not for investment but for their own cattle grazing. The director of this company is the village chairman.

The last stakeholder in the area is wildlife. They have been using these lands long before rules, laws and fences restricted them from coming in. Wildlife re-enters the open area when conditions are favourable. It is seen that ones the area is under protection against hunting and from human uses, the animals come in to explore these lands.

During the course of research there was a high lack of participation by officials. The reason is assumed to be that they were unpaid for the specific tasks we asked them to do [Kagize, Hassan, 2010]. The village councils and ward councils did not write the official amount of people and livestock in their village, after asking them for this information. And village councils did not call meetings because they were not paid for showing up or for arranging them.

However this cannot be officially proven only speculated about. Nevertheless in the past these practices of paying participants did occur [Hassan, 2010] in order for people to attend meetings. These meetings were based on collecting information from the villagers, rather than sharing of information. The villagers learned that all they would get from these researchers was the money they were paid for attending. [Hassan, 2010]

### 4.3 Sources and reasons for conflict

The different interests of the stakeholders lead to conflict amongst them. For example the invasive pastoralists who are blamed for a lot of problems occurring in the open area. Therefore a specific question was added to the questionnaire asking what kind of problems the villagers experience in relation to these invasive pastoralists (see figure 9). The biggest problem they experience is

#### What problems do you experience with invasive pastoralists?

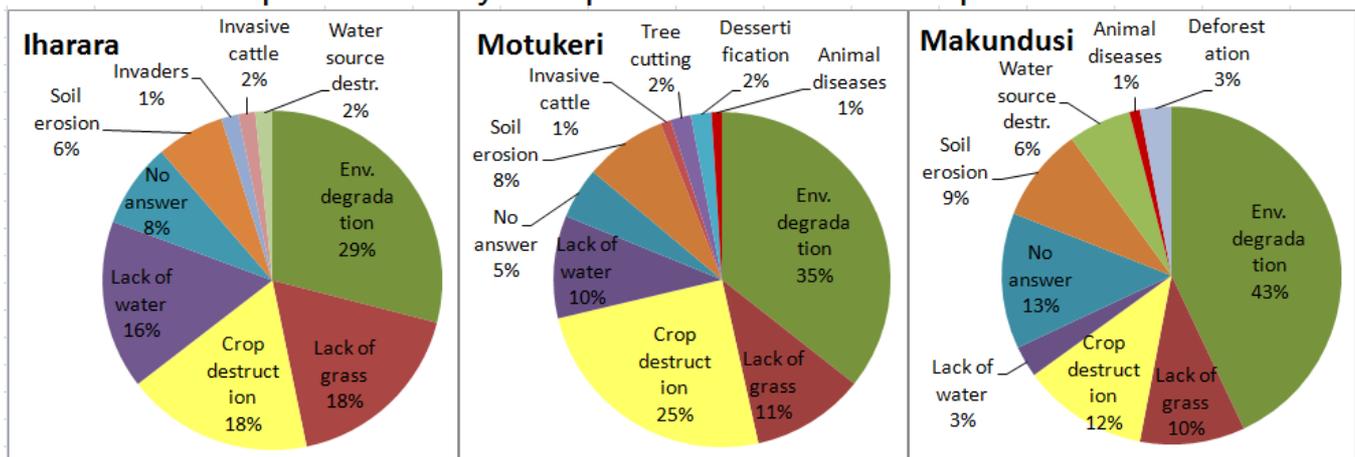


Figure 9. problems do the villagers experience with invasive pastoralists in their open areas? Abbreviations: Env. = Environmental, destr. = destruction.

environmental degradation. Crop destruction is mentioned as second biggest problem closely followed by lack of grass and water. Besides this the invasive pastoralists cause soil erosion, water source destruction, desertification, they bring animal diseases and participate in tree cutting leading to deforestation.

Besides the question what problems they experience with invasive pastoralists in the area, there was another question asking what problems they experience with respect to the open area (figure 10). To this question a lot of the same answers were given as to the question what problems they experience with the invasive pastoralists. Invasive pastoralists are mentioned as the biggest problem with up to 62% in Makundusi. The crop destruction is now blamed on the wild animals instead of the invasive pastoralists. Dangerous attacks by wild animals are mentioned as a big problem in Makundusi, while crop destruction by these wild animals is more severe in Iharara.

### What problems do you experience with respect to the open area?

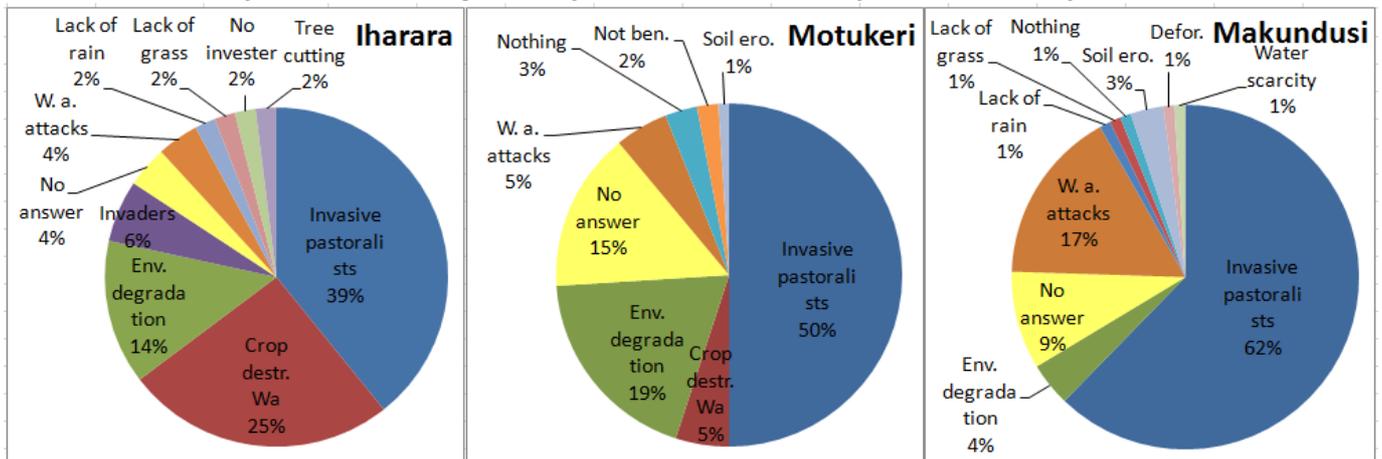


Figure 10. What problems do the villagers experiences with respect to the open area? Abbreviations: Crop destr. Wa. = Crop destruction by Wild animals, Env. = Environmental, W.a. = Wild animals, ben. = beneficial, ero. = erosion, Defor. = Deforestation

During the FGDs the wild animal problem was covered in detail and it seems that elephants create the biggest problem. Human-Elephant Conflict (HEC) may take many forms, from crop raiding and infrastructural damage, through disturbance of normal activities such as travel to work and school, to injury or death of people and elephants [Sitati *et al*, 2003 p.668]. Four days before the Motukeri youth FGD a men was killed by an elephant. Besides this they said that the elephants are destroying their farms, water sources and empty the water in the rivers. One day, while going door to door in Iharara, most people were not at home because elephants were entering their agricultural fields destroying the crops.

Makundusi has the biggest problem when dealing with wildlife. This was discovered during the FGDs. Makundusi Sub village (see annex 7 for location) has a big elephant problem. At the time of research the elephants entered the village every night. During this time they destroyed the crops and people were killed. They installed an evening clock at 5 pm, as conflict usually takes place between dusk and dawn [Sitati *et al*, 2003 P.668], for people to stay indoors after that hour. It is not save to walk around the village when elephants are entering. One day they found an elephant giving birth next to the water pump. She was fierce, as giving birth, and people were locked in their houses, without possibility of getting water or going to school, out of fear of this elephant. Another person said that the elephants are chasing the schoolchildren on their way to school. They are happy Grumeti Fund build them a primary school, but they are not sure if their children will arrive there and back home in safety. One day there were around 100 elephants wandering around in between the houses.

According to the stories of the villagers the entering of the elephants (and other wildlife) into the village has increased since the coming of Grumeti. They say the reason is because they are not allowed to kill the wildlife and because the government does not help to push them back. There was no evidence from villagers, Grumeti or the district council that the villagers receive help in this problem. The suggestion grew that elephants and other wildlife have become more important than human lives. If an elephants gets killed, the village chairman has to write an official letter to the president explaining what happened. If a human gets killed by an elephant, nobody will hear about it.

### 4.3.1 Investment

The question about the benefit received from an investor, was specifically for Makundusi village as it was the only one with an investor. During the analysis of the questionnaires it was discovered that Grumeti Fund was also investing in the open area of Iharara, renting an area used for a radio pole and watchtower. However, the participants of Iharara did not answer this question and the issue was discussed later during the FGDs.

The answers in figure 11 are only from Makundusi. Most people did not answer this question, followed by no benefit and money/ employment. Other participants responded with saying that they simply do benefit or that just the Village Council benefits. One percent of the participants answered that a school has been built by the investor. The answers agriculture and tree planting give the impression that the investor is participating or supporting these activities.

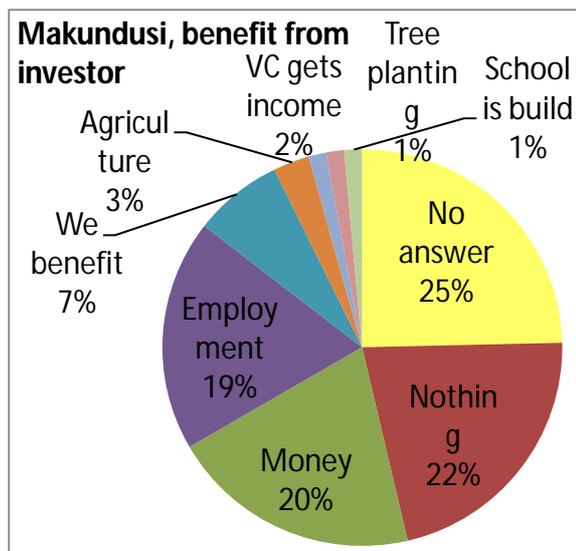


Figure 11. What are the benefits of the investment in Makundusi village?

The people who answered not to benefit gave as a solution to get rid of the investor or to get a new investor. One of the participants answered to put the area under own village use again. Only one reason was given as to why they do not benefit. The explanation was that the village council is not transparent. This was confirmed during our field visits where participants explained that they do not know the amount of money coming in the village from the investment, or how the money is being spent. Grumeti explained that they pay Makundusi 2,5 million shilling (€ 1,275,-) per month.

Besides lack of transparency, there is a high level of corruption. During the time of research there has been contact from the district council up to the employees of SEPDA, and at all levels corruption occurred with respect to money, together with a large dose of non-transparency. The district council receives 200 million shilling (€ 1,020,-) per year [Seki, 2010] from Grumeti Fund, for the payments of the hunting licenses. But both the villagers and Grumeti Fund do not know how this money is spent.

The village council receives the payments for rent directly onto their bank account. The villagers think the money is paid to the district and that they are responsible for giving the money back to the village. This lack of transparency causes the villagers to blame the district council for not paying the money to the village. The village council has the money, but does not explain to the villagers how they spent this money. This lack of transparency suggests corruption in the sense that the money coming in is going into the pockets of the councillors, instead of using it for development purposes.

The district council has its own problems with respect to the villagers. The villagers poach, burn grass in the wrong way (this destroys more than it should if done correctly), and go beyond the boundaries into the game reserve areas.

The lack of transparency is a major reason for conflict between the communities and their village council. The story goes, that if questions about money are asked, the village council threatens with imprisonment. The villagers in Iharara know the amount of 350.000 TZS (€ 178,-) per month that is paid for the use of the area by Grumeti.

In an unstructured interview with Mr. Benjamin, former Chairman of Iharara, it was explained that the money was used for projects, like; water dip for cattle, the establishment of primary school classrooms, building of a teacherhouse, assistance with building of secondary school instead of personal contributions per household and educational support for secondary schoolchildren of poor families.

Figure 11 shows as only benefit money/ employment and the building of a school, while during the FGD they confirmed to benefit from water pumps and educational support/ scholarships. So far 54 students have been supported 100% in their education of primary school, secondary school or university. The students who enter this program are chosen by the whole village.

Besides these benefits a lot of discontent towards the investor came to light in the FGDs. The feeling is that the disadvantages of the investment are a lot higher than what they are gaining. The employment by the investor was debated and only a small number of people from Makundusi are employed. The posts of higher functions are employers from Arusha applying for the job saying they

are coming from the area. This while skilled people for these jobs are available in the village. The villagers also complained that Grumeti Fund is not working according to the contract. The community outreach officer of Grumeti Fund referred to the false promises made in the past, like the boundary changes explained in 5.1. And that this could be the reason people say Grumeti is not working according to the contract.

Motukeri was in the process of getting an investor at time of research. However this subject gave a lively discussion during the FGDs. The youth FGD explained that the villagers do not want the investment. They say the investment has been forced upon them by the village council who has been bought with money and soda's by the team leader of SEPDA. He has sold their land and non of the villagers know what's in the contract and nobody has the expertise to understand it. During this meeting the question was asked if there are resources in the area now under investment. They said Rubana river is used to water their cattle and for own domestic uses. The whole part bordering the river came under investment. As they are not allowed to enter the invested area they have no entry to the river. Other rivers in the area dry up during the dry season, when need of water is at its highest. However, they do expect to receive employment, social aides like water pumps and health centres, and reduction of personal contribution from this investment.

#### 4.4 Opinions and ideas on future management

The opinions and ideas about future activities and management have been tested among the villagers and the different governance institutions in place.

For future activities both Iharara and Motukeri want an investor (see figure 12). This is supported by the governance institutions at local and regional level. Makundusi has a higher score for agriculture than investment. There are more farmers in the area so agriculture is much more important than cattle grazing. Besides this, cattle grazing erodes and destruct the environment more than agriculture [Makundusi FGD]. Cattle grazing is a third choice in Makundusi, and tourism falls under the category investment. A lot of participants answered to want to use the area both for investment, agriculture and cattle grazing. Motukeri FGD explained that one area will be under investment and for the agriculture and cattle grazing a management plan is made. For cattle grazing the area will be divided into pieces, so at a certain period one piece is grazed, when the grass is gone, another piece will be grazed.

In Makundusi [FGD] they want to reserve the area for future residence, agriculture, pasture and conservation, but they do not want any more investments. Environmental conservation is not on the top priority list although conservation was mentioned a lot during the FGDs.

Makundusi has more specific activities in wanting bee keeping, poultry, gardening and tree planting. The meaning of business is unclear, but assumed are non-environmental activities.

With respect to future management the most important thing is good governance followed by democracy (see annex 3 question 54). In Motukeri good governance is answered with 95% and in Iharara with 70%. In Makundusi democracy came higher with 43%. The specific task of this good governance is to care for the community, allow participation of the community and to be creative and cooperative as a leader.

This question about management gave not the answers intended with the question. Management was

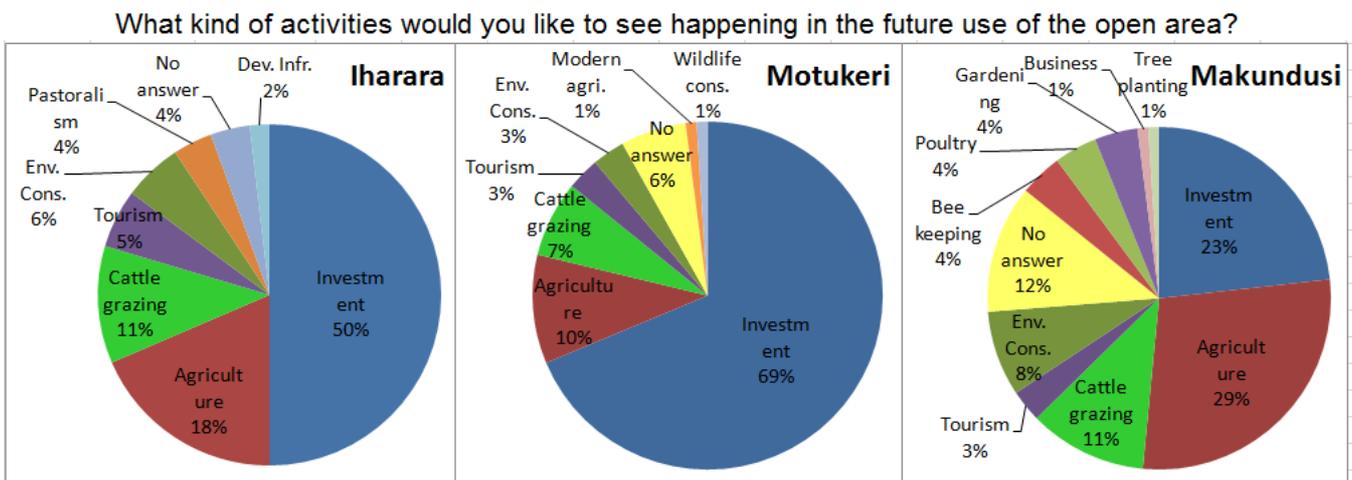


Figure 12. What kind of activities would you like to see in the future use of the open area? Abbreviations: Env. Cons. = Environmental conservation, Dev. Infr. = Development of infrastructure, agri. = agriculture, cons. = conservation.

meant in the way of managing the open area in how to manage the land use, not the management of the village council as leadership. Nevertheless, when never heard of or worked with a management plan, it is logic this does not come to mind.

The solutions to the problems with invasive pastoralists were asked as a separate question. Most participants answered 'To chase them out' and 'To allow an investor' (see figure 13). Both answers suggest they do not want the invasive pastoralists to use their area to graze their cattle as allowing an investor means the area cannot be used for cattle grazing anymore. Other answers like 'a solution not being possible' or 'to employ guards', suggest no willingness in cooperation from the villagers in finding a solution together with the pastoralists.

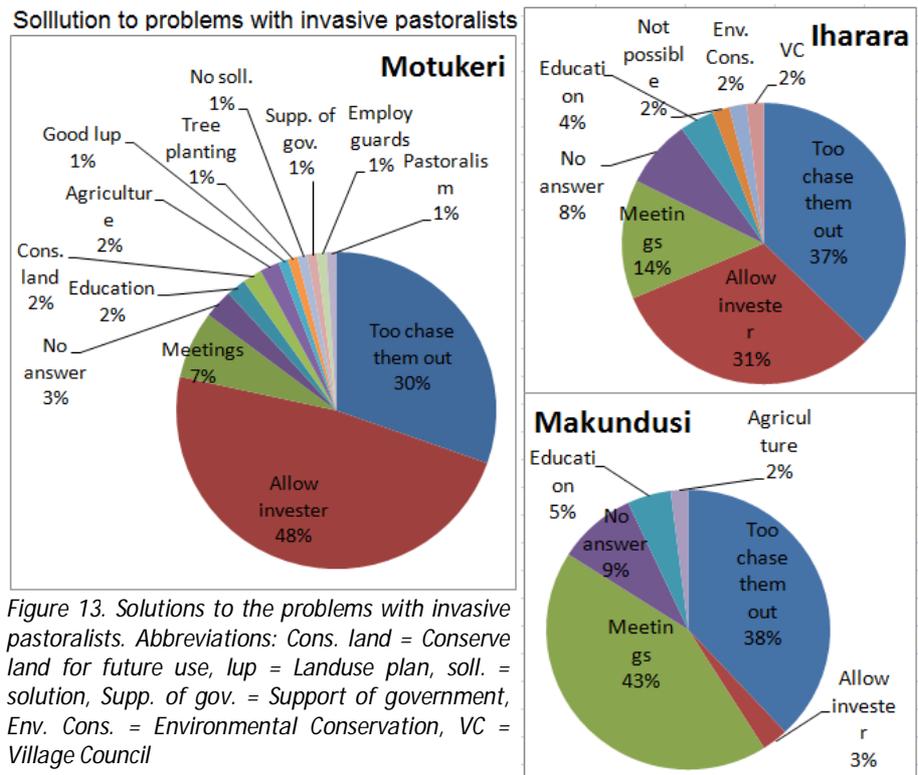


Figure 13. Solutions to the problems with invasive pastoralists. Abbreviations: Cons. land = Conserve land for future use, lup = Landuse plan, soll. = solution, Supp. of gov. = Support of government, Env. Cons. = Environmental Conservation, VC = Village Council

The answer 'meetings' gives a better impression that conversation is possible. A separate question was asked to check whether or not the villagers want to correspond with the invasive pastoralists in finding a solution, for example if the pastoralists pay for the use of the area. The reaction to this question was a firm 'No'. Figure 14 shows the responses to the question. In Iharara no was given 72% of the time, in Motukeri 65% and in Makundusi 43%. The reason for the, in comparison low number of no's in Makundusi, is due to bad copies of the questionnaire. In Makundusi this question was unreadable in a high number of the questionnaires and 40% had given no answer. During the FGDs this overwhelming no was discussed and explained. These pastoralists own big herds of cattle, sometimes 300 to 500 cows, while the villagers have an average of 50 cows per farm. These cows trample the soil and destroy the environment and water sources.

Are you willing to work together with invasive pastoralists? e.g If they pay for the use of the area?

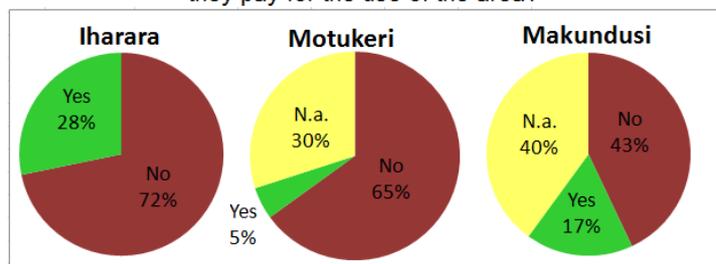


Figure 14. Do the villagers want to cooperate with invasive pastoralists in finding a solution? Abbreviations: N.a. = No answer

The village council of the three villages want to use the area mainly for investment and conservation. Pastoralists from drought prone areas want the area to stay available for cattle grazing. The District Council said to prefer the area to be used for investment.

The national government is supportive of beekeeping activities as this market was not saturated at time of research [Ndaskoi, 2010]. The estimated potential of bee products is about 138,000 tons of honey and 9,200 tons of beeswax per annum. But only 4,860 tons honey and 324 tons beeswax are produced annually which is about 3.5% of the production potentials [Tanzania Government, 2010] With more honey production, the honey can collectively be sold in the future. This is supported by the government who admits that beekeeping plays a major role in socio-economic development and environmental conservation. In 1991 Tanzania honey won by 100% the quality test for organic honey

in UK and the demand in both local and international markets has increased in recent years. [Government Tanzania, 2010]

Grumeti has no interest in the use of the area, besides what they invest in themselves. Mawalla Trust Ltd. has a big interest in environmental and wildlife conservation in the open area of Motukeri. Makundusi holdings is interested in using the land for village uses like cattle grazing and agriculture.

#### **4.5 Local government institutions**

The local governance institutions in place are the village council existing out of the sub villages, the ward council, and the district council.

The land use planning act of 2007 shows that the village council is the village land use planning authority for the respective villages. Their role in the open lands is to prepare detailed land use plans for implementation, and to ensure that the objective of the Village Land Act are achieved. To secure the orderly and environmental sustainable development in the village. To ensure productive use of village land, preserve village land resources including forests and wildlife, and to review or evaluate all applications for land within the village. This to determine the extent of its conformity with approved land use plans and to advise the Village Assembly accordingly. The village council can invest an area under 250 hectares without approval of the district council [Village Land Act 1999, Part III, 6a]

Makundusi explained that the role of the Village Council is to make sure that all the agreed activities in the contract with Grumeti Fund are fulfilled. They are also the owner of the open area, as people have to send them a letter of application if they e.g. want to build a house there.

The members of the ward council comprises of members of the village councils in that ward. The ward receives money from the hunting permits Grumeti Fund is paying to the district council. They are responsible for further distribution of this money and to use it for village projects. It is not clear how much money is going to which of the 28 wards in the district.

The district council is accountable to the national government and the ministry of the national government is ultimately responsible for the open areas. The districts role is to approve the plans (e.g. land use plan) of the villages before they can go into action, to employ game scouts and tell the villagers to establish a village conservation comity.

#### **4.6 Ownership and capacity building**

Monitoring and evaluating capacity building is notoriously difficult [James, 2009, p.1], but an attempt is made to discuss the results established with the villager and SEPDA.

Within SEPDA there was no primary knowledge on how to plan and carry out a research complete with collecting information from participants, analyzing the data and drawing conclusions. At the end of the research this knowledge was present with the project officer. The results comprise of research tools worked with during time of research. For the survey the tools consist out of formulating open and clear questions, processing of the questionnaires and analyzing the data. The FGD tools are how to be a good facilitator and why to ask additional questions to get a clear answer.

The timeframe of this research was too short to establish a meaningful relationship with the whole community in the villages. It takes time and patience to build a relationship of trust [Yachkaschi, 2005, p.4] and this was starting to be achieved by the time the research ended. But with a high lack of participation that we received from villagers and Village Councils, it is almost impossible to build capacity. Ownership of the project by the villagers is a future action when this information collected is put into a management plan that they have to approve and work with.

## 5. Discussion and analysis

This research as outlined previously was designed to help identify and clarify the dynamics in current land use in the open area of Western Serengeti and to discover the opinions, ideas and conflicts of the different groups involved with respect to current and future management.

This chapter discusses the dynamics in current land use, the conflict levels between the different stakeholders, the cry for and the lack of knowledge on investment.

The results are intended to benefit the users of the open area, and especially the villagers, in a positive way. They are the ones most affected by the depletion in natural resources. But all stakeholders will be affected by the new management.

### 5.1 Dynamics in current land use

The dynamics of the open area are hard to describe. The past history of the open areas are not that clear and an assumption can only be made through the changes happening over time, explained in the questionnaires and focus group discussions. Important clues that describe the dynamics are environmental degradation, deforestation, soil erosion, desertification, and less rainfall. These happenings did not occur overnight or as a natural disaster, but were triggered by human activities such as; cattle grazing, livelihood practices, investment, wildlife, and population increase. The dynamics in land use are explained through these human activities that triggered the change from a healthy and stable environment to a degraded environment.

Cattle grazing, in the intensity occurring in the area, has direct consequences for environmental degradation. The grass is eaten to a minimum, leaving the soil practically uncovered resulting in soil erosion during heavy rains or desertification at long term, leading to less rainfall and excessive drought. Continuous and intensive grazing may cause irreversible damage. Livestock can compact soil, exacerbate erosion, consume and trample tree seeds, seedlings and browse saplings, and thereby preventing forest regeneration. Eventually, the tree canopy thins out and disappears. [Wasie *et al*, 2008, P-765-766]

The livelihood practices like firewood collection, grass for fetching houses, charcoal burning and collection of building poles, also lead to degradation. Most, if not all, people in the village need building poles and grass to build their houses. They have no alternatives in funds to build stone houses with corrugated iron roofs which last many years. Mud-houses only last 10 years and the grass roof-covers need to be renewed every year. Firewood collection or charcoal burning is also practiced by most resulting in cutting of trees and collection of branches from the ground, leaving the soil with less cover.

Investment leads in two different directions. An area under investment leads to the protection of that area and to conservation of environment and wildlife. But it does not solve the problem of degradation outside of that area and it does not teach the villagers how to use the land sustainably.

Investment in an area can even lead to more environmental degradation. Not in the specific area under investment, but in the surrounding areas, still used by the villagers. The area now used by the villagers for cattle grazing, firewood collection, grass-cutting etc. will be reduced. The same amount of people needs to use a smaller amount of land, while the bigger piece of land was already degrading due to lack of management.

If however, people are employed by the investor this does not necessarily mean less constraint on the environment. It is a positive thing that villagers are employed and that they make more money. But the problem lies in how they use that money. People do not bring their money to a bank, instead they buy cows and sell those cows if they need cash. So the more money people have, the more cows they own. And the more cows there are the higher the grazing intensity becomes, leading to overgrazing and environmental degradation. Ultimately the suggestion can be made that investment leads indirectly to more overgrazing and depletion of natural resources.

With investment or protected areas, the wildlife population increases including the increase in elephants. Elephants have a big say in environmental destruction. They pull down whole trees [own experience] to eat, or just for fun. This destruction caused by wildlife, should be included as cause of environmental degradation, besides the degradation caused by human activities.

The last explanation in current land use dynamics is the population increase leading to environmental degradation. As seen in table 6, that shows the demographic features, there has been an increase in population in the last 8 years. During the FGDs participants also mentioned that in the past there were less people and cattle and things were good. Population grows exponentially and in a finite world this means that the per capita share of the world's goods must steadily decrease [Hardin, 1968, P.1243]. This is what is happening in the open area, the environmental goods are decreasing. The population increases but the natural resources steadily deplete in the limited open area. The carrying capacity of the land is not big enough to supply the large amount of needs of the people.

Increase in population results in a request to use the open area for residence. The village lands are no longer big enough for private residences of the younger generation. More land is used for residence and takes up space for cattle grazing and livelihood practices. These livelihood practices are also growing in demand. New houses mean building poles and grass and more families mean more need for firewood.

The changes in the open area contain some contradictories described in chapter 4.1. The results show that environmental degradation has occurred in the open area, but it also shows that there has been no change, nothing. The second difference is the answer that forest has increased, directly followed by the answer of deforestation. The reason for these contradictions can be found in the different environmental dynamics of the area. In some parts with forest, the trees have been cut down in the past, leaving the area open and covered with no more than grass. Other parts recovered to some extent, resulting in an increase in trees. The difference in change and no change could be in the perspective of looking at things. The suggestion is that for some participants the open area still provides in their needs, and therefore no change is seen or experienced.

## 5.2 Conflicts between the different stakeholders

There are different points of conflict between the stakeholders. There are the villagers/ village pastoralists versus pastoralists from drought prone areas, there are the villagers versus the village council, the villagers versus the district council, villagers versus wildlife and the villagers versus the investor/ Grumeti Fund.

There are two kinds of pastoralists who are not friends, but do use the same area to graze. More annoying they always meet at times of despair. The villagers blame the invasive pastoralists for using their land with big herds of cattle, trampling and destroying as they go and leaving when water and grass is finished. Their cattle grazing compete with livelihood activities. If grass is eaten it cannot be used for roof-cover and vice versa. Cattle that trample young seedlings mean no regeneration of trees/ shrubs which leads to depletion in building poles, firewood and charcoal.

From history onwards pastoralists have lived a nomadic live, moving from area to area. With the establishing of laws, land was suddenly not free anymore and only specific areas were destined for grazing. Pastoralists who live in drought prone areas need to move their cattle to more humid areas. The villagers live in these more humid areas, and receive these invasive pastoralists in every dry season. Although this area receives more rain than other parts of Tanzania, during the dry season there is still not enough grass to feed all these cows. The villagers are now the owners of these open areas, where in the past the pastoralists good roam freely.

The villagers have a conflict with their own village council, in all the three villages. The villagers blame the village council for not being transparent. They are not leading in a democratic and participatory way and for making decisions without consulting the villagers.

It is difficult to put this problem into the perspective of the village council as they were not eager to talk during the research. The village council of Motukeri was the only council spoken to. They say to call upon the district council in case of wild animals entering the area, so they can push them back. The villagers complain to the village council, who will tell the district council, but the district council has no money or resources to do anything. So nothing will be done, and the villagers blame their council for not solving the problem.

The villagers however, are reluctant to show up at their own general meetings, where decisions are made and information shared, to frustration of the village council, who calls the meetings.

The villagers do not experience any activity that the district council is planning or doing something for them. For example, the kind of projects or activities the district is working on to improve the livelihoods

of the people. The villagers know the district is receiving money from Grumeti Fund. They also have a vague understanding, that this money should be used to support them in village projects. However they do not know how the money at the district level is spent.

The district council experiences problems with the villagers with respect to poaching, wrong way of grass burning (that destroys more than it should if done correctly), and villagers that go beyond the boundaries into the game reserve areas [Boma, 2010]. The district council is saying they do not have enough money for conservation or, in that matter, to support village projects. The district is not being transparent about their financing and activities and the villagers do not ask or complain directly to the district councillors.

All three research villages have a problem with wildlife. Grumeti has bought all the hunting licences leaving the villagers with no legal right to hunt wildlife. The wild animals are entering the open areas, destroying crops as they go and causing danger to humans. The wild animals see no harm in entering the open areas; there are crops to eat and nobody hunts them. There was no evidence from villagers, Grumeti or the district council that the villagers receive help in this problem. This frustration adds to the other reasons of conflict the villagers have with Grumeti Fund and their council.

### 5.2.1 Investment and villagers

Grumeti Fund and investor are seen as the same in this conflict. Investment and villagers first of all mean conflict in land use. Conflict and competition over the resources that the investor wants to conserve and the villagers want to use. The villagers do want an investor when they do not have one. They think of schools, hospitals, employment and conservation of the area for their use. Once the investor has arrived, or the contract is signed for investment, the complaints start. The investor is not living up to his promises, there is still no school or no hospital, and there are water pumps that do not function. The consequence is dissatisfaction by the villagers for not getting what is promised.

Grumeti Fund, in this case, has made improvements in the area. They have built a school, drilled 87 boreholes and provide scholarships. At time of research 37 boreholes were still functioning, others did not function out of lack of repairs by the villagers responsible for the pump. Another reason for conflict is the compensation for the hunting fees. The money paid to the district by Grumeti Fund should benefit the community as compensation for them being unable to hunt. However, as seen in the village, this money does not reach them. The villagers think the investor is to blame, while it is the district council.

When the communities were asked why they accept these practices, that they complain about and not act upon them, they grow silent. The suggestion grew that the communities do not actively want to participate in their own development, but rather want money to be brought to them and poverty to be solved by outsiders. What the villagers do not seem to know however, is that aid cannot achieve the end of their poverty. [Easterly, 2006, cited in Ellerman, p.3]. If money is brought to them, for example through investment, this will only be a short-term relief and a physical solution to their poverty [Ellerman, p.4-6]. Physical in the sense that they can touch the money and have it for a short while, until it is finished, but this system does not develop them. The point is for the villagers to acquire their own capacity to set up and operate as manager of the area to meet their basic needs [Ellerman, p.6]. This behaviour, of begging, does explain their cry for investment which is stunning. I suggest they believe investment will solve all their problems and that the investor will employ them all and put money in their pockets. The downside is that the villagers give the impression not to know the real meaning of investment. Igoe & Croucher [2007, p.535-537] give a perfect example on the meaning of investment, through the WMAs (Wildlife Management Areas) in northern Tanzania, Burunge WMA:

*Officially, WMAs consist of village land set aside by villagers specifically for conservation and the protection of wildlife. They are meant to promote conservation outside protected areas and to bring prosperity to rural communities by giving local people authority and capacity to conserve wildlife on their own land. This arrangement will, in turn, allow them to become partners with outside investors in wildlife-based business ventures. Unfortunately this research revealed a far different reality. Almost all the local people interviewed held that the Burunge WMA was planned and implemented behind their backs and against their will. A large part of this problem is that the creation of WMAs has not been a community-driven process. Rather, it has been driven in large part by a handful of transnational conservation organizations, which have provided the necessary resources, expertise and technology.*

It is important to know what communities do and do not know in this matter. Due to this lack of knowledge they are easily tempted in selling their land, without knowing the consequences. This is happening to Motukeri, where the village council got an investor without the villagers knowing what is agreed upon or what the effects are for the future.

## 6. Conclusion and recommendations

Before concluding this research and making recommendations, the limitations of this research are discussed. The first limitation was time. Only 5 months were available to collect the data and more time was needed. It took a long time for the people to come familiar with the research team. Because of this unfamiliarity they were reluctant to cooperate as they did not trust us. Towards the end this trust started to come, but by then there was no more time to work with them.

Another limitation was the struggle between capacity building and data collection. It was important to collect the necessary data, but even more important to SNV to capacitate SEPDA. Due to this capacity building, the speed of data collection went slower and not all data targeted for has been reached.

The last limitation was the lack of communication at the start of the research. There was no discussion prior to the start about the different tasks of each researcher involved. If this had happened, everybody would have known what to expect and what was expected of them. It also would have given a better opportunity to address the team leader on his malpractice, because the division of labour would have been discussed.

The conclusion comprises the answer to the main research question: "What are the existing dynamics in current land use in the open area of Western Serengeti and what are the opinions, ideas and conflicts of the different stakeholder groups involved with respect to current and future management?" And it explains if the hypothesis that was mentioned in the problem description was correct.

### 6.1 Conclusion

The existing dynamics are not so much the change in land use activities but more the intensity of these activities. There is more investment, more cattle grazing, more need for livelihood practices due to population increase and more wildlife in the open areas. And the increase in intensity of these activities over the past years has led to the environmental depletion seen today. The human induced land use activities have far exceeded the carrying capacity of the land. The land does no longer supply enough for the people who use it.

The hypothesis was that the current land uses were agriculture, livestock grazing, firewood collection and wood collection for fencing and other applications. And that these land uses effect the environment in a negative way. The hypothesis seems to be correct. The expected land uses are present and in the intensity occurring, they are having a negative effect on the environment.

The stakeholders each have their own unique use and interest in these open areas, leading to conflicts amongst them. The conflict between the villagers and the pastoralists from drought prone areas is based in historical use and cultural habits of the pastoralists and new laws established by the national government. The villagers are now the owners of the open area, due to new laws, and can keep on using this land for their basic needs. The pastoralists from drought prone areas roamed these lands freely in the past, but are now chased out.

Governmental institutions, like the district council and village councils, prefer to see the land being used for investment. Investment gains more money compared to the farming and agricultural activities of the villagers. The villagers were not interested in the opinions of their village council or district council. These institutions are opaque and corrupt and the villagers feel they are not actively involved in the development of village lives. This vision cannot be pinned down on the governmental institutions alone, as the villagers are equally responsible. They do not ask for clarification or make demand on transparency, leading to continuation of the corruption. This uninvolved attitude and lack of transparency by the government institutions, and the lack of asking for clarity and transparency by the villagers leads to conflicts between these stakeholders.

The hypothesis expected this difference in opinion between governance institutions and the other stakeholders. It also expected that the role of governance institutions on paper and their actual role in the field would be different and to some extent this is true. The district's task on paper is to support the villages by supplying them with game scouts and help establish village conservation committees. But in reality the villagers do not experience this support from the district. The village council has the task to prepare land use plans and protect or sustainably use the village environment. In reality this is not possible, because the councillors have no knowledge on how to implement these tasks.

The reason for conflict between investors and villagers is bad communication and false promises from the investors point and no sense of reality and lack of participation by the villagers. Investors invest

personal wealth in an area with the aim to make money. To get the villagers to rent them their land they make false promises. Over time, the villagers get dissatisfied for not getting what was promised. In situations with investment the villagers lack a sense of reality, expecting the investor to solve all their problems and alleviate them out of poverty.

The human-wildlife conflict has not always been a problem. The people of Tanzania had a way to deal with wildlife, namely to kill and eat the ones that came to close or destroyed their crops. Currently they have no more legal right to kill wildlife, wildlife is protected and this leads to an increase in the wildlife population. In the past too much animals were killed, and conservation of the area and animals was necessary. But now it is the wildlife that takes up too much of the area without any consideration of the humans settled there. This leads to high frustrations with the villagers who experience problems with wildlife but feel they are unable to act upon it. The investor or district council can provide support in this problem, but show no sign of doing so, adding to the already existing conflicts between the villagers, the district council and the investors.

The participants of the questionnaires were divided into different groups. The hypothesis was to derive different opinions between big farms and small farms, between pastoralists and farmers, and between men and women in the problems they experience with respect to the open area.

It was expected that a big farm (bigger in hectares or amount of heads per cattle) would experience different problems than a small farm. For example, that a person with more cattle would elaborate more on lack of grass in his answers than a person with only few cows. Or that a person with more hectares would make more money from its farm products and have less problems, than a person with only a few acres. This proved to be incorrect. During the processing of questionnaires, and scoring the form, no difference in answers appeared between those groups. There was a slight difference in answer between men and women, where women gave answers with respect to diseases, medicines and health that men did not answer.

The last hypothesis was the expectation of a good turn-up for the sample survey and participatory method. The concept note of SNV, which was sent to me prior to my arrival in Tanzania, wrote that the district council and stakeholders had shown interest and willingness in collaborating with SNV and other organizations to address the core issue. Apparently this interest and willingness had disappeared over time or other stakeholders were spoken to than the ones we questioned. The reason why SNV expected a high interest and willingness to collaborate and how this did not manifest in reality is unknown. Whatever the reason, the hypothesis was wrong and it was difficult to collaborate with the participants in the sample surveys and participatory method.

Concluded can be said, that not SEPDA, but the project officer has been capacitated. Originally the capacity building was directed towards the team leader. But this was difficult to achieve as he was not present in the office regularly. The project officer was present for the whole duration of the exercise and the building of capacity was directed towards him.

Furthermore, no ownership of the project by SEPDA has occurred. The team leader, who runs SEPDA, was not present enough during the project, resulting in no primary knowledge about the insides of this project. The project officer received this knowledge with respect to the results, methodologies applied and problems encountered. However, the project officer explained not to proceed with his work for SEPDA, due to the bad management practices of the team leader during this project. If this is truly happening, than ownership of the project did not happen and no capacity has been build within SEPDA, only towards the project officer.

It was expected, as mentioned in the hypothesis, that SEPDA would be a suitable organisation to function as Local Capacity Builder. The reason was the choice of SNV to work with SEPDA. The thought was that SNV would select its partners carefully and would know how to assess an organisation. With respect to SEPDA, their assessment was not correct. SEPDA as organisation was not suitable to function as a local capacity builder. However, the project officer, turned out to be quite capable of capacitating local people. But as single person, without registration of being an organisation, there is no possibility of working with SNV.

The results of this research did create new knowledge, but not enough to write a whole management plan on. The first collection of data is done on which further research can be built. The discovery of the organisational problems within SEPDA was an eye-opener to SNV, together with the reason why villagers do not want to cooperate with the pastoralists from drought prone areas. SNV mentioned that the information derived through this research was of useful and a good basis to continue from.

The final conclusion to the main question can be described as followed; the land use dynamics have not changed, but highly intensified leading to the destruction of the natural environment. The stakeholders involved do want to tackle this problem, but all with their own best interest in mind and with making money along the way. They do not want to give up their existing practices, do not see their own contribution in the problem and prefer to blame the whole situation on the other stakeholders. They are unwilling to look at the situation for what it is, and to acknowledge their own role in this matter.

## 6.2 Recommendations

The open areas are rich in possibilities for economic activities. The existing high value of the area just hasn't been tapped into yet. It is not easy to decide what to use the open area for, the opinions of the different stakeholders do not correspond and there are multiple options. Nevertheless, some options of what the area can be used for are mentioned. The activities mentioned by the stakeholders were cattle grazing, agriculture and investment.

The area can be used for cattle grazing, something both the villagers and pastoralists want. This provides meat and milk, if grazed in coherence with the carrying capacity of the land. If the area will be used for agriculture, another favorite use of the villagers, then collective agriculture on a small plot is recommended. For example, use the area to experiment with new crops or experiment in how to improve existing crop production.

If investment is coming to the area, the money paid for the rent can be used to support the villagers in undertaking economical projects like, beekeeping, poultry or gardening. Bee-keeping is mentioned by the villagers and the national government and can be done by multiple families. Another use is poultry, which will supply in meat and eggs.

It is recommended to create a fruit commission for the existing fruit trees on farms. In Iharara, there are more papayas than can be eaten or sold at the local market. If the villagers would cooperate the fruit can be collected from all the farms and transported by one person with truck to bigger markets, and more income can be generated.

To create a benefit to multiple people it is recommendable to divide the area into different sections. Create a part for tree-planting, beekeeping, cattle grazing, poultry, agriculture and an area for future residence. The tree planting should be carried out throughout the area for soil protection, but one specific part should be created for wood supply. This should be handled by a specific forest management commission (on village level) who has the task to replant whatever is cut. People can either pay for the wood or help in replanting new trees for the wood they used.

A significant part (at least 50%) of the area has to be kept for cattle grazing. This part can be divided into smaller areas. Have one area for grazing and have the other areas for growing, if one area is empty, it can be left and the other area can be grazed.

The acacia trees, located in the open areas, can be used as well for further activities. These species can be used and planted to supply in the firewood/ charcoal demand or for building poles.

Note: The in detail explained possibilities mentioned above are solemnly recommendations and not the specific ideas about future activities of the stakeholders. They are simply an idea on how to combine the different opinions on future use, and what these activities can look like in the field. The communities still need to weight up the pros and cons before making a decision.

A recommendation of a different kind is to find a new balance between wildlife conservation and humans. In the past the humans took all the space, in the present the wildlife is given the area, but a balance needs to be found in the future.

Besides a new balance, support has to be provided to the villagers for their elephant problem. The elephants should be scared of from the village land, for example shooting them with rubber bullets that hurt and scare them, but not harm them.

Another recommendation is education on what to do with money earned. If money is put in the bank, instead of in cows, it would help noticeable to the recovery of the environment. It costs more to maintain cows, they need food and medicines. And it is not sure if the price paid for them will be the same or higher when sold. But there is a big chance that the people of Tanzania do not trust the bank or that the bank is too far for them to bring their money to. The reason is unknown to me.

### 6.2.1 Further research

This research focused on the opinions, ideas and problems of the villagers. To get a clear understanding of the specific conflicts other stakeholders need to be consulted, especially the invasive pastoralists. There is clear evidence that mobile communities are being left out of the process of defining local resource management systems [Marty, 1993 cited in Hesse & Trench, 2000, p.7]. If this happens it threatens the livelihoods of nomadic and transhumant populations while contributing to social conflict between different user groups [Hesse & Trench, 2000, p.7]. And that is what we want to prevent. More research needs to be done on the view from the pastoralist groups as they are a big stakeholder in these areas.

If the activities mentioned in the recommendations are favoured by the communities, more research is needed before these activities can be carried out.

Research is needed on poultry activities before starting to apply this in the open area. It is still unknown where the location of the markets for eggs and chicken meat is, or what the benefits of these products are, or of the eggs can be transported without breaking on the existing roads.

Beekeeping and production of honey and beeswax is already happening, but according to the Tanzania Government [2010] the sector experiences a lot of problems which are: Lack of law, lack of formal cross-sector coordination, ineffective beekeeping extension services, insufficient statistical information, and inappropriate beekeeping technology. Before starting a large beekeeping business, it is advised to check up on these problems.

More specific research is needed on the open area. The population keeps increasing and with it the livestock of the people. There is no data on the grazing intensity that exists, but it is more important to know the carrying capacity of the area. What is the grazing intensity of the area? What are the amounts of trees that can be cut annually in a sustainable way, without human interference of replanting trees? Or what amounts of trees need to be planted to support the need of the village in building poles and firewood? If the area should be used for agricultural purposes or fruit/ nut trees, more research should be done on soil suitability, to receive maximum gain.

The specific laws that are in force in the open area are unknown. The latest laws date from 1999, but the story went that new laws were in the process of establishment. The law part of this research was supposed to be executed by another party. This had not happened yet at time of research, as they are waiting to find out if new laws are coming or not. The legal aspects about the possibilities in the area still need to be examined.

It would be interesting to do a follow up research in 4 years to see how Motukeri is doing with their investor. The plan in this village was to do things differently and to tackle the mistakes in the past in other villages. It will be interesting to see if they are satisfied with the investment and if they got what was promised.

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## Annexes

## Annex 1. The Questionnaire

*This annex shows all the questions and the sequence of the questions from the questionnaire used in the field. The official questionnaire had space in between the answers, and lines to write answers down. This annex is just to show the questions asked.*

### Serengeti Environmental Protection and Development Association (SEPDA)

#### Capacity improvement to local community on understanding of land dynamics for open areas in Western Serengeti.

#### Household Questionnaire

##### Section 1: Identification Particulars/ Variables

District, Ward, Village, Date, Villagers occupation, education level

##### Section 2: Household Particulars

1. Participants name/ head of family
2. Sex (Male/ Female)
3. Participants age
4. Marital status: (Married, Separated, Widowed, Not married)
5. Give number of female adults that are active in the following activities: (Pastoralists, Miners, Farmers)
6. Give number of male adults that are active in the following activities: (Pastoralists, Miners, Farmers)
7. Household size: (no. of people)
8. Educational background (how many people and what age do they have?)
 

<input type="checkbox"/> No education	<input type="checkbox"/> Form I
<input type="checkbox"/> Nursery	<input type="checkbox"/> Form II
<input type="checkbox"/> Standard one	<input type="checkbox"/> Form III
<input type="checkbox"/> Standard two	<input type="checkbox"/> Form IV
<input type="checkbox"/> Standard three	<input type="checkbox"/> Attended course after secondary education (O-level)
<input type="checkbox"/> Standard four	<input type="checkbox"/> Form V
<input type="checkbox"/> Standard five	<input type="checkbox"/> Form VI
<input type="checkbox"/> Standard six	<input type="checkbox"/> Diploma awarded
<input type="checkbox"/> Standard seven	<input type="checkbox"/> Degree holders
<input type="checkbox"/> Attended course after primary education	<input type="checkbox"/> Adult education

##### Section 3: Soil conservation aspects

9. Indicate which of the following methods you (the farmer) applies to control soil erosion and protecting the environment
 

<input type="checkbox"/> Ridges along the slope	<input type="checkbox"/> Intercropping
<input type="checkbox"/> Control ridges (Till ridges)	<input type="checkbox"/> Agro-Forestry practices
<input type="checkbox"/> Perennial grass planting	<input type="checkbox"/> Fallowing
<input type="checkbox"/> Laying thatch grass	<input type="checkbox"/> Other
<input type="checkbox"/> Tree Planting	

##### Section 4: Practices to improve soil fertility

10. Indicate which of the following methods you (the farmer) apply to improve soil fertility
 

<input type="checkbox"/> Planting nitrogen fixing plants	<input type="checkbox"/> Mulching
<input type="checkbox"/> Leaving fallow plots (ploughed but not planted)	<input type="checkbox"/> Ashes application
<input type="checkbox"/> Intercropping	<input type="checkbox"/> Dung manure (from animal waste)
<input type="checkbox"/> Crop rotation	<input type="checkbox"/> Others
<input type="checkbox"/> Compost manure application	

##### Section 5: Forest development

11. Major fuel for domestic use
 

<input type="checkbox"/> Firewood	<input type="checkbox"/> Paraffin	<input type="checkbox"/> Biogas
<input type="checkbox"/> Charcoal	<input type="checkbox"/> Electricity	<input type="checkbox"/> Dry cow dung
<input type="checkbox"/> Other fuels		
12. Source of firewood
 

<input type="checkbox"/> Village woodlot	<input type="checkbox"/> Own woodlot	<input type="checkbox"/> Other
<input type="checkbox"/> Privately owned bushes	<input type="checkbox"/> Public woodlot	
	<input type="checkbox"/> Forest reserve	

13. What is your distance to fetch firewood?  
 14. Do you spend money for getting fuelwood (charcoal)? Yes/ No  
 14a. What is the cost per sack?  
 14b. What is the cost per bundle firewood?  
 15. Do you prefer to tree planting and why?  
 16. Where do you prefer to plant trees?  
 16a. Why this location?  
 17. What is your source of tree seedlings?  
 17a) Indicate an average price per tree seedling in TZS?  
 18. In the past one year have you received any income from the sale of forest or agro-forestry products e.g. Timber, building poles, firewood, fruits from your own or household members forest/ agro-forest? How much was this?

**Section 6: Village water supply**

19. What is the major source of drinking water?  
 River, stream, dam  
 Traditional well (protected)  
 Traditional well (unprotected)  
 Piped water  
 Other  
 Spring water (covered)  
 Spring water (not covered)  
 Rain water harvesting (tank, domestic containers)
20. Distance to water source?  
 21. What is meant by safe water?  
 Clear water  
 Boiled water  
 Treated water (filtered and boiled)  
 Any water filtered
22. Does your household apply one of the following water treatment methods?  
 Boiling  
 Filtration  
 Other  
 Sedimentation  
 Disinfection
23. Do you have a water consumer (users) association in your village? If yes, what is the name of this association?  
 24. Has any member of your household participate in maintaining a source of water supply in the past 6 months?  
 Yes/ No  
 24a. If yes, what kind of activities were undertaken?  
 Rehabilitation of water scheme  
 Construction of water scheme  
 Other  
 General hygiene  
 Maintenance for prevention of the scheme
- 24b. If no, why not?  
 25. Under which program was this maintenance?  
 Self initiative  
 HESAWA (Health and Sanitation Water)  
 MARA-FIP (Mara Farm Implements Project)  
 DDP (District Development Program)  
 District council  
 SEPDA  
 Other
- 25a. Were you paid Yes/ No  
 25b. Were you volunteering or forced by the authority?  
 26. What are common water-borne diseases that members of your household suffer from?  
 Dysentery  
 Bilharzia  
 Other stomach problems
27. Mention measures undertaken by your household or your village to control water born diseases.

**Section 7: Health**

28. What kind of diseases are common around the village?  
 28a. Which one among them is the most killer disease?  
 29. What is the nearest place which you can get medical care?  
 Hospital  
 Health centre  
 Other  
 Clinic  
 Dispensary  
 Pharmacy shop
- 29a. What is the distance to the nearest health care centre?  
 30. Comparatively, which is the cheaper method of controlling diseases e.g. Malaria.  
 Buying a mosquito net  
 Buying medicine

31. If agricultural product (e.g. cotton) buyers were selling mosquito nets, could you be willing to purchase the net(s) immediately upon sale of your product? Yes/ No, why?  
32. Does your household use mosquito bed nets? Yes/ No? How Many? Who uses them?

**Section 8: Capacity building**

33. Which problems are facing you as a community for your development activities?  
34. How are you going to solve these problems by yourself?  
35. What kind of knowledge would you like to get and why?  
36. How much time are you willing to spend on capacity building? (One hour/ a few hours/ halve a day/ one day/ a few days/ other)

**Section 9: Open areas**

37. What do you know about the open areas in your village?  
38. What do you use the open areas for?  
39. How has your use of the open area changed in the last 10 years?  
40. What problems do you experience with respect to the open area?  
41. Which things have changed over the past 10 years in the open area?  
42. What is the reason for this change?  
43. Who is the owner of the open area?  
44. Do you know the law of how to use the open areas?  
44a. What are the laws?  
45. Who uses the open area besides yourself? (think about other stakeholder groups like: travel agencies, farmers, pastoralists, etc.)  
46. What do these stakeholders use/ take from the open area?  
47. What kind of problems do you experience with invasive pastoralists from drought prone areas in your open areas?  
48. Which one of these problems is the biggest, and which one of these problems is the smallest?  
49. What are solutions for these problems?  
50. What do you hope the effects of these solutions are?  
51. What are you planning to do with these areas in your meetings (village and general meetings)?  
52. At present, what are you gaining as a normal villager from these areas?  
53. What is the current management of the open area ( and who is managing it)?  
53a. What is good about this management?  
53b. What can be improved about this management?  
53c. Are you willing to cooperate with the invasive pastoralists in finding a solution? For example if they pay for the use of the area?  
54. What are the most important aspects with respect to a future management plan?  
55. What kind of activities would you like to see happening in future use of the open area?  
56. How are you going to use this land for your economic benefit in the future, together with the appropriate conservation of the environment, without going against the national policy?  
57. There are investors in some of the areas in some villages. How are you benefiting from that? If you are not benefiting from this, why is that and what can be done?  
58. In those villages where there are no investors, you as villagers, what are you expecting to do in the area?  
59. Do you need any external technical knowhow to capacitate you to do your planned activities? What kind of technical knowhow do you need?

**Section 10: Law**

60. Do you know anything about: - Land Act (law), - Environmental Act, - Governance Law, - Wildlife conservation, - Forestry  
61a. If yes, what do you know about these laws?  
62. Who are the institutions (NGO's/ CBO's etc.) that coordinate the land use and environmental management?  
63. Illegal hunting (poaching) is still a big problem, you as a villager, what are you planning to do about this problem?  
63a. How many poachers are there in the village?  
64. Which activities do you think are the best for the income generating in your village, so that to minimize the pressure of development enemies, which are – ignorance, -diseases, -poverty.



**Annex 3. Results of the Questionnaires.**

Abbreviations: T = Total, M = Men, W = Women, Y = Youth, F = Farmers, P = Pastoralists

Question: Which problems are facing you as a community for your development activities?																		
Question No: 33	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Poverty	18%	20%	17%	14%	19%	15%	38%	44%	29%	40%	41%	26%	44%	40%	52%	40%	43%	36%
No agricultural equipments	16%	23%	6%	14%	17%	8%	12%	7%	17%		7%	22%	18%	17%	19%	20%	18%	21%
Lack of education	15%	13%	17%	14%	13%	38%	12%	9%	17%		11%	13%	8%	3%	10%	13%	7%	7%
Negative results of contribution	15%	17%	11%	14%	17%		1%	2%			1%		2%			7%	2%	7%
Bad management (VC)	9%	13%	6%		10%	8%	18%	19%	17%	20%	17%	13%	3%	3%		7%	3%	
Diseases	9%		22%	14%	8%		1%		3%		1%							
No answer	7%	3%	17%		8%	15%	4%	4%	6%		6%	13%	9%	7%	10%	13%	10%	
Animal diseases	4%	3%	6%		4%													
Lack of capital	2%			14%	2%		3%	6%			4%	4%	2%	3%				7%
Infrastructure	2%	3%				8%							2%		5%		2%	7%
Lack of market access	2%	3%				8%	1%	2%			1%	4%						
Invasive pastoralists	2%			14%	2%													
Illiteracy							2%	2%	3%		2%							
Water scarcity							2%		6%		1%	4%	2%	3%			2%	
Lack of job opportunities							1%	2%			1%		6%	10%	5%		7%	
Lack of agricultural land							1%			20%	1%							
Traditional agriculture							1%	2%			1%							
Crop destruction by wild animals							1%	2%			1%		3%	7%			3%	14%
Tribalism													2%	3%			2%	
No support from government													2%	3%			2%	

Question: How are you going to solve these problems by yourself?																		
Question No: 34	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Education	25%	27%	33%		23%	30%	21%	22%	17%	40%	18%	17%	9%	10%	14%		8%	15%
Support government	19%	23%	13%	14%	16%	30%	29%	20%	40%	40%	29%	39%	37%	34%	38%	40%	37%	31%
No answer	17%	8%	27%	29%	18%	20%	9%	6%	14%		10%		14%	14%	14%	13%	17%	8%
Meetings	8%	12%	7%		9%		2%	4%			1%	4%	5%	7%		7%	5%	15%
Hard working	8%	12%		14%	9%	10%	9%	11%	6%		9%	9%	18%	14%	24%	20%	18%	15%
Agriculture	6%	4%	7%	14%	7%	10%	2%	4%			2%	4%	2%				2%	
Capacity building							4%	7%			5%	4%						
Medicines	6%	4%	13%		7%		1%		3%		1%							
Investment	4%	4%		14%	5%		7%	11%	3%		7%	4%						
New government	2%	4%			2%		13%	11%	14%	20%	13%	17%	5%	7%		7%	5%	
Good governance	2%			14%	2%													
Agricultural equipments	2%	4%			2%													
Employment							2%	2%	3%		2%							
Loan from bank							1%	2%			1%		6%	7%	10%		5%	15%
Cooperation													4%	6%			2%	
Pastoralism													2%			7%	2%	

Question: What do you use the open area for?																		
Question No:38	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Cattle grazing	45%	41%	46%	60%	43%	69%	54%	52%	53%	80%	53%	56%	35%	35%	31%	40%	34%	44%
Agriculture	18%	21%	17%	10%	19%	15%	18%	21%	17%		19%	20%	29%	29%	33%	24%	30%	28%
Firewood collection	12%	13%	13%	10%	13%		13%	7%	19%	20%	13%	8%	4%	2%	8%	4%	5%	
Collecting building poles	8%	10%	8%		9%		1%	1%			1%		3%	4%		4%	3%	
Grass for roofs	7%	8%	4%	10%	7%		3%	4%	2%		4%		3%		3%	8%	3%	4%
Tree cutting	3%		4%	10%	3%		1%	1%			1%							
Nothing	1%	3%			1%		7%	6%	9%		6%	12%						
Tree planting	1%	3%				8%							2%	4%			1%	4%
Investment	1%		4%		1%	8%	1%	1%				4%	18%	18%	22%	12%	18%	12%
Charcoal burning	1%	3%			1%								1%		3%		1%	
No answer	1%		4%		1%		2%	3%			2%		3%	4%		4%	2%	4%
Environmental conservation							1%	1%			1%		1%	2%			1%	
Residence													2%	2%		4%	2%	4%

Question: How has your use of the open area changed in the last 10 years?																		
Question No: 39	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Environmental degradation	49%	68%	27%	29%	49%	20%	36%	39%	34%	20%	39%	42%	28%	28%	33%	20%	27%	31%
No answer	30%	8%	53%	57%	30%	50%	20%	15%	26%	40%	18%	21%	11%	7%	19%	7%	10%	15%
No change	9%	4%	13%	14%	9%	20%	15%	17%	14%		15%	4%	8%	14%	5%		7%	8%
Nothing							20%	19%	20%	40%	21%	17%						
Increase of forest cover	4%	8%			2%	10%												
Deforestation	4%	4%	7%		5%								37%	34%	33%	47%	41%	31%
Invasive pastoralists							5%	6%	6%		5%	8%	3%			13%	2%	
There is a change	2%	4%			2%		1%	2%			1%							
Tree cutting	2%	4%			2%													
Population increase							1%	2%				4%	2%		5%		2%	
Nationalisation of area							1%	2%			1%	4%						
Investment (has come)													5%	3%		13%	5%	8%
Boundary changes													5%	7%	5%		5%	
Receiving money investor													2%	3%			2%	
Less poachers													2%	3%				8%

Question: What problems do you experience with respect to the open area?																		
Question No: 40	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Invasive pastoralists	39%	48%	25%	38%	38%	45%	50%	55%	40%	60%	54%	50%	61%	70%	50%	60%	62%	50%
Crop destruction by wild animals	25%	26%	25%	25%	28%	9%	5%	2%	9%	20%	5%	4%						
Environmental degradation	14%	15%	19%		15%		19%	21%	17%		18%	8%	4%		4%	13%	5%	7%
Invaders	6%	4%	13%		4%	18%												
No answer	4%			25%	4%		15%	11%	20%	20%	12%	19%	9%	13%	8%		8%	14%
Dangerous wildlife to humans	4%	7%			2%	9%	5%	5%	6%		4%	12%	16%	10%	21%	20%	14%	14%
Lack of rainfall	2%		6%		2%	9%							1%	3%			2%	
Lack of grass	2%		6%		2%	9%							1%		4%		2%	7%
No investor	2%		6%		2%													
Tree cutting	2%			13%	2%													
Nothing							3%	2%	6%		4%	4%	1%			7%	2%	
They are not beneficial							2%	4%			2%	4%						
Soil erosion							1%		3%		1%		3%	3%	4%		3%	
Deforestation													1%		4%		2%	
Water scarcity													1%		4%		2%	7%

Question: Which things have changed over the past 10 years in the open area?																		
Question No:41	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Environmental degradation	60%	50%	86%	43%	58%	70%	60%	62%	51%	100%	61%	65%	48%	47%	57%	40%	51%	50%
No answer	9%	8%		29%	9%		12%	7%	20%		12%	9%	9%	13%	10%		8%	7%
No change	9%	4%	7%	29%	9%	10%	12%	11%	14%		12%	4%	5%	10%			3%	7%
Tree cutting	6%	8%	7%		7%		1%	2%			1%							
Invasive pastoralists	6%	12%			7%		3%	4%	3%		2%	4%						
Increase in forest cover	2%	4%				10%	2%	2%	3%		2%							
Soil erosion	2%	4%			2%		5%	5%	6%		5%	4%						
Wild animals	2%	4%			2%								2%	3%				7%
Cattle grazing	2%	4%			2%	10%												
Deforestation	2%	4%			2%								29%	20%	24%	53%	29%	21%
Desertification							2%	2%	3%		2%	9%						
There is a change							2%	4%				4%						
Climate change							1%	2%			1%							
Boundary changes													3%	3%	5%		3%	
Investor (has come)													2%			7%	2%	7%
Less rainfall													2%		5%		2%	
Population increase													2%	3%			2%	

Question: What is the reason for this change?																		
Question No: 42	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Cattle grazing	40%	38%	40%	50%	40%	40%	21%	23%	22%		22%	28%						
Overgrazing													13%	10%	22%	6%	13%	19%
Invasive pastoralists	16%	9%	27%	25%	17%	20%	33%	38%	28%	14%	29%	36%	11%	13%	13%	6%	11%	13%
Tree cutting	11%	15%		13%	11%		8%	5%	8%	29%	9%	0%	6%	6%	9%		6%	6%
Environmental degradation	11%	15%	7%		9%	20%	6%	5%	6%	14%	8%	4%	21%	26%	17%	19%	22%	6%
Deforestation													13%	6%	17%	19%	13%	13%
Wild animals	5%	9%			6%		9%	7%	8%	29%	10%	16%	3%	3%		6%	2%	
Population increase													6%	3%	4%	13%	6%	13%
No answer	4%	3%		13%	4%		14%	11%	19%	14%	14%	4%	16%	23%	9%	13%	14%	19%
Environmental improvement	4%	3%	7%		2%	10%												
Bad management							3%	3%	3%		3%							
Lack of education	2%		7%		2%	10%												
Because of no investor	2%		7%		2%													
Drought	2%	3%			2%													
Soil erosion	2%	3%			2%		1%	2%			1%							
Agriculture	2%		7%		2%		2%	3%			2%	4%						
Firewood collection	2%	3%			2%		1%		3%		1%							
Village council							1%	2%				4%						
No land use plan							1%	2%			1%		1%	3%			2%	
Poverty							1%		3%			4%						
Coming of investor													4%	3%	9%		5%	
Cattle increase													1%			6%	2%	6%
Grumeti fund													1%	3%			2%	
Development plans													1%			6%	2%	6%
Charcoal burning													1%			6%	2%	

Question: Who is the owner of the open area?																		
Question No: 43	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Village Council													65%	62%	71%	60%	66%	46%
Villagers													31%	34%	29%	27%	29%	46%
No answer													3%	3%		7%	3%	8%
Villagers and government													2%			7%	2%	

Question: Who uses the open area besides yourself?																		
Question No: 45	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Invasive pastoralists	69%	70%	71%	63%	75%	50%	85%	87%	80%	100%	79%	91%	28%	18%	27%	47%	27%	20%
Invaders	10%	11%	14%		7%	30%												
Government	4%		7%	13%	5%													
No answer	4%		7%	13%	5%		10%	9%	11%		15%	9%	17%	18%	27%		19%	7%
Legal immigrants	2%	4%				10%												
Sasakwa lodge	2%	4%				10%	1%	2%			1%							
Farmers	2%	4%			2%													
Pastoralists	2%	4%			2%		2%	2%	3%		2%							
Nobody	2%	4%			2%													
Investors	2%			13%	2%		1%		3%		1%		44%	45%	42%	42%	43%	53%
Others							1%		3%		1%							
Grumeti Fund													8%	12%	4%	5%	7%	7%
Makundusi Holdings													3%	3%		5%	3%	13%
Tourist companies													1%	3%			1%	

Question: What do these stakeholders take/ use from the open area?																		
Question No: 46	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Cattle grazing	57%	50%	69%	67%	58%	50%	71%	70%	70%	80%	70%	66%	36%	22%	43%	53%	37%	27%
Business													48%	66%	39%	29%	47%	67%
Agriculture	25%	30%	13%	22%	25%	29%	13%	11%	15%	20%	13%	24%	1%		4%		1%	
Firewood collection	5%	8%			5%		4%	5%	3%		4%	3%						
No answer	3%		6%	11%	3%		6%	10%	3%		6%	7%	9%	13%	7%	6%	9%	
Money	3%		13%		3%	7%							1%			6%	1%	
Charcoal burning	2%	3%				7%												
Piece of land for radio pole	2%	3%				7%												
Tree cutting	2%	3%			2%		1%	2%			1%							
Grass for fetching houses	2%	3%			2%													
Nothing	2%	3%			2%													
Invasive pastoralists							4%	2%	8%		4%							
They do not benefit							1%		3%		1%							
Tourism													4%		7%	6%	4%	7%

Question: What kind of problems do you experience with invasive pastoralists in the open area?																		
Question No: 47	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Environmental degradation	29%	28%	30%	33%	29%	27%	36%	40%	26%	60%	40%	16%	43%	46%	35%	47%	43%	33%
Lack of grass	18%	22%	15%		18%	27%	11%	13%	8%		11%	23%	10%	8%	13%		10%	7%
Crop destruction	18%	17%	15%	33%	20%		25%	18%	37%	40%	25%	23%	12%	8%	17%	12%	13%	
Lack of water	16%	19%	15%		16%	27%	10%	13%	5%		9%	19%	3%	3%	4%	12%	3%	7%
No answer	8%	6%	10%	17%	7%	7%	5%	6%	3%		2%	6%	13%	11%	17%	12%	15%	13%
Soil erosion	6%	3%	10%	17%	7%	7%	8%	6%	13%		7%	3%	9%	11%	9%	6%	7%	20%
Invaders	2%	3%			2%													
Big herds of cattle	2%	3%				7%	1%	1%			1%							
Water source destruction	2%		5%		2%								6%	8%	4%	6%	6%	7%
Tree cutting							2%	3%			2%	3%						
Desertification							2%		5%		2%	3%						
Animal diseases							1%		3%			3%	1%			6%	1%	7%
Deforestation													3%	5%			1%	7%

Question: What are solutions for these problems?																		
Question No: 49	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Too chase them out	37%	33%	44%	38%	36%	50%	31%	31%	33%	17%	27%	44%	38%	38%	29%	53%	39%	23%
To allow an investor	31%	41%	19%	25%	32%	10%	49%	48%	50%	50%	52%	44%	3%	3%	5%		3%	
Meetings	14%	7%	25%	13%	15%	10%	7%	11%	2%		7%	7%	43%	38%	52%	40%	42%	38%
No answer	8%	7%		25%	9%	10%	3%	2%	2%	17%	3%		9%	14%	5%	7%	8%	31%
Education	4%	4%	6%		2%	20%	2%	2%		17%	2%		5%	3%	10%		5%	8%
Not possible	2%	4%			2%													
Environmental conservation	2%	4%			2%													
Village council	2%		6%		2%													
Conserve land (future)							2%	3%			1%	4%						
Agriculture							2%		4%		2%		2%	3%			2%	
Good land-use plan							1%		2%		1%							
Tree planting							1%	2%			1%							
No solution							1%		2%		1%							
Support from government							1%		2%		1%							
To employ guards							1%	2%			1%							
Pastoralism							1%		2%		1%							

Question: What are you planning to do with these areas in your meetings (Village Council and General meetings)?																		
Question No: 51	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Nothing	29%	28%	33%	25%	29%	20%	18%	16%	21%	20%	17%	15%	12%	26%		5%	13%	24%
Agriculture	23%	24%	20%	25%	24%	10%	25%	28%	21%	20%	26%	38%	32%	18%	45%	41%	34%	12%
No answer	19%	24%	13%	13%	18%	20%	13%	16%	3%	60%	14%	8%	17%	13%	21%	18%	16%	24%
Investment	15%	12%	13%	25%	11%	40%	31%	28%	39%		30%	23%	6%	5%	7%	5%	5%	6%
Forest conservation	4%	8%			4%													
Tree planting	2%		7%		2%	10%	2%		5%		1%	4%	9%	5%	14%	9%	10%	6%
Too chase the invaders out	2%		7%		2%													
Firewood collection	2%			13%	2%													
Cattle grazing	2%	4%			4%		6%	5%	8%		7%	12%	17%	18%	10%	23%	16%	12%
Environmental conservation	2%		7%		2%		4%	5%	3%		5%		2%	5%			1%	6%
Education on land-use							1%	2%										
Residence													2%	3%	3%			12%
Get rid of investor													1%	3%			1%	
Modern agriculture													1%	3%			1%	
The leaders may know													1%	3%			1%	

Question: At present, what are you gaining as a normal villager from these areas?																		
Question No: 52	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Cattle grazing	25%	17%	30%	40%	25%	29%	22%	22%	21%	33%	21%	41%	15%	14%	22%	6%	15%	
Agriculture	20%	17%	25%	20%	23%	21%	13%	14%	13%		12%	16%	15%	14%	19%	11%	15%	
Money													22%	7%	37%	33%	21%	29%
Employment													13%	9%	11%	22%	11%	21%
Nothing	12%	13%	10%	10%	11%	7%	24%	18%	36%		25%	9%	8%	9%	11%		9%	7%
Firewood collection	12%	10%	15%	10%	9%	21%	17%	21%	13%		17%	16%	6%	9%		6%	6%	
Tree cutting	12%	17%	5%	10%	13%		2%	1%		33%	3%							
No answer	7%	10%		10%	8%		10%	11%	6%	17%	10%	9%	5%	7%		6%	5%	21%
Pastoralism	5%	3%	10%		6%	7%												
Building poles	5%	10%			2%	14%	2%		6%		3%		7%	12%		6%	6%	
Grass for fetching house	2%		5%		2%		7%	8%	4%	17%	8%	6%	2%	5%			3%	
Investment	2%	3%			2%		1%	1%			1%		5%	7%		6%	4%	14%
Water							2%	3%			1%	3%	1%	2%			1%	
Youth employment													2%	2%		6%	3%	7%
Village council gets income													1%	2%			1%	

Question: Are you willing to cooperate with the invasive pastoralists in finding a solution? For example if they pay for the use of the area?																		
Question No: 53	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
No	72%	68%	79%	71%	74%	70%	65%	65%	60%	100%	67%	43%	43%	38%	52%	40%	42%	62%
Yes	28%	32%	21%	29%	26%	30%	5%	2%	11%		4%	13%	17%	24%	14%	7%	17%	8%
No answer							30%	33%	29%		29%	43%	40%	38%	33%	53%	41%	31%

Question: What are the most important aspects with respect to future management?																		
Question No: 54	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Good governance	70%	72%	64%	71%	67%	90%	95%	91%	100%	100%	95%	96%	62%	23%	33%	60%	37%	8%
Democracy	17%	16%	21%	14%	19%								78%	48%	52%	20%	43%	38%
No answer	11%	8%	14%	14%	12%	10%	5%	9%	0%		5%	4%	5%	6%				15%
Caring for community	2%	4%			2%													
Participation													30%	16%	14%	20%	18%	31%
Creative leadership													3%	3%				8%
Cooperative leadership													3%	3%			2%	

Question: What kind of activities would you like to see happening in the future use of the open areas?																		
Question No: 55	Iharara						Motukeri						Makundusi					
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P
Investment	50%	46%	56%	50%	51%	36%	68%	64%	72%	80%	69%	65%	23%	22%	18%	32%	22%	18%
Agriculture	19%	14%	17%	38%	18%	29%	10%	14%	6%		10%	13%	28%	27%	33%	21%	30%	18%
Cattle grazing	11%	18%	6%		8%	21%	7%	5%	8%	20%	8%	13%	11%	13%	9%	11%	11%	9%
Tourism	6%	7%	6%		6%		3%	2%	6%		4%		3%	4%	3%		3%	
Environmental conservation	6%	7%	6%		6%	7%	3%	4%	3%		1%	9%	8%	7%	12%	5%	7%	9%
Pastoralism	4%		6%	13%	4%	7%												
No answer	4%	4%	6%		4%		6%	9%	3%		6%		12%	11%	12%	16%	14%	18%
Bee keeping													4%	4%	3%	5%	3%	9%
Poultry (chicken farm)													4%	4%	3%	5%	3%	9%
Gardening													4%	4%	3%	5%		
Development of infrastructure	2%	4%			2%													
Modern agriculture							1%	2%			1%							
Wildlife conservation							1%		3%		1%							
Business													1%		3%		1%	
Tree planting													1%	2%			1%	

Question: How are you going to use this land for your economic benefit in the future, together with the appropriate conservation of the environment, without going against the national policy?																			
Question No: 56	Iharara						Motukeri						Makundusi						
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P	
Investment	29%	34%	31%	10%	31%	25%	52%	46%	57%	50%	54%	48%	9%	11%	13%		7%	7%	
No answer	22%	21%	19%	30%	20%	25%	20%	20%	20%	20%	20%	22%	37%	31%	38%	47%	40%	47%	
Tourism	15%	14%	19%	10%	16%								3%	6%			1%	7%	
Agriculture	13%	14%	6%	20%	12%	17%	7%	9%	6%		6%	9%	14%	14%	8%	21%	13%	13%	
Tree planting	13%	10%	19%	10%	14%	17%	8%	7%	11%		10%	13%	24%	20%	29%	26%	26%	7%	
Cattle grazing	4%		6%	10%	4%	8%	2%	4%			2%		4%	6%		5%	4%	7%	
Environmental development	2%	3%				8%								9%	8%				
Development infrastructure	2%	3%			2%														
Land reserve for future use	2%			10%	2%		1%												
Environmental conservation							3%	2%	6%		2%		6%				6%	13%	
Investment by community							2%	4%			2%								
Forest conservation							2%	4%			1%	4%							
Building modern houses							1%	2%			1%	4%							
Education on land use							1%	2%			1%								
Soil conservation													1%		4%		1%		
Non-timber-forest-products													1%	3%			1%		

Question: There are investors in some of the areas in some villages. How are you benefiting from that? If you are not benefiting from this, why is that and what can be done?																			
Question No: 57	Iharara						Motukeri						Makundusi						
Answers	T	M	W	Y	F	P	T	M	W	Y	F	P	T	M	W	Y	F	P	
No answer													22%	35%	11%	12%	21%	44%	
<b>The Benefit</b>																			
B. Nothing													19%	21%	21%	12%	21%	6%	
Why: No transparent VC													3%	3%	4%		1%	13%	
B. Money													18%	12%	21%	24%	17%	6%	
B. Employment													16%	6%	14%	41%	17%	19%	
B. We are benefiting													6%	12%	4%		6%	6%	
B. Agriculture													3%		4%	6%	3%		
B. Village Council gets income													1%			6%	1%		
B. Tree planting													1%		4%		1%		
B. School has been build													1%	3%			%	6%	
<b>The solution to no benefit</b>																			
S. Get rid of investor													6%	3%	14%		7%		
S. Get new investor													1%	3%			1%		
S. Own village use + investment													1%	3%			1%		
S. Chase the pastoralists out													1%		4%		1%		

## Annex 4. Results from the Focus Group Discussions

Date: 23<sup>th</sup> august 2010  
Facilitator: Alfred Mniko,  
Focus group: Pastoralists

Place: Iharara village  
Researcher: Nienke van Keulen,  
Attendances: 24

Ward: Issenye ward  
Meeting Secretary: Johanna Hangai

**Map drawing:** With mentioning this point, the responds of the people was that they did not know how to draw a map, and they did not see its importance. With this, the decision was made to leave this point alone, so the group would not be disturbed too much and walk out on us. The papers were given to two people, who said, they would draw a map, however these papers have not returned to us.

**How many people use the area for cattle grazing and agriculture to give all these changes?** Summarize of answers given from questionnaire, there have been no discussions on these topics, and the question, how many people use the area, has not been asked. Only one woman responded. Women: Big groups of cattle grazing are coming to the area.

**Where are the invasive pastoralists coming from? From which area/ town/ district?** These groups come from Bunda District, Shinyanga region and some from Mwanza region.

**Who allows them to enter the area?** The leaders of the village allow them to enter the area. The leaders are given money by the pastoralists, so they can use these areas for grazing.

**Who is responsible to take them out of the area? Why do you (yourself or as village) do not chase them out?** The people responsible to chase them out are the villagers. This has to be done through general meetings, the problem here is that nobody of the villagers shows up during the general meeting.

**When is somebody given the name INVASIVE pastoralists? Only sukuma or also taturu or other people/ tribes?** An invasive pastoralist is not just somebody from another tribe, but it can be anybody outside the village, even from Issenye or Singisi.

**How many invasive pastoralists are there?** There are many invasive pastoralists, we don't know how many, we also don't know how many cattle is coming in.

**How often do these pastoralists enter the area? Every day? Once a week? How many per day/ week?**  
They only enter during the dry season.

**Why don't you want to cooperate with the invasive pastoralists in any way? What is the reason for this?**  
We do not want to cooperate with these pastoralists, because they have these big numbers of cattle that destroy our environment.

**How has your use of the open area changed in the last 10 years?** Women: For the last 10 years there were plenty of trees for building poles, plenty of grass for fetching our houses, there was plenty of pasture for our cattle and the environment was good.

**Are there specific land use features in the open area that you cannot live without, as they are not available anywhere else? (maybe where somewhere else in past?)** Yes there are specific land use features in the open area that we cannot live without, these are: water, land for agriculture and land pastoralism.

**What plans are you having in the village for the use of the open area?** We don't have any plans for the open area, but we need an education on environmental uses/ conservation in order to make plans.

**What are you, villagers, expecting to get from an investor?**

- We expect from an investor to give us employment so our lives will be improved.
- We expect the village council to get money from the investor.
- The investor is going to conserve the area.

**Do you know that you have investment in your village? How much do you get from that investment each month?**

- Yes, we know we have an investor in Iharara.
- Yes, we know how much is coming in.

**Are you aware of where your cattle are to graze after the investor is there?**

- We will not invest the whole land, the remaining land will be kept for cattle grazing and agriculture.
- The villagers don't know anything about investment contracts. So if an investor comes, the district lawyer has to come and explain the contract to them. So they are aware of what is written.
- Woman: I don't want investment, and I never got a questionnaire to fill, saying I don't want investment. The problem is that we want a land use plan, but we need education on how to make a land use plan.

Date: 24<sup>th</sup> august 2010,  
Facilitator: Alfred Mniko,  
Focus group: Farmers

Place: Iharara village,  
Researcher: Nienke van Keulen,  
Attendance list: 11

Ward: Issenye ward  
Meeting Secretary: Johanna Hangai

**Map drawing:** One map was drawn by one person, to be discussed on later. This map however was not specific, it was really global with village land and open area.

**How many people use the area for cattle grazing and agriculture to give all these changes?** The facilitator started with telling the participants the answers from the questionnaire and asked afterwards the following question: 'What do you think was the main cause for this environmental degradation?' One man responded:

'Invasive pastoralists cause this environmental degradation and it is also caused by tree cutting and lack of education as people use the land unknowingly'.

**Where are the invasive pastoralists coming from? From which area/ town/ district?** These invasive pastoralists come from Bunda District, Shinyanga region and Mwanza region.

**Who allows them to enter the area?** They enter by themselves so they invade without being allowed by anybody. And other times they are allowed in by the big village leaders.

**Who is responsible to take them out of the area?**

- The villagers are responsible to take them out of the area.
- No, the chairman and his village council are responsible to take them out of our area.

**How many invasive pastoralists are there?** We don't know how many pastoralists come into our area, or how many cattle they have.

**How often do these pastoralists enter the area? Every day? Once a week? How many per day/ week?**

Only during the dry season they enter.

**Why don't you want to cooperate with the invasive pastoralists in any way? What is the reason for this?**

We don't want to cooperate with them, because they are destroying our environment.

**How has your use of the open area changed in the last 10 years?** Formally the livestock was in small numbers and their where only few people, a low population. But the last 10 years there is a big increase in population together with a big increase in livestock.

**Are there specific land use features in the open area that you cannot live without, as they are not available anywhere else? (maybe where somewhere else in past?)** It will be hard for us if we miss the land for pasture and agriculture that the open area provides us. It also provides us with water for our cattle that we really need.

**How are you going to solve these problems now?** The Village Council has to make a very specific land use plan to solve these problems. Otherwise there will be a very big misunderstanding between the villagers and the village council.

**What plans are you having in the village for the use of the open area?**

- I don't know if we have any plans
- We don't have any plans for this open area

**What are the villagers expecting to get from the investor?** We will be getting money from the investor and we are expecting the investor to conserve the area. The investor will give us youth employment and community building activities e.g. building a school, dispensary and digging deep wells or other water supply options.

**Do you know that you have investment in your village? How much do you get from that investment each month?** Yes, we know there is an investor in the village. We don't know how much money is coming in each month

**Are you aware of where your cattle are to graze after the investor is there?**

- On respect to the land use plan there are some areas which we can be allowed to graze our cattle. Not the whole area will be under investment.
- We will be grazing our cattle to our respected homes. When the investor is using the open area.

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Date: 18<sup>th</sup> September 2010,  
Facilitator: Alfred Mniko,  
Focus group: Youth

Place: SEPDA Office,  
Researcher: Nienke van Keulen,  
Attendance list: 5

Ward: Issenye ward  
Meeting Secretary: Johanna Hangai

**How are you going to solve the problem of wildlife when the area is under investment and wildlife is increasing?**

- The villagers are not free to decide whether or not they want or don't want investment. The decisions are forced upon them by the village council.
- The village council is responsible for this problem, they have to call meetings to solve it.
- There is no specific way of solving that problem, unless the meetings of the village council are taking effort to solve this problem.
- The young boys are not putting themselves up for election as they have nothing to offer as a bribe.

**How are you going to solve the problems caused by population increase?** Population increase is caused by the invasion of people from outside. We will tell the village council to restrict the people from getting in. And Birth control.

**Is Grumeti fund using the open area at this moment, and in what way?** Yes, They use it for a radio pole

**Do you know how much you are paid from that?**

- Yes, 350.000 shillings a month
- The money is going to the bank and from there to the district council.

**Who is responsible for this money?** The village council, in particularly the chairman and the executive secretary.

**How does the investor help to solve the problems of the invasive pastoralists? As they will still enter the area that is not under investment?**

- The investor cannot help in this

- The area that is not under the village council, it is the responsibility of the village council that this area is not invaded by pastoralists. We can hold meetings, but these do not help so far.
- We don't know what other techniques to use. The facilitator suggested making a youth group and using that to tell the VC what you want. As group you are stronger, then just as one.

**Why do you want an investor?**

- We don't want an investor, we do not see the profit of an investor
- We have got land scarcity, if an investor comes, we have nowhere to live. We as youth we need somewhere to live and to graze our herds of cattle.

**What will you do if the investor does not fulfil all that he promised to do for you?** We will send him to court.

**Facilitator: Sending the investor to court will not help, the best way is to not allow an investor in the first place.** They said that WMA came to the area to ask for investment of 100 acres. But village refused, as he demanded too much land.

**You are expecting the investor to conserve the area, are you sure he is conserving the area for your own benefit or for your business?**

- The investor is going to conserve the land for the contractual period. This means that he will conserve this land for his own business, but after the contract of 10 years he will give the land back to the village council so that is when we will benefit from the conservation of the investor.
- He is conserving the area for his own business.

**Which group is bigger in your village? Is it from the village or from the invasive pastoralist?** 70% of the cattle grazing in the area are from the invasive pastoralists. They are coming in the other way around. I am a relative of somebody in Bunda, he has e.g. 300 cattle, he is not coming here, but he is using me as a tool. He is taking 150 heads of cattle that will come and stay here in my area. They are said to be mine, as I am the one taking care of them. It is very difficult for the villagers to know that they are not my cattle.

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Date: 20<sup>th</sup> September 2010,  
Facilitator: Alfred Mniko,  
Focus group: Village Council

Place: Motukeri village,  
Researcher: Nienke van Keulen,  
Attendance list: 20

Ward: Nata ward  
Meeting Secretary: Joseph T. Masina

**Introduction:** When starting the meeting there was one woman, who did not know us. She was asking what we were doing here, who we were and why we were there. She was very aggressive in asking these questions, and she did not want any pictures to be taken. She had not been present at the village meeting when we had our introduction. After explanation by Masina she calmed down and accepted the meeting.

During the meeting one man got angry with Masina, as he did not come to this meeting to talk about this. But to hear about the investor from Arusha. People got confused whether Masina was part of SEPDA or part of SEHL. They did not know he was also part of this research. They did not expect for Masina to talk with them about conservation.

**We know you have an investor in your village. What are you planning to do with your remaining open area?** We want to use the remaining land for agriculture, pastoralism and conservation by tree planting. This must be done after we have arranged a land use plan.

**At present, what are you as a normal villager gaining from this area?** Firewood collection, building poles, grass for roofs, cattle grazing and water. Not all villagers have the capacity to build brick houses, instead they need building poles.

**How are you going to solve these problems with wildlife, as investment will increase the amount of wildlife near the village?** We will report to the district council when the animals come, so they can push back the animals to the forest.

**How are you going to solve the problems caused by population increase?** This problem can be solved by land use planning. A part of the remaining area can be used for residential.

**What causes the population increase?** Grown up children who reach the age of getting married and needing a place of their own.

**How does the investor help solve the problem of the invasive pastoralists, as they will still invade the area not under investment?** From now onwards we are not going to allow any invasive pastoralists to enter in the village.

**Why do you want an investor in your area?**

- He will give us employment
- We will be paid money

**Are you sure that money will help you?**

Any time the money will come from the investor we will sit down as village council and discuss how to use it.

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Date: 24<sup>th</sup> September 2010,  
Facilitator: Alfred Mniko,  
Focus group: Youth group

Place: Motukeri village,  
Researcher: Nienke van Keulen,  
Attendance list: 19

Ward: Nata ward  
Meeting Secretary: Johanna Hangai

**The area that the whole village graze their cattle is now reduced to less than a half. Is this reduced area enough for the whole village to graze their cattle? Will there be enough grass for everyone? No**

**How will you keep this land from complete depletion as more people use this land?** They know the area left is small, now they have to make a land use plan so they can conserve some of the area, some of the area will be used for agriculture and some used for cattle grazing.

**Now, conservation, cattle grazing and agriculture, the area is not big enough for all, and you have a lot of cattle.** The grazing area although small, will be divided into pieces, so at a certain period they will graze at one piece, when the grass is gone, they will go to another area.

**One man told us:** 'We are not happy about the investor, it has been forced upon us. The village council has been bought with money and sodas from Masina. Masina has sold our land. Nobody knows what's in the contract, nobody has the expertise to understand these contracts, so nobody knows what's been signed. I will try my level best to get the contract and get it to a lawyer so he can translate what is in the contract. We have also never seen the village map until now.

**What are you expecting to get from this investor?** Employment, Our village will be paid money, Social aids (water pumps, health centres), Roads/ infrastructure (?), We hope with this investment the personal contributions will be reduced.

**How long do you want this investor to stay for?** We know the investor will be there for 15 years. But we want the investor to stay there even shorter than this.

**What after the investment?** land will be there for our own use again. We want no more investment

**Do you know what this investor will do for the community? If not, how do you know you will benefit?**

- All this is stipulated in the contract, but no villager knows about that, because all is known by the village council.
- We know that we will benefit because it is in the contract. If we will not benefit we will go to court.

**Are there resources in the area that is now under investment?** Yes, the big river, Rubana river, is the river they use all the time to drink their cattle, and for their own use. Now this river is within the investor area. They are not allowed to enter through the area to water their cattle or get water for themselves. There are other rivers, but they are only there during the rainy season, they dry up after the rain.

**Is there already a landuse plan on the remaining area?** No, not yet.

**Of course we know conservation is good, but the number of animals will increase, how will you solve this problem?**

- No answer, nobody knows what to do about this.
- They are not only killing people (men killed by elephant 4 days ago) but they are destroying our farms, and they destroy our water sources and empty the water in the rivers.

**How are you going to solve this problem of invasive pastoralists?**

- This problem is very difficult to solve, because the village council is collaborating with the chairman to invite these people.
- To get permission from the police station to chase them.

**Before investment what were you getting from these open areas?** We were getting many things, like fetching grass, building poles, pasture land, agricultural land, firewood collection and burning charcoal for domestic use.

**Questions from the audience**

**Now you as professionals how are you going to help us for the investor to help the community in order of the contract?**

This question must be asked to your council as they know everything about the contract. And secondly make sure that your children are educated by the investor. You have a problem with education(children kicked out of no school fees), so as long as you have an investor make sure he can help you with school fees or some of them to go to university by his money. Make sure that this is in the contract.

**There was a hunting quarter (season) and from there the villagers were given money from the district council. All the quarter were sold to the investor, Grumeti reserves, so there is no hunting anymore. Now the money that is collected is sent to the DC, and from there where is the money going? What is the DC doing with this money?** We don't know

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Date: 28<sup>th</sup> September 2010,  
Facilitator: Alfred Mniko,  
Focus group: Mixed

Place: Makundusi village centre,  
Researcher: Nienke van Keulen,  
Attendance list: 10

Ward: Nata ward  
Meeting Secretary: Johanna Hangai

**Who is causing the overgrazing, just the invasive pastoralists or also your own grazing? What is the solution to this overgrazing?** We have no invasive pastoralists and the overgrazing is done by our own increase of cattle.

**Where is the open area located with respect to the village?** There are some few people who don't know where the open area is, But the open area is all the area in the village besides the residential area. Some of which is rented to Grumeti Reserves

**How many hectares is the open area and how much of this is under investment?** Nobody knows exactly, not even the village chairman who was present at this meeting.

**Where is the invested area located? Next to Grumeti fund offices?** It is just nearby the Grumeti fund, but nobody really knows where the area is, if it is in the north or in the east, etc.

**What would you like to see happening with the remaining area not under investment?** We would like to reserve the area for residential area and agricultural area, area for pasture and area for conservation. But we don't need any more investment in the remaining area.

**What is the reason for wanting agriculture (23%) instead of using the land for cattle grazing (11%)?** Agriculture is much more important than cattle grazing and cattle grazing erode and destruct the environment more than agriculture.

**How did the depletion of the natural resources of the open area occur?** The depletion of the natural resources in the open area is in our place mainly done by wild animals, like elephants and others.

**Has the area improved since Grumeti fund is here? In what way? Is this a good thing?**

- No, it has not improved
- Because wild animals invade in the village it has not improved.
- No, because people and tamed animals are killed

**How many people/ households have moved into the area, since Grumeti fund is here?** There is no specified number, nobody knows.

**Where are these people coming from?** There are coming from our own population increase

**Is population increase a problem? What are the effects of this? How can it be stopped or solved?**

- Yes
- The land is small so the increase of people has nowhere to live.
- No way.

**There is a rapid increase in wildlife and also an increase in population what do you expect will be the end results?** The wildlife is considered much more than the people by the government. After a certain period of time, the people will die while the area is occupied by animals.

**What kind of problems do you experience with wildlife?** They are causing a lot of environmental degradation and they are killing people

**Has this problem increased or decreased since Grumeti fund is here?** It has increased a lot

**What are the solutions for this problem?** There is no solution

**What have you received from Grumeti fund as a village?**

- Primary school
- Water pumps
- Support on education
- And an agreed amount of money that is paid to the district council

**To the question: 'Who is the owner of the open area?' 65% answered the village council, but is not the whole village the owner? What is your opinion on this?** The open area is for the village council because normal villagers are not allowed to use the area unless they get permission from the village council.

**As solution to the problems 43% answered meetings, what do you hope these meetings will bring you?**

**With whom do you want to hold these meetings?** All the problems we are having in the village are sent to the general meeting so it can be solved.

**To the question: 'What can be improved about this management?' 49% answered education, what kind of education would you like them to receive?** Any kind of education relevant to the problem as we have so many problems.

**What is meant by democracy as answer to question: What are the most important aspects to future management? And what is meant by participation?** Democracy: Is to have a good government.

Participation: is to work together

**What is meant by boundary changes in answer to question: 'Which things have changed in the open area in the last 10 years?' No answer given**

**Where do you graze your cattle?** Within the residential area, because of the elephants in the open area.

**What do you know about land use plans?** Nothing

**Do you know anything about this teachers-house that was supposed to be build in Nikatono? Why is it not being build? Does the village council or the villagers not want the house to be build?**

- Yes
- That can be answered by the village council
- We, the villagers want the house.

**Who is Makundusi Holdings?** Makundusi holdings is the villagers company, it is their own investment, with Mawalla as their legal advisor. They have a title deed on the land, for investment. With this no other investment can happen on the land.

**Are they investing in the area?** The area is there for our own use.

**Which things have changed in the open area in the last 10 years?** There is a rapid increase in wildlife, because people are not hunting these animals and because the government does not help to push them back. This is not a good thing.

**What is your opinion about your village council?** The village councillors much follow the rules of the central government

Date: 29<sup>th</sup> September 2010,  
Facilitator: Alfred Mniko,  
Focus group: Mixed

Place: Makundusi sub village,  
Researcher: Nienke van Keulen,  
Attendance list: 8

Ward: Nata ward  
Meeting Secretary: Johanna Hangai

**Who is causing the overgrazing, just the invasive pastoralists or also your own grazing? What is the solution to this overgrazing?**

- There are few invasive pastoralists who are allowed by the village council, so this is no problem. The big part of overgrazing is done with our own cattle that are increasing.
- It is very difficult to come to a solution as there is also an increase in wildlife coming to the village.

**Where is the open area located with respect to the village?** The open area is located just after the Grumeti fund rented area.

**How many hectares is the open area and how much of this is under investment?** We don't know.

**Where is the invested area located? Next to Grumeti fund offices?** The invested area is just located next to the open area.

**What would you like to see happening with the remaining area not under investment?** Agriculture, pasture land and some area for conservation

**What is the reason for wanting agriculture (23%) instead of using the land for cattle grazing (11%)?** Most of the villagers in Makundusi area are gaining their live from agriculture, which is why this is more important to us.

**How did the depletion of the natural resources of the open area occur?** The depletion of natural resources occur through our own utilization by cutting trees, applying agriculture and the big increase of wild animals.

**What is the reason for this depletion?** Population increase and increase of wild animals coming to the village.

**When did the depletion started to be visible? Is this related to anything?** The depletion started very recently, not more then 10 years ago, and this is related to overgrazing, increase of cattle in the village and increase in wildlife, especially elephants.

**Has the area improved since Grumeti fund is here? In what way?**

- The area has not improved
- The area where Sasakwa lodge is located, before this the hills were totally covered with forest but now many trees have been cut, the hill is almost naked since Grumeti fund is there.

**How many people/ households have moved into the area, since Grumeti fund is here?** It are our own people moving into the area

**Where are these people coming from?** From our own village

**Is population increase a problem? What are the effects of this? How can it be stopped or solved?**

- Yes, because it leads to overpopulation on the small land that we have.
- We don't know how to stop it.

**There is a rapid increase in wildlife and also an increase in population what do you expect will be the end results?** Chaos

**What kind of problems do you experience with wildlife?** Killing of people and Land degradation

**Has this problem increased or decreased since Grumeti fund is here?** Increased a lot

**What are the solutions for this problem?**

- The government must allow the people to hunt the animals.
- The district council to discuss and see how they can solve this problem

**What have you received from Grumeti fund as a village?**

- Primary school
- We have boreholes which are not functioning
- There are a very small number of people employed. The posts of higher functions are employed from Arusha applying for the job saying they are coming from the area. While there are skilled people for these jobs in the village.

**Are you not benefiting more from the area now with Grumeti fund here, then when nothing was happening to the area? (Now there is a school, before there was not)** The biggest problem is that Grumeti is not going according to the appointments of the contract. We were supposed to have a school, hospital and employment.

**If you feel you are not benefiting from Grumeti fund then what do you suggest should be done so you do benefit?** It seems that the disadvantages of the investor are a lot more then what we are getting. So the investor must make sure that all the money that is given to the district council is taken to the villagers.

**Is Grumeti fund (Richard) coming in the village to talk with you? Is this helpful do you feel heard?** We have not seen anybody

**What is the role of your village council with respect to Grumeti fund?** The role of the VC is to make sure that all the agreed activities in the contract are fulfilled.

**How much money is coming in from Grumeti fund for renting the area?** We don't know

**The people who work for Grumeti fund do they still own cattle?** Yes and they are still buying, a lot of them

**To the question: 'Who is the owner of the open area?' 65% answered the village council, but is not the whole village the owner? What is your opinion on this?** The owner of the open area is the village council,

because when somebody wants an area for building a house they must sent a letter of application to the village council.

**As solution to the problems 43% answered meetings, what do you hope these meetings will bring you? With whom do you want to hold these meetings?**

- The only way of solving problems is to hold meetings and particularly the general meetings

**To the question: 'What can be improved about this management?' 49% answered education, what kind of education would you like them to receive?**

- Education on environmental management, on agriculture and on management.

**What is meant by democracy as answer to question: What are the most important aspects to future management? And what is meant by participation?**

- Democracy: in this case general meetings must be called from time to time so that villagers may know what their problems are and how to solve them.
- Participation: every villager must know what is being done in the village.

**Where do you graze your cattle?** Our cattle are grazed in the lands nearby the villages, within the agricultural area.

**What do you know about land use plans?** The land use plan is the proper arrangement of how you are going to use your land for the next period. For instance to spare one area for agriculture, one for pasture and one for conservation.

**Do you know anything about this teachers house that was supposed to be build in Nikatono? Why is it not being build? Does the village council or the villagers not want the house to be build?**

- Yes, but we don't know why it has not been build.
- We as villagers still want the house.

**Who is Makundusi Holdings?** Makundusi holdings is a company owned by one person from Arusha. And we don't know what he is going to invest there. We believe that the Makundusi land is rented to Mawalla trust from Arusha and no longer in the ownership of Makundusi. That it is sold by the village council.

**What is meant by boundary changes in answer to question: 'Which things have changed in the open area in the last 10 years?'** The agreement was they were allowed to go beyond Grumeti river 4 km, this is where the boundary was. Now they are not even allowed to enter the river for 1 meter, the river is now the boundary. If you are found you are severely beaten and taken to the police station. We don't know why we are not allowed to enter the river anymore. (look at contract to know if this is true or not)

**What is the reason there are less poachers?** They are prohibited by law.

**Which things have changed in the open area in the last 10 years?**

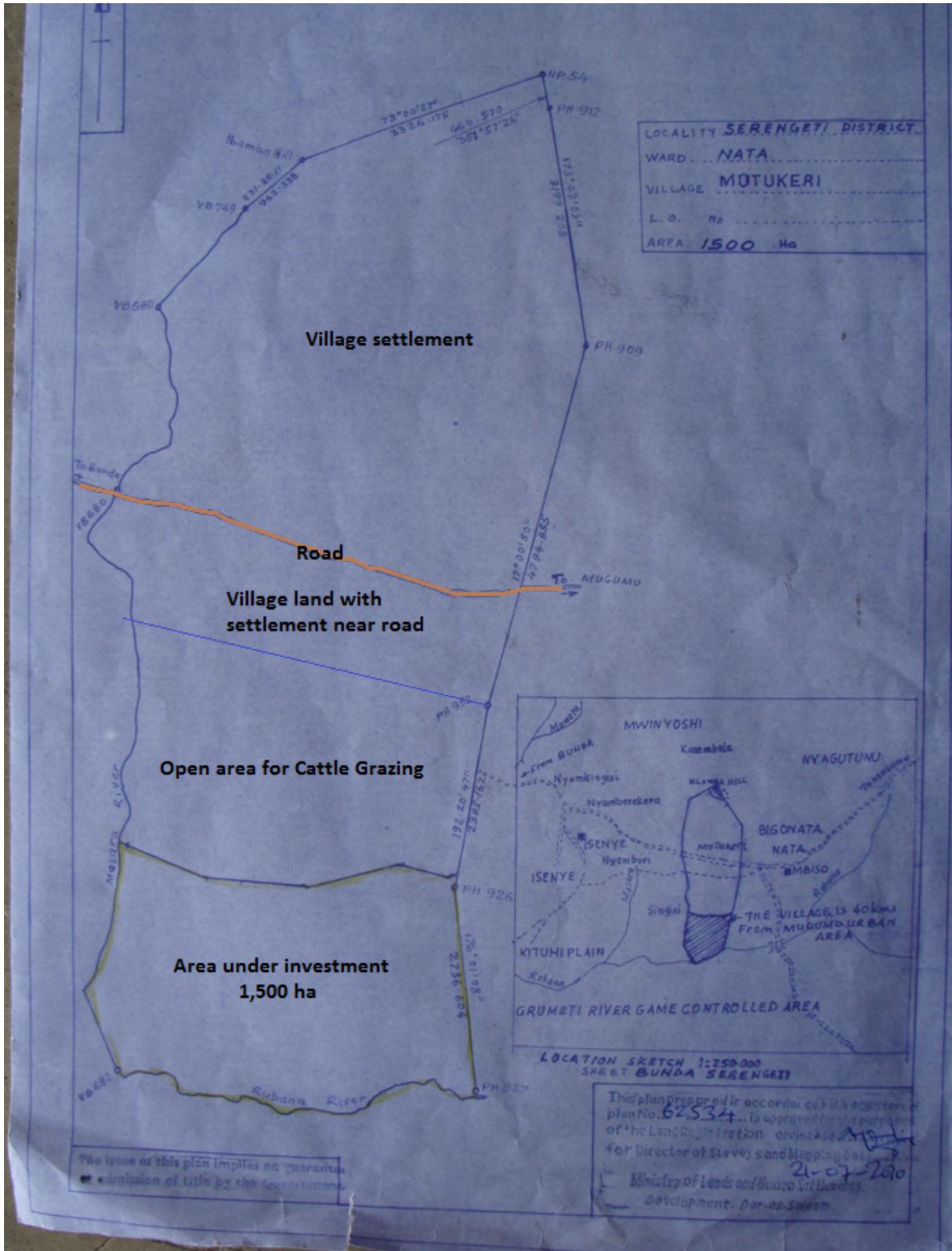
- Change of environment and very big groups of wildlife are entering the area.
- Threat because of wild animals.

**What is your opinion about your village council?** The village council is supposed to hold meetings so that we can discuss our problems.

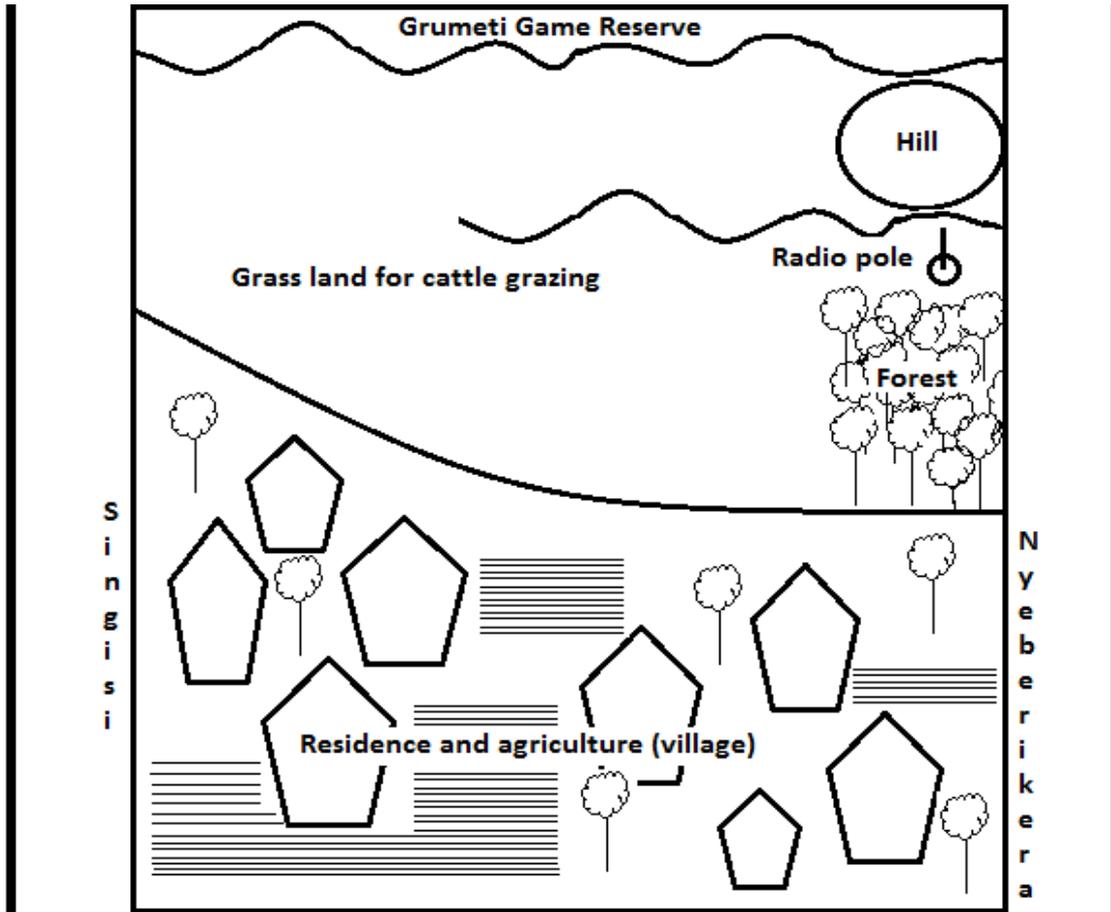
**Loose comments:**

- When anybody is caught within the area beyond the river he is beaten and taken to the police station.
- There was an elephant within the village nearby the water pump delivering so they couldn't do anything and it was very fierce so everybody run to their house, and for the whole of the day they could not get out as they were afraid to be attacked by that elephant. Nobody could fetch water, nobody could go to school or do anything. If we would have been allowed to kill that elephant we would have. Then we could have continued with our business. There are so many elephants nowadays and go back home as early as possible, because it is dangerous for them to stay outside beyond 5pm. As there are so many groups of elephants in the village. They said that a few days ago there were almost a 100 elephants in the area. There houses are delicate and simple, a push of the elephant and it will fall down. Most crops are destroyed by the elephants.
- They said there is a house being built by Grumeti reserves for the sub village leader of Makundusi sub village. He is being bribed by Grumeti and is not there for the villagers.

Annex 5. Motukeri village map



**Annex 6. Iharara sketch map**



**Annex 7. Makundusi Sub-village map**

