

**Socio-Economic Baseline Studies in Selected  
Wildlife Management Areas under the Financial  
Crisis Initiative/Cash-for-Work Program**

**Burunge WMA Report**



Flamingoes in Lake Manyara



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## LIST OF ABBREVIATIONS AND ACRONYMS

AA	Authorized Association
ARI	Acute Respiratory Infections
AWF	African Wildlife Foundation
BWMA	Burunge Wildlife Management Area
CBC	Community Based Conservation
CBNRM	Community Based Natural Resources Management
CBO	Community Based Organization
COMSIP	Community Savings Investment Promotion
CSR	Corporate Social Responsibility
DC	District Council
DCDO	District Community Development Officer
DGO	District Game Officer
DNRO	District Natural Resources Officer
DPO	District Planning Officer
F	Female
FCI	Financial Crisis Initiative
FGD	Focus Group Discussion
GDP	Gross Domestic Product
Ha	Hectares
IDI	In-Depth Interview
JUHIBU	Jumuiya ya Hifadhi Burunge
LMNP	Lake Manyara National Park
M	Male
MNRT	Ministry of Natural Resources and Tourism
NBC	National Bank of Commerce
NCA	National Conservation Area

NGO	Non-Governmental Organization
NMB	National Microfinance Bank
PPP	Private and Public Partnership
PTB	Pulmonary Tuberculosis
RA	Research Assistant
RMZP	Resource Management Zone Plans
SACCOS	Savings and Credit Cooperative Societies
SPSS	Statistical Package for Social Sciences
TANAPA	Tanzania National Parks
TNP	Tarangire National Park
TRC	Tarangire River Camp
TTCL	Tanzania Telecommunications Company Limited
URT	United Republic of Tanzania
USAID	United States Agency for International Development
UTI	Urinary Transmitted Infections
VEO	Village Executive Officer
VGS	Village Game Scout
VICOBA	Village Community Banks
WB	World Bank
WD	Wildlife Division
WMA	Wildlife Management Area
WPT	Wildlife Policy of Tanzania
WWF	World Wildlife Fund for Nature

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## **EXECUTIVE SUMMARY**

### **Establishment of WMAs**

The idea of establishing Wildlife Management Areas (WMAs) came as an issue of concern when the Wildlife Policy of Tanzania was adopted in 1998. Its implementation has resulted in the creation of 16 WMAs including Burunge in Babati District. The main objective of forming WMAs is to empower and involve local communities adjacent to core protected areas in conserving and managing wildlife resources.

### **Methodological approach**

The Socio-Economic Baseline Study in Burunge WMA was carried out to gather information and data from households and villages that form the Burunge WMA. The study applied both qualitative and quantitative tools to collect information related to knowledge, perceptions and living standards of the people in relation to benefits accruing from community based natural resource management. The tools used were survey questionnaires, in-depth interviews, focus group discussions and other observations.

### **Study objectives**

Specifically, the study identified population characteristics, sources of income, available social services, status of biodiversity and tourist operations in the designated area. The sampled population size for the study was 400 and comprised of both male and female respondents.

### **Demographic characteristics**

A total of 10 villages namely Minjingu, Olasiti, Vilima Vitatu, Kakoi, Mwada, Ngolei, Sangaiwe, Magara, Manyara and Maweni were surveyed. The Burunge area is estimated to have a population size of 30,732. Out of the 400 in the sample population, 368 people responded to the survey questionnaire. A total of 215 (58.4%) were male and 153 (41.6%) were female. Their age range was between 20 and 70 but about 60% clustered between the ages of 30-49 years old. The fact that more than half of the respondents were male signifies that household heads in this area tend to be male which is indeed typical of African traditions in Tanzania.

Another explanation however could be that since most women in this area feature primarily in agricultural activities it is possible that at the time when the survey questionnaire was being administered most women could have been busy working in the farms harvesting rice or maize (May to June is harvesting season in Burunge area).

Within the study population only 13.6% were in polygamous marriage relationships. In terms of education, most of the respondents (80.7%) had attained only primary

education. Male respondents were more likely to have completed primary education than women (58.9% vs 41.1%). About 14.9% had not attended any formal education. This percentage is high especially when considering that there is a primary school in every village. More than half of the respondents (51.4%) had their family size ranging between 11-20 people. A total of 216 respondents indicated that they were not born in their respective villages but had instead migrated to the area in order to search for farming, business, employment or following family and friends.

### **Socio-economic status and expenditure patterns**

Most of the people in Burunge depend on agriculture for their livelihood. Henceforth most of the households in the Burunge area earn their living cash through farming. The main food/cash crops include maize and rice. Maize and rice are staple foods not only in the Burunge area but in the entire Babati district. Other economic activities that people engage in in order to generate income include livestock keeping, tourist-related trading, horticulture and fishing.

In terms of social services, Burunge WMA has 11 primary schools, 3 secondary schools, 4 dispensaries, and 1 health centre. These facilities serve an estimated total population of 35,000 within the WMA member villages. Some of these facilities are not in a good condition and do not offer all the required services. In 6 out of 7 villages local leaders expressed their concern over the lack of medical equipment and medical personnel in most of the dispensaries.

At household or individual levels the expenditure pattern of generated income varied from one household to another. Close to half of the respondents indicated that they needed between Tshs. 1,500-3,000 per day for their daily basic needs. One out of every three people stated that they spend more than Tshs. 4,000/= per day in order to meet their daily basic necessities including food. Information derived from FGDs and in-depth interviews showed that most people spend large amounts of money on education followed next by health. A total of 324 out of 368 respondents (88%) own their houses. Comparing ownership by sex it shows that three-fifths (60%) of the houses are owned by men.

### **Ecological status of Burunge WMA**

Ecologically, Burunge WMA is one of the sites with the highest biodiversity value in the northern tourist circuit of Tanzania. There are lots of birds in the area, large animals such as elephants, buffalos, zebras and wildebeest just to mention a few. The area requires conservation activities and continued efforts towards supporting community-based natural resource management through JUHIBU who have all the rights on sustainably managing the Burunge WMA.

### **Benefits of Burunge WMA**

In the past three years, 50% of all the money earned from tourism by the JUHIBU (AA) has been equally distributed to member villages forming the Burunge WMA towards supporting social services such as building classrooms, dispensaries, village offices and water projects. Camps and lodges have been built in the WMA and are

charged as they are seen to contribute to WMA conservation. They are also a source of employment and business networks.

The willingness of people to participate in cash-for-work is very high. In all the villages visited most of the respondents were willing to participate mainly on water supply projects, infrastructure development and availability of health services.

# CHAPTER ONE

## INTRODUCTION AND THE SETTING OF THE STUDY

### 1.1 Introduction and the Background

The idea that local people participate on the designing, implementation and monitoring of the development programs (that will essentially play a large role in determining their future destiny) has been the cornerstone of development policy and planning in Tanzania. Since independence there have been noticeable efforts by the government of Tanzania aimed at making sure that the local communities are involved in development programs so as to instill their ownership of the process and hence sustainability of the developmental interventions. For the latter to happen it is imperative that the local communities benefit directly from the development programs or projects that are implemented in their localities. It is within this context that the Ministry of Natural Resources and Tourism has been grappling with devolving the management of natural resources to the local communities and private sector.

### 1.2 Wildlife Policies and the Evolution of WMAs and Community-Based Natural Resources Management (CBNRM)

The 1990s have witnessed a significant departure from the old ways of managing natural resources in sub Saharan Africa. Common practices now are approaches (collectively referred to as Community-based Natural Resources Management [CBNRM]) geared towards the devolution of natural resource management and responsibilities to local communities along with the engagement of other stakeholders (including NGOs, the community and private sector ) in managing the resources.

CBNRM is a form of management that seeks to divert from the “garrison conservation” efforts in which the government was the sole manager of natural resources. Underlying CBNRM is the belief that communities within natural resource areas or that surround natural resources can be the most effective partners in the governments endeavor to attain the sustainable management of natural resources. CBNRM is essentially the sharing of management and benefits with non-state agents (i.e. people /communities) that who, ‘by virtue of their collective location and activities are critically placed to enhance the present and future status of natural resources and their own well being.” (USAID 2003)

This new paradigm of managing natural resources was prompted by the realization (by governments and donors alike) that existing natural resource management practices i.e. under the government (e.g. fines and fences, garrison conservation etc.) were inadequate in that governments were constrained in terms financial, human and infrastructural resources that are needed in order to effectively manage the vast natural resources in the country

(Kessy et al 2003). This also meant that the ongoing degradation of the natural resources base was going unabated due to poorly defined ownership and use rights (Kessy et al 2003)

CBNRM as an alternative natural resource management approach comprises of a selection of interventions that seek to improve the management of renewable natural resources “through devolving certain rights to these resources and for the ostensible benefits of the owners and thus managers of these resources”. Such interventions aim to rebuild functioning natural resource management institutions within the local communities that had been destroyed as a result of the state control over both land and natural resources. This rebuilding includes but is not limited to creating a sense of ownership of these resources and devolution of clear rights to the local communities/people as incentives for their commitment to conservation.

### **The genesis of WMA and Institutional legal Framework in Tanzania**

Until the 1980s wildlife management in Tanzania depended on the “fines and fences” approach based on protected areas like National Parks and Game Reserves and restrictive laws preventing the hunting of wildlife. The inadequacy of this approach manifested in a crisis that gripped the wildlife sector in the 1970’s and 1980’s as incidence of wildlife poaching for both commercial and subsistence uses increased dramatically (Nelson et al 2006). The crisis brought government and donor support to the fact that there was a need for a paradigm shift in the management of wildlife. Central to this shift was the essentiality of greater participation by local communities in wildlife management.

As part of the paradigm shift in managing natural resources (specifically wildlife), the government of Tanzania through it’s Wildlife Division in the Ministry of Natural Resources and Tourism started cooperating with various donors, NGOs towards the implementation of community-based activities in areas adjacent to the core wildlife protected areas. These activities involved the utilization of wildlife and forest resources for tourism, live trade animals, trade in forest products and eco-tourism, wildlife farming, handcraft and community-based ventures, and small and macro enterprises. Such a shift is indicative of the government’s realization that success in CBC activities would win the support and greater participation of communities in the sustainable management of natural resources.

Evidently CBC activities were projected as tools that would contribute to the improvement of natural resource management and planning processes while at the same time strengthen local level governance and generate tangible social, economic and financial benefits for the communities. The Wildlife Sector Review Task Force in 1995 pointed out that “it is essential to the future of wildlife management in Tanzania that local communities amongst the wildlife should derive direct benefits from it”.

In a move to develop the above community-based conservation initiatives, the government issued the Wildlife Policy of Tanzania (WPT 1998) which called for the establishment of Wildlife management areas on community lands adjacent to protected areas. This was a new category of multiple land use area in which the central focus would be wildlife conservation and a means to effect CBC activities related to wildlife conservation in Tanzania. The policy envisaged that under this new form of wildlife conservation (WMAs), the local communities “will have full mandate of managing and benefitting from their efforts. The overall policy objective was “to increase the direct economic benefits that communities in wild rich areas accrue from the wildlife on village lands and to increase the responsibility and authority of local communities for wildlife management decisions in those areas”.

In the revised WPT 2007, the principle of community-based management was given a central role. The overriding aim here was to ensure that wildlife would not have to compete with other forms of land use (crop and animal husbandry) that could maybe jeopardize wildlife populations and movements. The WPT 2007 for example points out that “local communities living on village lands with viable populations of wildlife have a role of protecting and benefitting from wildlife by setting wildlife conservation areas in their land” (MNRT 2007 sec. 3.1.4) The policy also specifies that one of the challenges facing wildlife management is the inadequate involvement and participation of the village communities in the planning, management and conservation of wildlife, leading to the unsustainable use of resources (MNRT sec.3.2).

In recognition of the wildlife’s intrinsic value including direct and indirect benefits to village communities, the WPT 2007 underscores the government commitment in its policy statement that,

*“the government will ensure that Tanzanians have right to legal access to wildlife and wetland resources. The government will also promote development of village communities living in or close to wildlife and wetland areas (except in NCA) through facilitating establishment of WMAs” (WPT 2007:27).*

Since the Wildlife Act 1974 did not directly provide for wildlife management areas, the process of formation of WMAs was postponed until 2003 when new regulations were issued on how the WMA designation process would operate were. The absence of legal backing has now been amended under Part V of the Wildlife Conservation Act 2009 which provides for the establishment and management of the Wildlife Management Areas and benefit sharing (URT:194)

At the time of conducting this baseline survey a total of 12 WMAs had been officially gazetted. These included Ipole WMA, Uyumbu WMA, Burunge WMA, and Ngarambe-Tapika WMA etc. Some of these WMAs are now engaged in tourist-related businesses where revenue is generated. The anticipated objective of benefits to the local communities is already apparent as part of the income accrued from activities in the WMAs is distributed to the member villages. However, owing to the ongoing worldwide financial crisis, the sustainability of steady income-generation for some of the WMAs is questionable.

The World Wildlife Fund (WWF) has rightly observed that as a result of the global financial crisis, the amount of income derived from tourist arrivals is likely to decline in some WMAs. This will have a variety of deleterious consequences on the lives of rural communities who had started benefiting from incomes from WMA activities in the way that their incomes will undoubtedly decline. It is envisaged that as a result of this (income) poverty, some people in the rural communities may revert back to the unsustainable utilization of natural resources i.e. overexploitation of the natural resources to sustain their livelihoods, which could in turn lead to further destruction of the environment. To avert such an eventuality, the WWF intends to initiate a variety of interventions including implementing a Financial Crisis Initiative (FCI) or Cash-for-Work Program focusing on a range of infrastructure programs in 5 WMAs. One of the aims of this initiative is to provide incomes to the rural communities within the 5 WMAs through wages and other services or goods linked to infrastructure development. WWF envisage that incomes accrued from engaging in infrastructural development activities and related benefits will improve the living conditions in these rural areas and allay fears of these communities reverting back to the unsustainable utilization of natural resources.

The aforementioned interventions aim at coming up with a variety of positive changes aimed at mitigating the anticipated risks to the community and the natural resource base. In this regard it is important to establish some important benchmarks (that regard current economic and social states) upon which the intervention will be built. As the implementation of the interventions proceed it is important that their performance is monitored. For monitoring to be meaningful there must be some important indices in place. It is these standards that will indicate any change.

It is within this context and background that WWF contracted Health and Development International Consultants to undertake a socio-economic baseline survey that would generate data and information on the socio-economic status in the 5 WMAs. This information will then be used to generate indicators for monitoring changes that result from the intervention as well as determine the level of changes in key indicators such as **income**, number of households involved in tourism-related businesses, rural livelihoods, status of biodiversity and reported cases of poaching, infrastructure services, etc... The baseline data are presented in this report after a brief outline of the study and limitations thereof.

The baseline survey study was carried out in 5 WMAs: MBOMIPA (Iringa Rural District), Ipole (Sikonge District), Ikona (Serengeti District), Enduimet (Longido District) and Burunge (Babati District). The baseline study reports for each of these 5 WMAs have been presented separately. This report is for **BURUNGE WMA**.

### **1.3 The profile of Babati District**

Babati District Council is one of six councils in the Manyara region. The council was established as a result of dividing the then Hanang District Council into two districts of Hanang and Babati. Babati was officially documented in the Government Official Gazette No. 403 on the 1<sup>st</sup> October, 1985. Babati District became autonomous in July 1986 as a District Council. In September 2004 Babati District Council again was divided into two councils, namely Babati District Council and Babati Town Council. The district lies between the Latitude 3 and 5 South of the Equator and Longitude 35 and 37 East of Greenwich.

It borders the districts of Monduli in the North, Karatu in the North-West, Mbulu in the West, Hanang in the South-West, Kondoa in the South, and Simanjiro in the East. Babati District Council has an area of 5,609 square kilometers. Administratively, Babati District Council has 4 divisions, 18 wards, 95 villages and 376 sub villages. It is about 166 Kms drive from Arusha City.

#### **1.3.1 Population**

According to the Population and Housing Census of August 2002, Babati District Council had a population of 237,601 with an annual growth rate of 2.7% and 48,490 households with an average household size (persons per household) of 4.9 (Census, 2002). To date, the Babati population is estimated to be 320,556 out of which 163,945 are males and 156,611 females. The council has a population density of 57 people per square kilometers.

#### **1.3.2 Provision of social services**

There are a number of social services provided by Babati District Council which include education, health, water and roads.

##### **1.3.2.1 Education**

The District Council manages five levels of education from Pre-Primary Education, Primary Education, Secondary Education, Adult Education as well as Vocational Training.

The council has 77 Pre-Primary schools, 76 of which are owned by the government while 1 is owned by an NGO, and that have a total number of 4,520 pupils of which 2,288 are boys and 2,232 are girls. There are 132 primary schools of which 131 are owned by the council and 1 owned by an NGO. There are 33 day secondary schools and 1 boarding school of which 27 are owned by the government and 2 by NGOs. The Council has 9 centers of MUKEJA (Adult Education) with 132 students and 86 classes. The Council's illiteracy rate is 23%. There are 2 vocational training centers with 370 students owned by the Roman Catholic Church. The Council has 3 vocational training centers in Mbugwe, Gorowa and Gallapo divisions.

##### **1.3.2.2 Health Services**

The Council has an even mix of private and public partnership (PPP) health services. This is shown in the table below

**Table 1: Partnership in health services**

Ownership	Hospital	RHC	dispensaries	Total
Government	0	7	19	26
Private	0	0	3	3
NGO	0	0	1	1
FBO	2	1	6	9
Total	2	8	29	39

The council has a total bed capacity of 300 beds in all of its health facilities. Out of the existing 95 villages only 30 have the required health service infrastructures. Other villages are covered by mobile (25) and outreach (35) services especially for mother and child care/services.

The top diseases in the council are Malaria, Acute Respiratory Diseases (ARI), Pneumonia, Diarrhoea, Intestinal Worms, Pulmonary Tuberculosis (PTB), eye diseases, skin diseases, Sexually Transmitted Infections (STI), skin diseases and Urinary Tract Infections (UTI).

### 1.3.2.3 Water services

Babati District Council gets water for domestic use, irrigation and livestock from sources such as underground water, lakes, dams, rivers, streams, ponds and springs. However clean and safe water for domestic use in the District is inadequate. There are 190 shallow wells, 2 surface pumps, 60 gravity piped schemes and 23 dams that serve a total population of 146,788 equivalent to 45.8% of the total Council population.

### 1.3.2.4 Infrastructure

Roads are the main mean of transportation in the council however these roads are not in good condition especially in the rainy season. There are 882.8 kms of road of which 135.4 Kms are trunk roads, 87.8 Kms are regional roads, 388.4 Kms of district roads and 302 Kms of feeder roads.

**Plate 1: Difficult accessibility during rainy season**



### 1.3.3 Main Economic Sectors in Babati District

It is estimated that over 95% of the Babati District Council inhabitants depend primarily on agriculture for their livelihoods. Agricultural activities involve both crop production and livestock keeping. Crops grown are both for food and cash. Other economic activities are fishing, and small scale entrepreneurship and employment.

#### 1.3.3.1 Agriculture

The Council has an area of 137,187 ha of arable land which is equal to 24% of the total council land of 560,900 ha. It is estimated that 120,000 ha are under cultivation. On average land owned and used for small scale farming is roughly 4 acres per household. Large scale farming is also a dominant agricultural land use occupying about 32,000 ha. Village lands in Babati District Council have different uses including farming, grazing and conservation (forest, water catchments and wildlife). Crops produced in the district are as follows:

Food/-Cash Crops: maize, beans, paddy, sorghum, millet, cassava, leguminous crops, banana, sweet and Irish potatoes and various fruits.

Cash Crops: coffee, groundnuts, simsim, sugarcane, cotton, sunflower, wheat, seed beans and vegetables.

#### 1.3.3.2 Livestock

Livestock keeping is mainly for beef, milk, and animal traction production of farm yard manure and source of income. The Council has a total number of 194,993 cattle, 186,057 goats, 43,851 sheep, 7,923 donkeys, 160,019 chicken and 10,182 pigs. Livestock keeping for such a number requires an area of 220,000 ha while the available total pastureland is only 42,200 ha.

**Plate 2: Animal husbandry in Burunge WMA**



### **1.3.3.3 Tourism**

Currently, the tourist industry in the district is not well identified and publicized. There are many potential tourist attractions in the council which include hunting blocks, mountain sceneries for photographing, climbing, hiking, and cultural sites. The Burunge Game Controlled Area, the Community-Based Conservation areas of Gallapo and Qash wards, and the flat plains for horse riding are also attractive features for tourism and leisure. Lakes (Burunge and Manyara) and rivers for canoeing, swimming as well as spot fishing have also been part of the growing tourist hotspots. In addition, forest reserves and animal corridors between Manyara and Tarangire National Parks are important areas for game viewing.

### **1.3.3.4 Tourist Hotel Development**

To date, little development has been done in the tourist sector. There are 5 hotels and 1 campsite within the WMA. Potential areas (both for locals and foreigners) include areas surrounding Lake Babati, Lake Manyara and Lake Burunge.

### **1.3.4 Available Communication Services**

In general, the whole district is connected to telecommunication networks. TTCL, Vodacom (T) Ltd, Zain (T) Ltd, Tigo (T) Ltd, as well as Zantel, are companies providing telecommunication services. Internet services are available at Magugu town centre and Babati Council headquarters.

### **1.3.5 Financial Institutions**

Banking services are delivered at Babati town by NBC, NMB and Postal Bank. Apart from banking services, the Council has 3 types of cooperative societies which include 30 SACCOS groups, 11 agricultural marketing cooperative societies, 80 VICOBAs, and 30 Community Savings and Investment Promotion groups (COMSIP).

### **1.3.6 Land, natural resources and environment management**

The district is endowed with a variety of natural resources ranging from land, minerals, wildlife and forestry. While there are no wealthy gemstones discovered in the district, there is phosphate mined at the Minjingu Phosphate Company Ltd situated at Minjingu village. The Council has 4 national forest reserves which occupy 25,133 ha. There are also 14,000 ha of natural forest reserves which are under the supervision of Village Management Committees and 42,000 ha of forests that are in open village lands, wood lots and trees at homestead. Wood fuels are the main source of energy for domestic use. The council is also endowed with two national parks, namely Manyara and Tarangire.

## **1.4 The profile of Burunge WMA**

The Burunge WMA in Babati District Council comprises of ten villages namely Minjingu, Maweni, Manyara, Magara, Mwada, Ngolei, Olasiti, Kakoi, Vilima Vitatu, and Sangaiwe; all located in Tanzania's wildlife-rich northern tourist circuit, about two hours drive from Arusha. In total the villages' land is 81,960

ha, of which 24,319 ha are officially demarcated as WMA land. The WMA is very close to both Tarangire and Manyara National Parks. It is roughly 18 kms from the main gate of Tarangire National Park (TNP), and less than 10 kms from the southern boundary of the Lake Manyara National Park (LMNP).

Burunge WMA was formally gazetted in March 2006 and later inaugurated in July 2007. AWF led the facilitation in partnership with the USAID/Tanzania Natural Resource Management team, and council officials and village leaders also played a vital role in the registration of the WMA.

Burunge WMA occupies the land and the migratory corridors between Tarangire, Lake Manyara, and the adjacent Manyara ranch, making it an area of high conservational significance. Most of the WMA land was formerly the Burunge Game Controlled Area with a variety of wildlife and birds. Today, the area is widely known for its large buffalo population that moves in and out of Tarangire. The presence of Lake Burunge in the WMA attracts the migration of water birds such as greater and lesser flamingoes and a range of ducks and shore birds.

As required by the registration processes, Burunge WMA has finished its Resource Management Zone Plans (RMZP) which recognizes the value of wildlife and natural resources within the WMA. Since its infancy AWF has facilitated many activities in the WMA including building the capacities of the village leaders in the designated WMA. To date, the total finances that have been invested in the WMA is around T.shs. 100,000,000.

**Figure 1: Map of Burunge WMA**

### 1.4.1 Administration

Administratively, the WMA area is found in Mbugwe Division, the three wards of Nkaiti, Mwada and Magara with villages of Minjingu, Maweni, Manyara, Magara, Mwada, Ngolei, Olasiti, Kakoi, Vilima Vitatu and Sangaiwe. The whole population of inhabitants in the WMA is estimated at 30,732, out of which women are 16925.

### 1.4.2 Social services available in Burunge WMA

**Table 2: Social services**

Village Name	P/ school	S/ School	Health Center/ Dispensary	Water sources
Mwada	1	1*	1	Traditional wells and boreholes are dominant
Minjingu	1	1*	1*	Water tanks, traditional wells and boreholes
Vilima Vitatu	2	0	1	Traditional wells and boreholes are dominant
Olasiti	1	0	0	Water tanks, traditional wells and boreholes
Magara	1	0	1	River Magara and wells (shallow and deep)
Sangaiwe	1	0	1	Lake, traditional wells and boreholes but not potable
Kakoi	2	0	0	River, wells and borehole (shallow and deep)
Manyara	1	1*	0	Traditional wells and boreholes are dominant
Maweni	1	0	0	Traditional wells and boreholes are dominant
Ngolei	0	0	0	Traditional wells and boreholes are dominant

*\* The facility is shared by villages constituting the Ward. It is jointly constructed and hence owned.*

Most of the villages in the WMA are likely to benefit from the WB water project expected to begin by July 2010. According to the Babati District Water Engineer, water pipes will be laid from Darukuta ranch passing through Mwada and Ngolei villages towards the villages of Minjingu and Olasiti. Vilima Vitatu Village will also benefit from the project despite not being in the project proposal due to its geographic location and for safety reasons. Since the pipe

will pass through Vilima Vitatu Village it has been planned that various public points of access will also be erected in the village.

### **1.4.3 Condition of roads**

The Great North- South (national) road passes through six villages of Olasiti, Minjingu, Vilima Vitatu, Ngolei, Mwada and Sangaiwe forming the WMA. This road is currently under construction. One more regional road from Arusha to Mbulu passes through two villages of Maweni and Magara. This road is annually maintained by the regional TANROADs office. Kakoi Villages is connected to Arusha-Tarangire road. Only Manyara Village entirely depends on feeder roads.

### **Plate 3: Traditional transport by donkey carts**

## CHAPTER TWO

### THE TERMS OF REFERENCE, APPROACH AND METHODOLOGY

#### 2.1 Objectives of the Baseline Survey and Scope of Work

The main objective of the baseline survey was:

“To obtain socio-economic data and information on the households in the five selected WMAs that will form a basis for evaluating the impact of the FCI on rural income”

Specifically the socio-economic baseline survey is meant to:

- a) Identify the sources and type of income in selected villages forming WMAs.
- b) Evaluate expenditure patterns in selected villages forming each WMA.
- c) Assess living conditions such as the status of houses, livelihood assets, land uses production trends etc.
- d) Evaluate existing economic activities in the selected WMAs.
- e) Assess availability and quality of infrastructure services such as health, education, transportation and communication, institutions;
- f) Assess the level of income in selected households in villages forming WMAs.
- g) Assess population characteristics (age, sex, migration, social relationships)
- h) Document various resources available, resource uses and markets (e.g. farms/livestock and the uses)
- i) Provide information on the economic and ecological status of a WMA including number of investors, visitors, poaching incidences etc.
- j) Assess attitudes, perception and views towards existing CBNRM program/WMA
- k) Provide information on existing investments in the selected WMAs – detailing visitor numbers, services, revenue.
- l) Assess social economic threats; drivers and opportunities related NRs in the selected villages.

It is these objectives that make up the Terms of Reference (TORS) and describe the Scope of Work (SOW) for this consultancy.

#### 2.2 Area of the Study and Scope of Work

This study was carried out in Burunge WMA. This WMA is located in Babati District in Manyara Region. It comprises of a total of 10 villages with an estimated total population of 35,000 people.

## **2.3 Study Design and Methodology**

This was an explorative and explanatory study combining both quantitative and qualitative methods of data collection in order to collect information that can be used for monitoring purposes and determining the level of changes in key indicators such as income, number of households involved in tourist-related businesses, nature of rural livelihoods, and the status of biodiversity. Each of these utilizes a specific research study component using specific methods of data collection and analysis.

### **2.3.1 Study Population, Sampling Size and Strategy**

The methodology and structure of this study was collectivized and applied to all 5 WMAs. It was decided that the entire study should recruit a total of 2000 respondents for the survey questionnaire. Taking into consideration that there were a total of 49 villages, a proportional sampling strategy was applied in order to determine the total number of respondents per village. The 2000 respondents were divided among 49 villages and this resulted in 41 respondents per village. Since the BURUNGE WMA has a total of 10 villages we had to recruit a total of 410 in our sample. However due to circumstances beyond our control, we only managed to recruit a total of 400 respondents. Attempts were also made to ensure an equal representation of men and women in the sample.

For qualitative data, the procedure for sampling informants was purposive. The research subjects were selected based on the extent to which they were familiar with either WMAs or village development politics. It was thought that due to their experience and exposure, they would provide useful knowledge on the socio-economic situation in the WMAs. Using this approach, we managed to recruit the following people/groups for FGDs and in-depth interviews.

The total number of households interviewed was 368, 13 FGDs were held, and 24 IDIs were carried out in the seven villages visited with Key Informants selected from the community, CBO/WMA offices, District Councils and AWF. At the WMA office we interviewed the CBO Speaker, AA Chairperson, Deputy Speaker, and two AA representatives.

At the District Council level we interviewed the District Game Officer (DGO), District Natural Resource Officer (DNRO), District Community Development Officer (DCDO), District Planning Officer (DPO) and District Water Engineer.

### **2.3.2 Methods of Data Collection**

The study employed a variety of both qualitative and quantitative methods of data collection. Specifically, we used the following methods of data collection:

- Documentary and Library Research.
- Administration of a Quantitative Social Survey Questionnaire.

- In-depth Interviews with key informants/opinion leaders, District Advisory Board, Approved/Authorized Associations (AA), and Community Based Organizations (CBO).
- Focus Group Discussions with a sample of villagers, village entrepreneurs, and village and district leaders.
- A Quick-Scan Analysis of Income-Generating Activities in the Study Area.
- On-the-Spot Non-Participant Ethnographic Observation and Assessment

The description of how each of the above methods were used in the study is presented here below:

### **2.3.2.1 Documentary and Library**

Several documents were reviewed before and during the field work and data analysis. The main documents included Wildlife Policies (Wildlife Policy of 1998, reviewed Wildlife Policy of 2007), the Wildlife Act of 1974 and the new Wildlife Act of 2009, Wildlife Management Area Regulations, Wildlife Management Area Manuals, Wildlife Management Areas in Tanzania Status Review and Interim Evaluations as prepared for the Tanzania Natural Resource Forum, 2006.

### **2.3.2.2 A Quick-Scan of Income Generating Activities at Village Level**

In each village a member of the WMA Researchers assessed the income-generating activities and found villages to have a variety of activities ranging from farming of both food and cash crops, small and retail businesses, fishing in the areas around the two lakes of Burunge and Manyara, animal husbandry, as well as casual labor in projects like road constructions.

### **2.3.2.3 Administration of a Social Survey**

Social survey questionnaires were designed and administered in each village that is part of the BURUNGE WMA. The sampling design and procedure was developed in view of the random sample that was used. These questionnaires collected information in the form of quantitative data on the following issues:

- Socio-economic characteristic of the study population (age, sex, education, ethnic background, migration patterns etc.)
- Living conditions such as status of houses, livelihood assets, land-uses and production patterns and trends.
- Economic activities undertaken by households
- Investments in the WMAs
- Operations/investments of AAs/CBOs in the WMAs
- Benefit sharing mechanisms and conflicts if any.
- Assess people's level of income and main expenditure patterns.
- Nature and type of social relationships including gender relations

- People's attitudes, perceptions and views on the existing CBNRM program/WMA.

In each sampled village, village leaders especially the Village Chairman and Village Executive Officers (VEOs) assisted in defining the geographical and economical setup of the particular village including socio-economic status of sub-villages. RAs were then assigned and dispersed into sub-villages to look for heads or representatives of households for filling the narrated questionnaires.

#### **2.3.2.4 Administration of In-Depth Interviews**

The study employed in-depth interviews with key informants/opinion leaders in each study village. Opinion leaders/key informants included people who hold key administrative positions at village and district level. At the village level these included village chairpersons, village executive officers, community development officers, wildlife officials, natural resource conservation officers, health officers, investors operating in the village etc. Besides these officials, we also identified some village members who were well informed about wildlife and natural resources conservation, management and tourism.

At the village level, we also interviewed people who own or participate in tourist-related businesses. At the district level we included District Community Development Officers, the District Natural Resource Officer, District Land Officer, and District Game Officer. These in-depth interviews were aimed at generating the following data and information.

- Availability and quality of infrastructural services such as roads, social service facilities like health, education, transport and communication and other institutions and the roles they play.
- The kind of resources available at village level, how the resources are used and the type of markets and goods sold in these markets.
- Economic and ecological status of a WMA including the number of investors, visitors and how these numbers have changed over time since the WMAs became operational.
- Nature and type of poaching incidences.
- The kind of social economic threats, drivers and opportunities related to natural resources in the study villages.

- Detailed information about existing investments in the selected WMAs, including their total number, services and the amount of revenue generated from various activities.

### **2.3.2.5 Administration of Focus Group Discussions**

We employed FGDs to capture in a more social setting the variations in views, attitudes and perceptions of the community members about WMAs along with the current global financial crisis and how it affects communities. We tried to organize at least one FGD in each WMA member village with numbers in the group ranging from 8-12 however in practice, we sometimes found it difficult to hold FGDs with even 8 people due to the selection criteria on participants: the first priority in each village was given to the village leaders and village council representatives with at least two women in the discussion. In all the discussions our focus was based on the following pertinent issues:

- People's views, attitudes and perceptions of the WMA i.e. to see whether WMA has improved their living conditions or not. And if not, why.
- Dominant economic activities in the area. We asked them to rank these activities in terms of their preference.
- People's views on the situation of poverty in their villages and the kind of activities they engage in order to cope with the situation.
- The major and serious social and economic problems people experience as well as how they overcome these problems.
- To know whether people in the selected villages were interested in the Cash-for-work program. If yes, how they would like the cash-for-work program to be organized? What kind of activities in the cash-for-work program are people interested in participating in and why?

Through the FGDs we realized a great variety of views on the villages' priorities and the areas of consensus, and helped us to gauge what the majority of community members feel about the issues raised.

### **2.3.2.6 Non-Participant Ethnographic Observation and Assessment**

Researchers employed non-participant ethnographic observations and assessed various projects taking place in the WMA. Such assessments included:

- The status of existing religions in the area and the social services they are providing to their communities.
- To determine the nature and quality of houses held by the communities in the villages.
- To study the availability and quality of the roads, systems of communication as well as transport in the area.
- To assess the nature and quality of livelihood assets, land use patterns and production trends in the WMA.

- To examine the quality of markets that exist at the village level and the common goods that are sold in these markets.

#### **2.3.2.7 Data Processing, Analysis, Quality Control and Assurance**

All the qualitative data collected in the field were analyzed using content analysis. Specific themes that were found relevant to the study were identified. Thereafter, all information collected was sifted through and classified/coded according to the identified themes. We used the computer software (EnVivo) to analyze qualitative data. All quantitative data were processed and cleaned up by using the SPSS and in some cases, and the Excel program was also used. All information have been presented descriptively using graphs, pie charts, tables (with percentages), and narratives. We used percentages in order to determine the nature, level and strength of some variables or indicators.

## CHAPTER THREE

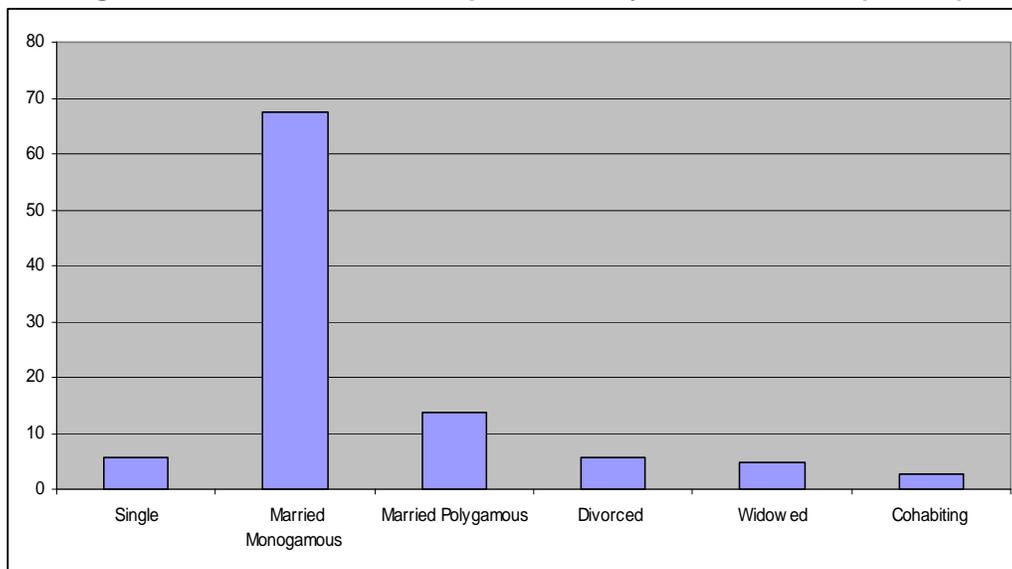
### SOCIAL-DEMOGRAPHIC CHARACTERISTICS AND ECONOMIC STATUS

#### 3.1 Population Characteristics and Social Relationships

The study recruited a variety of people to form the population of the study. A total of 368 people responded to the survey questionnaire. A total of 215 (58.4%) were male and 153 (41.6%) were female. Their age range was between 20 and 70 but about 60% clustered between the ages of 30-49 years old. The fact that more than half of the respondents were male signifies that household heads in this area tend to be male, which is indeed typical of African traditions in Tanzania. Another explanation however could be that since most women in this area feature primarily in agricultural activities it is possible that at the time when the survey questionnaire was being administered most women could have been busy working in the farms harvesting rice or maize (May to June is harvesting season in Burunge area).

About two thirds of the respondents (67.4%) stated that they were in monogamous marriage relationships (Figure 1). Only 13.6% were in polygamous marriage relationships, 4.9% were widowed. Information generated from FGDs and in-depth interviews indicated that the HIV/AIDS epidemic that is spreading fast in the area seem to be responsible for the rising number of widows and orphaned children in the area. Most people indicated that if not checked and controlled soon, HIV/AIDS was likely to cause for there to be many more widows and orphans in the area.

**Figure 2: Distribution of respondents by marital status (N=368)**



In terms of education most of the respondents (80.7%) had attained only primary education at. Men were more likely to have attended primary education than women (58.9% vs 41.1%). About 14.9% had not attended any formal education. This percentage is high when considering that there is a primary school in every village. There was no significant variation between men and women on this aspect (7.9% vs 7.1%). Only 10 respondents (27.7%) had attained secondary education of which 7 were men and 3 of them were women. One can argue that opportunities for education in this area tend to be skewed in favor of men rather than women which is indeed a sign of gender inequality and its impact on issues related to access to education.

### Household educational level

Most of the respondents interviewed have been to school to a level of primary education. It shows that 297 out of 368 respondents completed primary education. This size amounts to 80.7% of the respondents being literate (Table 3). Only 2.7% had reached secondary level of education. The illiterate accounted for 14.9%, which is again as stated above a relatively high rate considering the fact that every village visited has a primary school located at a reasonable walking distance.

**Table 3: Distribution of respondents by level of education**

Level of education	Frequency	Percent
No formal	55	14.9
Primary	297	80.7
Secondary	10	2.7
Vocational	1	0.3
College	5	1.4
Total	368	100.0

Gender inequality continues to be a problem in the WMA leadership participation. Most of the women who attended village council meetings during the FGDs were less comfortable speaking especially when answering those questions concerning their own rights, meaning that researchers had to interview them separately.

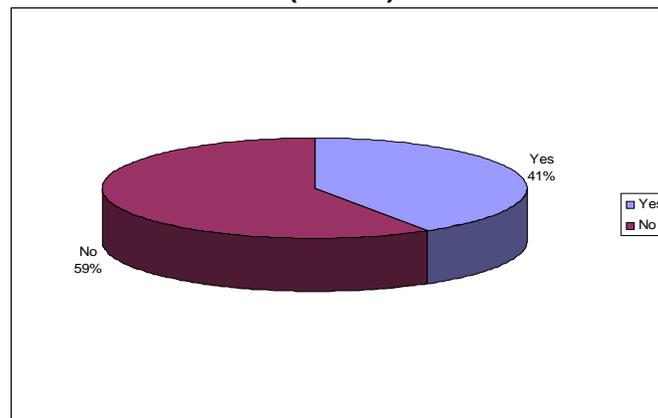
### 3.2 People's socio-economic status

Burunge is in a rural area and therefore most of the socio-economic status of people depends on how they fare with agricultural activities and small businesses. This study noted that most of the people in Burunge are self-employed, earning their incomes through agricultural, livestock, fishing and a few in tourist-related businesses. Some are however employed at Minjingu Phosphate Company and there are also camps and lodges that employ residents and buy goods within the Burunge WMA, hence contributing significantly to better socio-economic statuses.

These opportunities, if properly supported and managed may help people earn substantial incomes towards improving their livelihoods. It is important to note that education level is in most cases a determining factor in terms of securing a good employment opportunity. Educational can also be a factor in enabling an individual to run a good business. Since most of the people in this area attained only primary education, even when opportunities for employment surface, it has been difficult for them to secure employment positions that pay them a descent wage. Even those who have secured jobs tend to occupy low ranking jobs.

The survey was also interested in knowing the respondents' family size as well as their migration or residence status in the area. More than half of the respondents (51.4%) had their family size range between 11-20 people. A total of 216 respondents (59% - Figure 2) indicated that they were not born in their respective village but rather migrated to the area in order to search for either farm land, business, following family and friends or employment. Of these migrants women accounted for 42.1% and men 57.9%. A total of 151 respondents were born in the village. The majority of the respondents 85.8% had lived in the area for more than 9 years.

**Figure 3: Original birth of the respondent in relation to the village of stay (N=367)**

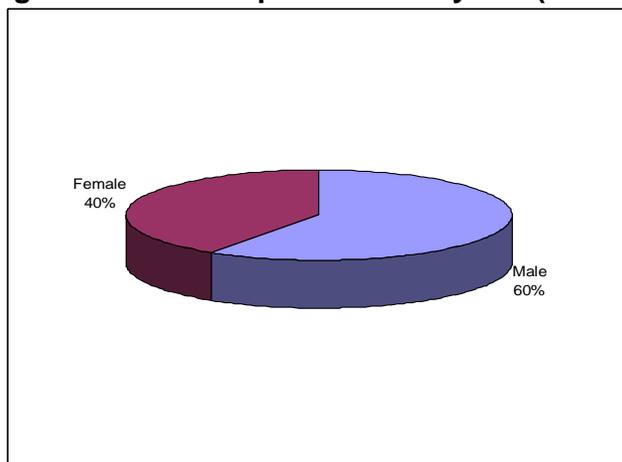


### 3.3 Peoples' living Standards and conditions

In an attempt to understand people's living standards and conditions, the baseline survey study collected information about peoples housing conditions. A total of 324 respondents out of 368 (88%) owned their houses. Comparing ownership by sex as indicated below (Figure 3), it shows that three-fifths (60%) of the houses are owned by men. Only 10.1% rented and 1.9% lived in houses where they had an agreement with the landlord to live freely without paying rent.

#### Plate 4: One of the poorly housing conditions in Burunge WMA

Figure 4: Ownership of houses by sex (N= 324)



One way of gauging people's socio economic status and living conditions is through assessing the state of housing that they own and/or live in. Through the information derived from social survey data, it is evident that less than 165 of the houses had adequate wall material and/or were well built by baked bricks. Although there is a growing awareness campaign in the area and also support from both the government and civil society organizations to sensitize people about building durable and modern houses, still the condition of houses is appalling as half of the houses have thatched roofs while the rest are made out of metal.

Only 25.3% of the houses had cement and sand floors. The remaining 73.8% houses had floors made out of earth and clay. At least 9 out of every 10 houses used a pit-latrine as a toilet facility, and more than a quarter of the respondents (27.7%) shared this toilet facility with other people outside of their own household. About 3/5 used a public tap or water kiosk as their main source of drinking water. Only 1% had drinking water piped into their house. Charcoal and firewood were mentioned by many household heads as the main source of energy (15.3% and 81.9% respectively).

Although ownership of decent housing appears to be a problem for many residents of Burunge, the same people seem to be fairing well in terms of ownership of electronic assets. Out of the 315 respondents who responded to the question on ownership of electronic assets, 255 or 81% owned mobile phones and 268 (85.1%) owned a radio. Only 6.7%, 5.1%, and 3.2% of the respondents owned a television set, video Cassette Recorder/ Digital Video Decoder (DVD) Satellite Dish and, refrigerator respectively.

Only 4.7% owned a motorcycle and 1.7% a motor vehicle. Through the FGDs and IDIs we noticed that this mass ownership of mobile phones has been facilitated by mobile phone companies erecting mobile phone transmission towers in the villages forming the WMA.

### **3.4 Socio-economic activities of the household and how they perform**

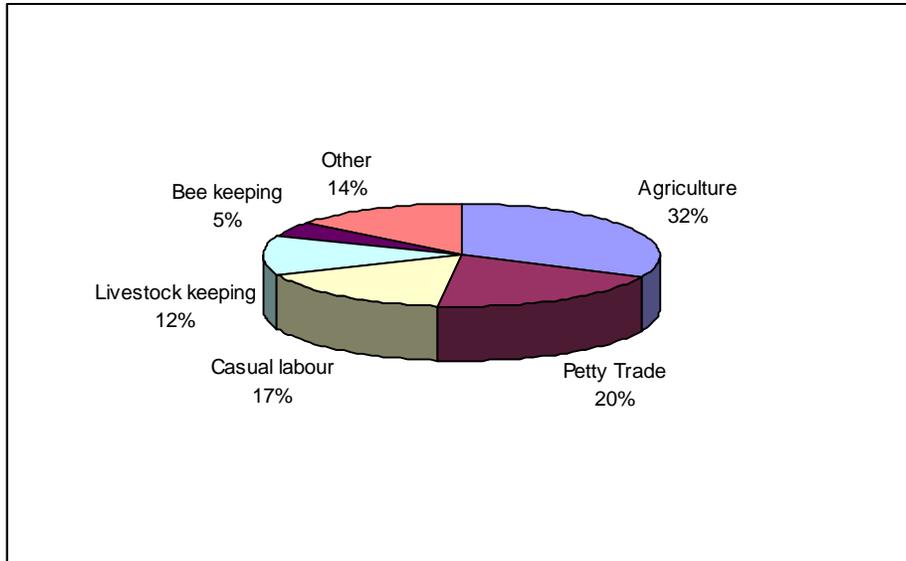
Clearly there is an overlap in terms of socio-economic activities of the household and the main economic activities. While this section refers to what individuals or households in general do in order to earn a living, section 3.5 refers to the general main economic activities that exist in the WMA. As we have indicated earlier, the basis of the economy in this area is in agricultural farming. Hence most of the households in Burunge area earn their living through farming.

The main food/cash crops include maize, rice, beans, sorghum, simsim, potatoes, sunflower, onions, groundnuts and tomatoes. Farming is the main economic activity of the households in Burunge area as evidenced by the fact that a total of 306 respondents out of 360 (85%) stated that they owned farms. Farming seems to be an important economic activity for both men and women. Three quarters (75%) of those who were involved in farming owned farms from 5 acres and above. Only 21% owned more than 10 acres, which means that more than half owned between 5 - 10 acres only.

Of those that answered the question, 72.2% of the 317 respondents claimed that the farmland they owned did not suffice their household's needs. Only 27.8% stated that the acreage they owned was adequate for their household needs.

In terms of land for grazing the situation was quite the opposite to farmland. About three fourths of the respondents (73.6%) said they had enough space/land for grazing. Only one-fifth argued that they did not have enough space for grazing. The availability of grazing land was also stated during the FGDs and IDIs. Village leaders consider the land use plans carried out in their villages as the key determinant for the grazing land availability as there is still land set aside for this activity. However, the issue of grazing land is more complex than opinion in that it requires a calculation of available land versus the amount of livestock it can carry. The researchers' observations in the area and the review of the district profile indicate a huge shortage of grazing land. This means that there is already competition for land use between livestock and wildlife in Burunge WMA.

### **Figure 5: Main Economic Activities of the Household (N=366)**

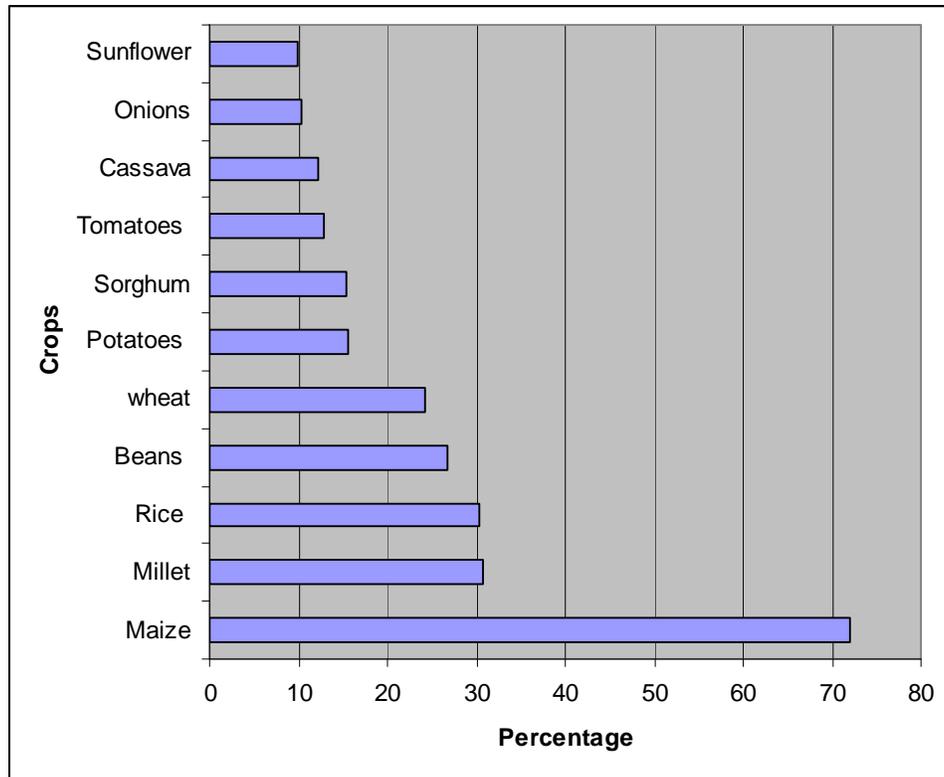


NB: Respondents were allowed to mention more than one activity

Since farming as opposed to livestock keeping seems to be the basis of the economy and a major source of earning income to the majority of residents in Burunge, a shortage of adequate farmland for household needs can have serious consequences on their livelihoods. Shortages of land has led to a situation whereby most people in the Burunge area are not faring well in agricultural production with deleterious consequences on their incomes and general social welfare. Poverty looms large in most households and this affects other members of the family that are dependent on the head of the household and generates a continuous vicious cycle of poverty amongst family members.

Since farming is not sufficient to meet the households needs, about 1/3 of the respondents stated that they engaged in casual labour as an alternative way of coping. More than a quarter mentioned being involved in petty trading as a coping strategy; others mentioned livestock keeping (22.8%).

**Figure 6: Main agricultural crops**



NB: Respondents were allowed to mention more than one crop

### 3.5 Main economic activities existing in Burunge WMA

Most of the people in Burunge depend on agriculture for their livelihood. Maize followed by paddy/rice are their main crops as well as staple food not only in the Burunge area but in the entire Babati district. Mbugwe and Magugu Wards are well known for rice production. Information derived from in-depth interviews as well as FGDs show that the best breed of rice comes from Mbugwe and Magugu wards. The production of simsim also features as one of the most important cash crops, with others including beans, wheat, millet and sorghum, cassava, potatoes, sunflower, onions, groundnuts and tomatoes.

## Plate 5: Simsim harvest in Burunge WMA

**Table 4: Main economic activities in Burunge WMA (N=366)**

Main economic activity*	Number of respondents involved	Percentage (%)
Agriculture	250	68.3
Livestock	94	25.7
Petty trading	159	43.4
Bee keeping	39	10.7
Other	112	30.6

\* Multiple responses were allowed as a person had more than one main economic activity

Economic activities in the area also extended to include petty trade (43.4%), agriculture (68.3%), livestock keeping (25.7%), and bee keeping (10.7%). Other economic activities that people engaged in to generate income included tourist-related business activities, hunting, handicraft, casual work, horticulture and fishing. In terms of livestock keeping, which was mentioned by 278 respondents (76%), the animals kept included cattle, goats, sheep, donkeys, poultry and pigs.

Recently there has been a wave of investors from outside who have invested in the businesses of hotels, tented camps and photography for tourists. This is a growing economic activity but unfortunately most of the people who operate in these businesses are not local natives. In Minjingu and Mwada villages there are two operating tented lodges called Maramboi Tented Lodge and Lake Burunge Tented Lodge respectively, owned by the KIBO Safaris Company based in Arusha. All these camps are in the WMA and the AA has an agreement with the investor.

There are also campsites in other villages within the WMA that pay individual WMA villages. These campsites include Tarangire River Camp that charge fees for tourists spending nights at the camp in Vilima Vitatu Village and also Kakoi Village<sup>1</sup>. The TRC management refused to enter any contract with the AA despite the fact that it is required by law.

Additionally, Olasiti village has many campsites for tourists that were established in individual lands outside of the WMA and hence pose competition for the WMA villages earning revenue in this trade. Our FDGs, IDIs and quick scanning techniques revealed that there are about eight campsites that were established in Olasiti Village

<sup>1</sup> The Tarangire River Camp is situated in Vilima Vitatu land and at the border of Kakoi Village. So, this year, as Kakoi village was established, it will have its share in the revenue generated at the camp.

between the years 1999 and 2007. As stated above, none of them are owned by a resident of the village.

Villages in the WMA depend on a variety of economic activities. Some are entirely dependent on income generated from villagers' contributions for the construction of social services such as education, health and road infrastructure. This is indeed a major source in most of the Tanzanian economy. There are also grants for local governments offered by central government for development projects. Currently, these grants are becoming the major source of income for villages in Babati District Council.

### **3.6 Availability and quality of social services infrastructure**

Burunge WMA is well served by the Great North Road. This highway passes through Burunge dividing the WMA into two parts (East and West). The highway runs from South (Dodoma) to North (Arusha). It passes through the town of Babati where another highway branches off to Singida and then proceeds to Tabora, Shinyanga, and Mwanza. This road which is now under construction is an important gateway not only for tourists but also to various places near Burunge WMA. It also serves as an important route for transportation of both food and cash crops from the North to Southern parts of Tanzania, as well as from various western and northern parts of Tanzania.

## **Plate 6: Seasonally passable earth road in Magara road**

In terms of social services, Burunge WMA has 11 primary schools, 3 secondary schools, 4 dispensaries, and 1 health centre. These facilities serve a total population estimated at 35,000 within the Burunge WMA member villages.

Some of these facilities are not in a good condition and are not offering all the required services. In 6 out of the 7 villages where we had FGDs, village leaders expressed their concern over the lack of medical equipment and medical personnel in most of the dispensaries. For instance, in Vilima Vitatu villagers explained that there is no medicine in the privately owned dispensary. At the same time there is no laboratory service in Minjingu Health Center.

Despite the presence of at least one primary school in the ten villages forming WMA, there are only three secondary schools owned by the government in the WMA. These secondary schools are not sufficient to accommodate the students finishing primary school. Worse still is that all of these secondary schools are day schools except for Mbugwe secondary school which has hostel accommodation for students. Many students in the area have pastoralist families, and the day secondary schools cannot accommodate these students whilst their parents move during dry seasons. Secondary schools are facing acute shortages of teachers and some of the teachers are form six leavers. In Vilima Vitatu, villagers expressed their frustration over this problem saying that students cannot teach other students meaning that form six leavers are not able to teach form III or IV students.

### **3.7 Socio-Economic Threats, Drivers and Opportunities Related to NRs in WMA Villages**

#### **Socio-economic threats**

There are several threats that accompany wildlife conservation in the WMA. The leading one is the doubt of future sustainability of the WMA because of the arising conflict between the WMA members (the villages forming the WMA). The second issue is the lack of commitment by the Wildlife Division (WD) which still owns the hunting blocks in the WMA and makes the final decisions on what the hunters deserve in the WMA. What is happening down in the villages is that the hunters, of course who have already entered into a contract with the WD, hunt and give whatever amount of money they feel adequate to the community. There is no formula that is used in order to calculate the amount of money that communities need to get despite the frequent mentioning that villages do get 25 percent of the hunting revenue.

Although the WMA is given a certain allocation of funds from the district council, this is not sufficient and cannot convince the community that they are earning from their conservation efforts. The other problem observed in Burunge Game Controlled Area is that the hunting block owner is not in good terms with the villagers as well as the AA officials.

#### **Drivers and Opportunities Related to Natural Resources Management**

The tourist sector is rapidly growing with its contribution to the GDP increasing every year. The number of tourists visiting the nation is also on the increase. All these are good signs for the better future of the WMA which has also recorded an increasing trend of tourists spending their nights in the tented camps and lodges.

Also, the WMA is well placed for viewing the abundant wildlife in both Tarangire and Lake Manyara National Parks. Some of the tourists visiting these parks are increasingly opting to spend their nights in the WMA villages rather than in the park. In this case, the WMA may need to heavily invest in hotels/tented lodges to accommodate the increasing demand.

### **3.8 Other Resources Available and their Uses**

Babati district is well blessed in terms of economic activities. Aside from tourist activities there is phosphate mining taking place in Minjingu village which provides sustainable employment in the area. Also, the villages around are able to benefit from the company's Corporate Social Responsibility (CSR) funds set aside to deal with some of the social services in the villages such as provision of water services, school classroom constructions, and health facilities.

However, as has been seen on the national level, the district and individual villages surrounding this company have not reaped benefits. Most of the people are employed as casual laborers, receiving very little monthly payments and with no employment security.

# CHAPTER FOUR

## INCOME AND EXPENDITURE PATTERNS IN THE WMA

### 4.1 Sources and types of Incomes in Selected Villages

Villagers in all of the Burunge WMA depend on various economic activities to earn their subsistence. Some of the main activities include farming, small scale businesses, employment, tourist-related activities and fishing. Information derived from the various villages that we visited show that there are multiple income-generating activities that people engage in.

As we have already demonstrated in chapter 3 in almost every village, the main source of income comes from agricultural farming, livestock keeping and small businesses. Very few people engage in the business of tourism. **The findings show that out of the 355 respondents only 6 (1.7%) stated that they did not engage in wildlife activities. These few people used handcrafts, hunting, game meat business, and other tourist-related activities as their income-generating sources.**

There are some expensive tourist investments in the WMA and some villages get a percentage share of what these companies make from the tourist business, however as we shall demonstrate later, there are still some problems in terms of how villages can control this business and what percentage the villages should get from these tourist investments. These include hotels, tented camps and photograph tourist .

### 4.2 Expenditure Patterns in Village forming WMA

In looking at the expenditure in villages that form the Burunge WMA the baseline survey focused on expenditure patterns at two levels: how individuals/households spent their incomes; and how the village governments spent their incomes generated from various sources of revenue.

At the household or individual level, the expenditure pattern of incomes generated varied from one household to another. Close to half of the respondents indicated that they needed between Tshs. 1,500-3,000 per day for their daily basic needs. One out of every three respondents stated that they spend more than Tshs. 4,000/= per day in order to meet their daily basic necessities including food. Information derived from FGDs and in-depth interviews showed that most people spent a lot of money on education followed next by health.

**Table 5: Level of expenditure per household per day**

Expenditure per day	Number of respondents	Percentage (%)
< 1000	14	3.9
1001-1500	47	13.1
1501-2000	57	15.9
2001-2500	46	12.8
2501-3000	50	13.9
3001-3500	20	5.6
3501-4000	22	6.1
4001+	103	28.7
Total	359	100

Since people's income was not sufficient to meet the basic necessities of life as indicated in chapter 3, this baseline survey also wanted to know whether people had access to credit facilities. 249 (69.7%) of the respondents indicated that they had easy access to small scale credit schemes while 108 (30.3%) stated that they did not have access to credit with the main reason being their lack of assets that credit institutions require as collateral. The findings show that there was no significant variation between men and women in terms of access to credit. As sources for credit, about half of the respondents named getting their credit from the authorized organization of Burunge WMA, 7.8% named getting their credit from micro-finance institutions and 3.9% got their credit from SACCOS. More than a third (36.8%) of the 258 respondents received credit from relatives and friends; a fact that shows the use of social capital as a resource base is of great significance in this area.

#### **4.3 Economic and Ecological Status of the WMA**

Economically the WMA is well placed for serious investors. Its geographical location, being situated in the northern tourist circuit and favorable conditions for wildlife, is a good destination for tourists visiting both Tarangire and Lake Manyara National Parks.

**Table 6: Ecological zones**

Agro Ecological Zone	Altitude Range (m)	Rainfall (mm)	Soils Nature	Natural Vegetation	Economic Activities (Crop Production)
I. Humid High lands (Bashnet)	2150-2450	1200	Loams, forest soils sandy loams	Highly elevated areas with Mountain forests.	Maize, Beans, Irish Potatoes, peas, onions, garlic
II. Sub-humid Highlands	1850-2150	1100-1200	Sandy loams with medium fertility	Elevated flat/flat areas with grass land	Wheat, beans, maize, chickpeas, onions
III. Semi-humid Uplands (Dareda-Haraa)	1500-1850	900-1100	Volcanic origin soils, salty loams (which are fertile)	- Elevated/flat areas, the escarpment with wood/bush land - forest (bareko)	Maize, beans, avocado, bananas, pigeon peas, sugar cane, vegetables
IV. Semi-humid, semi- arid midlands (Babati- Gorowa)	1200-1500	750-900	Sandy loams, clay soils, black soils, alluvial soils, clay loams.	-Lake zone (Lake Babati) -elevated/flat areas with wood/bush land -mountain forest (ufome)	Maize, beans, pigeon peas, sorghum, finger millet, sugar-cane, sunflower, simsim, horticulture crops, coffee
V. Semi –arid lowlands (Mbugwe and Magugu divisions)	950-1200	500-700	Alkaline, Sandy soils, Alluvial soils, Clay loams.	-Marginal flat areas -With lowest altitude -Valleys (Kiru) with bush grassland/ wood bush land	Simsim, Green Gram, sorghum, Choroko, Pigeon Peas, Sunflower, Beans, paddy, mangoes, maize, groundnuts

Source: District Council Investment Profile

## **Tourism potential in the WMA**

As identified in the district profile, there are also various tourist potentials that remain to be tapped within the WMA such as walking safaris, canoeing, fishing, research, etc.

### **Plate 7: Drying fish for retail business in Vilima Vitatu Village**

DGO agree that there is poor understanding among community leaders in the rural areas. There are also villages where understanding of the WMA is high, but the main problem is that the local people are not the same as scholars who can easily tap into these tourism potentials these potentials. Therefore, the issue of capacity building to the WMA leaders and village leaders in Burunge WMA is paramount.

## **Proposed future WMA Activities**

As of today, the WMA has two operating tourist campsites however one hotel that is already constructed in the area has a court injunction. It is the aim of the AA to increase the number of tourist campsites to four. The AA is also looking into ways of establishing new products such as sport fishing, canoeing within the two Lakes of Burunge and Manyara, introducing photographic safaris, game viewing, filming, as well as the aspect of cultural tourism.

## **Ecological Status of the WMA**

Ecologically, Burunge WMA is one of the sites with highest biodiversity values in northern Tanzania. There are lots of birds in the area, buffaloes and large numbers of zebras and wildebeest just to mention a few. The area requires increased law enforcement, provision of facilities and infrastructure, research and monitoring, carrying out EIA of any investment, reduction of human-wildlife conflicts and enhanced collaboration between the district officials, conservation NGOs and local communities. Without these, the WMA is likely to lose its indigenous species and wilderness which will further deteriorate tourist activities currently undertaken in the area and hence mean even poorer earnings for the local communities. Another poor effect of not addressing these needs is the opening of more land to practices such as agriculture.

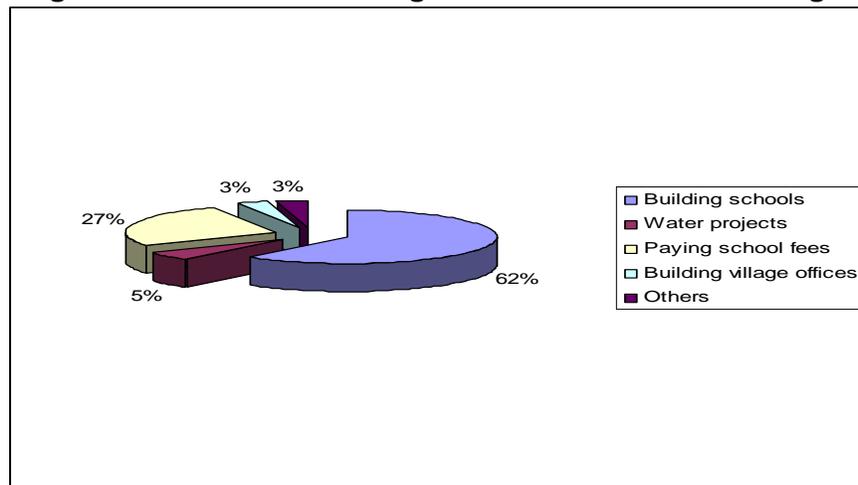
To avoid all these possible problems there is a need for the WMA to maintain its ecological integrity as stipulated in the RMZP. Establishing joint development and implementation of the ecosystem management plan, increased number of VGS and support review, and the implementation of Land Use Plans in areas surrounding BWMA, are important initiatives that need to be taken. However, it should be noted that most of the enforcement of the land use plan requires the commitment of other government organs such as District Land, Housing and legal facilities.

#### 4.4 Contribution of the WMA on Village Revenues and their Common Expenditure

Although individual income from tourists is still small and residents in the area do not consider it as a main source of income for their household needs, tourism seems to be one of the major sources of income for village governments in Burunge. Most of the tourist revenues earned in the village is used for the provision of social services.

In the past three years, 50% of all the money earned from tourism by the AA was distributed to villages forming the WMA for the construction of classrooms, health facilities, village offices and water projects.

**Figure 7: Benefits of Burunge WMA to the member villages**



Currently there are two operating tented camps, lodges in the WMA owned by the private investor KIBO Safaris Ltd called namely Maramboi Tented Lodge in Minjingu Village and Lake Burunge Tented Lodge in Mwada Village. There are some Tented Lodges operating in WMA land in the villages of Vilima Vitatu and Olasiti but these do not pay anything to the WMA as they have not agreed to sign business contracts with the WMA. For instance, Tarangire River Camp (TRC) is owned by the Northern Hunting Enterprise which is already in conflict with some of the villages as it does not pay a regular and clear hunting revenue to the villages as stipulated by the law.

There is also a trend for investors to purchase individual farms or plots in Olasiti Village and then establish Tented Lodges within the village land and but only pay the renting fees to individuals. Today, there are an estimated eight tented lodges in the villages but none of them pay to the WMA.

**Table 7: Revenue Generated from the two tented lodges in the WMA**

Year	Rate	Revenue (T.Sh)

2006/07	US\$5 <sup>2</sup>	34,000,000
2007/08	US\$5	60,746,890
2008/09	US\$5	51,222,884
2009/10	US\$5	159,690,148
2009/11	US\$15	200,000,000 <sup>3</sup>

Source: CBO reports

The WMA was set to review its contract with the investor KIBO Safaris in the financial year 2007/08 but following the government procedures with different requirements on the issues of revenue collection the investor didn't fully comply. In the financial year 2009/2010 following a government order, the investor and the WMA finally reviewed the contract that set a new fee per client staying in either of the two tented lodges to rise from US\$5 to US\$15. With this new rate, the WMA is expecting to earn up to Tshs 200 million from the two tented camp lodges. However, there is high chances for the WMA to place high rates per clients in their contract as the present rates are very low compared to real prices tourists pay in many places in the country. In his report, Sulle (2007) found that local communities in Ngorongoro district earn US\$35 per client per night.

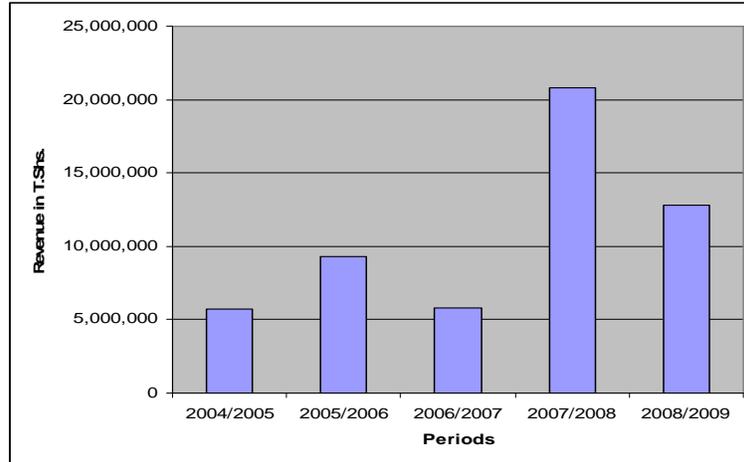
The WMA also receives hunting quota revenue shared by the district council. According to the district reports, the WMA has received the following amount from the WD through the district council. The income for the past few years are as follows:

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<sup>2</sup> The rate given is in US dollar form and the price is per person spending a night at the lodge.

<sup>3</sup> The amount is an estimate of the expected revenue that will be earned by the end of the financial year 2009/2010 especially after reviewing the contract with the investor.

**Figure 8: Income for past 5 years**



Source: District council natural resource department report

According to the DGO, the WMA has been getting only about T.sh 10 million because the hunting quotas in the WMA are sold by the WD but if the quota were to be sold by the WMA, the AA is able to earn up to T.sh 100 million in one hunting season.

#### **Employment creation in the WMA**

The WMA has employed eighteen VGS who patrol the whole WMA area. Since 2007 to 2009, VGS were paid Tshs 50,000 each per month. In principle, the VGS work six months a year as they only work in a monthly rotation. Since January 2010, the VGS got a salary increment to Tsh 70,000 each per month. In total AWF has financed the training of 40 VGS at the Pasiansi Wildlife Institute in Mwanza Region.

#### **Women Groups**

AWF is further supporting various economic activities for women groups in the WMA. Today, there are two established women groups in various villages. In Mwada a group called Mshikamano women's group was started in 2000 by 30 women.

**Plate 8: Office of women's group involved in pottery at Sangaiwe Village**



The group was formed mainly to help women reap the benefits of growing tourism activities in the area following the establishment of the Burunge WMA whereby two tented lodges (Lake Burunge and Maramboi) are in operation.

In order to develop the capacity and skills of the women's group, in 2004 AWF with financial support from USAID, trained Mshikamano women's group on business skills, marketing and improvement of design, style of baskets, mats and other weaved products which they sell to both locals and tourists coming to the WMA. The impact of the training was realized very soon when the group was selected to represent the district at the Saba Saba Agricultural Exhibition in 2005 organized in Dar es Salaam. In 2006, with support from USAID, AWF started construction of a simple business center called 'Kibanda'. It is used as a facility for business, storage and for group meetings. Construction work was completed at the end of 2007. Since having this facility, the group is already making progress in their business. For instance, in December 2008 the group sold baskets worth US\$1,125 to the Lake Burunge Tented Lodge, just in one single order.

To date, AWF with support from USAID has completed a similar business center in Sangaiwe Village which will be used for making pots and other traditional goods. There are also ongoing womens initiatives in Minjingu and Vilima Vitatu.

### **Training of the Village Game Scouts (VGS) and Village Representatives**

In total there are about 40 VGS trained from the villages forming the WMA. Also, 12 village representatives were trained on natural resource management, and natural resource management committees were formed in each WMA member village.

As we have shown in the profile, the Burunge area has great potential for growth in tourist businesses. The natural habitats are conducive for walking safaris along rivers and lakes that also can be used for canoeing and fishing. By being so close to Tarangire and Lake Manyara National Parks, Burunge is indeed a centre for tourist

attractions, game viewing and photography. Due to this, there has been a rapid increase in the development of tourist investments in the area.

JUHIBU which is the authorized organization that coordinates development activities in this area is collaborating with those who invest in modern tourism. As of today, the WMA has two operating tourist campsites however one hotel is already constructed in the area. It is the aim of the AA to increase the number of tourist campsites to four. The AA is also looking into ways of establishing new products such as sport fishing, canoeing within the two Lakes of Burunge and Manyara, introducing photographic safaris, game viewing and filming, as well as the aspect of cultural tourism. In this regard, tourism in this area has high potentiality for promoting social and economic development and therefore can play a pivotal role in processes of poverty alleviation in Babati District.

## CHAPTER FIVE

### PEOPLES KNOWLEDGE AND AWARENESS OF CBNRM PROGRAMME AND WILDLIFE MANAGEMENT AREAS

#### 5.1 Peoples Knowledge, Awareness and Attitudes towards WMA

WMAs can make wonders if people understand them well by knowing what they are, why they were established, and how they are linked to the whole concept of CBNRM. This study also collected information that helps one to gauge people's knowledge and awareness about CBNRM and the concept of WMAs. We believe that people's knowledge, awareness and attitudes determines how people evaluate these institutions and finally how they participate in making sure that their objectives are met.

Our study found that understanding amongst local people is very limited on the meaning of the WMA and revenue sharing, even in terms of the administration of the WMA. In some villages WMA was confused with AWF, CBO and JUHIBU. For instance, in Minjingu one village council member explained that he is still in total darkness regarding the WMA and the real difference between the AWF and WMA, because it is the AWF that is bringing and managing the WMA in their village.

#### Peoples Awareness and Attitudes towards WMA

Awareness levels vary from village to village. In those villages where conservation efforts were already taking place, people might say that there was no conservation before the establishment of the WMA. For instance, in Mwada village, there was a village forest called Oridoy conserved as one of the nature conservations, now part of the WMA, but respondents confused it with WMA. In Magara village the word WMA seems to be a new one in their vocabulary.

Most of the respondents seemed not to know what it means despite several elaborations from the research assistants. This is partly due to the fact that the village has small portions of land set aside for the WMA and it does not really host large numbers of wild animals. In general, people's knowledge and awareness of the WMA is still low. 359 respondents who responded to a questionnaire, on their understanding associated it with resource conservation. About 17% associated it with community participation and 13.4% with benefit sharing.

Those who had attained primary level education were more likely to know what WMA was than those without any formal education. This ignorance is astonishing taking into consideration that about 92.2% attended village meetings where these issues are often discussed. Other issues discussed in village meetings include resource

use conflicts (17.7%), benefit sharing (7.7%) and annual plans and budget approvals (20.3%).

## **5.2 People's Views and Perception on the Benefits in Conservation of Natural Resources**

Most of the people in villages consider conservation aspects as being delayed by the central government to their personal disadvantage. For instance, all people residing near Tarangire National Park blame the government for having a poor response when they report on dangerous animals invading their farms compared to the government's swift response when an elephant is killed by a farmer. Most of them seemed to question whether the life of an animal (i.e. elephant) was more valuable than human life.

## **5.3 People's Views and Perception on the Benefits of WMAs**

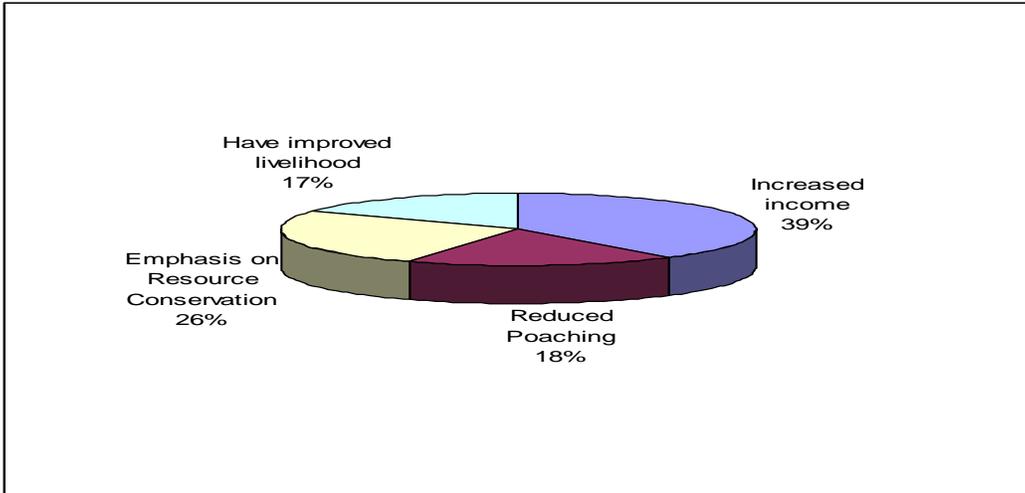
The wildlife Policy states clearly that the communities that live in WMA must benefit from the presence of wildlife in their areas. The policy states this in the following way:

*“Wildlife benefits must flow back into the village communities who bear the costs of living with wildlife. Only when communities gain benefit from wildlife will people practice conservation”*

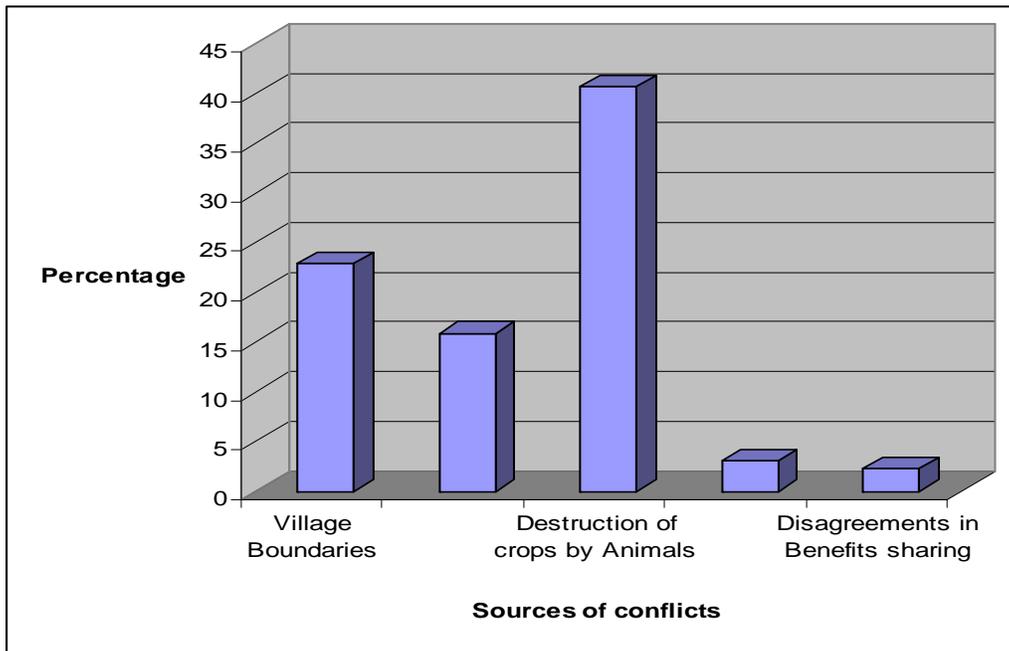
In order to see whether the people in Burunge benefited from revenue generated by wildlife activities, the baseline study requested the respondents to identify what they think are the benefits of the WMA in their area. Most of them mentioned that there have been some school buildings being built by funds generated by the WMA (94.7%). They also mentioned part of the money being used for paying school fees (41.1%). Some funds have been invested towards the construction of pipe water supply, and in some villages, offices have been built by funds generated by the WMA.

Besides the financial gains that villages associate with the presence of the WMA the respondents also linked the following benefits to the WMA, namely, increased security, increased wildlife conservation, and an increased presence of tourist investors who in turn employ the local populations as casual labors.

**Figure 9: Types of benefits from WMA**



**Figure 10: Sources of conflicts**



Out of the 365 respondents only 71 (19.5%) thought poaching incidences were still there. 264 respondents (72.3%) stated that poaching incidences were no longer there. About half of the respondents (49.7%) said that due to the presence of the WMA poaching incidences had stopped. In terms of the poaching trend, 85% believed that it is decreasing and only 5.9% think it is increasing.

#### **5.4 People's Perception and Willingness to Participate in Cash-for Work Programs**

The most pressing issue that the communities in the WMA would want to be done is provision of water services that will pave a way for other economic activities because a lot of time is wasted looking for water in the villages. For instance, a villager in Vilima Vitatu needs 30 minutes to ride a bicycle from one corner of the village to the water pump to get water. The same distance takes an hour walking. In addition to this walking distance, one has to spend 15-30 minutes queuing to get water as they have only one pumping machine in the village. The other available option for water is through digging shallow wells in the water stream. This year WB is set to start a water pipe laying in Mwada Village.

The second priority is the provision of health services in villages. The few available dispensaries in the villages do not offer all the services required. Traveling to Babati town where there is a hospital is a long distance. Therefore, according to villages, dispensaries with efficient facilities and medical officers will at least serve the basic treatment required for rampant medical problems facing the communities.

The third priority is the construction of secondary school classrooms, laboratories as well as the provision of satisfactory education in the area. Respondents in the FGDs were highly vocal on the need of having improved education services in their villages as they referred education to be the basis for the development of the country.

#### **The People's readiness to do the cash-for work jobs in the WMA**

In all villages most of the respondents are willing to participate in the following projects:

- a) *Water projects*: they are willing to dig the water pipes channels in the villages when the water projects are introduced. Also, each village has contributed about Tsh. 5 million to the district water office for the WB project.
- b) *Road construction*: villagers are ready to provide their labor for road construction in their villages if such projects are initiated.
- c) *Health facilities*: in most of the group discussions and IDIs people show readiness to contribute materially and financially on the construction of the health facilities. For instance, they are already doing this system for the ongoing projects in some villages. Today, in Vilima Vitatu village, people are contributing material and financial contributions for the construction of the health center proposed by the villagers in the Village Assembly. Tarangire National Park financed 70% through its outreach projects. The rest of the costs (30%) is to be financed by the village through material and financial contributions.

## **Major Challenges facing Burunge WMA**

### **(a) Incompetent Staff**

As usual for most of the Tanzanian rural population, the majority of people have basic primary school education. Therefore, most of the AA and CBO workers have primary school education. Very few have additional training. For instance the Chairperson for the AA is a class seven leaver. The CBO Speaker is of the same level with at least leadership experience and a long time of exposure to conservation issues. Village leaders, i.e. chairpersons and village council representatives also have had education to this level. This situation makes it hard for these staff to make decisions based on technical issues and they can lose confidence in defending even simple reports in the village assembly meetings and particularly questions from the public about the progress of the WMA.

### **(b) Transparency and accountability**

Without dedicated staff personnel that are transparent and accountable to the AA, the sustainability of the WMA is doubtful. Today, in Tanzania, there are high corruption rates in every public office. For sustainable WMAs the WMA staff and leaders need to develop and adhere to the principles of good governance.

### **(c) Low knowledge on the value of natural resources for livelihoods improvements**

Due to benefits not trickling down from the conservation sector in the country over the past years, many people do not really see why they still need to conserve animals in the village or WMA land. The issue is even worse when you talk to youth in villages. Most of the young people in the villages we visited have poor knowledge on the benefits of conservation when compared to what they may earn from agricultural activities as the other way of utilizing land resources. It was further learnt that most of the youth do not own enough farm land compared to old people because there is no more land allocation as it was in the past.

### **(d) Human- Wildlife Conflict**

Destruction of farm crops by wild animals and injuries to people is a big challenge to the WMA staff. In Kakoi Village we found one of the farms wholly destroyed by elephants (see figure 10). The Ward Councilor said the situation is also serious in Olasiti, Kakoi and Vilima Vitatu villages where people have stopped growing water melons and pigeon peas that are highly preferred by elephants.

### **(e) Lack of knowledge on relevant Laws and Contract Negotiation Skills**

There are many laws on the investments package that all the negotiating parties need to understand before signing business contracts. AA officials are required to

have some basic understanding of the Companies Ordinance, CAP. 212, Law of Contract, CAP. 443, Village Land Act, 1999, Local Government (District Authorities) Act, 1982, National Investment Act and other relevant laws, though these are difficult documents for AA leaders to interpret when negotiating contracts.

**(f) Villages and WMA Investors' competition**

There are villages that still own tourist investments in their lands but that are supposed to be in the WMA. Villages do not want to lose the benefits/revenue they have already been gaining. The main worry for these villages is that they are gaining more income now than what they can get from WMA. For instance, Vilima Vitatu Village is earning itself from the WMA and Tarangire River Camp as follows:

**Table 8: Vilima Vitatu income from WMA and TRC**

Revenue From	Amount in T.Sh	Revenue From	Amount in T.Sh
<b>WMA</b>		<b>TRC</b>	
2007/2008	-	2007/2008	17,600,000
2008/2009	3,500,000	2008/2009	19,360,514
2009/2010	7,000,000	2009/2010	-

## CHAPTER SIX

### SOCIO-ECONOMIC CHARACTERISTICS AT VILLAGE LEVEL

#### 6.1 Population characteristics

The villages of Vilima Vitatu and Mwada have the highest number of people followed by Minjingu and Olasiti, in which Vilima Vitatu Village registers the highest number at 4582. Kakoi, Magara, Manyara and Sangaiwe villages have more or less similar population sizes above 3000, whereas Ngolei and Maweni have the lowest number of people (Table 9).

The total population size of the entire Burunge by village is 30,732. All villages have more women than men, except in Maweni village where the number of men is slightly higher than that of women - with only 59 men making the difference. At different levels and in many households, women outnumbering men is a fact that remains unbeaten for many years in many African societies.

**Table 9: Population size by village**

<b>PBurunge WMA Villages</b>	<b>Female</b>	<b>Male</b>	<b>Total</b>
Minjingu	2252	1591	3843
Mwada	2299	2231	4530
Magara	1511	1111	2622
Olasiti	2104	1723	3827
Kakoi	1722	1175	2897
Sangaiwe	1202	978	2180
Vilima Vitatu	2406	2176	4582
Ngolei	1056	916	1972
Manyara	1481	955	2436
Maweni	892	951	1843
<b>Total</b>	<b>16925</b>	<b>13807</b>	<b>30,732</b>

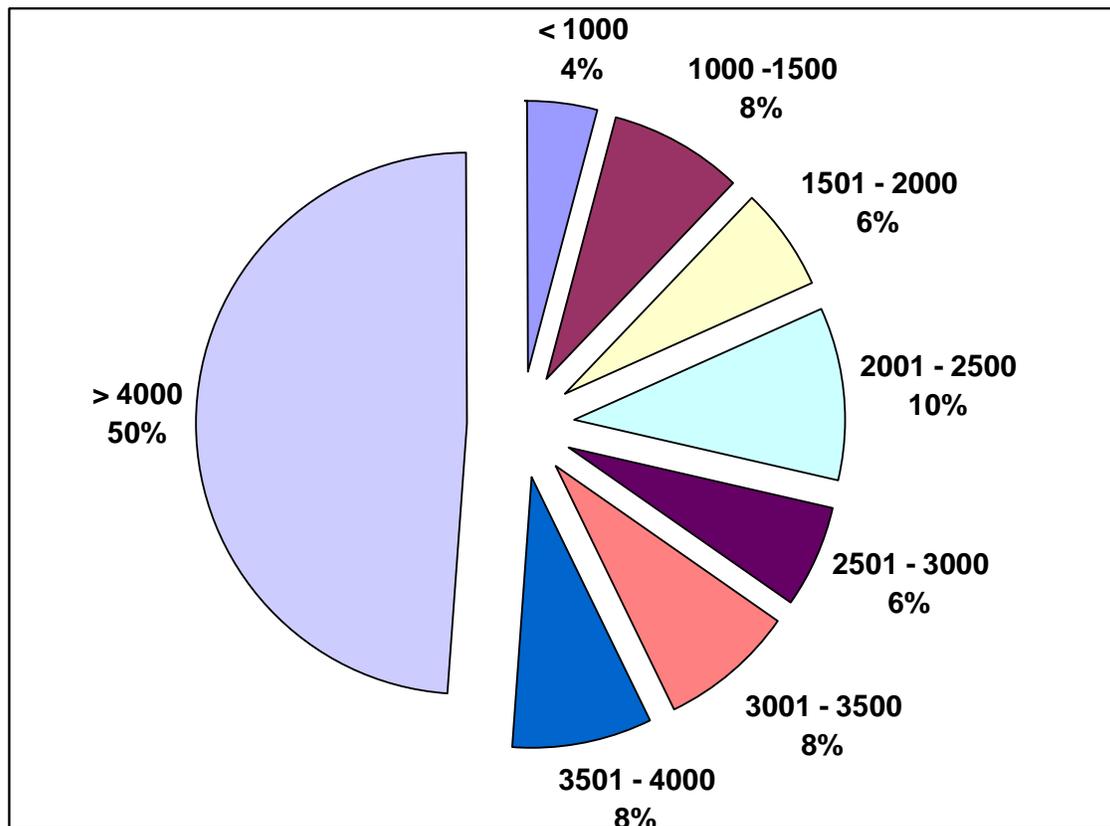
## 6.2 Average village household expenditure per day

More than 40% of villagers at Kakoi Village spend their household incomes above T.Sh 4000 per day (Table 10). Studies show that Minjingu also has its villagers using more than T.Sh 4000 per household per day, which accounts for 50% of the total sample size (Figure 10). Generally, as discussed in chapter four (Table 5), the level of expenditure per household per day had 103 respondents expending more than T.Sh 4000, which is 28.7%. others largely aggregated between 1500 and 3000.

**Table 10: Household expenditure per day for Kakoi Village**

	Frequency	Percentage
< 1000	2	5.1
1000 – 1500	3	7.7
1501 – 2000	6	15.4
2001 – 2500	3	7.7
2501 – 3000	7	17.9
3001 – 3500	1	2.6
3501 – 4000	1	2.6
4001+	16	41.0
Total	39	100.0

**Figure 11: Household expenditure per day for Minjingu Village**



N=49

The rest of the villages in Burunge WMA spend their household incomes between T.Sh 2500 and 3500 per day or average household expenditure sticking at T.Sh 3000 per day.

### 6.3 Average annual household income levels per village

While conducting the study, it was quite difficult for respondents to compute their average annual household incomes as most of them didn't remember well or record how they sell out of their stocks. However, Magara, Olasiti and Kakoi had the highest household annual incomes as compared to other villages with T.Sh 700,000, 650,000 and 600,000 respectively (Table 12).

### 6.4 Entrepreneurship groups

In the field, it should be clearly understood that, getting information on incomes and revenues that accrue from various businesses was not a simple task. The reluctance of some business owners to reveal their actual incomes or revenues was an ambiguous agenda; interestingly though, failure to keep records of sales and purchases, tax evasion and secretive trading deals - including selling illegal or expired products, could be among many reasons behind.

And indeed, finding someone at a shop or local bar/grocery who is not the owner of the enterprise, one couldn't expect to get actual information or perhaps get no information at all. This was the case encountered across all areas and villages surveyed. In few cases where we were successful, diplomatic language and assurance of confidentiality as stipulated in the consent forms was but one factor to get some data collected. Therefore, just and only some groups provided average annual incomes of their businesses (Table 10).

The groups that were surveyed and presented (Table 11) are most common in all 10 villages visited. As pointed out earlier, some business groups had no representative to show sales records. Local brewery, selling tourist tools and food vending groups were mainly run women. VICOBA, grain milling and tractor hiring were found to be good entrepreneurs as they registered higher annual incomes (Table 10).

**Table 11: Entrepreneurship groups and their annual income levels (T.Sh)**

Village	Annual income levels of entrepreneurship groups						
	VICOBA	Tractor hiring	Shops/kiosks	Selling tourist goods	Grain milling	Food vending (Mama Lishe)	Local brewery
Minjingu	6,000,000	-	2,000,000	800,000	4,000,000	800,000	2,000,000
Mwada	10,000,000	5,000,000	750,000	900,000	4,500,000	450,000	1,500,000
Magara	7,500,000	6,000,000	3,500,000	-	5,800,000	1,500,000	3,000,000
Kakoi	12,000,000	7,000,000	3,000,000	750,000	6,000,000	1,000,000	2,500,000
Sangaiwe	5,500,000	5,500,000	2,500,000	1,000,000	4,000,000	750,000	3,500,000

Vilima	29,493,700	-	2,500,000	1,500,000	6,500,000	2,000,000	2,700,000
Vitatu							
Ngolei	3,300,000	6,500,000	4,000,000	850,000	5,000,000	1,700,000	3,000,000
Manyara	5,600,000	-	1,500,000	950,000	3,500,000	600,000	2,000,000
Maweni	4,000,000	-	850,000	-	2,500,000	400,000	2,400,000

## **CHAPTER SEVEN**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **7.1 Conclusions**

Burunge WMA is a potential rural development tool and a source of income to poorer communities. Since the aim of WMAs is to engage local communities in the conservation processes and benefit from their own efforts, it will foster participation of the people in community-based natural resource management.

WMA as a new approach of involving communities in natural resource management is still in its infancy. There is still much to be desired in the WMA in terms of its benefits and costs to the communities surrounding core protected areas of Tanrangire National Park and Lake Manyara National Park. Few tangible benefits have been realized in Burunge WMA villages especially in terms of support for improving social services such as classrooms, dispensaries and buildings for village offices.

Burunge WMA has 11 primary schools, 3 secondary schools, 4 dispensaries, and 1 health centre, and village revenues from WMA contribute to the improvement of these social services. These facilities serve a total population estimated at 35,000 within the Burunge WMA member villages. Tourist-related activities are also increasing due to increasing numbers of local and foreign tourists, including tourist investments.

Expenditure patterns for the people range from T.Sh 1500 - 3000 per day. Their living standards are more or less similar with poverty still a problem in many families. Agriculture and livestock keeping are the main economic activities that people depend on. It is clearly understood by many villagers who believe that if tourist infrastructures will be improved together with proper management skills on the WMA, it is obvious that the living standards of the people will improve as well. Apparently road conditions and tourist facilities are not of the desired standards.

Conversely there is the problem that due to successful conservation and anti-poaching efforts, dangerous animals are increasing and henceforth posing a threat to both people's lives and crops. Respondents have shown their frustrations about elephants damaging maize and watermelon farms. Communities are ready to work for cash-for-work programs for all the projects to be initiated in the WMA for the survival of the community and revenue generation as a result of community based conservation.

## 7.2 Recommendations

**Proper Approach:** This paper noticed that there was a big gap in the provision of WMA education. It is clear that the wildlife and conservation organization did well and was dedicated to the establishment of the WMA. However, it was noticed that the same wildlife experts and organizations are the same people who are misunderstood by the villagers when it comes to conservation and development as well as community participation. Community development officers have a major role to play in educating the communities on issues concerning the WMAs.

**Connecting policy and practice:** The communities in villages are not knowledgeable enough to analyze issues in detail. Therefore, all necessary issues raised in the Wildlife Policy and WMA regulations and guidelines need to be simplified and implemented on the ground. For instance, it's high time for communities to know what is hunted (quota hunted) and hence get reasonable income from this lucrative industry as stipulated in the WMA revenue sharing sections.

**Valuable conservation:** AA needs to fully participate in entering new hunting concessions for effective realization of the government commitment to enable communities benefit from their conservation efforts.

**Proper solutions to human-wildlife conflicts:** There should be consistency in making efforts to train the local communities on the available and possible remedies for this problem. WMA needs a serious awareness raising campaign about its meaning, benefits, challenges and other problems that are associated with it. People need to understand these issues for their full participation in the process of making WMA a success.

**Table 12: Key Parameters at village level in Burunge WMA**

Village	Population Size			Main economic activities	Social services available	Average annual income per household	Daily average expenditure per household	Types of entrepreneurship/ business groups
	Total	Female	Male					
Minjingu	3843	2252	1591	Agriculture, livestock keeping, tourist-related businesses, weaving and employment	Secondary and primary school, dispensary, wells and water tanks brought by lorries, rough roads but accessed	350,000	4,000	Local brew groups mainly involving women, VICOBA, weaving kiosks/shops, grain milling and food vending
Mwada	4530	2299	2231	Agriculture, livestock keeping, tourist-related businesses, fishing	Secondary and primary school, dispensary water supply, rough earth road, water sources are lake, traditional wells and boreholes though not potable	650,000	3,500	VICOBA, grain milling Mshikamano women's group empowering women economically, shops, food vending, hiring tractors, local brewery and kiosks
Magara	2622	1511	1111	Agriculture, livestock keeping and fishing	Primary school, dispensary, rough earth road, lake, wells, boreholes and river Magara though fetched at far distances	700,000	5,000	Hiring tractors, VICOBA, local brewery, shops/kiosks, guest houses, transportation, grain milling and food vending
Olasiti	3827	2104	1723	Agriculture (maize, beans), livestock keeping, tourist-related businesses and weaving	Primary school, wells and water tanks brought by lorries are water sources, roads are rough and difficult	650,000	4,500	Small businesses like food vending, shops/kiosks, VICOBA, grain milling, weaving and local brewery/bar
Kakoi	2897	1722	1175	Agriculture (rice, maize and beans), livestock keeping, tourist-related businesses and weaving	2 primary schools and secondary school, underground and surface water but not potable, rough roads	600,000	4,500	Food vending, shops/kiosks, VICOBA, local brewery, grain milling, weaving and petty trading of second hand items

Sangaiwe	2180	1202	978	Agriculture (rice, maize and beans), livestock keeping, tourist-related businesses, fishing, weaving and pottery	Primary school, dispensary, water sources are lake, traditional wells and boreholes but not potable. Earth roads sometimes in bad condition	300,000	3,500	Local brewery, VICOBA, shops/kiosks, petty trading of second hand items, hiring tractors, grain milling weaving and food vending run by women's groups and poultry
Vilima Vitatu	4582	2406	2176	Agriculture (rice, rice and beans), livestock keeping, tourist-related businesses, weaving and fishing	2 primary schools and secondary school, traditional wells, underground water and lake but not potable, earth road sometimes in bad condition	450,000	4,000	Fishing, local brewery, VICOBA, shops/kiosks, grain milling, food vending, guest houses, SACCOS and tractor hiring
Ngolei	1972	1056	916	Agriculture, livestock keeping, tourist-related businesses, weaving and fishing	Primary school, rough roads, traditional wells (shallow and deep) but not potable	500,000	3,500	Hiring tractors, Mshikamano women's group empowering women economically, food vending, grain milling, local brewery, VICOBA and fishing
Manyara	2436	1481	955	Agriculture, livestock keeping, tourist-related businesses, fishing	Secondary and primary school, water supply from traditional wells/ boreholes and lake though not potable, accessible earth roads	400,000	2,500	Fishing, local brewery, VICOBA, and shops/kiosks, grain milling, food vending and weaving done by women's groups
Maweni	1843	892	951	Agriculture and livestock	Primary school, traditional wells and boreholes are the main water sources but not potable. Rough earth roads but passable	350,00	3,000	Grain milling, VICOBA, hiring tractors, local brewery and food vending mostly run by women's groups

The total population size of Burunge WMA villages is 30,732, out of which women are 16,925, the rest being men

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# Appendix 1

## Structured Questionnaire

### SOCIO-ECONOMIC BASELINE STUDY IN SELECTED WILDLIFE MANAGEMENT AREAS (WMAs)

#### HOUSEHOLD QUESTIONNAIRE

<i>IDENTIFICATION</i>	
Questionnaire Identification	[ ]
Number.....	.....[ ]
Region.....	.....[ ]
.....	.....[ ]
District.....	.....[ ]
.....	.....[ ]
Division	.....[ ]
.....	.....[ ]
Ward.....	
.....	
Village.....	
.....	
Name of WMA.....	

ADMINISTRATION

INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY [ ][ ]
INTERVIEWER'S NAME	_____	_____	_____	MONTH [ ][ ]
INTERVIEWER NO	_____	_____	_____	YEAR [ ][ ][ ][ ]
RESULT***	_____	_____	_____	INTERVIEWER [ ][ ]
	_____	_____	_____	RESULT [ ]
APPOINTMENTS:	_____	_____		TOTAL NUMBER
NEXT VISIT: DATE	_____	_____		OF VISITS [ ]
TIME	_____	_____		

*RESULTS CODE*

- 1. COMPLETED
- 2. POSTPONED/INCOMPLETE
- 3. ABSENT FOR SHORT PERIOD OF TIME \_\_\_\_\_
- 4. REFUSED
- 5. LANGUAGE BARRIER/INCAPACITATED
- 6. OTHER \_\_\_\_\_

You have to return  
  
You have to return

FIELD SUPERVISOR/EDITOR	OFFICE EDITOR	ENTERED BY (1 <sup>ST</sup> ENTRY)	ENTERED BY (2 <sup>ND</sup> ENTRY)
NAME _____	NAME _____	NAME _____	NAME _____
DATE _____	DATE _____	DATE _____	DATE _____

After the informed consent has been read, understood, and agreed, record the time the interview starts [ ][ ]  
[ ][ ][ ]

No.	Question and filters	Coding categories	Skip to
<b>SECTION A: SOCIO - DEMOGRAPHIC CHARACTERISTICS</b>			
A1	Sex of the respondent	1 Male 2 Female	A1 [    ]
A2	In what year, month and date were you born?	<b>A2</b> Date of birth [DD/MM/YYYY]  <b>A2-1</b> 1 Don't know year 2 No response	<b>A2</b> Day [    ] Month [    ] Year [    ] <b>A2-1</b> [    ]
A3	How old are you? (At your last birthday)	Age in completed years _____ 1 Don't know 2 No response	A3 [    ]
A4	What is your marital status?	1 Single 2 Married(Monogamous) 3 Married(Polygamous) 4 Divorced 5 Widowed 6 Cohabiting	A4 [    ]
A5	What is the highest education level you have attained?	1 No formal education 2 Primary education 3 Secondary education 4 Vocational training 5 College(Diploma/Certificate) 6 University (Degree)	A5 [    ]

A6	Were you born in this Village ?	<ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>	A6 [     ]
A7	If you were not born in this village mention your place of birth	A7 Mention village and district_____	A7 [     ]
A8	How long have you lived in this village? (Mention duration in years)	<ul style="list-style-type: none"> <li>1.Less than one year</li> <li>2.1-4 Years</li> <li>3.5-9 Years</li> <li>4.More than 10 Years</li> </ul>	A8 [     ]
A9	Why did you move to this Village?	<ul style="list-style-type: none"> <li>1 Farming</li> <li>2 Business</li> <li>3 Employment</li> <li>4 Family and friends</li> <li>5 Policy( Villagelization policy)</li> <li>6 Others (specify)</li> </ul>	A9 [     ]
A10	What is the main activity you do for a living?( That is what is your main occupation that brings you an income?)	<ul style="list-style-type: none"> <li>1 Cash crop farming</li> <li>2 Food crop production</li> <li>3 Livestock keeping</li> <li>4 Small business</li> <li>5 Wage employment</li> <li>6 Horticulture</li> <li>7 Handcraft for sale (curio goods seling)</li> <li>8 Hunting</li> <li>9 Game meat business</li> <li>10 Tourist business</li> </ul>	A10 [     ]

		11 Casual worker 12 Others (mention)_____	
--	--	--	--

**HOUSEHOLD SIZE AND COMPOSITION**

Now please tell me about the people who live in your household i.e. people who eat from the same pot and have been here at home. Start by mentioning the head of household and others after him/her.

S/No	Initial (Name)	Relationship 1.Head 2.Spouse 3.Child 4.Reletive 5.Others	(Age in yrs)	Is .. Male (1) Or Female (2)	Is .. independent Economically? 1 Yes 2 No	Is .. in school? 1 Yes 2 No	Why is.. not in school? 1 Lack of security 2 Financial reasons 3 Needed for domestic work 4 Cultural reasons 5 Other_____
1							
2							
3							
4							
5							
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18							
19							
20							

SECTION B : RESPONDENT'S SOCIOECONOMIC STATUS – BY LOOKING AT HOUSEHOLD ASSETS AND FACILITIES			
B12	Do you own, rent or live freely in this house?	1 Own 2 Rent 3 Do not rent but live freely under agreement with landlord 4 Do not rent just staying with friends 5 No response	B12 [    ]
B13	What kind of toilet facility does your household use?	1 Flush toilet 2 Pit latrine 3 No facility 4 Others	B13 [    ]
B14	Do you share toilet facility with another household?	1 Yes 2 No	B14 [    ]
B15	What is the main source of drinking water for members of your household?	1. Piped into residence/yard 2. Public tap 3. Well in residence/yard 4. Public well 5. River/Stream/Spring	B15 [    ]

		6. Bottled water 7. Pond/lake 8. Water tanker or water seller	
B16	What can you say concerning the availability of water from this source?	1 Available all the time 2 Available most of the time 3 Sometimes available 4 Hardly available 5 No response	B16 [    ]
B17	How much time does it take for someone to go to fetch water and come back?	1 Mention minutes/hours _____ 2 No response	B17 [    ]
B18	What is the main source of energy in your household	1 Generator 2 Car battery 3 Electricity 4 Charcoal 5 Firewood 6 Animal dung 7 Kerosine 8 Others (specify) _____	B18 [    ]
B19	Does your household have assets?	B19-1 <b>1 Yes 2 No</b> TV B19-2 <b>1 Yes 2 No</b> VCR/DVD B19-3 <b>1 Yes 2 No</b> Satellite dish B19-4 <b>1 Yes 2 No</b> Radio/cassette player B19-5 <b>1 Yes 2 No</b> Refrigerator B19-6 <b>1 Yes 2 No</b> Mobile phone	B19-1 [    ] B19-2 [    ] B19-3 [    ] B19-4 [    ] B19-5 [    ] B19-6 [    ]

		B19-7 <b>1 Yes 2 No</b> House landline phone B19-8 <b>1 Yes 2 No</b> Others (specify) B19-9 Do not have	B19-7 [ ] B19-8 [ ] B19-9 [ ]
B20	Does your household own among the following transport facilities?	B20-1 <b>1 Yes 2 No</b> Bicycle B20-2 <b>1 Yes 2 No</b> Motor cycle B20-3 <b>1 Yes 2 No</b> Vehicle B20-4 <b>1 Yes 2 No</b> Oxen/Donkey cart B20-5 <b>1 Yes 2 No</b> Other – Specify _____	B20-1 [ ] B20-2 [ ] B20-3 [ ] B20-4 [ ] B20-5 [ ]
B21	Roof material	1 Thatch 2 Metal 3 Tile 4 Other (specify) _____	B21 [ ]
B22	Floor material	1 Lime and stone 2 Cement and sand 3 Earth /Clay 4 Tiles 5 Other _____	B22 [ ]
B23	Wall material	1 Cement block 2 Burnt bricks 3 Mud and poles 4 Sheet metal 5 Wood 6 Thatch 7 Mud bricks	B23 [ ]

**SECTION C: SOCIO-ECONOMIC ACTIVITIES OF HH AND SOCIAL RELATIONSHIPS**

C24	What is the main economic activity of the	_____	
-----	---	-------	--

	household?	<hr/> <hr/> <hr/>	
C25	In case of agriculture production please mention the type of crops that you grow	<hr/> <hr/> <hr/> <hr/>	
C26	What is the estimated annual income of each economic activity mentioned in C- 24 above?	<hr/> <hr/> <hr/> <hr/>	
C27	Is this income enough for your household needs?	1 Yes 2 No	C27 [   ]
C28	If no how do you supplement your household income?	Mention activities used to supplement income <hr/> <hr/> <hr/> <hr/>	
C29	In your opinion, do you think men and women share equally processes of decision making in the household?	1 Yes 2 No 3 Don't know 4 No response	C29 [   ]

C30	Who usually determines how income generated by household should be spent?	1 Husband 2 Wife 3 Both 4 Don't know 5 No response	C30 [ ]
C31	Do you or a member of your household engage in any wildlife venture for a wage  <b>If not go to section D</b>	1 Yes 2 No	C31 [ ]
C32	How much do you earn from wildlife ventures/activities?  1. Photogafic Tourism [ ] 2. Hunting Tourism [ ] 3. Curio goods selling [ ] 4. Direct employment [ ]	1 0 – 20,000 2 20,001 – 50,000 3 50,001 – 100,000 4 100,001 – 150,000 5 150,000 and above	C32 [ ]
C33	Do you experience changes in earnings from wildlife ventures/activities	1 Yes 2 No 3 Do not know	C 33 [ ]
C34	If yes, what are the changes	1 Increased earning 2 Decreased earning	C 34 [ ]
C35	When did the changes start?	1 2003-2005 2 2006-2008 3 2009 to date	C 35 [ ]

C36	What do you consider to be the cause of these changes (PROBE)	<hr/> <hr/> <hr/> <hr/> <hr/>	
C37	In case of declining earnings what are your coping mechanisms	1 Increase effort 2 Decrease effort 3 Dispose assets 4 Migration 5 Diversification of livelihood activities 6 Others(specify)_____	C37 [ ]

**SECTION D: PEOPLE’S ATTITUDES, PERCEPTIONS AND VIEWS TOWARDS EXISTING CBNRM PROGRAM/WMA.**

D38	What do you understand about WMAs	1 Community participation 2 Benefit sharing 3 Resource conservation 4 Others 5 Don’t know	D38 [ ]
D39	Do you attend the Village General meetings?	1 Yes 2 No	D39 [ ]

D40	If Yes how many times have you attended the meetings last year?	1.Once 2.Twice 3.Thrice 4.Four times 5.Never had a meeting	D40 [    ]
D41	If yes in what did you discuss about?	1 Resource use conflict 2 Investment contracts 3 Benefit sharing mechanisms 4 Approval of annual plans and budgets 5 Resource conservation 6 Others (specify)	D41 [    ]
D42	Have you discussed about the operation of WMA in village assembly?	1 Yes 2 No	D42 [    ]
D43	Are you aware of any project in your village that has benefited from income from the WMA	Mention _____ _____ _____ _____	
D44	Are there poaching incidences in this village?	1 Yes 2 No 3 Don't know	D44 [    ]
D45	If yes in the last year, how often did you have poaching incidences in this village?	1 More than three times 2 Thrice 3 Twice 4 Once 5 Never happened	D45 [    ]

D46	In your opinion are poaching incidences increasing or decreasing?	<ol style="list-style-type: none"> <li>1 Increasing</li> <li>2 Decreasing</li> <li>3 Don't know</li> </ol>	D46 [    ]
D47	Have ever experienced any disputes and conflicts related to wildlife management in this village?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	D47 [    ]
D48	If yes, what type of disputes and conflict are related to wildlife management in your village?	<ol style="list-style-type: none"> <li>1 Village boundaries</li> <li>2 Wild animal attack</li> <li>3 Destruction of crops by wild animals</li> <li>4 Misunderstanding between Villagers and investors</li> <li>5 Disagreement on benefit sharing mechanism</li> <li>6 Others (specify)</li> </ol>	D48 [    ]
D49	With the establishment of WMAs what are the potential productive activities did you anticipate WMA? Would bring to the village?	<ol style="list-style-type: none"> <li>1 Cash crop farming</li> <li>2 Food crop production</li> <li>3 Small business (food-vending,)</li> <li>4 Wage employment</li> <li>5 Horticulture</li> <li>6 Handcrafts for sale</li> <li>7 Water vending</li> <li>8 Game meat business</li> <li>9 Tourist guide</li> <li>10 Others</li> </ol>	D49 [    ]
D50	Has the WMA had any impact on the condition of the wildlife in	<ol style="list-style-type: none"> <li>1 Increase abundance (in situ)</li> </ol>	

	your area?	<ul style="list-style-type: none"> <li>2 Provides reproduction grounds</li> <li>3 Stop habitat destruction</li> <li>4 Bringing species back</li> </ul>	D50 [    ]
D51	In the last year, how often did you have fire incidences in this village?	<ul style="list-style-type: none"> <li>1 More than three times</li> <li>2 Three times</li> <li>3 Two times</li> <li>4 Once</li> <li>5 Never happened</li> </ul>	D51 [    ]
D52	In your opinion has WMAs been beneficial to you or to your area?	<ul style="list-style-type: none"> <li>1.Yes</li> <li>2.No</li> <li>3 Don't know</li> <li>4.No response</li> </ul>	D52 [    ]
D53	If yes, what benefits?	<ul style="list-style-type: none"> <li>1 Increased incomes</li> <li>2 Reduced poaching incidences and practices</li> <li>3 Conserves resource for future generations</li> <li>4 Reduces conflicts</li> <li>5 Improves livelihood</li> <li>6 Provides access/security to resources(property rights)</li> <li>7 Other</li> </ul>	D53 [    ]
D54	Do you think the system of sharing the benefits accrued from WMAs is fair?	<ul style="list-style-type: none"> <li>1 Yes</li> <li>2 No</li> </ul>	D54 [    ]
D55	Overall, how has WMA impacted	<ul style="list-style-type: none"> <li>1 Decreased</li> </ul>	

	your livelihood?	2 No changes 3 Increased 4 Don't know	D55 [    ]
D56	Overall, do you think that WMA has been good or bad for businesses?	1 Yes 2 No 3 Don't know	D56 [    ]
D57	In your opinion, what are some of the problems with WMA?	1 Too many regulations 2 Regulations not well enforced 3 Reduce benefit 4 Causes conflicts 5 Erodes traditional authority 6 Inequity 7 Other	D57 [    ]
D58	Mention the infrastructural problems among the following in your village?  1 Road 2 Schools 3 Dispensary 4 Markets	Taja _____ _____ _____ _____	D58 [    ]
<b>SECTION E: LEVELS OF INCOME AND MAIN EXPENDITURE PATTERNS.</b>			
E59	How many members of your household currently earn some income (from a job and/or business and/or part-time	Number of people _____	E59 [    ]

	work)?		
E60	Do you have livestock	1 Yes 2 No	E60 [    ]
E61	How many of the following livestock do you own?		
	<b>Livestock</b>	<b>Number of livestock</b>	
	Cattle	_____	
	Sheep	_____	
	Goats	_____	
	Pigs	_____	
	Rabbits	_____	
	Chicken and other poultry	_____	
	Donkey	_____	
	Others (specify)	_____	
E62	Do you have a farm?	1 Yes 2 No	E62 [    ]
E63	If yes,how much land does the household own?	2 Below 1 acre 3 Between 1 and 2 acres 4 Between 3 to 5 acres 5 Between 6 to 10 acres 6 More than 10 acres 7 No response	E63 [    ]
E64	Do you think this size of land suffices your household needs	1 Yes 2 No	E64 [    ]

E65	If no, how much land would be adequate for your household needs?	Mention No of acres _____	E65 [    ]
E66	If yes indicate the quantities of crops harvested		
	<b>Crops</b>	<b>Quantity in good season</b>	<b>Quantity in bad season</b>
	Green Vegetables		
	Tomatoes		
	Sunflower		
	Simsim		
	Pigeon pea		
	Maize		
	Beans		
	Onions		
	Cassava		
	Paddy		
	Others(Specify)		
E67	Is the household own space for grazing land in your area?	1 Yes 2 No 3 Do not know	E67 [    ]
E 68	Do you think this grazing land is	1Yes	E 68[    ]

	enough?	2No 3Do not know	
E69	On average how much do you spend for household need per day?	1 Less than 1000 Tsh 2 1000- 1500Tsh 3 1501- 2000Tsh 4 2001-2500Tsh 5 2501-3000Tsh 6 3001-3500Tsh 7 3501-4000Tsh 8 4000 Tsh and above	E69 [     ]
E70	Can you roughly explain to us your percentage of income expenditure among the following?	1.Education 2Health 3 Food 4 Others(Specify)	
E71	What is the pattern of expenditure among men/women(depends on whom you are interviewing)	_____ _____ _____	
E72	Do you have access to credit?	1 Yes 2 No	E72 [     ]
E73	If yes, which of the following are the main sources of credit?	1 Bank 2 Micro finance institutions 3 SACCOS 4 AA 5 Relatives and friends 6 Others (specify)	E73 [     ]

Now we have come to the end of our conversation, Thank you very much for your cooperation.

## Appendix 2

### Focus Group Discussion Guide

#### MUONGOZO WA MAJADILIANO YA VIKUNDI (FGDs)

Katika utafiti huu, lengo kubwa la majadiliano ni kuelewa hali ya maisha ya wana vijiji kwenye maeneo ya hifadhi ya wanyamapori (WMAs). Tunataka kujua hali yao kiuchumi, shughuli zao za kiuchumi, mapato, matatizo ya kijamii na kiuchumi wanayoyakabili na jinsi wanavyojitahidi kuyatatua, dhana yao ya umaskini, mikakati wanayoitumia ili kuondoa umaskini, wanafanikiwa wapi na wanakwama wapi na kwa nini. Pia tunataka kujua uelewa wao wa umilikaji wa malihai (WMA) na dhana ya hifadhi ya jamii ya maliasili (Community Based of Natural Resources Management). Ili kuendesha vizuri majadiliano ya vikundi, lazima awepo mwezeshaji wa majadiliano (Facilitator) na mwandishi (Note-Taker or Recorder).

<b>Name of Moderator (Mwezeshaji)</b>	
<b>Name of Recorder (Mwandishi)</b>	
<b>Date of the FGD (Tarehe ya Majadiliano)</b>	
<b>Name of WMA (Jina la WMA)</b>	
<b>Name of the Village (Jina la Kijiji)</b>	
<b>Duration of the FGD( Muda wa Majadiliano)</b>	
<b>Number of participants(Idadi ya Washiriki)</b>	
<b>Sex (Jinsi)</b>	<b>Male:</b> <b>Female:</b>

## Maswali ya kawaida kuhusu jamii

### 1. Baada ya kujuliana hali au kusalimiana, anza majadiliano kwa kuwauliza watu kuhusu jamii yao. Maswali yanaweza kulenga kwenye mambo yafuatayo:

- Ukubwa wa jamii, aina ya watu, aina ya taasisi za elimu na afya, shughuli kuu za kiuchumi, umbali kutoka wilaya au mji wa karibu.
- Dadisi kuhusu: Historia ya kijiji, aina ya wenyeji kama ni wahamiaji au la. Idadi ya kaya, idadi ya wanawake, wanaume, vijana, wazee, walemavu nk.
- Je, kwa kawaida nani huwa wakuu wa kaya? Wanaume au wanawake?
- Je, katika kaya zenu nani huwa anatoa maamuzi kuhusu shughuli za uzalishaji mali?
- Ni nani anayetoa maamuzi kuhusu namna ya kutumia rasilimali za kaya?
- Ni shughuli zipi ambazo huwa hupendelewa kufanywa na wavulana na wasichana?
- Je, kuna mgawanyo sawa wa rasilimali kati ya wavulana na wasichana katika jamii yenu?

## 2. Waruhusu watu waeleze mabadiliko muhimu yanayotokea kwenye kijiji chao

### Mathalani, dadisi mambo yafuatayo:

- Mabadiliko ya kijamii na kiuchumi yaliyojitokeza kijijini kwao katika miaka kumi iliyopita. Je kuna maendeleo? Je, hali inakuwa bora au imebaki vilevile au imekuwa mbaya zaidi?
- Je, huduma za kijamii kama elimu, afya na barabara zikoje tangu miaka kumi iliyopita?
- Je, zimekuwa nzuri au zinazidi kuwa mbaya? Waeleze mabadiliko yaliyojitokeza kwenye huduma hizi.
- Kwa ujumla hali ya maisha ikoje?
- Je, vipi hali ya makazi - hali nyumba zao?
- Je, kuna maji, umeme?
- Je, wanadhani makazi yao yamekuwa yakiendelea na kuwa bora au hakuna mabadiliko? Dadisi ili watoe sababu za majibu yao.
- Je, wanakijiji wanatumia vyanzo vipi vingine katika shughuli mbalimbali, kama vile kupikia?

### 3. Maswali kuhusu hali ya uchumi, mapato na matumizi:

- Waruhusu washiriki wa majadiliano waeleze matatizo makubwa yanayowakabili hapo kijijini kwao. Waeleze matatizo ya kijamii, kiuchumi nk.
- Ni shughuli zipi za kiuchumi zinafanyika hapo kijijini? Waeleze ni shughuli zipi zina umuhimu zaidi kwao. Kama ni kilimo waeleze aina ya mazao na wayapange kufuatana na umuhimu wake.
- Ni shughuli zipi za kibiashara zinafanyika hapo kijijini? Je, ni zipi zinahusiana na utalii?
- Je, biashara ya utalii ni muhimu hapo kijijini?
- Nani anamiliki sana biashara za kitalii? Je, kijiji kinapata faida gani na biashara hizi? Wana kijiji au wageni?
- Je, kijiji kinatoza kodi ya aina yoyote kwa hawa watu?
- Je, mnadhani watalii wameongezeka kwenye haya maeneo yenu au wamepungua au wamebakia palepale?
- Je, kwa wastani shughuli zote za kiuchumi zinawaletea mapato ya kiasi gani kwa familia au kwa kijiji?
- Je, mapato yenu yatokanayo na shughuli za kiuchumi hutumika vipi? Je, mnadhani watu wanayatumia mapato

yao vizuri? Toeni sababu za majibu yenu.

- Je, hali ya umaskini ikoje hapa kijijini kwenu? Njia zipi mnazitumia ili kutatua tatizo hili? Je kuna mafanikio?

#### **4. Uelewa kuhusu maeneo ya hifadhi ya wanyamapori (WMAs)**

- Waruhusu watu wajaadili kwa kirefu kuhusu dhana hii ya WMAs. Je, wanaijua? Je, wanahusika vipi? Kwa nini kijiji chao kilijiunga na WMA? Je, watu wanapata faida gani?
- Waeleze faida au hasara ya kuwa wanachama wa WMA iliyo kwenye maeneo yao. Waeleze kuhusu uongozi wa WMA na namna jinsi viongozi wanavyochaguliwa.
- Je, hali ya maisha yenu yamebadilika tangu ilipoanzishwa hii WMA? Je, kuna matatizo gani mnayapata kwenye WMA yenu? Mnayatatua vipi?
- Ni shughuli zipi wananchi au kijiji kinazifanya zinazohusiana na WMA? Je, mapato ya kiasi agani hutokana na shughuli hizo?
- Nini mngenda kifanyike ili kuboresha faida/manufaa ya WMA kwenu? Je, nini mngenda kifanyike ili kuboresha biashara za kiutalii katika eneo hili? Toeni sababu za majibu yenu.
- Je ujangili upo katika maeneo yenu? Je, unaongezeka au unapungua? Una maoni gani kuhusu ujangili?
- Kijiji kinafanya nini ili kuzuia ujangili? Je, WMA imesaidia kupunguza ujangili? Toa sababu za majibu yenu.

#### **5. Mawazo ya jamii kuhusu jinsi ya kuleta maendeleo ya kijiji/jamii**

Waulize washiriki mambo yafuatayo:

- Jitihada zipi wanazifanya ili kuleta maendeleo hapo kijijini
- Wanafanya nini au miradi gani ili kuondoa umaskini. Je, wako tayari kufanya nini na wangependa serikali au mashirika ya hiari na mengine yawasaidie nini?
- Je, wako tayari kushiriki kwenye miradi kama ya ujenzi wa miundo mbinu, barabara au miradi inayolenga kuleta maji safi kijijini? Je, wako tayari kushiriki vipi kwenye miradi hiyo?
- Je, wanafikiri wangependa waletewe miradi ipi ya maendeleo. Waeleze kwa kufuata kipaumbele.
- Je, katika hiyo miradi wanayoitaka, wao wako tayari kufanya nini na nini wanataka wasaidiwe?

## Appendix 3

### In-depth Interview Guide

#### MUONGOZO WA MAHOJIANO YA KINA (IN-DEPTH INTERVIEWS)

Katika utafiti huu, lengo kubwa la majadiliano ni kuelewa hali ya maisha ya wana vijiji kwenye maeneo ya hifadhi ya wanyamapori (WMAs). Tunataka kujua hali yao kiuchumi, shughuli zao za kiuchumi, mapato, matatizo ya kijamii na kiuchumi wanayoyakabili na jinsi wanavyojitahidi kuyatatua, dhana yao ya umaskini, mikakati wanayoitumia ili kuondoa umaskini, wanafanikiwa wapi na wanakwama wapi na kwa nini. Pia tunataka kujua uelewa wao wa umilikaji wa malihai (WMA) na dhana ya hifadhi ya jamii ya maliasili (Community Based of Natural Resources Management). Ili kuendesha vizuri majadiliano ya vikundi, lazima awepo mwezeshaji wa majadiliano (Facilitator) na mwandishi (Note-Taker or Recorder).

<b>Name of Interviewer (Jina la mdodosaji)</b>	
<b>Aina ya Mhojiwa (Katibu wa Kijiji nk.)</b>	
<b>Date of the Interview (Tarehe ya Mahojiano)</b>	
<b>Name of WMA (Jina la WMA)</b>	
<b>Name of the Village (Jina la Kijiji/Wilaya)</b>	
<b>Duration of the Interview (Muda wa Mahojiano)</b>	
<b>Sex (Jinsi)</b>	<b>Male:</b> <b>Female:</b>

▪

## 2. Waruhusu watu waeleze mabadiliko muhimu yanayotokea kwenye kijiji chao

Kwa mfano dadisi mambo yafuatayo kwa viongozi wa vijiji na wataalamu mbalimbali waishio hapo kijijini:

- Mabadiliko ya kijamii na kiuchumi yaliyojitokeza kijijini kwao katika miaka kumi iliyopita. Je kuna maendeleo? Je hali inakuwa bora au imebaki vilevile au imekuwa mbaya zaidi?
- Huduma za kijamii kama elimu, afya na mabarabara zikoje katika miaka kumi iliyopita? Je zimekuwa nzuri au zinazidi kuwa mbaya? Waeleze mabadiliko yaliyojitokeza kwenye huduma hizi.
- Kwa ujumla hali ya maisha ikoje? Je vipi hali ya makazi-Hali nyumba zao? Je kuna maji, umeme? Je wanadhani makazi yao yamekuwa yakiendelea na kuwa bora au hakuna mabadiliko.-Dadisi ili watoe sababu za majibu yao.

#### 4. Maswali kuhusu hali ya uchumi, mapato na matumizi:

- Waruhusu washiriki wa majadiliano waeleze matatizo makubwa yanayowakabili hapo kijijini kwao. Waeleze matatizo ya kijamii, kiuchumi nk.
- Ni shughuli zipi za kiuchumi zinafanyika hapo kijijini katika kipindi hichi? Waeleze ni shughuli zipi zina umuhimu zaidi kwao. Kama ni kilimo waeleze aina ya mazao na wayapange kufuatana na umuhimu wak
- Ni shughuli zipi za kibiashara zinafanyika hapo kijijini? Je ni zipi zinahusiana na utalii? Je biashara ya utalii ni muhimu hapo kijijini?
- Nani anamiliki biashara za kitalii? Je kijiji kinapata faida gani na biashara hizi? Wana kijiji au wageni? Je kijiji kinatoza kodi ya aina yoyote kwa hawa watu? Mhojiwa aeleze aina ya rasilimali za kiuchumi zilizoko hapo kijijini-na jinsi zinavyotumika.
- Je biashara ya utali imeongezeka au kupungua au imebaki palepale. Je kijiji kinafaidika vipi?
- Je kwa wastani shughuli zote za kiuchumi zinawaletea mapato ya kiasi gani kwa familia au kwa kijiji?.
- Je mapato yenu yatokanayo na shughuli za kiuchumi hutumika vipi? Je mnadhani watu wanayatumia mapato yao vizuri? Toeni sababu za majibu yenu.
- Je yapo masoko ya kutosha kwa bidhaa zenu? Je ni masoko ya aina gani? Ni mazao gani hayana masoko? Kwa nini?
- Je hali ya umaskini ikoje hapa kijijini kwenu? Njia zipi mnazitumia ili kutatua tatizo hili? Je kuna mafaniki

#### 4. Uelewa kuhusu maeneo ya hifadhi ya wanyamapori

- Mruhusu mhojiwa akueleze dhana yake ya WMA kwa kirefu. Je wananchi wanaijua kikamilifu dhana hii? Je wanahusika vipi? Kwa nini kijiji chao kijiunga na umilikaji wa mali hai (WMA)? Je, watu wanapata faida gani?
- Aeleze faida au hasara ya kuwa wanachama wa WMA iliyo kwenye maeneo yao. Aeleze kuhusu uongozi wa WMA na namna jinsi viongozi wanavyochaguliwa.
- Je hali ya maisha yao imebadilika tangu walipoanzisha hiyo WMA? Je kuna matatizo gani mnayapata kwenye WMA yenu? Mnayatatua vipi?
- Ni shughuli zipi wananchi au kijiji kinazifanya zinazohusiana na WMA? Je mapato ya kiasi hutokana na shughuli hizo?
- Nini ungependa kifanyike ili kuboresha manufaa ya WMA kwenu? Je nini ungependa kifanyike ili kuboresha biashara za kiutalii katika eneo hili? Toeni sababu za majibu yenu.
- Je, ujangili upo katika maeneo yao? Unaongezeka au unapungua? Una maoni gani kuhusu ujangili? Kijiji kinafanya nini ili kuzuia ujangili? Je WMA imesaidia kupunguza ujangili?

Toa sababu za majibu yenu.

- Je, unadhani ni hatari zipi za kijamii na kiuchumi zinazoweza kuhatarisha hali ya mali asili kwenye eneo lenu?
- Je, kuna miradi ipi au huduma zipi hapa kijijini ambazo zimetokana au zimetokana na kuwepo kwa WMA? Je, miradi hiyo ni ya kipato gani? Je, WMA zimeleta kipato cha kiasi gani? Je, kinatumika vipi?

#### 5. Mawazo ya jamii kuhusu jinsi ya kuleta maendeleo ya kijiji/jamii

##### ***Muulize mhojiwa mambo yafuatayo:***

- Jitihada zipi wanazifanya ili kuleta maendeleo hapo kijijini?
- Wanafanya nini au miradi gani ili kuondoa umaskini? Je, wao wako tayari kufanya nini na je, wangependa serikali au mashirika ya hiari na mengine yawasaidie nini? Je, wako tayari kushiriki kwenye miradi kama ya ujenzi wa miundombinu - barabara au miradi inayolenga kuleta maji safi kijijini? Wako tayari kushiriki vipi kwenye miradi hiyo?
- Je, wanafikiri wangependa waletewe miradi ipi ya maendeleo? Aeleze kwa kufuata kipaumbele.
- Je, katika hiyo miradi wanayoitaka, wao wako tayari kufanya nini na nini wanataka wasaidiwe?
- Kwa ujumla kijiji kinataka nini kwenye masuala ya maendeleo na wako tayari kuchangia nini? (Wape mifano ikiwezekana) Je, wako tayari kushiriki katika kutengeza barabara, kuchimba mitaro ya maji, kujenga mashule, kufyatua tofali au kusomba mchanga na mawe?

## Appendix 4

### Checklist for 5 WMA Studies

#### A. GENERAL INFORMATION

1. Data and Information to be collected from Village/ District office
2. Ethnic Composition i.e. see the tribes in the village/WMA
3. Village Population & number of Households
4. Number of villages forming WMA. Mention them
5. Available social services in the villages forming WMA such as Hospitals/Health Centers/dispensaries, education/schools, transport and communications roads (land lines/internet/markets etc.

#### B. ECONOMIC ACTIVITIES

6. Available resources such as wildlife, village forest, minerals, water sources, etc
7. Main economic activities i.e. agriculture, businesses, pastoralist etc e.t.c
8. Available investments in the village/WMA i.e tented camps/lodges/hotels/etc
9. Number of investors in the village/WMA
10. Number of visitors both for hunting, tourism and photographic tourism

#### C. REVENUE AND EXPENDITURE

11. What types of revenue does the village collect? e.g from hunting tourism (direct contribution from the hunting companies or the 25% quota from the (Wildlife Department) WD as well as Photographic tourism (tented camps, hotels, game drive).
12. Revenue Expenditure patterns. i.e. how is the revenue earned from the tourism sector used in the village/WMA

#### D. CONSERVATION

13. Conservation efforts: how do community participate in conservation activities in the village?
14. Are there any incidences of poaching and fire outbreak in your village?

#### E. AVAILABILITY OF INSTITUTIONS and CSOs

15. Presence of CSOs and CBOs
16. Presence of SACCOS/VICOBA