

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

MBOMIPA WMA Report



A zebra grazing in MBOMIPA WMA



USAID
FROM THE AMERICAN PEOPLE



WWF for a living planet®



HEALTH & DEVELOPMENT INTERNATIONAL CONSULTANTS

Associates in Professional Public Health and Development Consulting

2ND FLOOR NAKIETE HOUSE, ALI HASSAN MWINYI ROAD
P.O. BOX 33335, TEL: +255 22 27728 16, FAX: +255 22 27728 14
DAR ES SALAAM, TANZANIA

Final Report, October 2010

TABLE OF CONTENTS

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------|
| TABLE OF CONTENTS | ii |
| LIST OF TABLES | vi |
| LIST OF FIGURES..... | vii |
| LIST OF PLATES..... | viii |
| LIST OF ABBREVIATIONS | ix |
| ACKNOWLEDGEMENT..... | x |
| EXECUTIVE SUMMARY | xi |
| CHAPTER ONE..... | 1 |
| INTRODUCTION AND THE SETTING OF THE STUDY | 1 |
| 1.1 Introduction and the Background..... | 1 |
| 1.2 Wildlife Policies and the Evolution of Wildlife Management Areas (WMAs) and Community-Based Natural Resources Management (CBNRM) | 1 |
| 1.3 The genesis of WMA and Institutional legal Framework in Tanzania..... | 2 |
| 1.4 The Profile of Iringa Rural District..... | 5 |
| 1.5 Climate..... | 5 |
| 1.6 Major economic activities..... | 6 |
| 1.6.1 Agriculture | 6 |
| 1.6.2 Livestock Keeping..... | 6 |
| 1.6.3 Trading..... | 6 |
| 1.7 Natural Resources | 6 |
| 1.7.1 Forests..... | 6 |
| 1.7.2 Wildlife | 7 |
| 1.7.3 Fisheries..... | 7 |
| 1.8 Social services..... | 8 |
| 1.8.1 Education | 8 |
| 1.8.2 Water supply | 8 |
| 1.8.3 Health services | 8 |
| 1.8.4 Infrastructure..... | 9 |
| 1.9 The Profile of MBOMIPA..... | 9 |
| 1.9.1 Background..... | 9 |
| 1.9.2 Organizational structure of MBOMIPA | 10 |
| 1.9.3 Objectives of MBOMIPA..... | 11 |
| 1.9.4 Major activities | 12 |
| 1.9.5 Socio-economic gains..... | 12 |
| 1.9.6 Other Achievements..... | 12 |
| 1.9.7 Problems and challenges facing MBOMIPA..... | 13 |
| 1.9.8 Strategic plan to improve MBOMIPA..... | 13 |
| 1.9.9 Criteria for identification of potential poachers | 13 |
| 1.10 Ruaha National Park..... | 14 |

| | |
|-------------------------------------------------------------------------------------------|----|
| CHAPTER TWO..... | 15 |
| THE TERMS OF REFERENCE, APPROACH AND METHODOLOGY | 15 |
| 2.1 Objectives of the Baseline Survey and Scope of Work..... | 15 |
| 2.2 Area of the study | 16 |
| 2.3 Study Design and Methodology | 16 |
| 2.3.1 Study population, sampling size and strategy | 16 |
| 2.3.2 Methods of data collection..... | 19 |
| 2.3.2.1 Documentary and Library | 19 |
| 2.3.2.2 A quick-scan of income generating activities at village level..... | 20 |
| 2.3.2.3 Administration of a social survey..... | 20 |
| 2.3.2.4 Administration of In-Depth Interviews..... | 21 |
| 2.3.2.5 Administration of Focus Group Discussion..... | 22 |
| 2.3.2.6 Non-Participant Ethnographic Observation and Assessment | 23 |
| 2.3.2.7 Data processing, analysis, quality control and assurance..... | 23 |
| CHAPTER THREE..... | 24 |
| SOCIO-DEMOGRAPHIC CHARACTERISTICS AND ECONOMIC STATUS..... | 24 |
| 3.1 Population Characteristics and Social Relationships | 24 |
| 3.1.1 Population Characteristics..... | 24 |
| 3.1.1.1 Household Headship..... | 24 |
| 3.1.1.2 Residence in Current Villages..... | 25 |
| 3.1.1.3 Households' marital status..... | 26 |
| 3.1.1.4 Age of respondents | 27 |
| 3.1.1.5 Households education level | 28 |
| 3.1.1.6 Households level of education by sex..... | 30 |
| 3.1.2 Social Relationships | 30 |
| 3.1.2.1 Gender issues..... | 30 |
| 3.1.2.2 Ethnicity | 31 |
| 3.1.2.3 Religious beliefs..... | 32 |
| 3.1.3 People's Socio-Economic Status..... | 32 |
| 3.1.3.1 People's Living Standards and Conditions..... | 32 |
| 3.1.3.2 Socio-economic dimensions | 35 |
| 3.1.3.3 Households' distribution of toilets..... | 35 |
| 3.1.3.4 Household's ownership of disposable assets | 37 |
| 3.1.3.5 Ownership of other physical assets..... | 38 |
| 3.1.3.6 Households' sources of drinking water and energy by sex..... | 38 |
| 3.2 Main Economic Activities Existing in the WMA | 39 |
| 3.2.1 Agriculture..... | 39 |
| 3.2.2 Challenges facing agriculture..... | 40 |
| 3.2.3 Livestock keeping | 40 |
| 3.3 Sources, Levels and Types of Income in Selected Villages..... | 41 |
| 3.4 Socio-Economic Threats, Drivers and Opportunities Related to NRs in WMA Villages..... | 43 |
| 3.5 Other Resources Available and their Uses | 45 |

| | |
|-------------------------------------------------------------------------------------------------|----|
| CHAPTER FOUR..... | 47 |
| INCOME AND EXPENDITURE PATTERNS IN THE WMA..... | 47 |
| 4.1 Sources and Types of Incomes in Selected Villages | 47 |
| 4.1.1 Agriculture..... | 47 |
| 4.1.2 Livestock keeping | 48 |
| 4.1.3 Farm ownership dynamics | 49 |
| 4.1.4 Crop harvest | 51 |
| 4.2 Expenditure Patterns in Village forming WMA | 52 |
| 4.3 Financial Assets | 52 |
| 4.4 Economic and Ecological Status of the WMA | 54 |
| 4.5 Contribution of the WMA on Village Revenues and their Common Expenditure..... | 55 |
| CHAPTER FIVE | 56 |
| PEOPLE’S KNOWLEDGE AND AWARENESS OF CBNRM PROGRAMME AND WILDELIFE MANAGEMENT AREAS..... | 56 |
| 5.1 Peoples Knowledge, Awareness and Attitudes towards WMA..... | 56 |
| 5.2 People’s Views and Perception on the Benefits in Conservation of Natural Resources | 57 |
| 5.3 People’s Views and Perception on the Benefits of WMAs | 57 |
| 5.4 Impact of WMA on Livelihoods | 60 |
| 5.5 Overall assessment of WMA | 60 |
| 5.6 Major Challenges facing WMAs..... | 61 |
| 5.7 People’s Perception and Willingness to Participate in Cash-for Work Programs | 62 |
| 5.8 General Village Meetings..... | 62 |
| 5.8.1 Attendance to general village meetings..... | 62 |
| 5.8.2 Main issues discussed in village general meetings..... | 64 |
| 5.8.3 Where discussed WMA in general meetings..... | 64 |
| 5.9 Poaching Dynamics | 65 |
| 5.9.1 Poaching incidences..... | 65 |
| 5.9.2 Poaching Frequencies | 66 |
| 5.9.3 Poaching Trends..... | 67 |
| 5.10 Conflicts and Conflict resolutions in the study area..... | 67 |
| 5.10.1 Conflicts knowledge..... | 67 |
| 5.10.2 Types of Conflicts..... | 68 |
| 5.11 Anticipated Types of Activities | 68 |
| 5.12 Impact of WMA on Wildlife..... | 69 |
| 5.13 Frequency of Fire Last Year | 69 |
| CHAPTER SIX..... | 71 |
| SOCIO-ECONOMIC CHARACTERISTICS AT VILLAGE LEVEL..... | 71 |
| 6.1 Population Characteristics of villages | 71 |
| 6.2 Village economic status | 74 |
| 6.2.1 Village main economic activities | 74 |
| 6.2.1.1 Idodi Division..... | 74 |
| 6.2.1.2 Pawaga Division | 74 |

| | |
|-------------------------------------------------------------|-----|
| 6.2.2 Village income levels | 75 |
| 6.2.2.1 Idodi Division | 75 |
| 6.2.2.2 Pawaga Division | 76 |
| 6.2.3 Expenditure levels per household | 76 |
| 6.2.3.1 Idodi Division | 76 |
| 6.2.3.2 Pawaga Division | 80 |
| 6.3 Entrepreneurship/production groups..... | 84 |
| 6.3.1 Overview | 84 |
| 6.3.2 Entrepreneurship annual income levels by village..... | 85 |
| 6.4 Socio-economic standards at village level | 86 |
| 6.4.1 Availability and quality of social services..... | 86 |
| 6.4.1.1 Education | 86 |
| 6.4.1.2 Water supply | 86 |
| 6.4.1.3 Health Facilities..... | 86 |
| 6.4.1.4 Infrastructure | 87 |
| 6.4.2 Living standards at village level..... | 87 |
| 6.5 Socio-economic standards at village level | 88 |
| 6.5.1 Availability and quality of social services..... | 88 |
| 6.5.1.1 Education | 88 |
| 6.5.1.2 Water supply | 88 |
| 6.5.1.3 Health Facilities..... | 88 |
| 6.5.1.4 Infrastructure | 89 |
| 6.5.2 Living standards at village level..... | 89 |
| CHAPTER SEVEN..... | 98 |
| CONCLUSIONS AND RECOMMENDATIONS | 98 |
| 7.1 Conclusions..... | 98 |
| 7.2 Recommendations | 99 |
| REFERENCES | 100 |
| Appendix 1..... | 103 |
| Structured Questionnaire | 103 |
| Appendix 2..... | 115 |
| Focus Group Discussion Guide | 115 |
| Appendix 3..... | 118 |
| In-depth Interview Guide..... | 118 |
| Appendix 4..... | 121 |
| Checklist for 5 WMA Studies..... | 121 |

LIST OF TABLES

| | |
|-------------------------------------------------------------------------------------------------|----|
| Table 1: Distribution of respondents by marital status | 27 |
| Table 2: Age of respondents | 28 |
| Table 3: Respondents' level of education by sex..... | 30 |
| Table 4: Decision making on income expenditure at household level..... | 31 |
| Table 5: Ownership of houses by sex (N = 709)..... | 32 |
| Table 6: Household's disposable assets (N=713) | 37 |
| Table 7: Households' source..... | 38 |
| Table 8: Trend of productive activities by sex | 39 |
| Table 9: Economic activities by household head's level of education..... | 40 |
| Table 10: Types of conflicts..... | 43 |
| Table 11: Levels of livestock keeping in the study area | 49 |
| Table 12: Household ownership of farm plots (acreage)..... | 50 |
| Table 13: Crop (maize/rice) harvest..... | 52 |
| Table 14: Daily household expenditure | 52 |
| Table 15: Major types of benefits..... | 58 |
| Table 16: Challenges facing MBOMIPA WMA | 61 |
| Table 17: Types of conflicts related to WMA | 68 |
| Table 18: Impact of WMA on wildlife..... | 69 |
| Table 19: Population size for MBOMIPA WMA Villages (Idodi Division) | 71 |
| Table 20: Population size for MBOMIPA WMA Villages (Pawaga Division) | 72 |
| Table 21: Household expenditure per day for Idodi village | 77 |
| Table 22: Household expenditure per day for Mafuruto Village | 77 |
| Table 23: Household expenditure per day for Mahuninga Village | 79 |
| Table 24: Household expenditure per day for Nyamahanga Village | 80 |
| Table 25: Household expenditure per day for Tungamalenga Village | 80 |
| Table 26: Household expenditure per day for Kinyika Village | 81 |
| Table 27: Household expenditure per day for Kisanga Village..... | 81 |
| Table 28: Household expenditure per day for Mboliboli Village | 82 |
| Table 29: Availability and quality of social services at village level in Idodi Division | 91 |
| Table 30: Availability and quality of social services at village level in Pawaga Division. | 92 |
| Table 31: Average annual income levels for Common entrepreneurship groups..... | 93 |
| Table 32: Key Parameters at Village Level in Idodi Division..... | 94 |
| Table 33: Key Parameters at Village Level in Pawaga Division..... | 96 |

LIST OF FIGURES

| | |
|-----------------------------------------------------------------------------------------------|----|
| Figure 1: Map of MBOMIPA WMA | 10 |
| Figure 2: Organisation Structure of MBOMIPA | 11 |
| Figure 3: Divisions, Wards and Villages included in the Study | 18 |
| Figure 4: Percentage of household headship by sex (N=713) | 24 |
| Figure 5: Village of origin (N = 700) | 25 |
| Figure 6: Households percentage years of stay in current villages | 25 |
| Figure 7: Reasons for migrating into this village (N=357) | 26 |
| Figure 8: Distribution of respondents by level of education (N=709) | 29 |
| Figure 9: Distribution of respondents' by roofing materials (N=711) | 33 |
| Figure 10: Other households' housing conditions | 34 |
| Figure 11: Households' ownership of toilets (N=711) | 36 |
| Figure 12: Number of household owning other physical assets by sex | 38 |
| Figure 13: Responses for having a farmland (N=646) | 42 |
| Figure 14: Frequencies of poaching (N = 648) | 44 |
| Figure 15: Percentage trends of poaching (N=648) | 45 |
| Figure 16: Number of income earners in a household | 48 |
| Figure 17: Livestock keeping in the study areas (N=697) | 48 |
| Figure 18: Household ownership of grazing land (N=709) | 49 |
| Figure 19: Farm plot ownership (N =646) | 50 |
| Figure 20: Farm size sufficiency (N = 579) | 51 |
| Figure 21: Suggested sufficient acreage to each household | 51 |
| Figure 22: Households' access to credit (N=687) | 53 |
| Figure 23: Households' percentage sources of credit | 54 |
| Figure 24: Household percentage understanding of WMA | 56 |
| Figure 25: Household percentage on whether WMA is beneficial to their area (N=687) | 58 |
| Figure 26: Household percentage on whether benefit sharing is fair (N=500) | 59 |
| Figure 27: Household percentage on Impact of WMA on Livelihoods (N=687) | 60 |
| Figure 28: Household percentage on WMA on WMA overall assessment if good for business (N=700) | 61 |
| Figure 29: Households' attendance to general meetings (N=702) | 63 |
| Figure 30: Households' percentage attendance to general meetings (N=610) | 63 |
| Figure 31: Household's percentage main topics discussed in general meeting (N=591) | 64 |
| Figure 32: Households' percentage if WMA discussed in general meeting (N=661) | 65 |
| Figure 33: Household percentage on knowledge on poaching incidences (N=708) | 66 |
| Figure 34: Household percentage knowledge on poaching frequencies (N=413) | 66 |
| Figure 35: Household percentage frequencies of poaching events (N=648) | 67 |
| Figure 36: Household percentage knowledge on existence of conflicts (N=602) | 68 |
| Figure 37: Household percentage on anticipated activities (N=393) | 69 |
| Figure 38: Household percentage on fire events last year (N=690) | 70 |

| | |
|---------------------------------------------------------------------------|----|
| Figure 39: Population size of villages by percentage from Idodi Division | 72 |
| Figure 40: Population size of villages by percentage from Pawaga Division | 73 |
| Figure 41: Annual average income for villages of Idodi Division | 75 |
| Figure 42: Annual average income for villages of Pawaga Division | 76 |
| Figure 43: Expenditure levels by percentage at Malinzanga Village | 78 |
| Figure 44: Expenditure levels by percentage at Mapogoro Village | 78 |
| Figure 45: Expenditure levels by percentage at Kitisi Village | 79 |
| Figure 46: Household expenditure per day for Kimande Village | 81 |
| Figure 47: Household expenditure per day for Itunundu Village | 82 |
| Figure 48: Household expenditure per day for Ilolo Mpya Village | 83 |
| Figure 49: Household expenditure per day for Isele Village | 83 |
| Figure 50: Household expenditure per day for Luganga Village | 84 |

LIST OF PLATES

| | |
|-----------------------------------------------------------------------------------|----|
| Plate 1: Idodi Health Centre at Idodi Village | 8 |
| Plate 2: Session of Focus Group Discussions at Mafuruto Village | 27 |
| Plate 3: A primary school building at Mapogoro Village supported by MBOMIPA WMA | 28 |
| Plate 4: House built of burnt bricks at Mahuninga Village | 33 |
| Plate 5: One of the poorly built houses at Tungamalenga Village | 34 |
| Plate 6: Piles of rice bags at Kinyika Village in Pawaga division..... | 35 |
| Plate 7: Villagers maintaining rough earth road at Mboliboli Village..... | 36 |
| Plate 8: Paddy cultivation at Kimande Village in Pawaga division..... | 39 |
| Plate 9: A herd of cattle grazing at Mkombilenga Village in Pawaga division | 41 |

LIST OF ABBREVIATIONS

| | |
|---------|----------------------------------------------------|
| AA | Authorized Association |
| AIDS | Acquired Immune Deficiency Syndrome |
| CBC | Community Based Conservation |
| CBNRM | Community Based Natural Resource Management |
| CBO | Community Based Organization |
| CHF | Community Health Fund |
| CSR | Corporative Social Responsibility |
| DC | District Commissioner |
| DFID | Department for International Development |
| 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 |
| HDIC | Health and Development International Consultants |
| HIV | Human Immunodeficiency Syndrome |
| ICT | Information and Communication Technology |
| IDI | In-Depth Interview |
| M | Male |
| MBOMIPA | Matumizi Bora ya Malihai Idodi na Pawaga |
| MNRT | Ministry of Natural Resources and Tourism |
| MUCOBA | Mufindi Community Bank |
| NCA | National Conservation Area |
| NGO | Non-Governmental Organization |
| NMB | National Microfinance Bank |
| PEDP | Primary Education Development Program |
| RA | Research Assistant |
| SACCOS | Savings and Credit Cooperative Societies |
| SPSS | Statistical Package for Social Sciences |
| TANAPA | Tanzania National Park |
| URT | United Republic of Tanzania |
| US | United States |
| USAID | United States Agency for International Development |
| VEO | Village Executive Officer |
| VGS | Village Game Scout |
| VICOBA | Village Community Banks |
| WB | World Bank |
| WCS | Wildlife Conservation Society |
| WD | Wildlife Division |
| WMA | Wildlife Management Area |
| WPT | Wildlife Policy of Tanzania |
| WWF | World Wildlife Fund for Nature |

ACKNOWLEDGEMENT

A report like this is certainly not a product of the consultants alone but a result of concerted efforts between the consultants, the client, and other various individuals and institutions. We thus wish to convey our sincere gratitude to World Wildlife Fund-Tanzania Office for entrusting us to carry out this important study. From the very beginning of this work, we benefited a lot from the views we got from various officials of WWF especially Dr. Hussein Sosovele. We worked with him not only in determining the study approach to be adopted, but also in planning the study as well as in designing the research instruments. His views and ideas helped us a great deal in adopting an appropriate methodology for carrying out the baseline.

While in the field, we benefited immensely from the District Natural Resources Officers and District Game Officers of Iringa Rural District. We also received support from various individuals who work in various organizations that deal with conservation in the district, like the Wildlife Conservation Society. They assisted us tirelessly and provided us with a lot of support during the whole research process. In addition, we hugely benefited advice from provided by the officials of the MBOMIPA Wildlife Management Area as well as from various officers of the villages that we visited during this study. Their guidance in terms of how the study should be carried out was indeed very helpful in our work. In this case their presence and their willingness to work with us is highly appreciated. Without their assistance we would not have been able to produce this report.

We also wish to convey our profound gratitude to the research respondents and informants participated in this study and provided us with a lot of information that appears in this report. We learnt quite a lot from their views, most of which have been incorporated in this report. They provided sufficient information and helped us learn quite a number of things. They shared with us many things some of which were probably confidential. We strongly believe that they did this because they trusted us, but more so because they understood the importance of this work. We have no doubt that without them we could not have been able to understand the dynamics of life in the WMA.

A special mention goes to the following researchers who were responsible in collecting data and writing this report. These are Dr Stephen Nindi, Albert Schinka Mazzuki, Simwana Said, Gwandumi G.A. Mwakatobe, Lukelo Lugalla, Linus Mgohamwenda, Grace Kajuna, Emmanuel Msuya, Sophia Yusuph and Esther Mbwana. All these people worked tirelessly as a team in order to accomplish this task. It is very difficult to mention each person that was involved in this activity. What we would like to say is **thank you very much to everyone**. You all have been a source of inspiration in our work and we have learnt a lot from you. While many people and institutions have participated in this work in one way or another, we wish to confirm that the views expressed in this report do not necessarily represent the views of those people or their institutions. They are entirely ours; and so are any weaknesses that may appear therein.

EXECUTIVE SUMMARY

Background

The intention of the government to designate Wildlife Management Areas (WMAs) that are managed by community based organizations was well stipulated in the Wildlife Policy of 1998. The main policy objective for establishing WMAs, among others, is to promote the conservation of wildlife and its habitats outside core protected areas by involving local communities. The efforts of the government in collaboration with stakeholders worked out successfully to put in place legal frameworks that create an enabling environment and ensure benefits of wildlife resources trickle down to local communities. This approach has inspired and encouraged rural communities to fully participate in managing and utilizing wildlife resources in a sustainable way.

Study Objectives

However, there are challenges facing both the tourist industry and conservation endeavors that need to be addressed so as to continue building the capacity of WMAs, hence improving community based natural resources management. In order to get a clear picture and understand social dynamics in 5 selected WMAs (including MBOMIPA), WWF contracted HDIC to carry out socio-economic baseline studies under the financial crisis initiative/ cash-for-work program.

Therefore, the main objective of this study was to obtain socio-economic data and information on the households and villages that form MBOMIPA WMA and come up with a basis for evaluating the impact of the financial crisis initiative in the WMA and local communities. This report has come up with indicators on the living standards of the people, social services available, views of the people on MBOMIPA WMA and its status.

Study Area and Methodology

MBOMIPA (Matumizi Bora ya Maliasili Idodi na Pawaga), is an acronym that refers to sustainable use of wildlife resources in Idodi and Pawaga divisions. It is a wildlife management area consisting of 21 villages and occupying an area of 776.67 km² with a population size of 58,954. MBOMIPA is also a name for an authorized association (AA) that oversees all wildlife management aspects on behalf of all 21 member villages.

Quantitative and qualitative methods of data collection were applied to gather information from sampled respondents in selected villages. Data collection tools included a survey questionnaire, in-depth interviews, focus group discussions, quick scans and observations.

Socio-Economic Status of Communities

Considering demographic and living standards of the people, majority of them showed that households were male-headed by 60.2%, a typical indicator for most African families. It was also learnt that many men/women are married to a single wife/husband. More than four-fifths (85.2%) had age range of 20 – 39 and 40 – 64 years old. These age groups represent economically productive groups since they fall within the range of 15 to 64 years old.

Most of the respondents indicated that the people of Idodi and Pawaga divisions are primary level leavers by 74.0%. This implied that the entire study sample had good literacy capacity able to read and write, and hence could be easily adopt business skills and strategies which will lead to improvement of their livelihoods. Yet, it is surprisingly unwelcome to note that 21.7 percent had no formal education. This is a big portion of illiterate people because the villages under study had at least one primary school within easy access. In some way, this percentage has been contributed by pastoralists who are usually unsettled with their livestock.

Some parents tend to regard girls as only future wives waiting for marriage, so they don't encourage them to join schools. Nevertheless in recent years, the government, through its Primary Educations Development Program (PEDP), has been sensitizing the people to enrol their children whenever they reach recommendable school entry age. This is being overwhelmingly achieved.

With regard to social relationships, awareness campaigns are increasing on issues regarding gender equality and participation of women in socio-economic issues. Civil society organizations have played a major role in sensitizing both men and women in emancipating women from patriarchal dominance. Although family issues are still decided by husbands, female respondents agreed that there is a spirit of sharing and general consensus among family members.

Considering living standards, most people have managed to build houses with baked bricks but only few have their roofs thatched with corrugated iron sheets. More than 80% of sample population owned houses. Through ethnographic observations and quick scans, it was noted that people are proud of having their own houses. On top of that, building houses seemed to be relatively cheap because making bricks is an activity that is done within the homestead.

Social Services Available

MBOMIPA WMA has 24 primary schools, 5 secondary schools and 14 health facilities. Each village has at least one primary school. Water supply services are still a problem in many areas although efforts are being made to construct new water sources. The whole area has rough earth-roads but they are passable throughout the year. Improvement of social services in MBOMIPA member villages is substantially contributed by revenues that come from WMA.

Major Economic Activities

Agriculture, livestock keeping and business-related activities are the major socio-economic engagements in the area. Major crops cultivated are rice and maize - rice being mainly produced as a dominant cash crop, especially in Pawaga division. Comparing productive activities that people engage in, more males were seen to deal with cash crop farming by 66.4%, whereas females led males slightly by 50.9% in food crop farming.

Small businesses like catering services (mama lishe) and petty trading are done by women by 60.8%. This is reasonably true because even local brew that is often taken by men, women take the lead in vending, i.e. men do the drinking while women do the selling. Livestock keeping is ethnically mainly practiced by migrant Sukuma, Maasai and Mang'ati.

Daily household expenditure among many households ranges from less than Tsh.1000 per day to more than Tsh. 4000. In fact larger proportion of households (about 35 percent) had their expenditure being more than Tsh. 4000 per day.

Ecological and Economical Status of MBOMIPA WMA

MBOMIPA WMA is ecologically rich in biodiversity, ranging from wildlife, forests, fertile soils, water bodies and magnificent scenery of mountainous topographic features. The great Ruaha and little Ruaha rivers pass and join within the WMA proximity. River Ruaha is a lifeline to wild animals found in the WMA and in the park where there is a high density of animal population. Having such attractive ecological systems, Ruaha National Park has grown into a main destination for tourists.

Many people have widely accepted the efforts being made by MBOMIPA to conserve natural resources and the benefits that accrue therefrom. Revenues from WMA have helped member villages to improve social services, especially schools and dispensaries. In recent years, each member village has been receiving more T.Sh 2,000,000/= per year. These benefits, including tourist-related businesses have greatly motivated people to fully participate in conserving their WMA. Owing to this, it is reported that, poaching incidences are almost disappearing due to the positive response of local communities surrounding MBOMIPA WMA.

Challenges are many, but the willingness and readiness of the people to fully participate in projects related to conservation of natural resources will certainly trigger commendable success for implementing financial crisis initiative/cash-for-program. People are ready to contribute their labour force even without any payment because they have been doing so in similar projects initiated by their ward or village governments.

CHAPTER ONE

INTRODUCTION AND THE SETTING OF THE STUDY

1.1 Introduction and the Background

The idea that local people participate in the designing, implementation and monitoring of their development programs which will play a leading role in determining their future destiny, has been the cornerstone of development policy and planning in Tanzania. Since independence there have been noticeable efforts from the government of Tanzania aimed at making sure that the local communities are involved in development process programs to instil their ownership and hence sustainability of the developmental interventions. For the latter to happen it is imperative that the local communities benefit directly from 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 the private sector.

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

The 1990s have witnessed a significant departure from the way natural resources had been managed in sub Saharan Africa. On vogue now are approaches (collectively referred to as Community-based Natural Resources Management (CBNRM) geared towards the devolution of natural resources management and responsibilities to local communities and the engagement of other stakeholders (including the NGOs, community and the Private sector) in managing the resources.

CBNRM is a form of management that seeks to divert from the “garrison conservation” where the government was the sole manager of natural resources. Underlying CBNRM is the belief that communities in which natural resources occur/that surround Natural resources can be the most effective partners in the governments endeavour to attain sustainable management of natural resources. CBNRM involves practices of management and benefit sharing with the non state agents i.e. people/communities, but 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 to managing natural resources was prompted by the realization (by governments and donors alike) that the hitherto existing natural resources management practices under the government (e.g. Fines and fences, garrison conservation etc) had been found wanting. Governments were becoming constrained in terms financial, human and infrastructural resources needed to effectively manage the vast natural resources in their countries (Kessy *et al.*, 2003). At the same time and as a consequence of the foregoing degradation of the natural resources base was going on unabated, due to poorly defined ownership and use rights (*Ibid.*).

CBNRM as an alternative natural resources management approach comprise a corpus of interventions that seek to improve on 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 at rebuilding functioning natural resources management institutions among the local communities that had been destroyed as a result of state control of both land and natural resources. This rebuilding includes but 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.

1.3 The genesis of WMA and Institutional legal Framework in Tanzania

Until 1980s Tanzania wildlife management depended on “fines and fences” approach based on protected areas like National Parks and Game Reserves and restrictive laws preventing hunting of wildlife. The inadequacy of this approach was manifest in the crisis that gripped the wildlife sector in the 1970s and 1980s as poaching incidence for both commercial and subsistence uses of wildlife increased dramatically (Sulle *et al.*, 2006). The crisis brought the government and donor support to bear the fact that there was a need for a paradigm shift in the management of wildlife. At the center of this shift was greater participation of local communities in the new concept of community wildlife management. As part of the paradigm shift in the management of natural resources and specifically wildlife, the government of Tanzania through it’s the Wildlife Division in the Ministry of Natural Resources and Tourism started cooperating with various donors and NGOs in the implementation of community based activities in areas adjacent to core to the core wildlife protected areas.

These are activities related to 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, small and macro enterprises. Such a shift is indicative of the government’s realization that success in CBC activities would win support and greater participation of communities in sustainable management of natural resources. Evidently CBC activities were projected as tools that would contribute to the improvement of

natural resources management and planning process while at the same time strengthening local level governance and generate tangible social, economic and financial benefits to the communities. In line with the foregoing, 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 further the above community based conservation initiatives, the government issued the wildlife Policy of Tanzania (1998) which called for the establishment of Wildlife Management Areas (WMAs) on community lands adjacent to protected areas. This was a new category of multiple land use areas whose 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 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 compete with other forms of land use (crop and animal husbandry) that may 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 area in their land (MNRT, 2007 sec. 3.1.4). The policy also sees one of the hitherto challenges facing wildlife management to be inadequate involvement and participation of the village communities in planning, management and conservation of wildlife and this has led to the unsustainable use of the resource (MNRT sec.3.2). The policy admits that wildlife has cultural values and cultural practices have facilitated sustainable management utilization and conservation of the resources.

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 WMs was stalled until 2003 when new regulations on how the WMA designation process would operate were formally

issued. The absence of legal backing has now been taken care of 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 a total of 16 WMAs have been officially gazetted. These WMAs included Ipole, Uyumbu, Burunge, and Ngarambe-Tapika etc. These WMAs included Ipole, Uyumbu, Burunge, Nagrambe-Tapika etc. Some of these WMAs are now engaged in tourism related businesses where revenue is generated. The anticipated objective of benefits to the local communities has already started to show 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 accruing to some of the WMAs is at risk.

The World Wildlife Fund (WWF) has rightly observed that as a result of global financial crisis, the amount of income derived from tourist arrivals is likely to decline in some WMAs. This will have some deleterious consequences on the lives of rural communities who had started benefiting from incomes from WMAs activities as their incomes will undoubtedly decline. It is envisaged that as a result of this (income) poverty, some people in the rural communities may revert to unsustainable utilization of natural resources i.e. overexploitation of the natural resources to sustain their livelihoods. This may 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. As far as WWF is concerned, the implementation of this program among others aims at providing 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 their reverting into unsustainable utilization of natural resources.

The afore mentioned interventions aim at coming up with some positive changes and/or mitigate against the anticipated risks to the community and the natural resource base. In this regard it is important to establish some important benchmarks (with regard to the current economic and social status) on the basis of 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 yardsticks in place. It is these yardsticks that can indicate change from one state to another or no change. Today monitoring has become a very effective management tool.

It is within this context and background that WWF contracted Health and Development International Consultants to undertake a socio-economic baseline survey that will generate data and information on the socio-economic status in the 5 WMAs. This information will generate indicators that are going to be used to monitor changes arising from the intervention as well as determining the level of changes in the key indicators of incomes, number of households involved in tourism related businesses in the villages within WMAs, rural livelihoods, status of biodiversity and reported cases of poaching, and infrastructure services. The baseline data is presented below after delineating the study and limitations thereof.

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

1.4 The Profile of Iringa Rural District

Iringa Rural District is one of the 7 administrative districts of Iringa Region. Others are Iringa Urban, Kilolo, Mufindi, Njombe, Ludewa and Makete. The district was established under the Local Government Act. No. 7 of 1982. It occupies an area of 20,576 km² of which only 9,857.5 km² are habitable, whereas the rest are occupied by national parks, forests, rocky mountains and water bodies. The district has 480,158 hectares of arable land. But out of these only 34.1% is fully utilized for agricultural activities.

Administratively, the district is comprised of 6 divisions of Kalenga, Kiponzero, Idodi, Pawaga, Ismani and Mlolo, harbouring 23 wards, 119 villages, 699 sub villages, 63,010 households and 2 electoral constituencies (Kalenga and Ismani). Also it has 4 legislators and 27 Ward Councilors. The projection based on the August 2002 population census indicated that the district has a population size of 266,444, from 131,568 male and 134,876 female. The major ethnic groups are predominantly Hehe and Bena. Minority tribes include Kinga, Maasai, Barbaig, Gogo, Sukuma, Mang'ati and Sagara.

1.5 Climate

The district climate varies with altitude. It lies between 900-2700m above sea level. The annual rainfall is between 500-2700mm and temperatures varying between 15-25°C. Climatically, the district is divided into two main zones; the Midland Zone characterized by scattered rocky hills, flat areas, swamps and ponds. This zone has Kiponzero, Kalenga and Mlolo divisions. The second zone is Lowland Zone with low rainfalls of 500 - 600mm annually. It has Idodi, Pawaga and Ismani divisions.

1.6 Major economic activities

1.6.1 Agriculture

Agriculture is by far the most mainstay of the economy of Iringa Rural District with approximately 95% of population practicing mainly mixed farming at subsistence level. The major crops cultivated are maize and rice. Others include sunflower, cowpeas, tobacco, pyrethrum, groundnuts, potatoes and vegetables. Maize is the main staple food as well as cash crop, but its production level is diminishing following the land fertility exhaustion and high cost of farming and its rain-fed dependency.

To supplement scarce and unreliable rainfall, the district has traditional and improved irrigation schemes in Luganga, Mangalali, Nyamahana, Mapogoro, Kalenga, Kaningombe, Magubike, Tungamalenga, Mafuruto, Idodi, Magozi, Malinzanga, Mlenge, Magozi, Makuka, Cherehani- Mkoga, Kiwere and Ipwasi- Ndorobo villages. Construction of earth dams is also underway for rain water harvesting.

1.6.2 Livestock Keeping

Livestock keeping is another major economic activity, employing a good number of people. It is practised mainly in the lowland zone along river Little Ruaha. Estimates show that there are 150,810 cattle, 107,442 goats, 45,624 sheep, 2,743 donkeys, 36,179 pigs and 623,382 poultry. Most of the animals are indigenous reared under traditional ways, largely free grazing and tethering. The district council in collaboration with various livestock development partners has put in place livestock development programs.

1.6.3 Trading

Iringa district has several business undertakings ranging from kiosks, retail shops, bars and restaurants, to modern lodges and hotels. Other dominant trading activities include commercial business of maize, rice, fish and beef. Some traders engage in transport, communication and second hand textile.

1.7 Natural Resources

1.7.1 Forests

Iringa Rural District Council has 136,235 ha under forest reserves, of which 131, 253.7 ha are under participatory forest management; 4,982.2 ha under the District council and the rest are communal forest reserves. The council forests are categorized into natural forests and exotic plantation forests. A

vast area of the district land is covered with Miombo woodlands having dominant trees of *Brachystegia* and *Acacia* species.

The Midland Zone has little natural forest cover. Patches of natural forests are also found especially along the hill slopes and some valleys where farming has not taken place. The Lowland Zone is widely covered by natural forests. The rest of the area is left for wildlife management under Ruaha National Park and MBOMIPA.

Emphasis has been put on environment conservation programs especially tree planting. Substantial achievement in a forestation programs has come from huge assistance of Danish government (DANIDA) by funding Iringa Soil and Water Conservation Project (HIMA) and Natural Woodlands and Catchment Forest Conservation Project (MEMA).

1.7.2 Wildlife

Iringa Rural District is rich in wildlife that spread across areas of different status ranging from a Nation Park, Game Controlled Areas and Wildlife Management Area under MBOMIPA. Currently, Ruaha National Park covers an area of 20,226 km² after the inclusion of Usangu Game Reserve in 2008 - becoming the largest national park in Tanzania and East Africa.

Ruaha National Park represents transition zone where Eastern and Southern African species of fauna and flora overlap. It is a home to Greater and Lesser Kudu. The communities forming MBOMIPA retain 25% of game fees from tourist hunting and all sales accruing from resident/local hunting.

1.7.3 Fisheries

There are several areas in which fishing is highly practiced, especially in the lowland zone where river Little Ruaha and other small rivers flow across. Commercial fishing is hugely done around Mtera dam. Mtera dam is the main source of cold fish supply to Iringa Urban areas, Dodoma, Morogoro, Mbeya, Ruvuma and Dar es Salaam regions.

There are around 90 fish ponds for domestic consumption all over the district, together with subsistence fishing carried out along different rivers and swamps/ponds. The fishing industry is not well developed due to several reasons including lack of modern fishing vessels and preservatives.

1.8 Social services

1.8.1 Education

The district Council has 144 primary schools with over 60,000 pupils of which, 49.9% are boys and 50.1% girls. There are 123 pre-primary school classes. Secondary schools are 28 only. Efforts are being made to make sure that at least one secondary school is built in each ward.

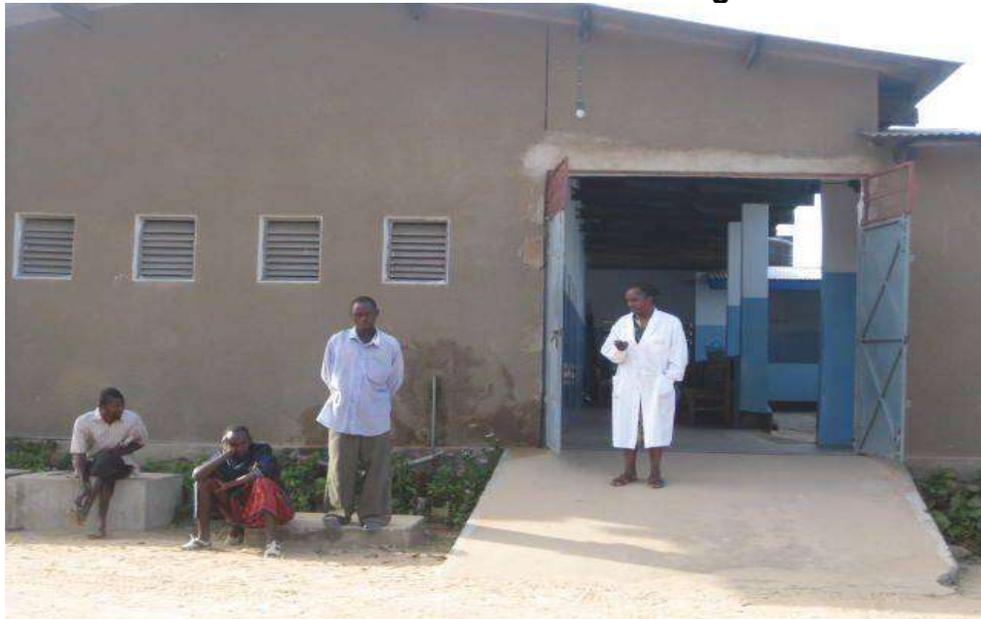
1.8.2 Water supply

As stated above, Iringa Rural District Council has 119 villages, of which 78 have water schemes. These villages have 197,809 people who are accessed to clean water, although only 60.8% get clean water within a range of 400 metres.

1.8.3 Health services

The three major health challenges facing Iringa Rural District are high prevalence of HIV/AIDS, malaria and maternal mortality. Community involvement in the health system is very essential. Currently, the district has 5 health centres (Plate 1) and 59 dispensaries.

Plate 1: Idodi Health Centre at Idodi Village



The district council established community health fund (CHF) in June 1999 whereby members voluntarily contribute T.Shs 5,000 annually and non members pay directly a fee of about 1,000 upon visiting a health facility.

Alongside this there are HIV/AIDS and health facility committees to ensure that the population receives appropriate and affordable health services.

1.8.4 Infrastructure

Iringa Rural District Council has 1,659 kilometers of roads accessible throughout the year. There are two highways connecting the district to Morogoro-Dar es Salaam and Mbeya, and Dodoma regions. The sector of transport plays a significant role in accessing and connecting productive rural areas to potential markets in urban areas.

1.9 The Profile of MBOMIPA

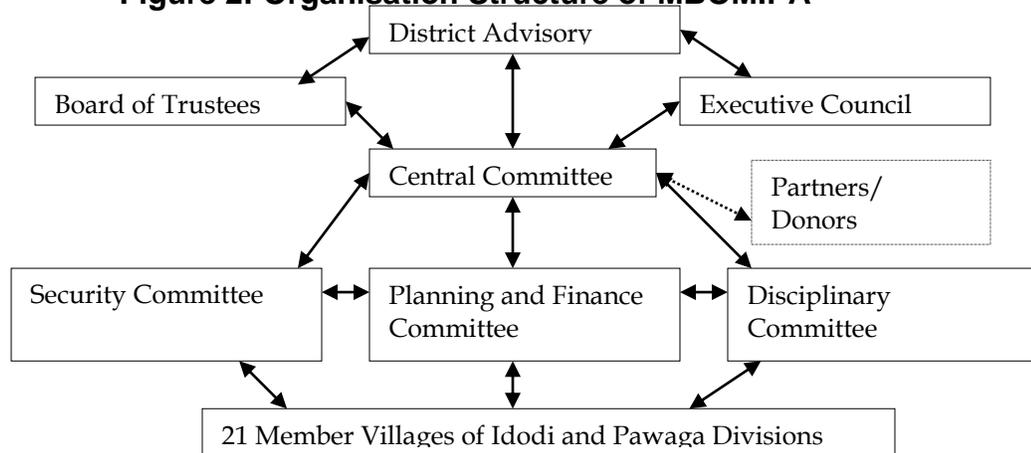
1.9.1 Background

MBOMIPA is an acronym for Kiswahili words: “**Matumizi Bora ya Malihai Idodi na Pawaga**”; that refer to sustainable use of wildlife resources in Idodi and Pawaga divisions. It is a wildlife management area (WMA) consisting 21 villages; 9 villages from Idodi division and 12 villages from Pawaga division. Initially, MBOMIPA was a government project managed by Wildlife Division and Tanzania National Parks (TANAPA) under the Ministry of Natural Resources and Tourism (MNRT).

Since 1997 MBOMIPA was funded by the British government through the Department for International Development (DFID) until 2002. The establishment of MBOMIPA is a result of a government Wildlife Policy adopted in 1998 to enable communities adjacent to core protected areas organize themselves and fully participate in the sustainable use and management of wildlife resources.

When DFID ended funding in 2002, the people of Idodi and Pawaga divisions decided to unite and takeover the project. The project was changed to a community association/organization to cater for management of wildlife resources. The name for an association had to remain MBOMIPA because by then it was already famous and well understood by most people of Idodi and Pawaga divisions. In 2007 MBOMIPA was upgraded and registered to become an Authorized Association (AA) and as well consequently got Wildlife Resources User Rights. Figure 1 shows the MBOMIPA project area.

Figure 2: Organisation Structure of MBOMIPA



MBOMIPA WMA occupies an area of 776.67 km² with a human population size estimated at 58,954; of which 28,470 (48.29%) are men and 30,484 (51.71%) are women inhabiting 10,203 households according to the population and housing census of 2002. The area covered by MBOMIPA is divided into four tourist zones:

- Lunda zone for game viewing, hotel and lodge construction
- Tungamalenga zone for game viewing, hunting and camping
- Mkupule/Kinyangesi zone for tourist hunting
- Kinyangesi zone for game viewing

After attaining legal status, apart from conservation obligations, MBOMIPA is entitled to carry out tourist hunting, game viewing, enter contracts/agreements with local and foreign investors for construction of camps and lodges.

1.9.3 Objectives of MBOMIPA

The main objective of MBOMIPA is to reduce poverty in the community through sustainable use and management of natural resources.

Specific objectives are:

- To involve Idodi and Pawaga divisions in the wise and sustainable use of wildlife resources
- To utilize income generated from the use and harvest of wildlife resources for development of member villages
- To conserve natural resources for the benefit of future generations

1.9.4 Major activities

- Conducting educational seminars and meetings on environment and natural resources management to villagers and their local leaders
- Sensitizing villages to allocate their land areas for wildlife management area
- Forming, facilitating and organizing village environment management committees
- Identifying and selecting qualified village game scouts (VGS) in each member village to participate in WMA patrolling
- Patrolling all zones under MBOMIPA WMA

1.9.5 Socio-economic gains

Since 2002, MBOMIPA has distributed a total of T.Sh123,022,000/= to member villages for development activities, especially social services such as health and education and more notably is the sponsorship of one orphan from each village to secondary school. The rest of the income is spent on running the office and allowances to VGS. Major income generating sources include:

- Tourist hunting
- Village membership fees
- Rest house renting
- Investment agreements
- Donor agencies
- Training fees charged to various institutions

1.9.6 Other Achievements

- Decline of poaching and illegal hunting incidences
- Increased environmental awareness
- Increased number of wild animals due to relatively effective and efficient poaching control
- Strengthened efforts and cooperation with key stakeholders in wildlife management
- Improved neighbourhood relationship, coordination and cooperation among WMA member villagers
- Increased tourist business-related activities
- Increased community support activities/projects from donors and/or partners

1.9.7 Problems and challenges facing MBOMIPA

- Wild animals, especially elephants, warthogs, monkeys and lions invading and destroying crops and livestock
- Lack of patrol vehicles
- Lack of skilled personnel in wildlife management and administration
- Poor infrastructure to accommodate and facilitate tourist operations and activities
- Limited funds to train and support VGS
- High demand of village projects to be supported by MBOMIPA
- Conflicting complaints on the quota distributed equally to member villages

1.9.8 Strategic plan to improve MBOMIPA

MBOMIPA has put down a strategic plan to implement the following activities by 2012:

- Build good relationship and coordination among all 21 member villages of Idodi and Pawaga divisions
- Organize meetings and seminars to share ideas and concerns geared to improve the performance of MBOMIPA including constitutional amendments
- Foster close and regular information sharing with key environmental and wildlife management stakeholders
- Purchase patrol vehicles and provide permanent employment for VGS
- Look for partners/donors to support improvement of tourist infrastructure in the WMA under MBOMIPA
- Propose the establishment of a forum for all national WMAs
- Continue to support village projects and educational assistance to helpless orphans

1.9.9 Criteria for identification of potential poachers

- Entering, staying or camping in WMA without permit or reasonable intention
- Possessing illegal weapons
- Hunting wild animals without license
- Deliberately setting fire in WMA
- Threatening or being scared upon encounter with VGS

1.10 Ruaha National Park

Ruaha National Park represents transition zone where Eastern and Southern African species of fauna and flora overlap. It is a home to Greater Kudu (*Tragelaphus strepsiceros*) and Lesser Kudu (*Tragelaphus imberbis*) which cannot be found anywhere else in the world.

Ruaha National Park is the largest National Park in Africa with 20,226 km² after the annexation of Usangu Game Reserve in Mbeya Region. It is located in the middle of Tanzania about 130 km from Iringa town. The name of the park "**Ruaha**" was derived from the Hehe ethnic word "**luvaha**" which means "**river**". River Ruaha flows along its South-Eastern margin and is the focus for game viewing and other tourist activities. The river harbours hippos and crocodiles, and is the only source of water for wildlife during dry season.

The park history dates way back to 1910 when it was gazetted as Saba Game Reserve by the Germans. The creation of a National Park in this area was first proposed in 1949 by Senior Game Ranger George Rusby. In 1951 it was gazetted by the British Colonial Authorities as an extension of the neighbouring Rungwa Game Reserve. People living in the new Protected Area were subsequently vacated. In 1964 it was elevated to a full national park status.

Ruaha National park has a high diversity of plants and wild animals including elephants, buffaloes, antelopes, zebras, giraffes, lions, warthogs etc; and abundant birds, reptiles and amphibians.

The headquarters of Ruaha National Park is located at Msembe sub village, 35 kilometres from Tungamalenga village - one of the two main gateways to the park. All residents of Msembe sub village are park workers with their families. The human population size stands at 500 with 1 primary school, 5 teachers, 1 dispensary and 1 entertainment social hall (Lyambangali).

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 for all WMAs 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”

The specifically socio-economic baseline survey was supposed 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 comprised the Terms of Reference (TORS) and described the Scope of Work (SOW) for this consultancy.

2.2 Area of the study

This study was carried out in MBOMIPA WMA. This WMA is located in Iringa Rural District in Iringa Region and borders Ruaha National Park. It comprises a total of 21 villages with an estimated total population of 58,954; of which 28,470 are men and 30,484 are women, as updated accordingly after the population and housing census of 2002. MBOMIPA was officially registered as a Authorized Association (AA) in 2007.

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 would be used for monitoring purposes and determining the level of changes in the key indicators such as incomes, number of households involved in tourism related businesses, nature of rural livelihoods, status on biodiversity with each phase comprising 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 determined by the methodology and structure that was applied to all 5 WMAs. In this case even the sampling strategy followed the pattern that was used in other 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 into 41 respondents per village. Since the MBOMIPA WMA has a total of 21 villages we had to recruit a total of 861 in our sample. However we managed to recruit total of 713 (82.8%) respondents, which is enough to carry out any statistical social analyses.

According to Bailey (1994), 30 respondents is the bare minimum sample for studies in which statistical data analysis can be done. Also Saunders et al. (2007) emphasises that, a sampling intensity of 30 households is regarded to be a reasonable sample size usually used in social science study and statistically large enough to make scientific conclusion. However, Matata *et al.* (2001) argued that having 80-120 respondents is adequate for social-economic studies in sub-Saharan African households. Thus, a sample size of seven hundred thirteen respondents in this study was therefore by far more than that minimum size as suggested by aforementioned scholars. Efforts were made ensure that at least there was an equal representation between men and women in the sample.

For qualitative data, the type for sampling informants was purposive. The informants 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.

At Respective Study District

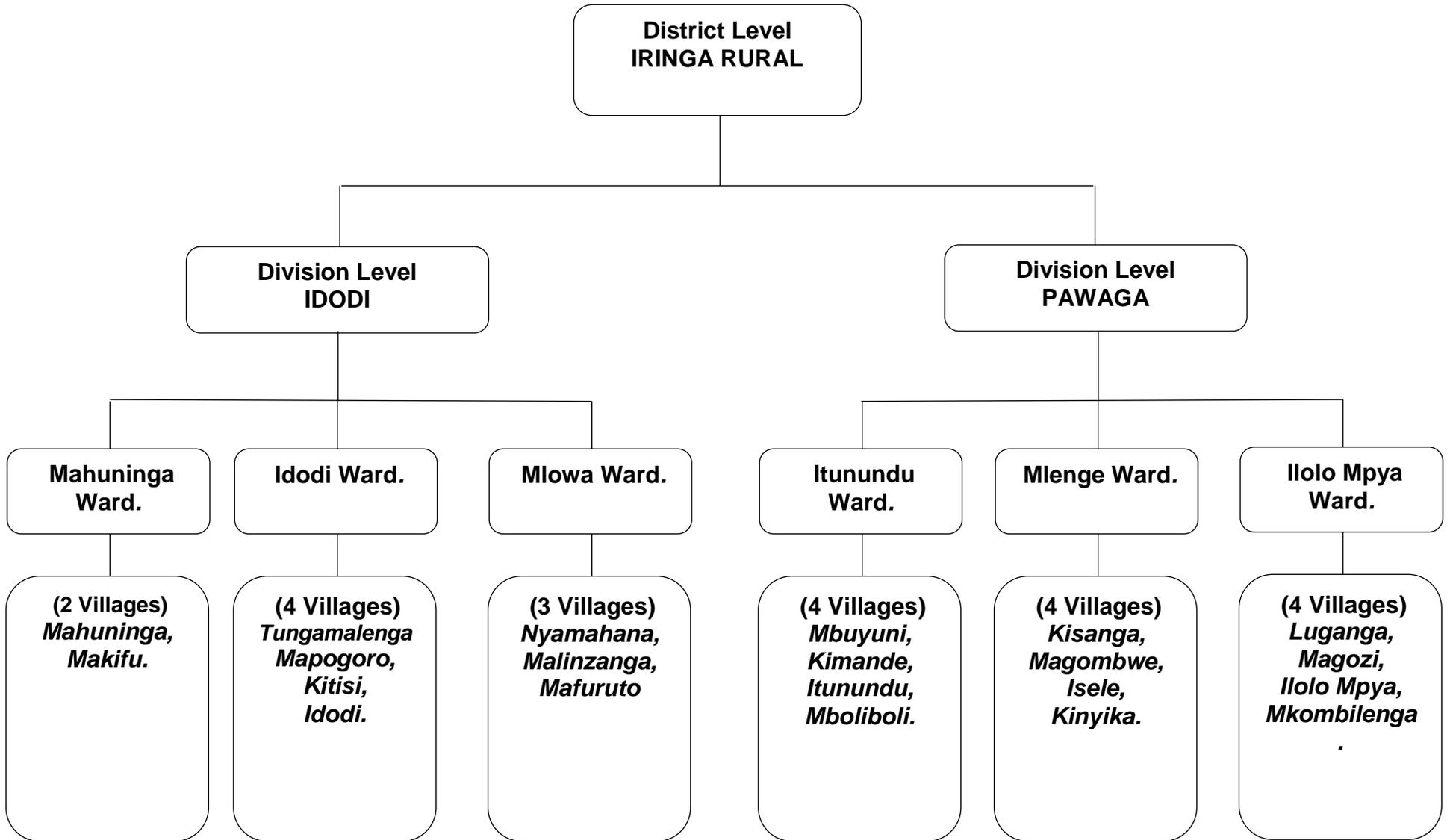
- District Natural Resources Officer
- District Game Officer
- District Land Officer
- District Community Development Officers

At Village/Research Site Level

- Random or purposive sample of villagers/community members (M + F =713)
- 21 Village Chair Persons
- 5 administrative officials of the MBOMIPA WMA
- 21 Village Executive Officers
- 1 Natural Resources Conservation Officer who work at ward level
- Ward Executive Secretaries
- 3 Wild Game Officers working in the Study Area
- 6 Village Game Scouts

Villages with similar socio-ecological characteristics such as settlement pattern, social services density, climatic factors, and geographical landscape were lumped together and one representative village was selected for household and FGD survey and the rest villages with similar characteristics were surveyed using a quick-scan approach.

Figure 3: Divisions, Wards and Villages included in the Study



2.3.2 Methods of data collection

The study employed a variety of both qualitative and quantitative methods of data collection including:

- Documentary and Library Research.
- Administration of a Quantitative Social Survey Questionnaire.
- In-depth Interviews with key informants/opinion leaders, District Advisory Board Village, Approved/Authorized Associations (AA) Community Based Organisations (CBO).
- Focus Group Discussions with a sample 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 method was used in the study is presented hereunder below.

2.3.2.1 Documentary and Library

We understand that in order to be fully informed one must be well versed with various policies of Tanzania that relate to wildlife management, tourism and conservation. In this regard the study began with making thorough reviews of all policy documents and publications that are relevant to this study. We also understand that since the introduction of MBOMIPA as a community based natural resources organization responsible for the management of natural resources on village lands, a number of studies have been carried out to date.

In this regard, we worked closely with the WWF - Tanzania Country Office, Ministry of Natural Resources and Tourism (MNRT), Iringa Regional Office, Iringa Rural District Office, WCS and MBOMIPA itself, to ease access to the existing documentation, and consulted officials who work directly or are familiar with WMAs and CBNRM policy documents.

It was important for the Research Team to appraise these documents in order to clearly understand how WMAs have performed overtime and what changes have taken place as well as what challenges lie ahead.

2.3.2.2 A quick-scan of income generating activities at village level

While in villages, we carried out a very quick scan of all income-generating activities that exist in the area. This information was collected in terms of type of income generating activity, nature of key participants (male or females) and estimated annual income generated by these activities. This quick-scan was supplemented with a mapping out exercise of these activities in order to determine their predominant area of location and why. The quick-scan analysis is important because it helped us to:

- Identify the sources and type of income in selected villages that form the MBOMIPA WMA.
- Show their predominant location areas as well as the main participants by type of activity- i.e. whether the main operators of these activities are young or older people, males or females/ boys or girls.
- Understand the type of activities that seem to be engaged by majority people and why.
- Evaluate existing economic activities in the selected WMAs.
- Assess the market status goods and services produced in the WMAs
- Predict the type of income-generating activity that tends to yield higher revenues.
- Identify potential income generation activity that can flourish in the area

2.3.2.3 Administration of a social survey

We designed a social survey questionnaire and administered it to a sample of villagers in each village that is part of the MBOMIPA WMA. The sampling design and procedure was developed to suffice the random sample that was used. This questionnaire collected information in the form of quantitative data by considering 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 levels of income and main expenditure patterns.
- Nature and type of social relationships including gender relations
- People's attitudes, perceptions and views towards existing CBNRM program/WMA.

At 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 assigned and dispersed to sub villages to look for heads or representatives of households for filling the narrated questionnaires.

Identification of households was being carried out by chairpersons in their respective sub villages. Households ranged from those with better houses to poorly grass-thatched slums. Each RA was instructed to fill at least 10 questionnaires. At the end of the survey, 16 villages were fully surveyed whereas quick scan undertaken in 5 villages amounting to 21 villages in Idodi and Pawaga divisions that form MBOMIPA WMA.

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 resources conservation officers, health officers, investors operating in the village etc. Besides these officials, we also identified some village members who are well informed about wildlife and natural resources conservation, management and tourism.. At the district level we included District Community Development Officers, The District Natural Resources Officer; district Land Officer, District Game Officer. These in-depth interviews 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 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 Discussion

In order to capture a social setting, the variation of views, attitudes and perceptions of community members about MBOMIPA WMA, the current global financial crisis and how it affects their communities, we organized at least one focus group discussion with participants ranging from 8–14 people in each village. *In order to register a gender-perspective of these issues, we ensured that the group comprises both male and female participants. The focus of the discussion was on the following issues:*

- What are the dominant economic activities in the area? Asking them whether they can rank these activities in terms of their preference.
- Let people discuss the situation of poverty in their villages and the kind of activities that people engage in order to cope with the situation.
- People's views, attitudes and perceptions of the WMAs. Whether WMAs have improved their living conditions or not? And if not, why?
- Any noticeable change in the operations of the WMAs in terms of tourists, benefits, incomes, patrols etc.
- What major and serious social and economic problems do people in these villages experience? How do they surmount these problems?
- Whether the people in the village are interested in the Cash-for-Work Program? If so how would they like the cash-for-work program organized? What kind of activities in the Cash-for-Work Program are people interested in participating and why?

Organizing group discussions around these issues revealed to us how diversified people's views are as well as areas of consensus among and within communities. Finally, this helped us gauge what the majority community members felt about these issues. That is why it was important for us to use the FGD as one of the tools for data collection.

2.3.2.6 Non-Participant Ethnographic Observation and Assessment

Besides all the other methods of data collection described above, we also planned and performed a non-participant ethnographic observation and assessment of various things, programs and projects within the MBOMIPA WMA. For example, we:

- Assessed the nature as well as quality of social services-like religion, health and education.
- Assessed the nature and quality of living houses.
- Studied the availability and quality of road infrastructure and other systems of communications and transport.
- Examined the quality of markets that exist at village level and the common goods that are sold in these markets.
- Assessed the nature and quality of livelihood assets, land use patterns and production trends.

We believe strongly that the ethnographic observation and assessment helped us to get connect people's responses generated via other methods of data collection and what actually happens daily in people's lives. It assisted us to thoroughly understand the nature and quality of rural life.

2.3.2.7 Data processing, analysis, quality control and assurance

The qualitative data was analyzed using content analysis. Specific themes that are relevant to the study objectives were identified. Then all the information collected were sifted through and classified/coded according to the identified themes. Depending on the amount of data collected, we decided to use computer software (Envivo) for analyzing qualitative data. All quantitative data were processed and cleaned up by using the SPSS and in some cases, the Excel program. All information then will be presented descriptively using graphs, pie charts, tables (with percentages), and narratives. The percentages are used in order to determine both the nature and strength of some variables.

CHAPTER THREE

SOCIO-DEMOGRAPHIC CHARACTERISTICS AND ECONOMIC STATUS

3.1 Population Characteristics and Social Relationships

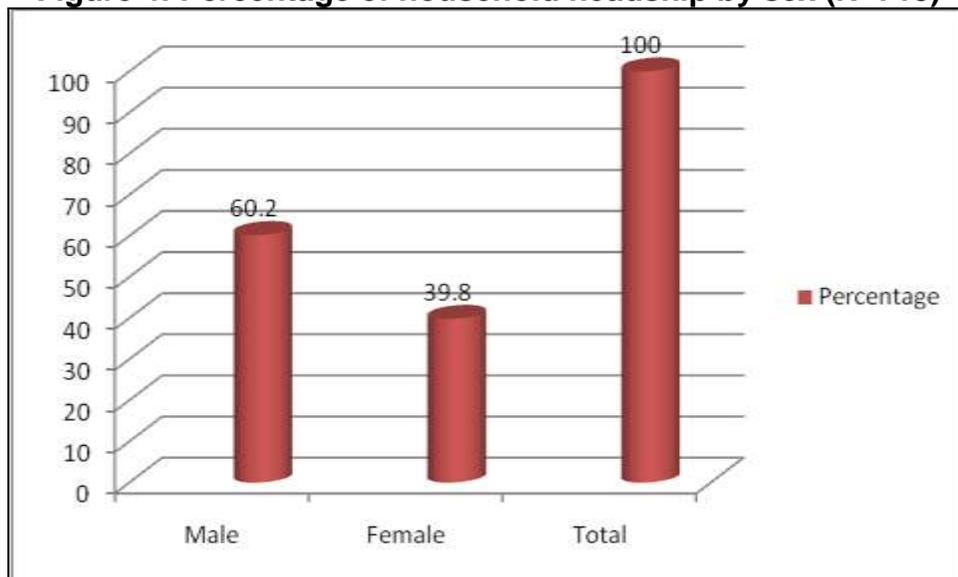
3.1.1 Population Characteristics

3.1.1.1 Household Headship

According to URT 2006, the head of a household is a member of the household who is acknowledged by other members of the same household as their head. In most African traditions and customs, the household is the basic unit of social structures (Lubida, 2004; de Sherbinin, 2006). The heads of households or their immediate in the familial hierarchy were the respondents in this study. Results in Figure 4 show that the majority of the households (60.2%) were male-headed. As described by Manyong *et al.* 2008, such male-dominated household headship is typical to most countries situated in Sub-Saharan Africa.

It could be suggested that such male dominance might affect the decision making on resource management at household levels especially in terms of the use of income accrued from household occupations. Imbalanced decision making on household resources can be an impediment to poverty reduction strategies. The study by Manyong *et al.* did however show a large proportion of the respondents acknowledging that gender balance in household decision making over resource utilization and management was on the increase.

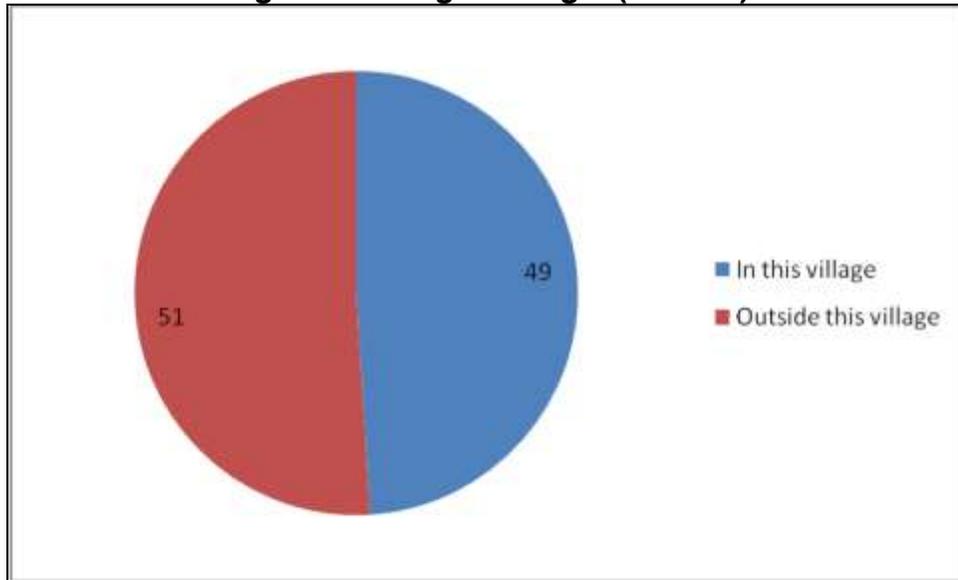
Figure 4: Percentage of household headship by sex (N=713)



3.1.1.2 Residence in Current Villages.

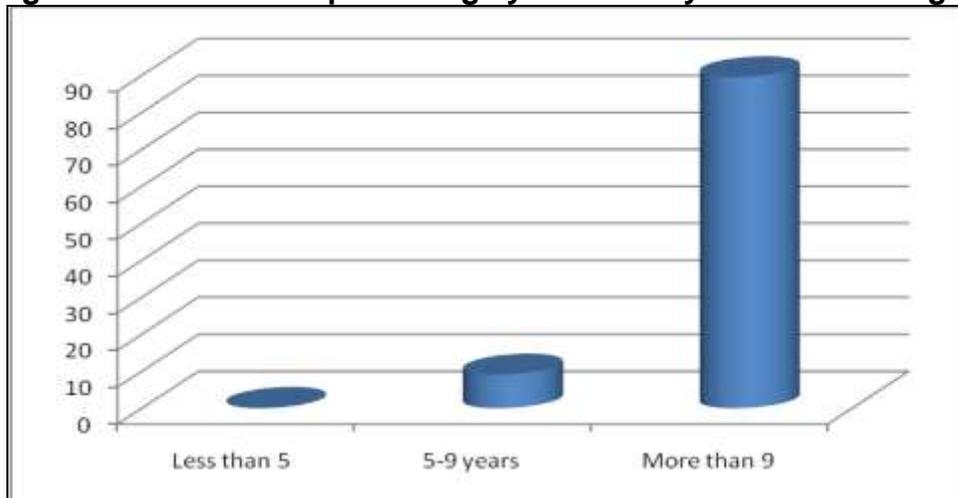
The study further showed that the majority (51%) of households originated from other areas and had migrated to the current villages of residence as indicated in Figure 5.

Figure 5: Village of origin (N = 700)



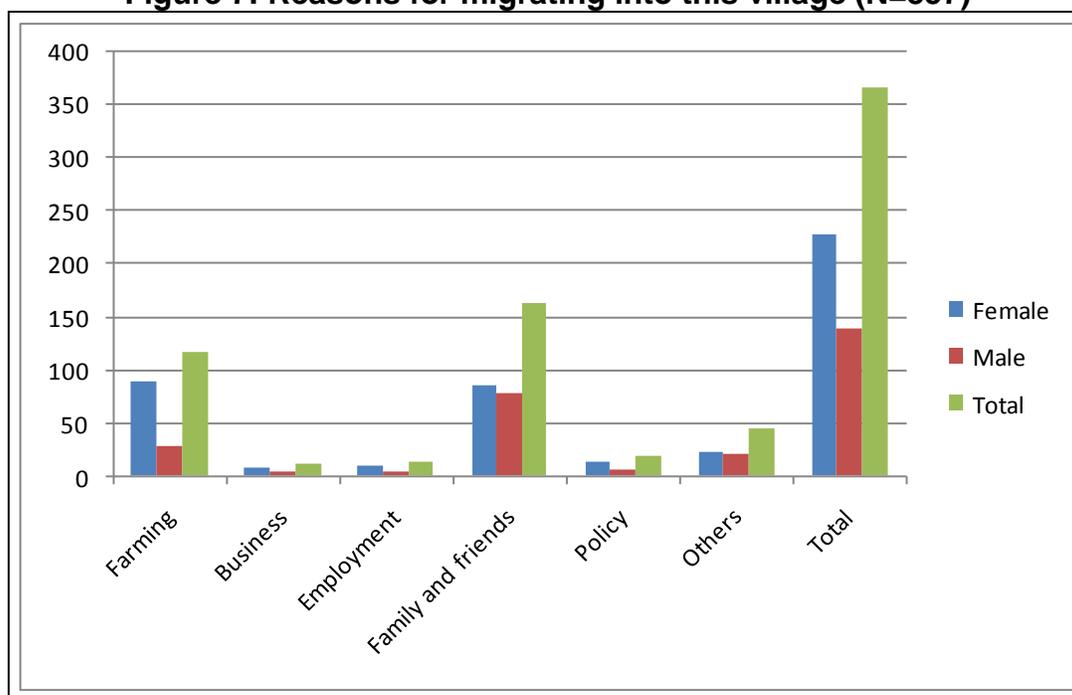
Duration of stay in the current village differed from one household to another as indicated in Figure 6. The figure shows that more than 90 percent of households have stayed in their respective villages for more than nine years, which is enough to understand the WMA as an AA (it was registered in 2007).

Figure 6: Households percentage years of stay in current villages



When asked about why they had migrated to the current villages, households had various reasons as revealed in Figure 7.

Figure 7: Reasons for migrating into this village (N=357)



Farming and the influence of family and friends were the major reasons mentioned by most households as reasons for migrating to their respective villages. It could be argued that the existence of vast and fertile land in most villages surrounding MBOMIPA was the underlying factor that attracted such migration.

3.1.1.3 Households' marital status

For marriages, it was learnt that many men/women were married to a single wife/husband. This could be assigned to the fact that the area is dominantly Christian which advocates one wife per husband. Polygamists are few at 12.9 percent as compared to 60.1 monogamists. Interestingly though, the number of singles is similar to the number of cohabiting respondents at 5.8 and 6.6 percent respectively.

While conducting IDIs and FGDs (as shown in Plate 2), it was pointed out that polygamous marriages are declining due to both living hardships and as a response to HIV/AIDS campaigns that encourage couples to abide to one faithful and safe partner.

Plate 2: Session of Focus Group Discussions at Mafuruto Village



In most cases, the number of people who were born in the WMA villages was found to be more or less similar to those who had migrated. The main reasons for moving to these villages were farming, business and joining families. Nowadays pastoralists also move into the area in search of grazing areas for their livestock.

Table 1: Distribution of respondents by marital status

| Marital Status | Frequency (N) | Percentage |
|--------------------|---------------|--------------|
| Single | 41 | 5.8 |
| Married Monogamous | 428 | 60.1 |
| Married Polygamous | 92 | 12.9 |
| Divorced | 31 | 4.4 |
| Widowed | 73 | 10.3 |
| Cohabiting | 47 | 6.6 |
| Total | 712 | 100.0 |

N = Number of respondents

3.1.1.4 Age of respondents

Age is highly descriptive of a population with the age structure of a population being a reflection of population dynamics in the past. Age affects the future growth of the population and its structure changes in the future (URT, 2006). Table 4 indicates that the majority of respondents (85.2%) were concentrated in two age groups only (20 – 39 and 40 – 64 years old), and only 9.3% of respondents were above 64 years old. These dominant age groups represent the economically productive peoples since they fall within the range of 15 to 64 years old (URT 2002). Thus, all adults can be seen to be

strong, energetic and participants in the various household economic activities and hence are productive in their households and community at large. The substantial engagement of energetic and dynamic age groups in the timber businesses also signifies the sustainability of the enterprise.

Table 2: Age of respondents

| Age group | N | Percentage |
|--------------|------------|------------|
| < 20 | 2 | 0.3 |
| 20 – 39 | 351 | 49.2 |
| 40 – 64 | 251 | 36.0 |
| Above 64 | 42 | 9.3 |
| Missing | 37 | 5.2 |
| Total | 100 | 100 |

N = Number of respondents

3.1.1.5 Households education level

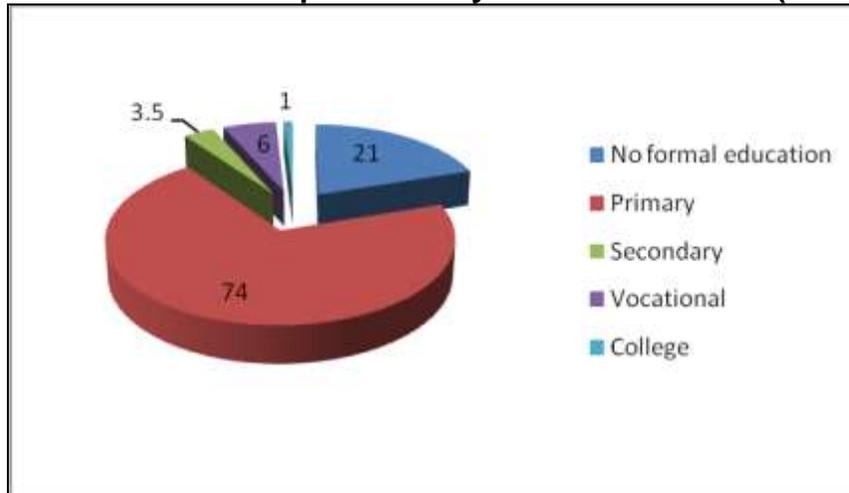
Primary level education leavers are many and account for 74.0% of the total sample size interviewed. As shown in Figure 8, the number declines with higher levels of education in the way that only 1 respondent had gone to college level. This might be owed to the fact that many college leavers migrate to urban areas to seek jobs leaving behind only primary level leavers. Plate 3 indicates the school environment.

Plate 3: A primary school building at Mapogoro Village supported by MBOMIPA WMA



21.7 percent were found to have had no formal education. This is an especially high rate of illiterate people especially because all of the villages in the study had at least one primary school within easy access. It could be argued however that this percentage is made up of pastoralists like Maasai, Sukuma and Mang'ati who are not settled with their livestock.

Figure 8: Distribution of respondents by level of education (N=709)



This data showed however that the majority study sample had good literacy capacities in terms of reading and writing and hence could easily adopt business skills and strategies which could improve their household incomes. As described by Nkonya *et al.*, 2004, high education levels can be an opportunity for agricultural development since education normally has a significant influence on a household's income strategies, land management and efficient labour use. Manyong *et al.* (2008) argue that years of schooling above four years permit the candidate to read and write, which is an essential attribute for the effective adoption of technologies.

Other scholars such as Kajembe and Luoga (1996) contend that education promotes awareness, positive attitudes, values and motivation. Education also tends to stimulate self confidence and self reliance. It is regarded as a key to better opportunities for employment, accessibility to information, services and independent and correct actions with regard to survival and development. People with better education tend to plant more trees for their own use around their homesteads as opposed to those who are less educated, and stand a good chance of adopting new technologies in conserving, processing and the marketing of forest products (Mbwambo, 2000). Moreover, increases in educational attainment enables people to positively deal with sustainable forest management. Indeed, education is an important parameter regarding human capital for reducing inequality and poverty and laying the foundation for sustained economic growth, effective institutions and sound governance.

3.1.1.6 Households level of education by sex

Some parents tend to regard girls as only future wives waiting to be married, so they don't encourage them to join schools. This is seen in Table 5 with just over 50% of the women respondents having had no formal education. Yet in recent years, the government through its Primary Education Development Program (PEDP) has been sensitizing people on the importance of enrolling their children at a school once they reach the age of 7.

Table 3: Respondents' level of education by sex

| Level of Education | Sex of Respondent | | |
|--------------------|-------------------|------------------|-------------------|
| | Male | Female | Total |
| No. Formal | 74 (48.1) | 80 (51.9) | 154 (100.0) |
| Primary | 333 (63.4) | 182 (36.6) | 525(100.0) |
| Secondary | 17(68.0) | 1(1.1) | 3(3.5) |
| Vocational | 3(75.05) | 1(25.0) | 4(100.0) |
| College | | 1(100.0) | 1(100.0) |
| Total | 427(60.2) | 282(38.8) | 709(100.0) |

Numbers in parentheses are percentages across the table

The findings reveal that most of the households in the study had inhabitants with no less than basic primary education. These results concur with Owen et al. (2005) who argued that being knowledgeable of something increases the ability to control your livelihood. This is precisely because education normally has a significant influence on a household's income strategies, land management and labour use (Nkonya et al., 2004).

3.1.2 Social Relationships

3.1.2.1 Gender issues

With regard to social relationships, awareness campaigns are increasingly focussing on issues regarding gender equality and participation of women in socio-economic issues. Civil society organizations have played a major role in sensitizing both men and women in emancipating women from patriarchal dominance. Although family issues are still decided by husbands, female respondents agreed that there is a spirit of sharing and general consensus among family members, especially for couples. While conducting FGDs at Kitisi Village in Idodi division, one respondent said: *"The head and decision maker of the household is my husband, but nowadays there is a better mutual cooperation on family matters."*

Another respondent from Nyamahana Village commented: *“The head of the household is a woman but a man is the one who makes decisions. Nowadays we discuss and agree on family issues. There is a change as we see many women facing men with more confidence and freedom.”* A growing understanding and concern on matters with regards to gender equality is quite encouraging despite of the continuing challenges.

Table 4 shows decision making trends at the household level, whereby shared agreement and cooperation among couples is increasing as we can see 40.6% decisions are made by both husband and wife although still a husband makes more decisions at 50.9% as compared to 5.7% for wives.

Table 4: Decision making on income expenditure at household level

| Sex | Frequency | Percentage |
|--------------|------------|--------------|
| Husband | 357 | 50.9 |
| Wife | 40 | 5.7 |
| Both | 285 | 40.6 |
| Don't know | 10 | 1.4 |
| No response | 10 | 1.4 |
| Total | 702 | 100.0 |

Furthermore, gender mainstreaming has been occurring in leadership positions. Kitisi Village Government for instance, has both top positions taken by women. The Village Chairperson is Mrs Jonisia Pinda and the Village Executive Officer is Zawadi Gembe.

Small businesses like kiosks, food vending (informal catering services), local brewing, weaving and the processing of harvested crops for storage or for sale are increasingly dominated by women. Although discriminative traditional norms still prevail in many urban and rural societies, there are generally affirmative trends and respect for gender inclusiveness in many aspects as seen across the study area.

3.1.2.2 Ethnicity

Ethnic groups found in the MBOMIPA study area are Hehe, Bena, Gogo, Sukuma, Maasai, Barbaig and Mang'ati. Hehe and Bena are dominant and their population size overlap in some areas. Hehe language is also widely spoken by other tribes including Maasai. Sukuma, Mang'ati and Barbaig. The Maasai are purely pastoralists with huge herds of cattle although a few of them are practicing agriculture as well, especially in terms of rice cultivation in Pawaga division.

3.1.2.3 Religious beliefs

Christians and Muslims dominate the area but Christians are more spread in numbers and in groups. There are Roman Catholic, Lutheran, Pentecostal, Orthodox, SDA and Moravian Churches. The Orthodox Church is the fastest growing Christian denomination in the area. A number of newly built orthodox churches are seen all over the area, especially in Nyamahana, Malinzanga, Idodi and Mafuruto villages. The secret behind the rapid growth, among others, was learnt to be an exemption from tithing and the provision of offerings including free food for poorer families.

Traditional beliefs are also prevalent for both believers and non-believers of the major religious groups. In Nyamahana for instance, one respondent said: *“The number of people practicing traditional beliefs and rituals might as well surpass foreign beliefs, i.e. Christians and Muslims.”* However, traditional practices seem to be entertained by most people regardless of their affiliation to Christianity or Islam.

3.1.3 People’s Socio-Economic Status

3.1.3.1 People’s Living Standards and Conditions

Most people have managed to build houses with burnt bricks but few have their roofs thatched with corrugated iron sheets. The table below shows that more than 80% of the sample population own houses. Through ethnographic observations and quick scans people are proud of having their own houses. One leader interviewed said: *“Living standards are improving as villagers manage to buy and own radios, television sets, generators, solar panels, motorcycles and bicycles.”*

Table 5: Ownership of houses by sex (N = 709)

| Sex | Own | Rent | Free under agreement | Staying with friends | Total | Percent of total |
|--------------|------------|-----------|----------------------|----------------------|------------|------------------|
| Male | 376 | 28 | 19 | 4 | 427 | 60.2 |
| Female | 246 | 19 | 16 | 1 | 282 | 39.8 |
| Total | 622 | 47 | 36 | 5 | 709 | 100.0 |

Plate 4: House built of burnt bricks at Mahuninga Village



Building houses seems to be relatively cheap because making bricks is an activity that is done within the homestead (Plate 4). However more than half of the sample population have their houses roofed with grasses (Figure 9) possibly due to the high prices of corrugated iron sheets. Some grass thatched houses are extremely poorly built (Plate 5). While conducting qualitative data collection some respondents said they buy one sheet per year and that it can take more than 7 years to complete the whole house.

Figure 9: Distribution of respondents' by roofing materials (N=711)

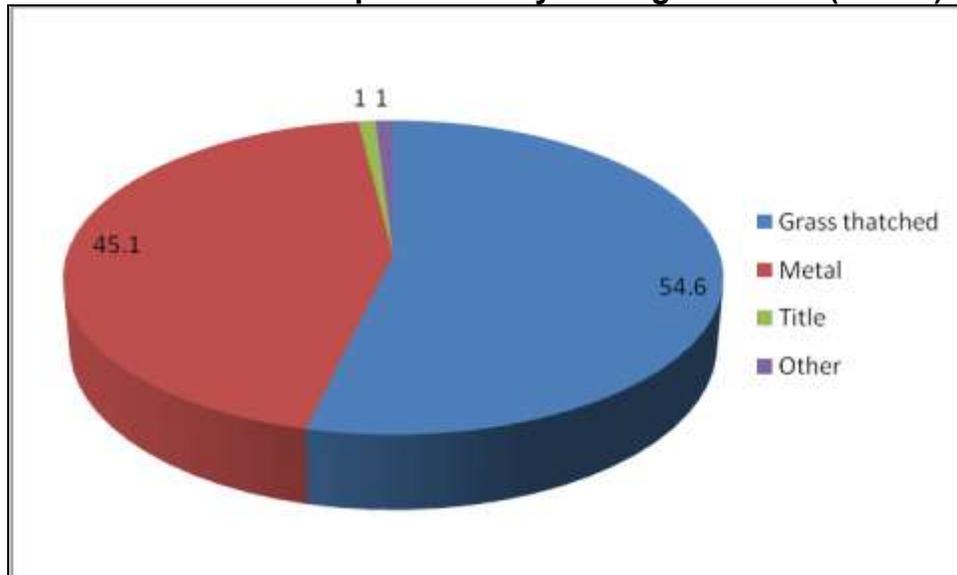


Plate 5: One of the poorly built houses at Tungamalenga Village



Other housing conditions assessed as indicator of livelihood asset are indicated in Figure 10.

Figure 10: Other households' housing conditions

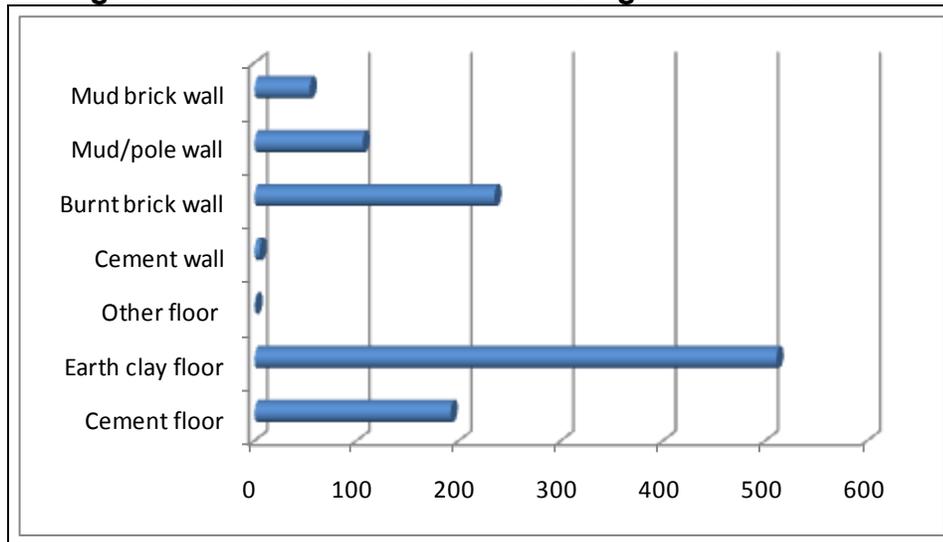


Figure 10 shows a large proportion of houses made with an earth clay floor though the general move towards constructing improved housing (i.e. burnt bricks/block walls and cement floors) is encouraging and continued work is needed in terms of ensuring a good quality of life.

3.1.3.2 Socio-economic dimensions

Tungamalenga village in Idodi division is growing fast economically due to the booming tourist-related businesses and social interactions. There are a number of tourist camps and lodges including zoos and game sanctuaries for game farming, breeding and ranching. Tourist benefits are more clearly seen at this village than in other villages in Idodi division. In Pawaga division, Itunundu village is becoming a small town with towering piles of rice (Plate 6) ready for wholesale. Business people come from different corners of Iringa region to look for rice in Pawaga area, thereby in turn playing a multiplier effect for other trading opportunities and increasing circulation of money. Itunundu has become a central trading centre whereby other village come to sell and purchase various goods.

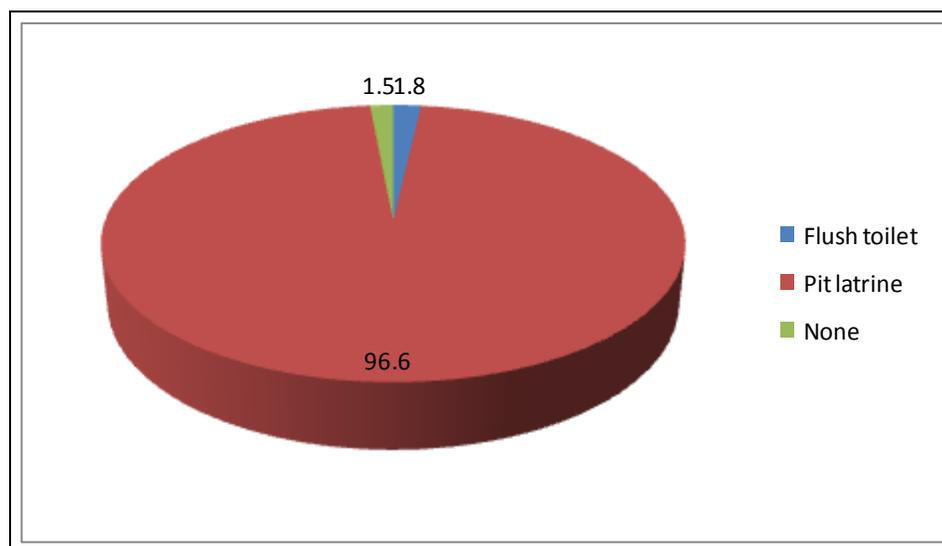
Plate 6: Piles of rice bags at Kinyika Village in Pawaga division



3.1.3.3 Households' distribution of toilets

Out of 711 respondents, about 15 percent were sharing toilets and the remaining percentage had their own toilets while 1.5 percent households had no toilets at all (Figure 11). This signifies the importance of more awareness on public health in the area. Diseases such as cholera and typhoid can be pronounced in areas with no or poor toilet facilities.

Figure 11: Households' ownership of toilets (N=711)



Another respondent confidently said that progress in livelihoods is clearly seen and evidenced by the number of modern houses, and in the way that each village has a dispensary and a primary school, and roads though rough, but are passable throughout the year (Plate 7). Although challenges and conflicts are still a problem, the improvement of social infrastructures and public services is encouraging.

Plate 7: Villagers maintaining rough earth road at Mboliboli Village



3.1.3.4 Household's ownership of disposable assets

The analysis of a household's non-essential or disposable assets like radios, mobile phones and televisions was used as an indicator of disposable income. Table 6 shows that most respondents owned radios (about 70%) and cell-phones (39.3%).

Other physical assets owned included television sets, DVD/VCD, refrigerators and satellite dishes. Radio and cellular phones were used as a means for communication for normal communication as well as for business purposes especially for the rice market in Iringa town. One respondent affirmed that some development indicators are conspicuous in most villages. He said: *"We have mobile phones that help us to contact traders when our produces are ready for market. Approximately 30 percent of villagers possess mobile handsets, and all major network providers (VodaCom, tiGO and Zain) are reachable."*

Experiences from Mali and Uganda show that the local (community) radio was the main medium for disseminating market information, since it was cost effective and efficient (Mukhebi *et al.*, 2007). This also could be applied in the study villages as most households owned radios.

Table 6: Household's disposable assets (N=713)

| Sex | TV | VCD/DVD | Satellite Dish | Radio | Refrig. | Cell phones | Land line | | |
|--------------|----------------|----------------|----------------|------------------|----------------|------------------|---------------|--|--|
| Male | 12 | 10 | 14 | 326 | 5 | 175 | 3 | | |
| Female | 10 | 6 | 11 | 171 | 5 | 105 | 4 | | |
| Total | 22(3.1) | 16(2.2) | 25(3.8) | 497(69.7) | 10(1.4) | 280(39.3) | 7(1.0) | | |

Numbers in parentheses are percentages against N.

The presence and ownership of radios and cellular phones as physical assets by the respondents has the ability to facilitate linkages between sellers and buyers of community products like rice and maize. The facilitation can be in terms of provision of relevant and timely marketing information, along with the provision of a transparent and competitive market price notification mechanism that utilises information and communication technologies (ICTs). The study by Mukhebi *et al.* (2007) pointed out that the communications revolution is occurring across Africa.

The liberalization of the communications sector in many African countries has made such communication media available in the rural areas. Previously under-developed and excluded villages now have opportunities to access markets and market information with the help of mobile phones and the FM radio stations. In this way there are new opportunities for testing new models for reaching the rural poor with market information and market linkage services.

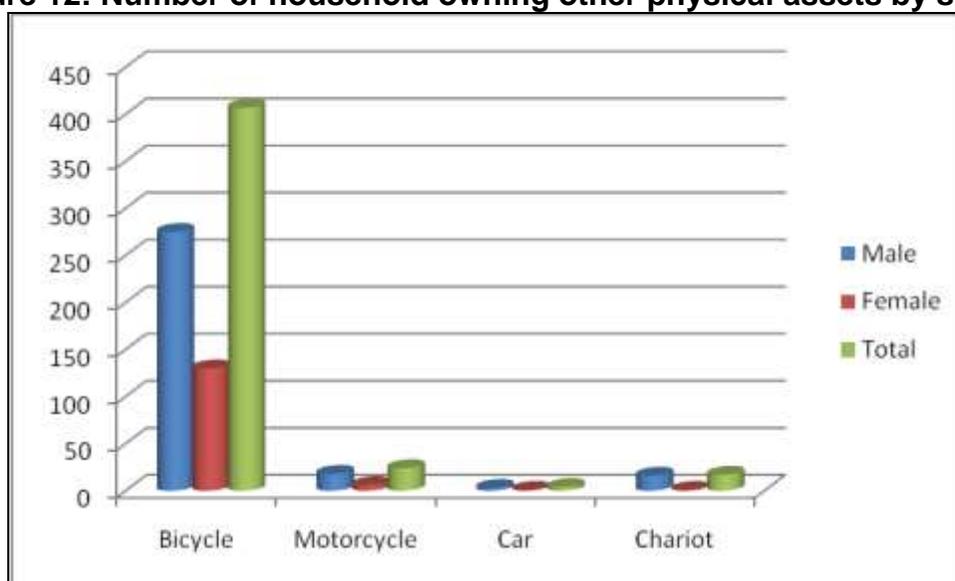
Furthermore, with these modern ICTs, there is extraordinary potential to deliver remunerative market information and thus contribute to alleviating poverty and transforming social and economic conditions. However, Mukhebi *et al.* (2007)

asserts “information technology, together with the ability to use it and adapt it, is the critical factor in generating and accessing wealth, power, and knowledge in our time”.

3.1.3.5 Ownership of other physical assets

Figure 12 shows a growing number of households owning important physical assets such as bicycles, cars, motorcycles, and chariots. These assets are important in ensuring transportation of both farm products and humans. Such accessibility can eventually ensure increased efficiency in their daily productive activities.

Figure 12: Number of household owning other physical assets by sex



3.1.3.6 Households’ sources of drinking water and energy by sex

Dependency on drinking water from the river and other unsafe sources makes the divisions in the study area prone to water-borne diseases.

Table 7: Households’ source

| Sex | Drinking water | | | | | | Energy | | | | | | |
|--------------|----------------|------------|-----------|-----------|------------|-----------|-----------|----------|----------|-----------|------------|-----------|----------|
| | PP | PT | W | PL | R | Other | G | CB | E | C | FW | K | Other |
| Male | 11 | 232 | 7 | 52 | 97 | 11 | 5 | 3 | 0 | 18 | 379 | 14 | 4 |
| Female | 18 | 154 | 7 | 32 | 55 | 7 | 5 | 1 | 1 | 11 | 256 | 6 | 1 |
| Total | 29 | 386 | 14 | 84 | 152 | 18 | 10 | 4 | 1 | 29 | 635 | 20 | 5 |

PP = Private piped water; PT = Public tape; W = Wells; PL = Public tape; R = River; G = Generator; CB = Car battery; E = Electricity; C = Charcoal; FW = Firewood; K = Kerosene

3.2 Main Economic Activities Existing in the WMA

3.2.1 Agriculture

Agriculture, livestock keeping and business-related activities are the major socio-economic engagements in the area (Table 8). Fishing is practiced in a small scale along the Ruaha River that largely flows in Pawaga division. Major crops cultivated are rice (Plate 8) and maize, while minor ones are sweet potatoes, sunflower, sugarcane, finger millet, groundnuts, and horticultural crops - including onions, tomatoes, and various types of vegetables.

Plate 8: Paddy cultivation at Kimande Village in Pawaga division



Comparing the productive activities that people engage in, we can see that more males (66.4%) deal with cash crop farming, whereas females lead males slightly at 50.9% in food crop farming. Small businesses like catering services/food vending (mama lishe) and petty trading are done by women by 60.8%. This is reasonably true because even local brew that is often taken by men is sold by women.

Table 8: Trend of productive activities by sex

| Activities | Sex of respondent | | Total |
|-------------------|-------------------|----------|------------|
| | Male | Female | |
| Cash crop farming | 71(66.4) | 36(33.6) | 107(100.0) |
| Food crop farming | 26(49.1) | 27(50.9) | 53(100.0) |
| Small business | 20(39.2) | 31(60.8) | 51(100.0) |
| Wage employment | 109(69.4) | 48(30.6) | 157(100.0) |

Numbers in parentheses are percentages across the table

Most paddies are found in Pawaga division whereas in Idodi both rice and maize are produced. The soil in Pawaga and Idodi has high fertility that needs no

chemical fertilizers. A number of respondents showed that they came from various areas to Idodi because of naturally fertile soils in both divisions. It was revealed that high quality rice comes from Idodi. As a result, prices are high and sometimes expensive because transporting it to Iringa town for special milling machines increases the cost. Farmers of Pawaga division produce more rice than Idodi, sometimes using it to exchange with maize, besides earning cash money. Farms are either permanently owned or on lease to landless villagers. Generally, more than 90 percent of the people in Idodi and Pawaga divisions depend on agriculture for their livelihoods.

Table 9: Economic activities by household head's level of education

| Education Level | Cash crop | Food crop | Livestock | Petty business | Wage labour | Horticulture | Casual labour | Others | Total |
|---------------------|-----------|-----------|-----------|----------------|-------------|--------------|---------------|--------|-------|
| No formal education | 62 | 118 | 35 | 11 | 1 | 3 | 4 | 0 | 770 |
| Primary | 295 | 402 | 57 | 41 | 2 | 9 | 15 | 9 | 830 |
| Secondary | 20 | 12 | 6 | 6 | 1 | 0 | 3 | 1 | 49 |
| Vocational | 1 | 4 | 0 | 1 | 0 | 0 | 1 | 1 | 8 |
| College | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

*Multiple responses were allowed

3.2.2 Challenges facing agriculture

- Unreliable rainfalls and insufficient irrigation schemes
- Wild animals damaging unharvested crops
- Low prices offered during harvesting time
- Unreliable markets
- Lack of storage facilities such as godowns

The need for new constructed irrigation canals and others for rehabilitation is a major demand found in all the 21 villages visited.

3.2.3 Livestock keeping

In recent years, livestock keeping is becoming an increasingly dominant economic practice among Sukuma, Maasai, Mang'ati and Barbaig who have settled permanently in Idodi and Pawaga divisions. The presence of migrant Ihefu pastoralists in Usangu plains has contributed greatly to the huge herds of cattle found in the area. Other livestock include goats, sheep, donkeys, pigs and poultry. Arable and grazing areas (Plate 9) are limited and scarce however to the degree of triggering unprecedented conflicts. There is a growing concern from furious farmers over livestock keepers who tend to graze their animals on unharvested crops. As the conflict between farmers and pastoralists escalates, there is a potential danger of fighting if the issue is not resolved soon.

Plate 9: A herd of cattle grazing at Mkombilenga Village in Pawaga division

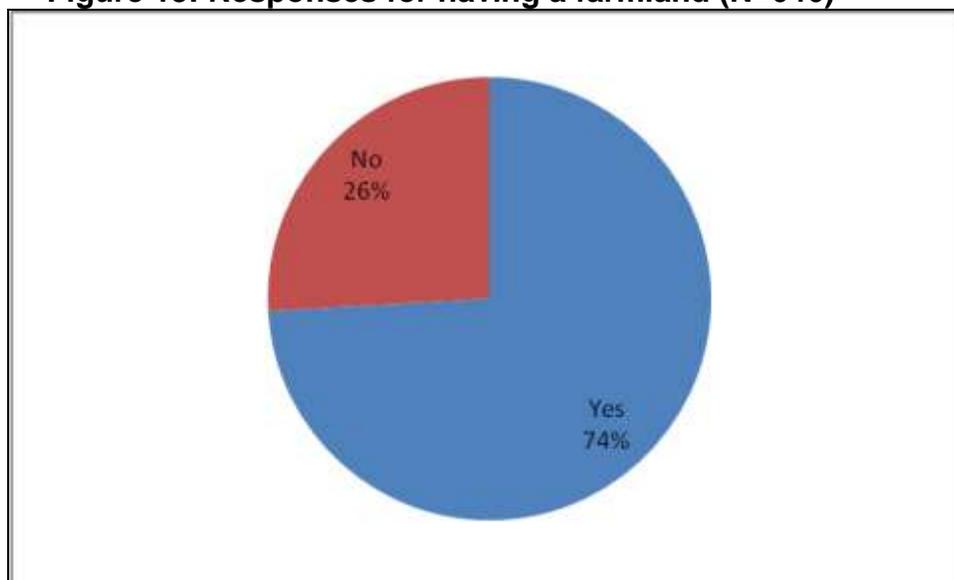


3.3 Sources, Levels and Types of Income in Selected Villages

In Idodi division, the main sources of income for villagers are agricultural products, livestock and small businesses (petty trading, shops and catering services). Villagers produce maize and rice both for food and commercial purposes, especially rice. On average, maize is cultivated to produce 5 – 20 bags per acre whereas rice ranges from 20 – 30 bags per acre. Livestock in the selected villages include cattle, pigs, goats, and poultry. Pork is widely consumed in Mahuninga village to the extent that it attracts other people from neighbouring villages. Others engage in poultry to generate household incomes.

More than half of the sample size indicated that they have their own farms used for producing rice and maize, but farmlands in Pawaga are mainly used to cultivated rice. Just a quarter of respondents hire farms and charged at 20,000 shillings per acre, as revealed through the in-depth interviews and focus group discussions.

Figure 13: Responses for having a farmland (N=646)



Tungamalenga village is a relatively growing small town due to the presence of tourist attractions and hence tourist-related businesses. Moreover, there are tented camps, lodges and game viewing points that make tourists spend both time and money there. There are also game sanctuaries, especially reptiles, where species of snakes are bred and farmed. These tourist activities have become a major source of income at Tungamalenga rural township.

In Pawaga division, the main source of income is rice. Rice is used as both a cash and food crop. Pawaga division is famous for paddy cultivation across all villages. Itunundu village is a centre for collecting all rice from all corners of Pawaga villages.

Nowadays there are traders who go straight to farmers to collect bags of rice. Some dare to even sell their raw unharvested rice in their respective paddies, but at a low and regrettable price. A price of rice per 20 litre bucket is very low being sold at 3,500 – 4,000 shillings during harvesting time from May to June, but increases during cultivation from December to March of the following year. It seems that very few farmers wait for this price hike that occurs after harvesting. In so doing traders take advantage in buying the product at a throw away price.

Apart from the rice business, there are other businesses that help people generate income. These include petty trading and other small scale businesses such as kiosks, catering services and vending roast meat. Itunundu is a fast growing rural township as evidenced by scattered lights at night that come from generators and solar panels.

Some villages where the River Ruaha flows engage in small scale fishing. These villages include Mkombilenga, Ilolo Mpya, Isele, Kinyika and Magombwe. The River Ruaha also passes nearby Itunundu and is a major source of water there.

3.4 Socio-Economic Threats, Drivers and Opportunities Related to NRs in WMA Villages

Elephants have been damaging crops in farms and causing a big socio-economic threat and blow to the majority of villagers who mainly depend on agriculture for their livelihoods. Increasing numbers of elephants in Ruaha National Park has resulted into invading farmlands for grazing. One old woman said:

“I got lost to identify my farm because it was left bare after elephants had wiped everything. I am left helplessly hungry without any food or compensation for my crops. MBOMIPA came to see my farm but they have not given me any feedback whatsoever.”

Reports on farm crops damaged by elephants are rampant and common in all villages that border or overlap with the WMA. As reported in other chapters, 8 villages and 4 villages have contributed their lands to the WMA in Idodi and Pawaga respectively. These villages are actually in conflict with elephants and the people responsible for controlling them.

In the table below (Table 10), 63.3 percent of the sample interviewed lamented on the way wild animals destroy their crops. It is undeniable that elephants have been very destructive when they invade farms, but likewise animals like warthogs and monkeys are also a problem.

Table 10: Types of conflicts

| Source of conflicts | Frequency | Valid percent |
|-----------------------------------------|------------|---------------|
| Village boundaries | 62 | 12.3 |
| Attacked by wild animals | 84 | 16.7 |
| Wild animals destroying crops | 319 | 63.3 |
| Misunderstanding village & investors | 9 | 1.8 |
| Disagree on benefits sharing mechanisms | 12 | 2.4 |
| Other | 18 | 3.6 |
| Total | 504 | 100.0 |

Idodi and Pawaga divisions are in a lowland area characterized by low rainfalls and long dry seasons beginning from June to November. It is a semi-arid area. Therefore droughts are very common, causing plants to dry out or seeds failing to germinate. In severe dry season, farmers get nothing and often end up depending on disaster relief aid from the government that supplies food in disaster stricken areas that include Idodi and Pawaga.

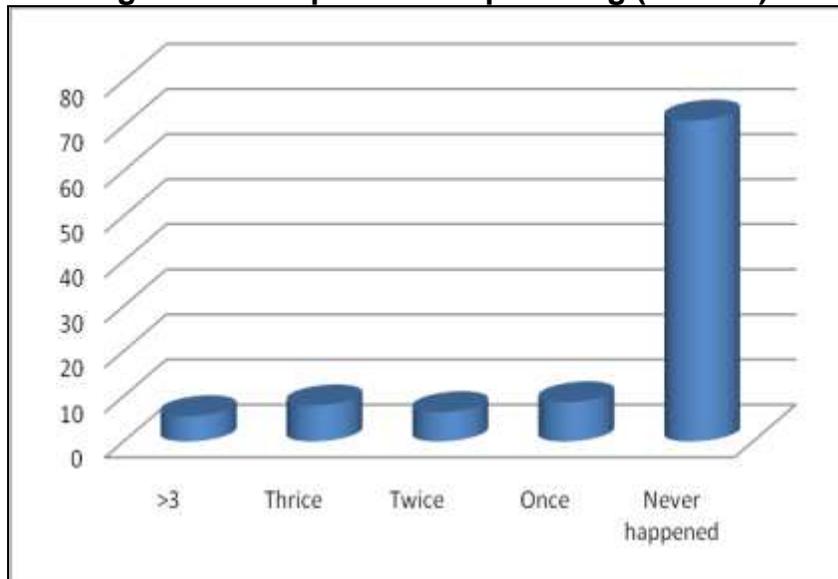
Dependence on unreliable rainfalls is a major cause of hunger disasters in many semi-arid areas across the country.

Continuing pressure on scarce natural resources for both human beings and wild animals poses a major threat to their future sustainable existence.

Huge herds of cattle owned by Sukuma, Maasai and Mang'ati have led to competition in claiming grazing areas that are used by farmers for agricultural practices. In some areas wildlife, livestock and farmers compete in controlling a single source of water. Just below the mountain foot, there is one source of water in Idodi village which serves wildlife, livestock and domestic water for villagers. Regular occurrences of wildfires, illegal tree cutting, overgrazing, and encroachment of agricultural farms in the WMA also pose a challenge to the natural resources in the WMA villages.

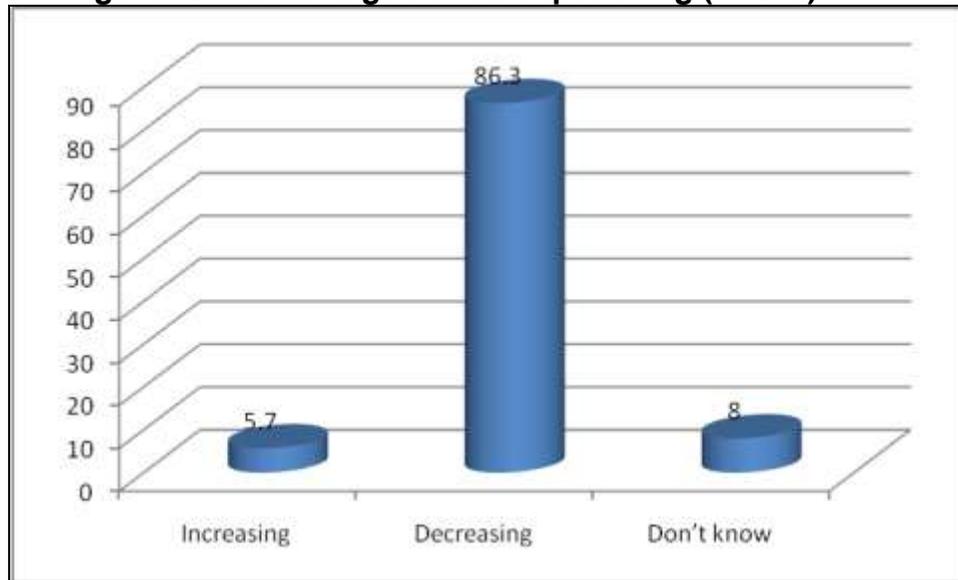
Poaching used to be a threat to wildlife management in the past, but since the implementation of Wildlife Management through community based natural resources management, it has reasonably declined with only a few cases that are nevertheless effectively controlled by MBOMIPA through their village game scouts.

Figure 14: Frequencies of poaching (N = 648)



Almost up to three quarters of the sample population, as indicated in Figure 14, said poaching incidences never happened since MBOMIPA had come into full force. More than four-fifths (86.3%) said poaching occurrences are decreasing (Figure 15). One respondent at Nyamahana village said their village is used as a main gate for poachers. On the very day of conducting the study 4 poachers with 3 guns were arrested. Although poaching frequencies are decreasing it is prudent to continue building the capacity for MBOMIPA to have enough village game scouts because poachers are very creative in innovating new ways of doing illegal hunting.

Figure 15: Percentage trends of poaching (N=648)



Revenues made through MBOMIPA, among other expenditures, are largely used to support social services of the member villages. However, as elaborated in other sections, villages that contribute their village lands are complaining about not getting equal shares with other villages that do not contribute their village lands. There is a potential threat that they will defect from MBOMIPA and form their own association.

If this issue is not addressed wisely at the earliest possible time, it will hamper efforts and achievements gained so far in natural resources management through surrounding communities. It will also affect negatively the spirit of good neighbourhood relationships among member villages.

The following are some opportunities that can be used to mitigate the challenges discussed above:

- Building on willingness and awareness of people to conserve natural resources
- Improving agriculture through irrigation schemes
- Continued support and partnership from the government and stakeholder institutions in natural resources management

3.5 Other Resources Available and their Uses

Apart from MBOMIPA WMA being endowed with plenty of wildlife, other resources available are as follows:

- Fertile soils mainly used for paddy, maize and horticultural crops

- Livestock used for meat, cultivation, hides, dairy and manure
- Water sources mainly Ruaha river and hot springs
- Wetlands that are habitat for aquatic life, birds and serve as water sources during dry season whereby crops are – locally called “*vinyungu*”
- Ecotourism for tourist attractions and entertainment
- Human resources as a potential labour force for socio-economic development. When human resources are fully supported and trained they can help conserve sustainably the natural resources and in turn improve their livelihoods as well.

CHAPTER FOUR

INCOME AND EXPENDITURE PATTERNS IN THE WMA

4.1 Sources and Types of Incomes in Selected Villages

4.1.1 Agriculture

The main income generating activities in MBOMIPA WMA at the household level include cash crop growing, and livestock keeping. Some also engage in business (Vending and petty trading) including local brewing and horticulture. Hunting and direct employment e.g. VGS accounted for a very small margin (less than 1 percent) in the scale of income.

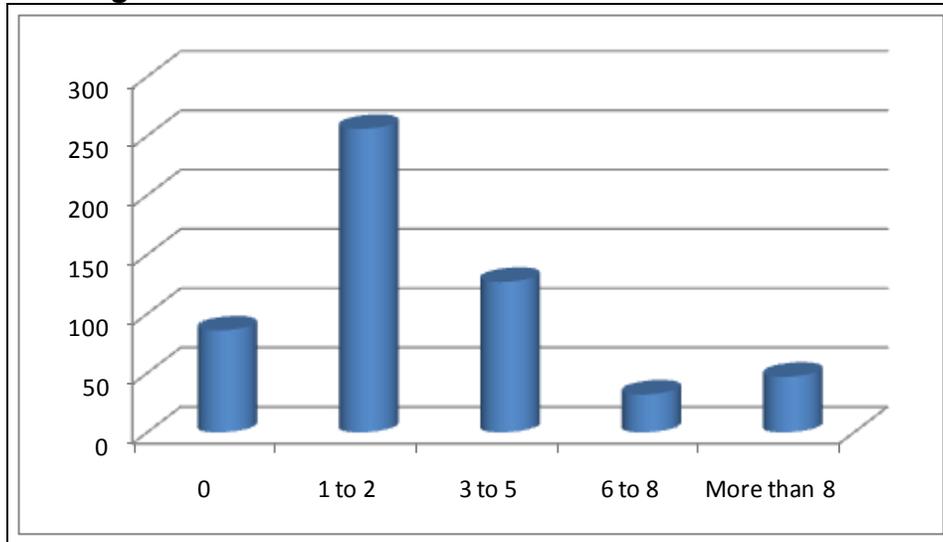
The villages in MBOMIPA WMA generate their income through the investments they have in every village. Main sources of income include the revenue from MBOMIPA (between 2,000,000/= and 2,400,000/= a year to member villages), revenues from cash crops, subsidy from the government and small penalties from the village by law.

When asked if household income levels had changed in the past five to ten years, 37% said that their income levels had increased while about 49% and 14% said that they don't know or that there had been no increase, respectively. All households that noted changes in income levels acknowledged that their income increase was particularly pronounced since the 2003 -2005 period to date. Those who did not register any change or said that they didn't know had developed some coping strategies to deal with income deficiencies in their respective households. These strategies include livelihood diversification, engaging in tourist-related activities and increased efforts in their daily economic activities.

The number of income earners per household ranged from zero in households mostly headed by elderly persons to more than 8 persons per household (**Figure 16**), especially in households with large populations. This evokes the controversy of the rationale of population size per household. Economists and social thinkers are still debating on the influence of population change on economic growth. They are defining this discourse into three alternative positions: that population growth restricts, promotes, or is independent of economic growth (Bloom *et al.*, 2001). Supporters of each

explanation can find evidence to support their theses. In some cases however, large household size has a significant contribution to economic and domestic activities (URT, 2006).

Figure 16: Number of income earners in a household



4.1.2 Livestock keeping

When asked if they have livestock, more than 53 percent of households said yes, claiming to use them for different purposes such as a source of income, security and for traditional rituals.

Figure 17: Livestock keeping in the study areas (N=697)

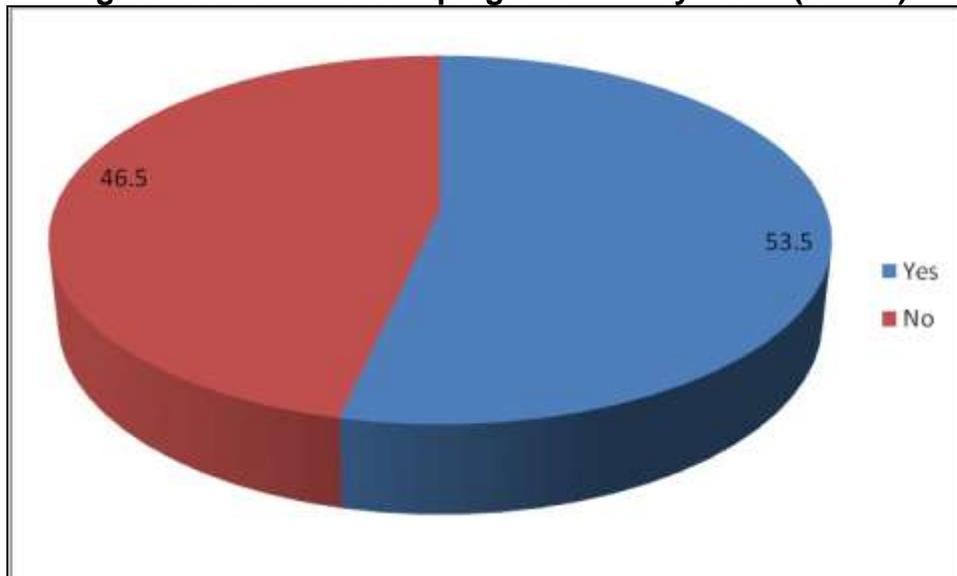
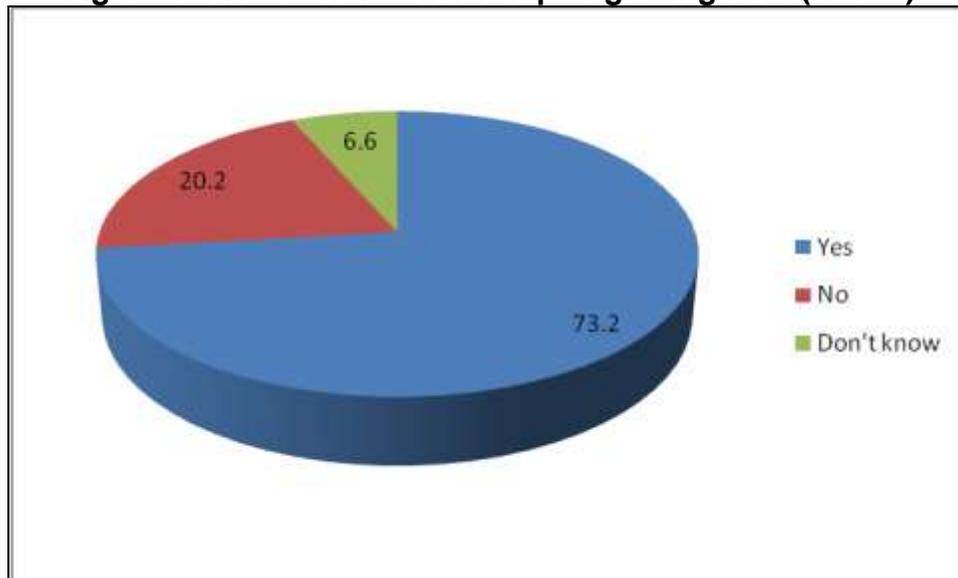


Table 11: Levels of livestock keeping in the study area

| Number of livestock | Frequency (N) | Percentage |
|---------------------|---------------|--------------|
| 1-50 | 38 | 11.8 |
| 51-100 | 69 | 21.4 |
| 1001-150 | 53 | 16.4 |
| 151-200 | 53 | 16.4 |
| 2001-250 | 56 | 17.4 |
| 251-300 | 36 | 11.2 |
| More than 300 | 139 | 43.2 |
| Total | 322 | 100.0 |

Figure 18 shows that a proportional chunk of households (about 20 percent) also go without grazing land which can prompt serious land use conflicts in the study divisions. Of course conflicts related to livestock keepers verses agriculturalists are already rampant and in some areas has already reached a boiling point.

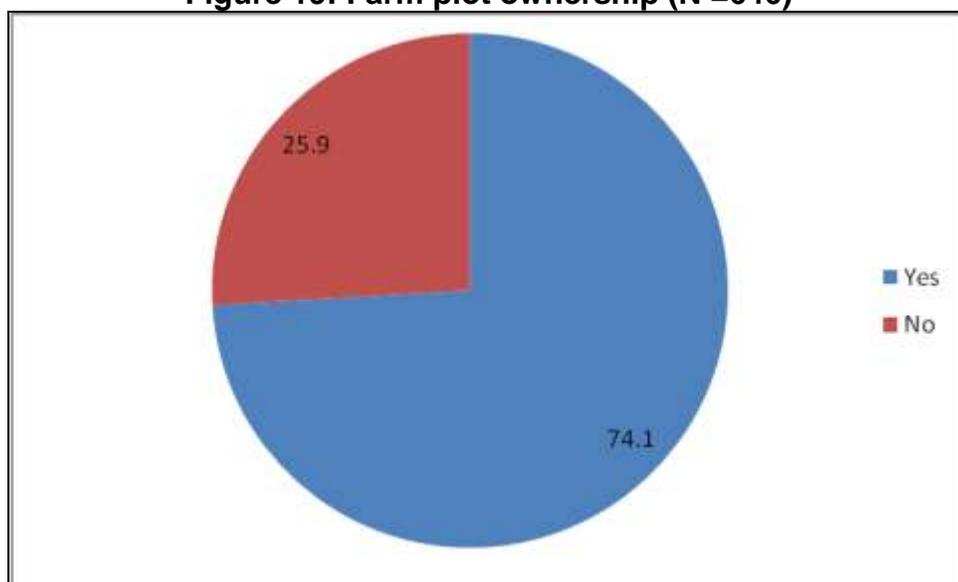
Figure 18: Household ownership of grazing land (N=709)



4.1.3 Farm ownership dynamics

It was striking to note that a proportional number of households (about 26 percent) owned no farms or fields hence depend on hiring plots or asking from relatives and friends for free lease. Figure 19 shows the percentage of ownership of farms or fields in the study divisions.

Figure 19: Farm plot ownership (N =646)



Indeed, households owned farm plots of different sizes ranging from less than 1 acre to more than 10 acres per household (Table 12).

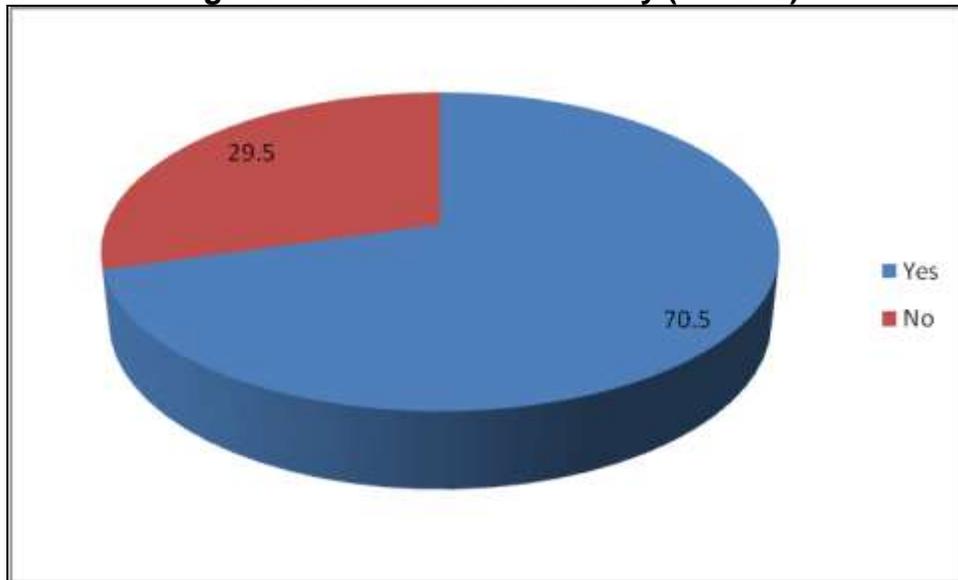
Table 12: Household ownership of farm plots (acreage)

| Acreage (Size) | Frequency (N) | Percentage |
|----------------|---------------|--------------|
| Less than 1 | 44 | 8.0 |
| 1-2 | 197 | 35.7 |
| 3 – 5 | 174 | 31.5 |
| 6-10 | 106 | 19.2 |
| More than 10 | 31 | 5.6 |
| Total | 552 | 100.0 |

The majority (94.4%) of respondents owned land of no more than 5 ha which they considered not to be enough for future farm activities. Other studies pointed out that about 70% of the farmers in Tanzania cultivate less than one ha of land which is not enough even for subsistence crop production (Uliwa and Fischer, 2004). The results still show the importance of land as a primary asset for survival and development in the study area, since it supports the livelihoods of most rural people.

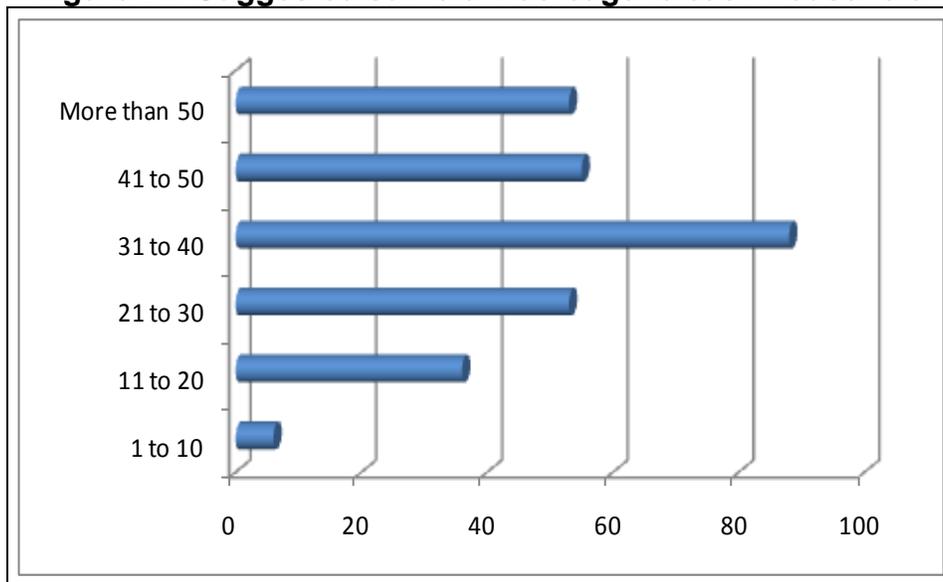
Most of the respondents found their farm sizes insufficient for their on-farm activities (Figure 20).

Figure 20: Farm size sufficiency (N = 579)



Householdssuggested a suitable land size for their farming activities as indicated in Figure 21.

Figure 21: Suggested sufficient acreage to each household



4.1.4 Crop harvest

Crop harvest has been facing ups-and-downs and farmers have a perception of a good season in terms of harvest. Table 13 shows ranges of good harvest of maize as reported by households.

Table 13: Crop (maize/rice) harvest

| Harvest (sucks) | Frequency (N) | Percentage |
|-----------------|---------------|--------------|
| Less than 1 | 6 | 1.8 |
| 1-10 | 17 | 5.1 |
| 11 – 20 | 41 | 12.3 |
| 21-30 | 38 | 11.4 |
| 31-40 | 71 | 21.3 |
| 41-50 | 45 | 13.5 |
| More than 50 | 115 | 34.5 |
| Total | 333 | 100.0 |

4.2 Expenditure Patterns in Village forming WMA

Most villages in MBOMIPA WMA spend their income on the construction of teacher's houses, classrooms and toilet constructions, construction of health facilities and paying village government staff salaries.

At the level of the household, most revenue is spent on housing (construction), food, clothing, health and education. Still on many occasions, both men and women also spend some of the money they earn on local brew.

Daily household expenditure spanned from less than Tsh.1000 per day to more than Tsh. 4000. In fact a larger proportion of households (about 35 percent) had their expenditure being more than Tsh. 4000 per day (**Table 14**).

Table 14: Daily household expenditure

| Expenditure (Tsh) | Frequency (N) | Percentage |
|-------------------|---------------|--------------|
| Less than 1000 | 43 | 6.1 |
| 1000-1500 | 60 | 8.5 |
| 1501 – 2000 | 147 | 20.9 |
| 2001-2500 | 44 | 6.2 |
| 2501-3000 | 94 | 13.4 |
| 3001 -3500 | 23 | 3.3 |
| 3501-4000 | 48 | 6.8 |
| More than 4000 | 244 | 34.7 |
| Total | 703 | 100.0 |

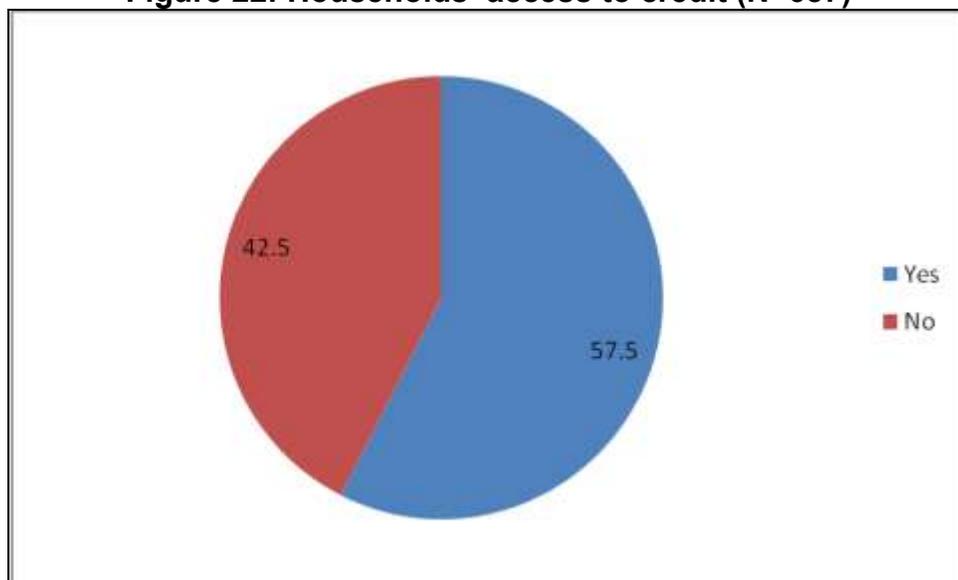
4.3 Financial Assets

Financial assets or capital represent the financial resources which are available to people (whether financial savings, credit, loans or government aids, income levels) and which provide them with different livelihood options (Hassanshahi et al., 2008). Formal financial institutions like National Microfinance Bank (NMB), and Savings and Credit Cooperative Societies (SACCOS) were available in the study area. However, study results in Figure 22 reveal that access to formal financial services by households was

still weak. Close to 43 percent of the respondents had no access to formal financial services.

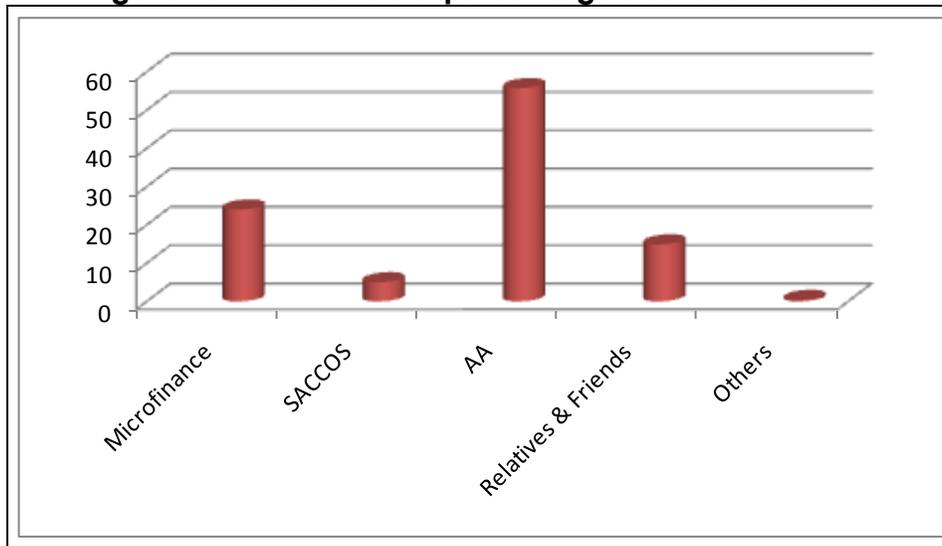
A substantial proportion of households (42.5%) in the study area had no access to credit facilities possibly due to a lack of sound collateral and higher interest rates. The results depict that small scale farmers and those working in small and medium enterprise (SMEs) sectors are still facing a major constraint in accessing formal financial services despite their availability in the study area. This may in turn limit their capacity to survive, prevent them from upgrading their farming activities and business skills and even in many cases, block expansion of their markets and improved management towards raising their productivity; all of which form the basis for successful enterprise and hence an increased households' incomes. Lack of access to credit reflects the reluctance by the commercial banks to give loans to these traders possibly because of the high risk of default. Talking about the lending schemes by the commercial banks Albee, 1994 insisted that evidence indicates that such schemes work best when lending is given to creditworthy clients with good projects who are unable to obtain loans because of a lack of collateral. She also cites Barger, 1989 who noted that commercial bank schemes had generally failed to reach many poor borrowers.

Figure 22: Households' access to credit (N=687)



Sources of credit were largely from AAs, microfinance banks, SACCOS, relatives and friends, and other sources (Figure 23).

Figure 23: Households' percentage sources of credit



4.4 Economic and Ecological Status of the WMA

MBOMIPA WMA is ecologically blessed with biodiversity ranging from wildlife, forests, fertile soils, water bodies and magnificent scenery of topographic features especially undulating mountains. The great Ruaha and little Ruaha rivers pass and join with the WMA proximity. The River Ruaha is a lifeline to wild animals found in the WMA and in the park where there is a high density of animal populations. The River Ruaha is also the only source for the Mtera dam where hydropower of national significance is harnessed.

Having such attractive ecological systems, Ruaha National Park has grown into a main destination for local and foreign tourists. However, due to increasing pressure of both human activities and grazing areas for livestock and wildlife, there is a potential danger of degrading the ecological status of the park and indeed the WMA.

As discussed in previous sections, competitive trends for scarce natural resources is clearly evidenced by the continuing conflict for grazing areas between farmers and livestock keepers. The ever increasing demand for irrigation agriculture also causes the water levels of the Ruaha River and hence the Mtera dam to decline, resulting in an economical and ecological slow down. It is widely known that when rivers feeding Mtera dam recede, the water levels needed to generate electricity also recede, causing unprecedented power rationing and consequently economical slow down. Conserving the WMA in a sustainable way indeed benefits both the community of MBOMIPA and hence definitely the nation at large.

4.5 Contribution of the WMA on Village Revenues and their Common Expenditure

All 21 villages that constitute MBOMIPA WMA get an equal share of revenue accruing from tourist operations as monitored by the MBOMIPA association. In recent years each village has been receiving more than 2 million shillings per year. The revenues provided by MBOMIPA are commonly spent for:

- Building classrooms and houses for teachers
- Constructing modern school toilets
- Constructing and/or rehabilitating local government offices in member villages
- Sponsoring orphans who successfully join secondary education
- Supporting construction of dispensaries

CHAPTER FIVE

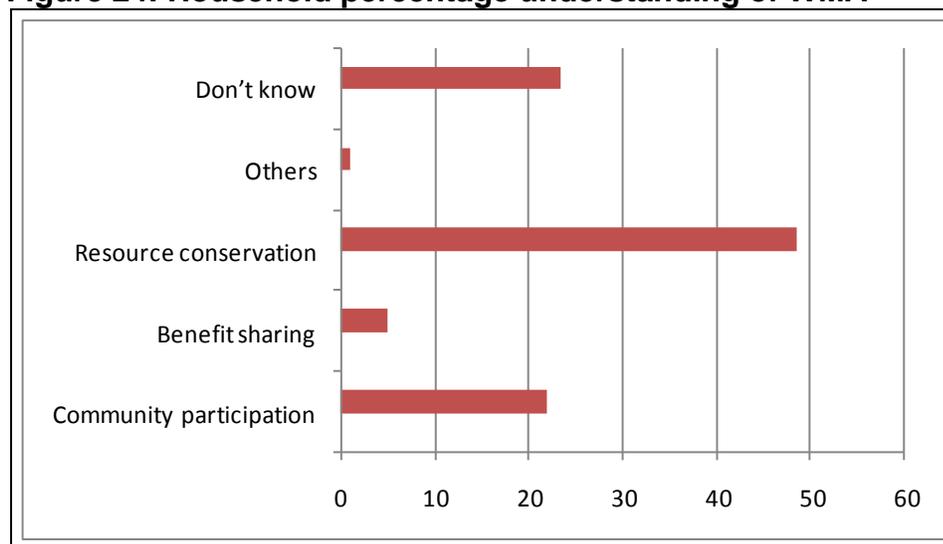
PEOPLE'S KNOWLEDGE AND AWARENESS OF CBNRM PROGRAMME AND WILDLIFE MANAGEMENT AREAS

5.1 Peoples Knowledge, Awareness and Attitudes towards WMA

Villagers are well informed on MBOMIPA - a name widely known and famous with regards to wildlife conservation. The WMA is not clearly understood unless someone mentions MBOMIPA to mean WMA. To many villagers MBOMIPA means an institution responsible for safeguarding wild animals and conserving the environment. They are also aware of the benefits they get, especially the money distributed equally to all 21 member villages, which is used mainly to support social services, such as schools and dispensaries.

People referred to their understanding of the WMA due to the value attached to it as shown in Figure 24.

Figure 24: Household percentage understanding of WMA



However, about 24% of households were not aware of the WMA, which calls for need of intensive awareness campaigns.

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

Many people have widely accepted the efforts being made by MBOMIPA to conserve natural resources and the benefits accruing from it. While conducting qualitative data collection tools (IDIs, FGDs, Observations and quick scans), a good number of respondents said that revenues from MBOMIPA have helped them, as opposed to the past, having no burden of social service contributions, especially schools and dispensaries.

Their approval for continuing to support conservation initiatives is seen in the way they respond swiftly to nominate village game scouts needed for regular patrols. Whenever village labour force is needed, the whole community is always on standby to cooperate. Moreover, there is a big support from the people towards identifying and arresting poachers, which has resulted in a significant decline in poaching incidences. Almost no any poacher can manage to hunt illegally and unnoticed.

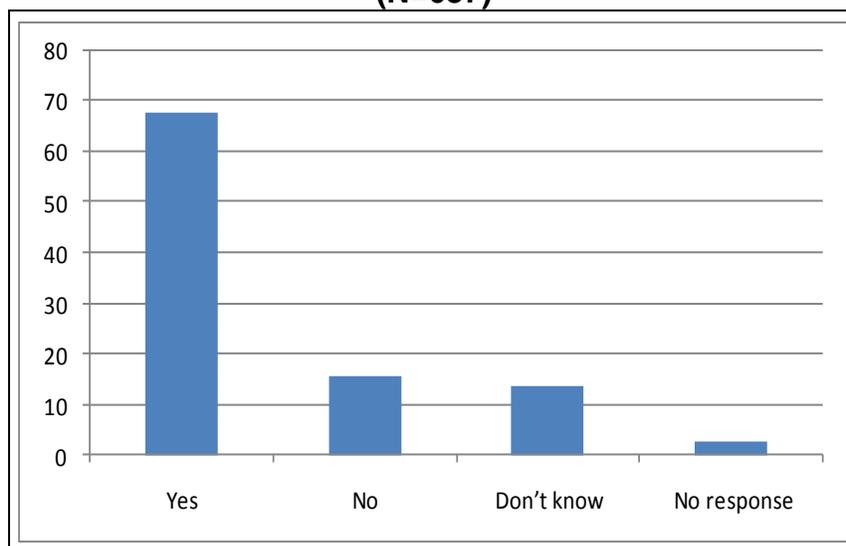
The people's participation is also echoed in the way they have successfully organized themselves to form village environment management committees in all 21 villages. People only need fair and proper management of MBOMIPA, including solving conflicting issues in a positive way that fosters more commitment to conserving natural resources.

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

The people in MBOMIPA WMA are quite satisfied with the benefits of having the WMA in their area. The revenue that comes from MBOMIPA and that is spent on supporting social services is undoubtedly a major driver for people to be comfortable with the WMA.

When asked whether MBOMIPA is beneficial, close to 70 percent of households said yes and less than 20 percent said no and the remaining 10 percent said that they didn't know or had no response at all (Figure 25). This signifies a sizeable task ahead of MBOMIPA towards addressing its mandate and functions to the people involved.

Figure 25: Household percentage on whether WMA is beneficial to their area (N=687)



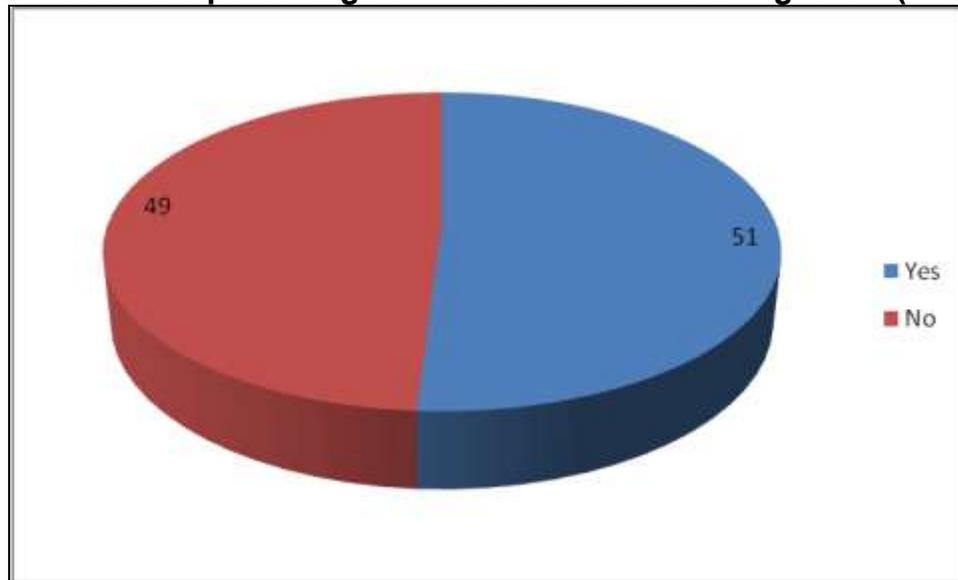
On the major benefits accrued from MBOMIPA, many households hailed it for reducing poaching, resource conservation and increased village income (Table 15). Reduced conflicts, improved livelihoods and property rights were other mentioned benefits of MBOMIPA.

Table 15: Major types of benefits

| Benefits | Frequency | Percentage |
|-----------------------|------------|--------------|
| Increased income | 60 | 11.6 |
| Reduced poaching | 219 | 42.2 |
| Resource conservation | 65 | 12.5 |
| Reduce conflict | 3 | 6.0 |
| Improve livelihood | 59 | 11.4 |
| Property rights | 17 | 3.3 |
| Other | 96 | 18.5 |
| Total | 519 | 100.0 |

However, there is continuing conflict on the quota of money that other villages get without contributing their village lands to the WMA. In Idodi division, 8 villages out of 9 contribute their village lands to the WMA whereas in Pawaga division, only 4 villages out of 12 contribute their village lands. Altogether, the villages that contribute village lands are Mahuninga, Makifu, Tungamalenga, Mapogoro, Idodi, Kitesi, Malinzanga, Nyamhana and Mafuruto in Idodi division. Whereas in Pawaga division, Kinyika, Kisanga, Isele and Magombwe contribute their village lands to the WMA. Figure 26 shows the gravity of concern over benefit sharing among the MBOMIPA villages.

Figure 26: Household percentage on whether benefit sharing is fair (N=500)



Kitisi is the only village that has the biggest chunk of land in the WMA, and consequently suffers a great deal of crop destruction mostly by invading elephants; much more than any other village. The victims have been protesting bitterly and try in vain to pressurize the government to compensate their crops. However, the Wildlife Policy of Tanzania as amended in 2007 says:

“The government does not intend to introduce a compensation scheme for damage caused by wildlife.”

The recent Wildlife Conservation Act of 2009 only provides consolation for loss of life, crops or injury caused by dangerous animals as opposed to compensation. In Part VIII, 71 (1-2), it says:

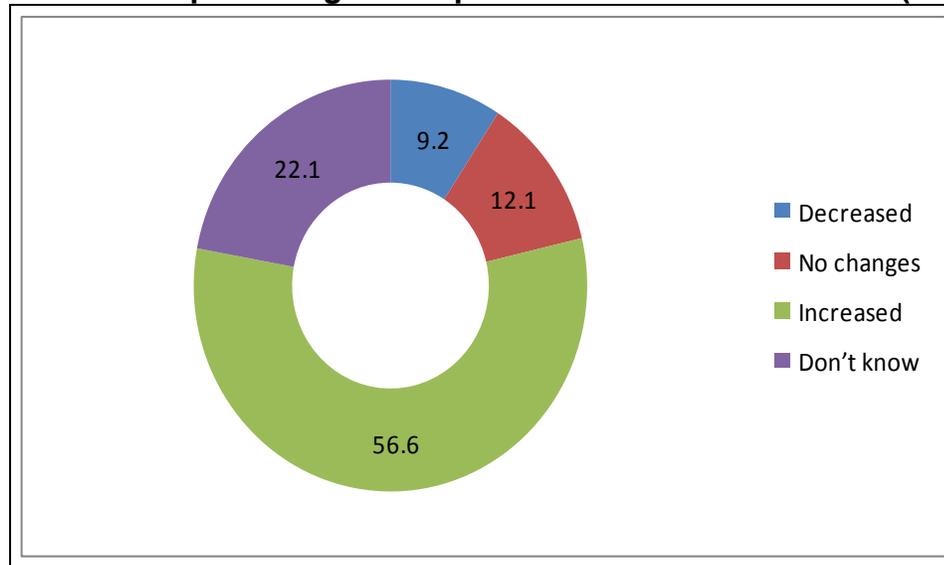
“The Minister may, in the public interest and after consultation with the Minister responsible for finance, make regulations specifying the amount of money to be paid as a consolation to a person or groups of persons who have suffered loss of life, livestock, crops or injury caused by dangerous animals.

Without the prejudice to the provisions of subsection (1), the Minister shall make regulations prescribing the payment of consolation money to any person for injury sustained, death or destruction of his crops caused by dangerous animals, provided that in relation to destruction of crops, no payment shall be made in excess of five acres.”

5.4 Impact of WMA on Livelihoods

The impact of the WMA on people's livelihoods was positively acknowledged in both divisions. About 57 percent of households interviewed had the opinion that the WMA has led to improved livelihood assets in the surrounding villages. However, 22.1% of households described not knowing of any impact of the WMA (Figure 27). This again calls for more awareness campaigns and sensitization of the WMA activities in the surrounding area.

Figure 27: Household percentage on Impact of WMA on Livelihoods (N=687)

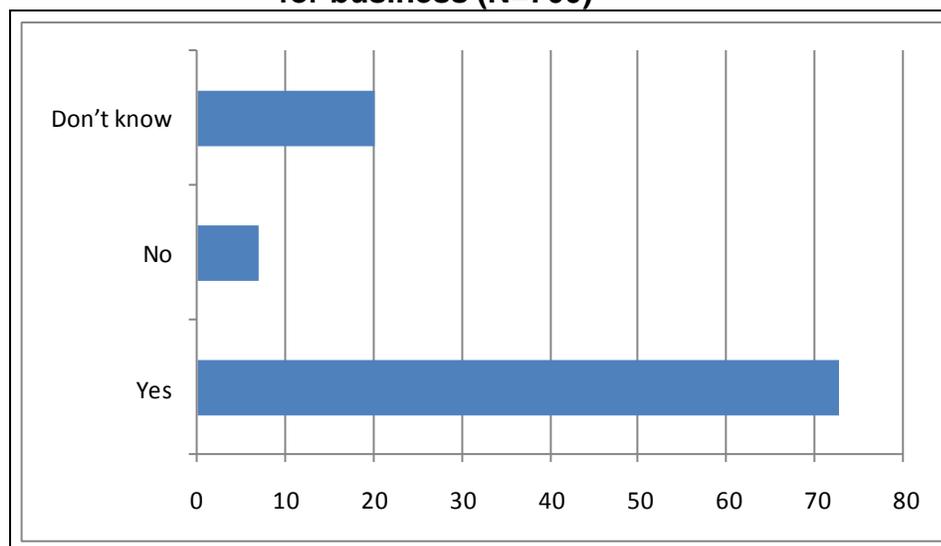


This situation could however be the result of many people not being aware of the WMA in that they were knowledgeable only of the existence of MBOMIPA. It should be understood that WMA is an English acronym, which is a foreign and unpopular language in the study area. This situation could have camouflaged its importance as most people failed to relate it to MBOMIPA.

5.5 Overall assessment of WMA

Despite of isolated cases of dismay, many households rated WMA as “good” for business (Figure 28). This is a possible way of enforcing future sustainable management practices that are people-oriented as many people understand the importance of the venture.

Figure 28: Household percentage on WMA on WMA overall assessment if good for business (N=700)



It was also observed during the survey that households in villages that were not bordering the WMA were the ones that had relatively little knowledge about the rationale and contribution of the WMA. Purposive awareness campaigns and other related knowledge-based approaches need to be emphasised in such areas to ensure that everybody connected to the WMA is aware of the aims of the venture.

5.6 Major Challenges facing WMAs

Results from the household survey, FGDs, IDIs, observations and other survey methodologies noted the benefits of the WMA. However beneficiaries also raised various challenges that they face in the WMA as shown in Table 16. In many cases, new management ventures have been viewed to conflict with the existing traditional administration systems.

Table 16: Challenges facing MBOMIPA WMA

| Challenges | Frequency | Percentage |
|------------------------------|------------------|-------------------|
| Too many regulations | 76 | 15.2 |
| Regulations not enforced | 18 | 3.6 |
| Reduced benefits | 84 | 16.8 |
| Cause conflict | 154 | 30.8 |
| Traditional authority eroded | 1 | 0.2 |
| Inequity | 24 | 4.8 |
| Others | 145 | 29.1 |
| Total | 501 | 100.0 |

Conflicts related to wild animals invading people's crop fields (about 31 percent) and prevalence of too many regulations (slightly more than 15 percent) were

some of the main challenges. It is thus urged that the two issues be looked at critically to ensure the sustainability of the WMA. Other challenges such as the need for professional management of the WMA and clear/transparent financial contributions of the WMA were also highlighted as needed with immediate urgency.

5.7 People's Perception and Willingness to Participate in Cash-for Work Programs

While administering qualitative data, most respondents showed an overwhelming willingness to fully participate in projects geared at improving social infrastructure and services. During the study it was clearly pointed out that they have been volunteering for years in many development projects in their respective villages.

They also showed readiness to contribute their labour force free of charge. In some villages people have been submitting their applications to seek temporary jobs even without any vacancy announcement.

The following are six major projects proposed by villagers according to their priority from all 21 villages of Idodi and Pawaga divisions:

- Constructing irrigation canals
- Water supply services/sources
- Protecting farms from dangerous wild animals especially elephants which are detrimental to unharvested crops
- Teachers and their accommodation (teachers' houses) in primary schools
- Health care services
- Solving ravaging conflicts between farmers and pastoralists
- Solving MBOMIPA's equal subsidy distributed to member villages
-

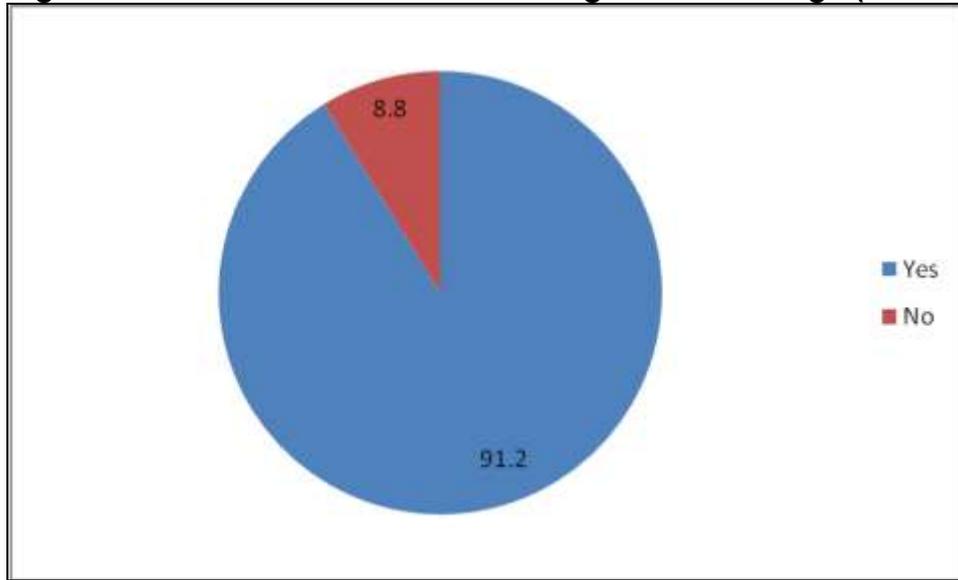
Indeed, any successful project working at the grassroots level needs people's participation. It is from such participation that it is possible to gauge their willingness to participate in the implementation of projects in a more shared vision. The subsequent section describes people's participation in the village general meeting where matters of development are normally discussed and resolved.

5.8 General Village Meetings

5.8.1 Attendance to general village meetings

The study reveals that more than 91 percent of households agreed that they do attend village general meetings on different occasions as shown in Figure 29

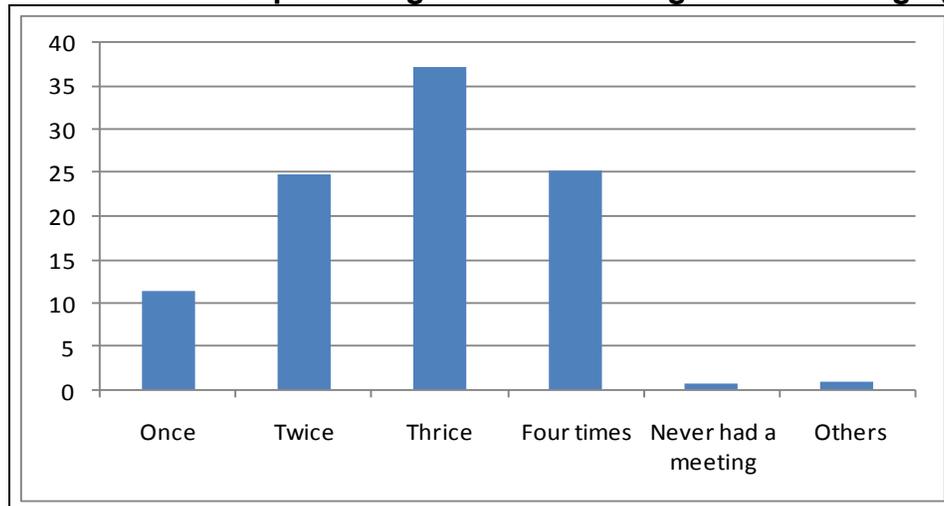
Figure 29: Households' attendance to general meetings (N=702)



This is encouraging as an indicator of people's willingness to participation in matters of their shared concern.

Figure 30 shows that most respondents attend more than one village general meeting and a negligible percent had not attended any meeting. This is encouraging but more efforts should as well be asserted to encourage those who do not attend such meetings to do so.

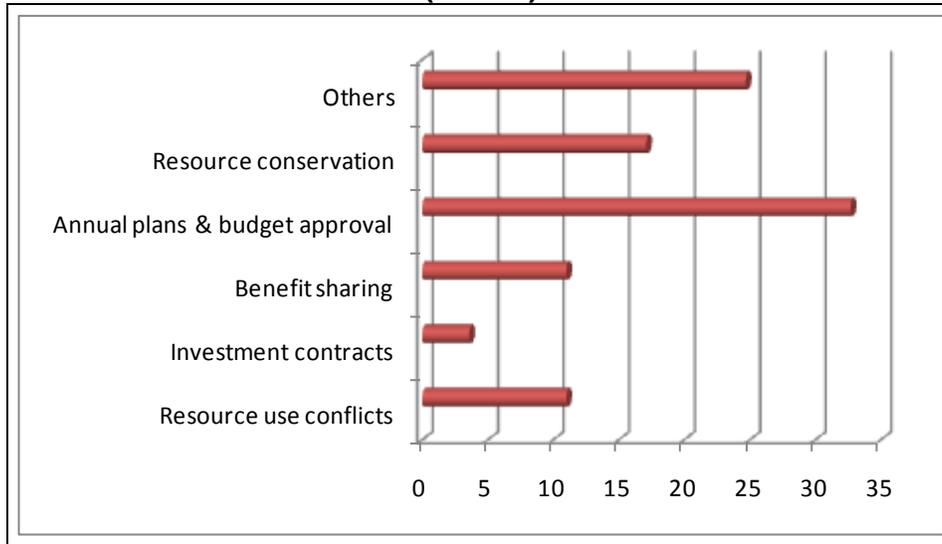
Figure 30: Households' percentage attendance to general meetings (N=610)



5.8.2 Main issues discussed in village general meetings

It was fascinating to note that among the common agendas discussed in villages general meetings were annual plans and budget approval, resource conservation, benefit sharing, and resource use conflicts; all of which also reflect the activities of the WMA.

Figure 31: Household's percentage main topics discussed in general meeting (N=591)

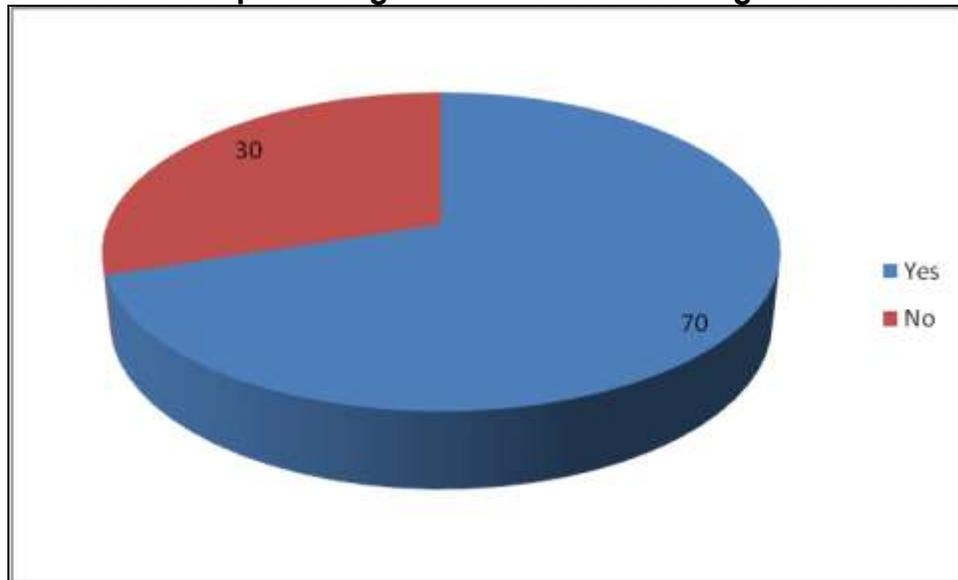


Investment contracts are also important to ensure WMA sustainability as people need to be informed and become the central premise of all contracts that aim to utilize the properties and resources around the WMA.

5.8.3 Where discussed WMA in general meetings

70 percent of households (Figure 32), noted that WMA issues had been a part of discussions in the village general meetings. It must be noted that WMA forms a very sensitive part of development to all 21 villages, thus, its inclusion in the general meetings is very pertinent.

Figure 32: Households' percentage if WMA discussed in general meeting (N=661)



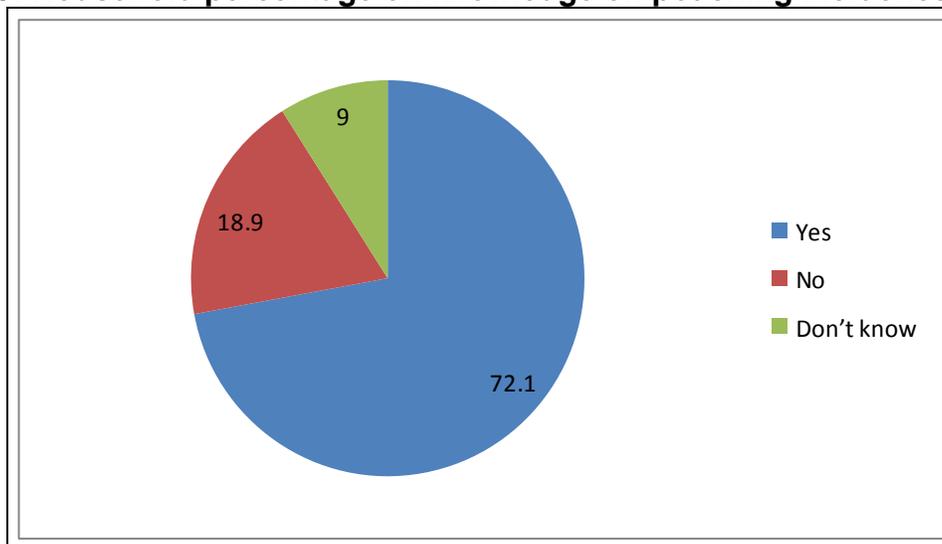
Such inclusion of the WMA in village meetings is recommendable and can be one of the reasons why poaching incidences have tremendously declined in the study area after the institutionalization of the WMA. The subsection below describes trends and dynamics of poaching in the study area.

5.9 Poaching Dynamics

5.9.1 Poaching incidences

Poaching and poaching knowledge was a very tricky and sensitive question for most households to respond. Poaching has been a very disturbing management problem in most wildlife parks and surrounding areas for decades and it has serious legal implications. This could have sparked the reason for about 28 percent of interviewed households showing to have either no knowledge or not know anything about poaching (Figure 33). Of course the level of knowledge on poaching (about 72 percent) is encouraging, though the need to sensitize the remaining is paramount.

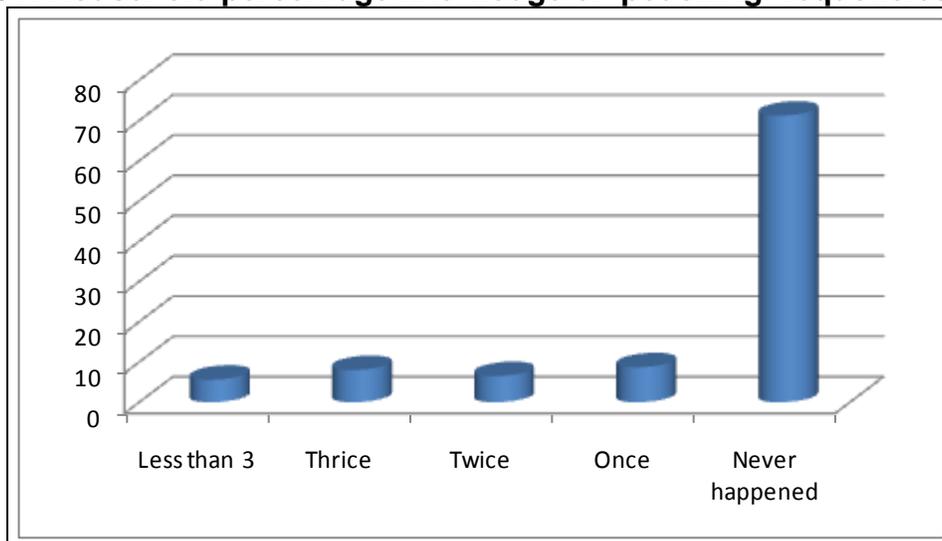
Figure 33: Household percentage on knowledge on poaching incidences (N=708)



5.9.2 Poaching Frequencies

All research tools showed a tremendous decline of major poaching events and in all cases, people acknowledged the WMA for the declining trends of poaching in their respective areas. Figure 34 shows poaching has never happened in recent years in the respective study villages. The remaining sporadic events were associated with minor poaching events such as fishing in rivers and collection of ropes in conserved areas.

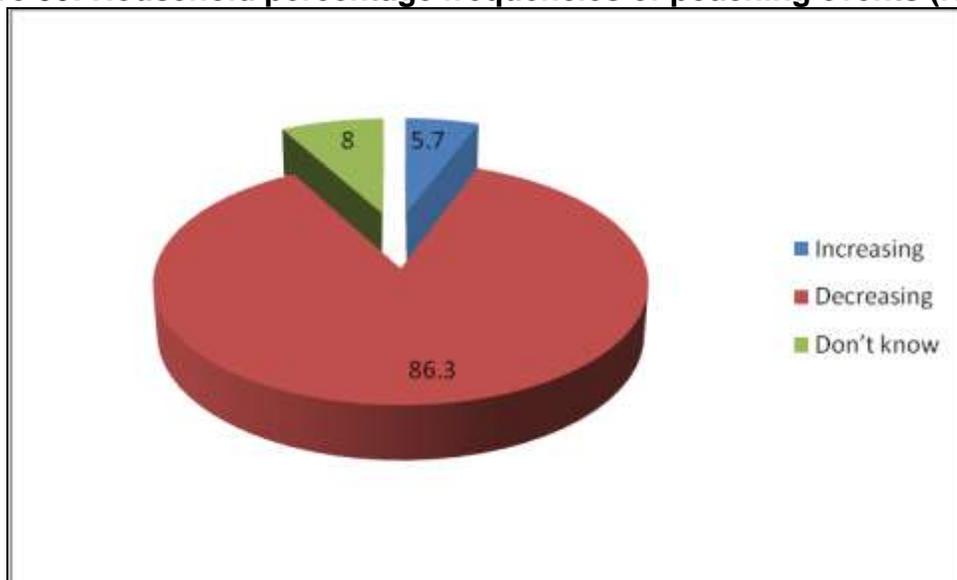
Figure 34: Household percentage knowledge on poaching frequencies (N=413)



5.9.3 Poaching Trends

A large proportion of households (more than 86 percent) had the opinion that poaching events are declining. More efforts should also be directed to the remaining percentage of those who said that it was either increasing or didn't know (Figure 35). The aim should be for zero poaching incidences acknowledged by people. More sensitization efforts towards encouraging people to do away with poaching, strengthening the WMA, ensuring a trickle down effect and strengthening of VGS should be a matter of necessity. At all stages of WMA management, participatory approaches should be central.

Figure 35: Household percentage frequencies of poaching events (N=648)

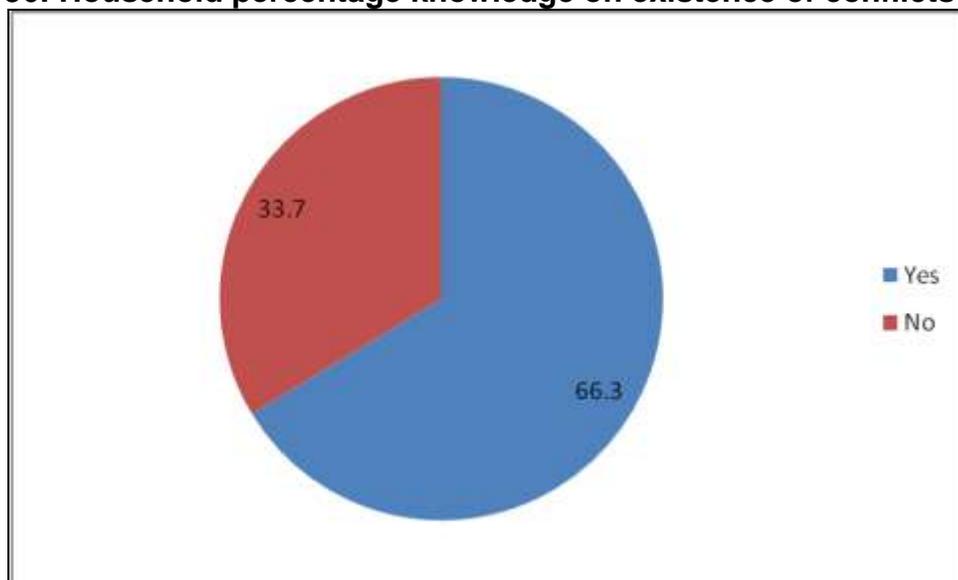


5.10 Conflicts and Conflict resolutions in the study area

5.10.1 Conflicts knowledge

So far, the WMA has shown positive results in resource management and its efforts to ensure successful people-centred development through participatory resource management and is encouraging and worth appraisal. However, some conflicts have been seen to emerge from the successful stories of the WMA, and these conflicts need to be addressed in a democratic and civil way while respecting human dignity. Figure 36 shows that more than 66 percent of households acknowledged to know of the existence of conflicts related to WMA.

Figure 36: Household percentage knowledge on existence of conflicts (N=602)



5.10.2 Types of Conflicts

Respondents named wild animals destroying crops (about 66 percent), wild animals attacking humans and livestock (about 17 percent), and village boundaries (12.3 percent) as indicated in Table 17 as the painstaking conflicts surrounding the WMA.

Table 17: Types of conflicts related to WMA

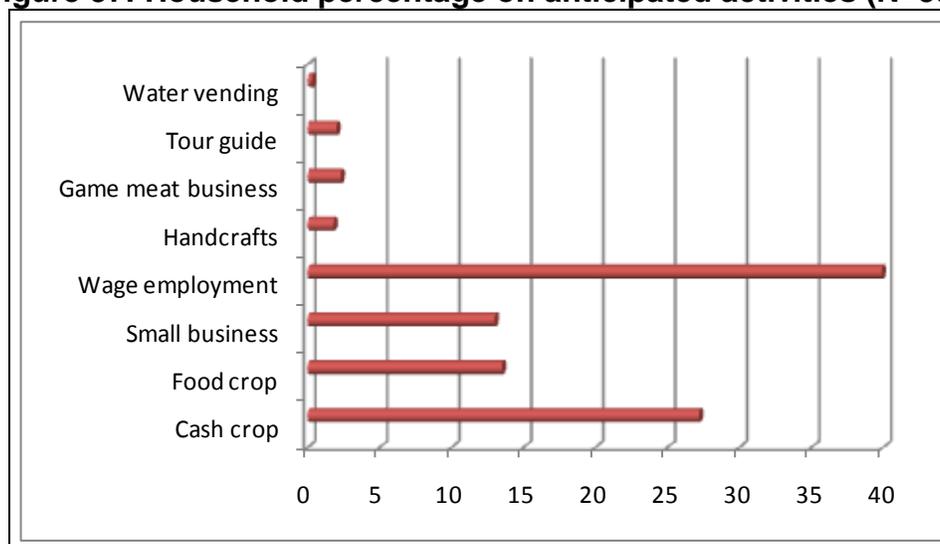
| Conflicts | Frequency | Percentage |
|-------------------------------------------|------------|--------------|
| Village boundaries | 62 | 12.3 |
| Wild animals attack | 84 | 16.7 |
| Wild animals destroying crops | 331 | 65.6 |
| Disagreement on benefit sharing mechanism | 9 | 1.8 |
| Other | 18 | 3.8 |
| Total | 504 | 100.0 |

The urgency of addressing these problems cannot be overemphasised in terms of ensuring sustainable resource management under the umbrella of the WMA.

5.11 Anticipated Types of Activities

Households in surveyed villages had various expectations from the WMA and its associated ventures and these included wage employment, the promotion of both cash and food crops production, and as a source of small business as indicated in Figure 37.

Figure 37: Household percentage on anticipated activities (N=393)



Thus, while thinking of improved WMA management, such kind of trickle down effects should at all times be observed and measured so that people are not misled.

5.12 Impact of WMA on Wildlife

Respondents as well noticed the importance of the WMA to wildlife. The increased abundance of wildlife, decline in destructive behaviour and provision of reproductive grounds were the leading suggested positive impacts of the WMA to wildlife (Table 18).

Table 18: Impact of WMA on wildlife

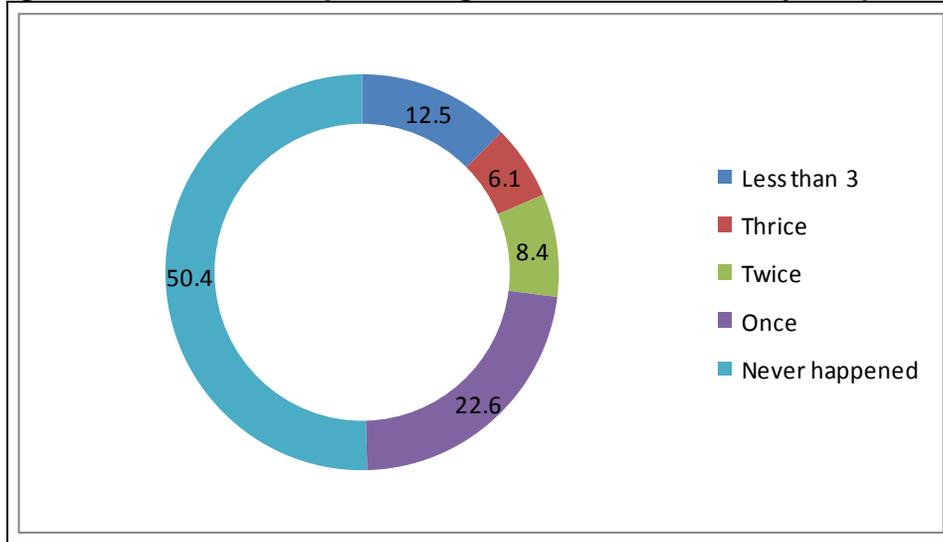
| Impacts | Frequency | Percentage |
|-----------------------------|------------|--------------|
| Increased abundance | 380 | 65.6 |
| Provide reproductive ground | 62 | 10.7 |
| Stop destructive behaviour | 118 | 20.4 |
| Bring species back | 19 | 3.3 |
| Total | 579 | 100.0 |

It is undisputable that nurturing these benefits is important and that people’s knowledge of such positive impacts should be strengthened and be felt in their daily life to ensure sustainable resource management within the WMA.

5.13 Frequency of Fire Last Year

Events of bush-fires that normally have disproportionate effects on wildlife has been a serious problem in areas surrounding national parks for many decades.

Figure 38: Household percentage on fire events last year (N=690)



Results from this study however show an encouraging decline of bush-fire events (Figure 38). People acknowledged this positive event as being due to the insurmountable efforts made by the WMA towards addressing the effects of bush-fires among other attributes. On the other hand, more concentrated efforts are still needed to address the remaining percentage that shows persistence of bush fires within the WMA.

CHAPTER SIX

SOCIO-ECONOMIC CHARACTERISTICS AT VILLAGE LEVEL

6.1 Population Characteristics of villages

There are 21 villages that form MBOMIPA WMA. These villages include Mahuninga, Makifu, Tungamalenga, Mapogoro, Idodi and Kitisi in Idodi division; whereas in Pawaga division the villages are Itunundu, Kimande, Mbuyuni, Mboliboli, Kinyika, Kisanga, Isele, Magombwe, Ilolo Mpya, Mkombilenga, Magozi and Luganga (Table 19 & 20). 12 villages out of 21 contribute their village lands for WMA, but they all cooperate in conserving the WMA and thus having equal share of the accruing revenues.

In Idodi division, Idodi village has the highest population size of 5403 that count for 20 percent of total division population. Idodi is the oldest village and is the head quarter for the famous Idodi location. It is a place where the first government secondary was built in early 1960^s. since then Idodi secondary has been the only single secondary school in Idodi division until recently when Mlowa Ward Secodary was built at Malinzanga village. Students from around the entire Idodi lowland join this secondary and perhaps contribute to the population as some decide to settle there permanently. While administering the survey questionnaire a number of respondents similarly confirmed that migrant tribes first settled in Idodi for agriculture and tied up to their family members, and therefore obviously caused population increase.

Apart from having a first secondary school in the area, Idodi village is also relatively more sufficient in basic social services such as a health center, reliable transport and trading opportunities that also result into population rise. Other villages with comparatively high populations include neighbouring Mapogoro (with 4363) and Nyamahana (with 4763) as the table below indicates.

Table 19: Population size for MBOMIPA WMA Villages (Idodi Division)

| Idodi Division | Village | Female | Male | Total |
|-----------------------|----------------|---------------|-------------|--------------|
| | Mahuninga | 1547 | 1366 | 2913 |
| | Makifu | 837 | 728 | 1565 |
| | Tungamalenga | 1214 | 1114 | 2328 |
| | Mapogoro | 2260 | 2103 | 4363 |
| | Idodi | 2601 | 2802 | 5403 |
| | Kitisi | 571 | 629 | 1200 |
| | Nyamahana | 1309 | 2114 | 4763 |
| | Malinzanga | 1074 | 1984 | 910 |
| | Mafuruto | 1278 | 972 | 2250 |
| | Total | | | 25695 |

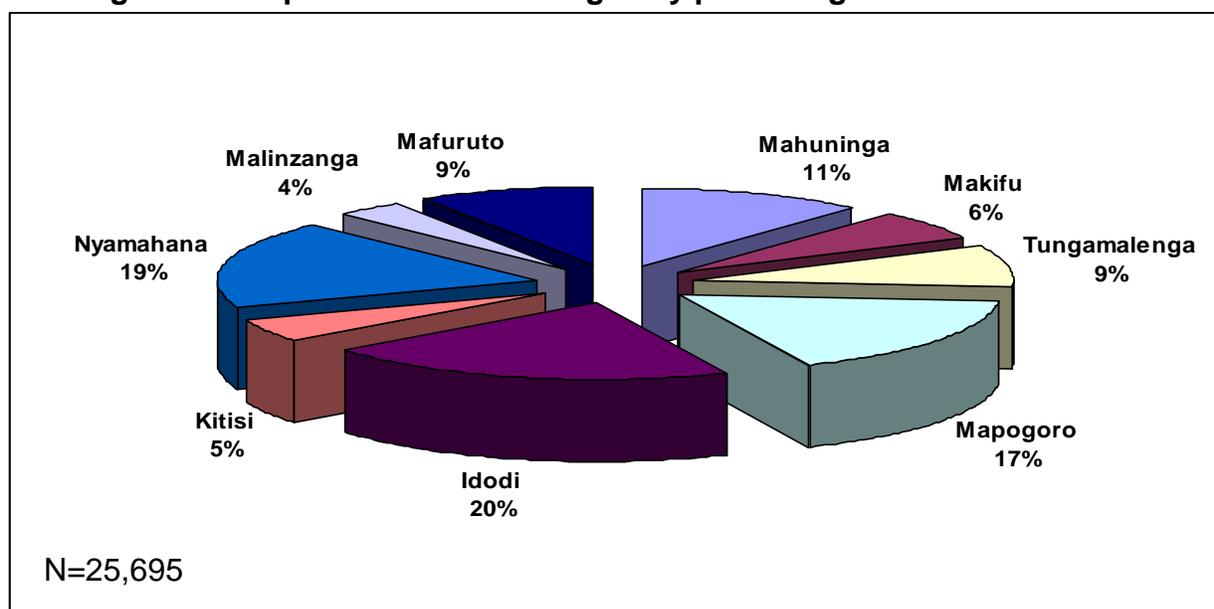
Table 20: Population size for MBOMIPA WMA Villages (Pawaga Division)

| Pawaga Division | Village | Female | Male | Total |
|-----------------|-------------|--------|------|--------------------------------|
| | Itunundu | 1857 | 1843 | 3700 |
| | Kimande | 2400 | 1200 | 2600 |
| | Mbuyuni | 803 | 751 | 1554 |
| | Mboliboli | 1860 | 2100 | 5190* (+1230 children) |
| | Kinyika | 861 | 734 | 1595 |
| | Kisanga | 1774 | 1726 | 3500 |
| | Isele | 2582 | 2914 | 5526 |
| | Magombwe | 1401 | 989 | 2390 |
| | Ilolo Mpya | 476 | 440 | 916 |
| | Mkombilenga | 500 | 510 | 1010 |
| | Magozi | 934 | 602 | 1536 |
| | Luganga | 472 | 387 | 2742* (+1883 youth & children) |
| Total | | | | 32259 |

**The villages of Luganga and Mboliboli have not separated youth and children by sex*

The villages of Makifu, Kitisi and Malinzanga have the lowest percentage of population with 6%, 5% and 4% respectively (Figure 39). As an observation, one should not be scared to see more people loitering at Tungamalenga village which has only 9% of the total population in Idodi division. This is because most of them come for tourist-related businesses, some come from as far as Iringa urban, but nevertheless they are not residents of Tungamalenga. The same case can be observed at Mafuruto and Mahuninga where more people from different villages gather during the rotational auction market (gulio) where petty traders assemble at an open place in a specified day to sell their goods, mostly second hand products.

Figure 39: Population size of villages by percentage from Idodi Division

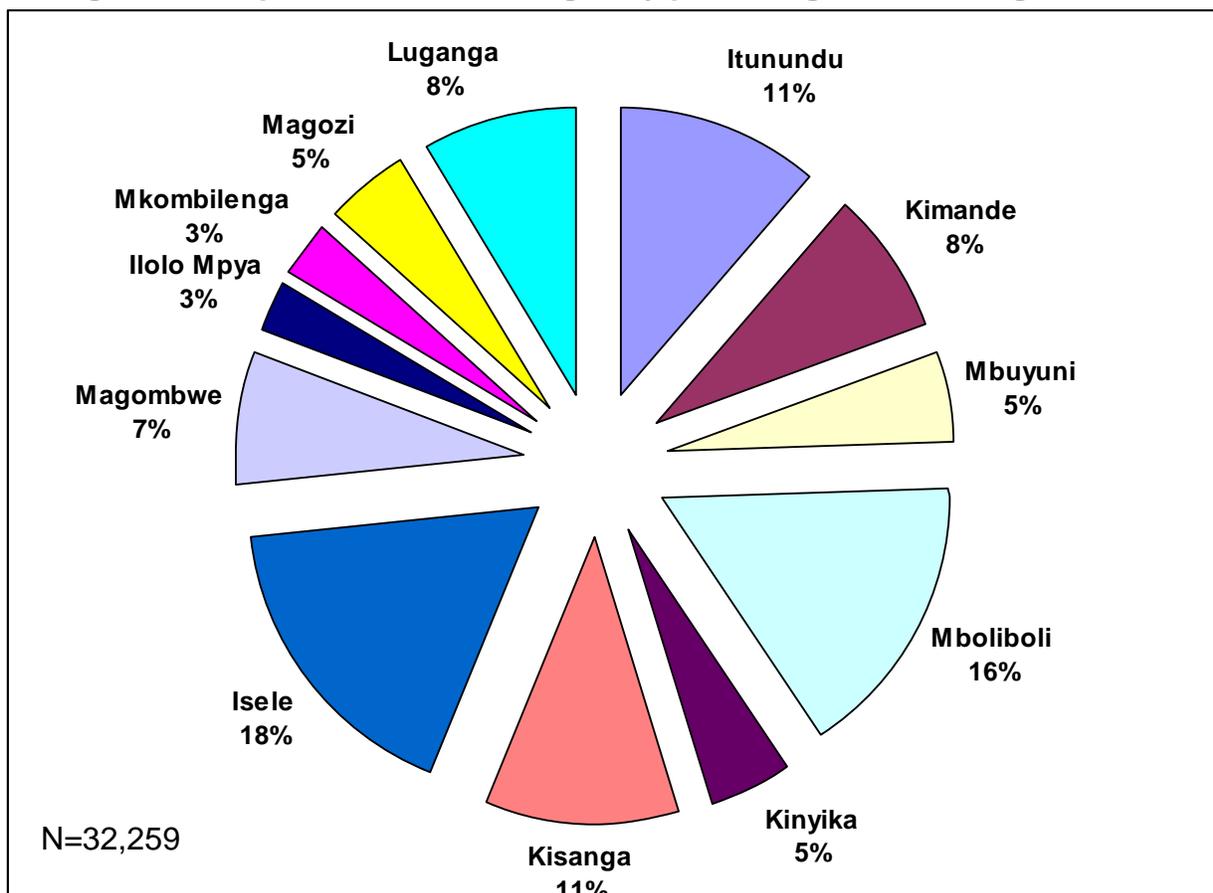


Comparing population by sex, the number of women seems to surpass that of men in most villages except in Kitisi, Nyamahana, Malinzanga and Idodi where the number of men is slightly higher than that of women.

On other hand, the villages of Pawaga division have their village populations ranging from hundreds to thousands. The highest village population size is 5526 from Isele village, whereas the lowest population is 916 from the village of Ilolo Mpya that account for only 3% of the total population size of Pawaga division (Figure 40).

As sited in Idodi division for Tungamalenga village, Itunundu village is likewise a fast growing trading center in Pawaga division, but its population size does not reflect the crowds of people seen there because some or most of them are mere outsiders doing businesses of various kinds. Other villages with population size below 10 percent of the total Pawaga division population are Kimande, Luganga, Magombwe, Kinyika, Mbuyuni, Magozi and Mkombilenga (Figure 40).

Figure 40: Population size of villages by percentage from Pawaga Division



As is the case for African populations, there are more women than men in most villages of Pawaga division. As shown in table 21, only three villages of Mboliboli, Isele and Mkombilenga have more men than women out of twelve villages found in Pawaga division. It can be argued that where agriculture and livestock keeping is practiced there

are more men engaging than women. But on the other hand, where other small scale businesses grow, women are seen outnumbering men. And, as business opportunities scale up so does the population size of women - a trend signifying that petty trading in rural areas involves more women than men, especially food vending and local brewing.

6.2 Village economic status

6.2.1 Village main economic activities

6.2.1.1 Idodi Division

Tungamalenga village is one of the two main gateways by road to Ruaha National Park. The other one starts at Nyamahana village that descends gradually to the right down to main entrance gate where it again joins Tungamalenga road. Tungamalenga is fast growing economically due to the booming tourist-related businesses and social interactions. There are a number of tourist camps and lodges, including zoos and game sanctuaries for game farming, breeding and ranching. The famous Tandala Tented Camps and Mbuyuni Campsite are both found in Tungamalenga village, including headquarters of Ruaha National Park at Msembe sub village.

Tourist investments in Tungamalenga village have contributed greatly to its rapid growth. The villagers enjoy business opportunities that arise due to presence of tourists/visitors looking for services such as foods, drinking water and household items in shops. The staff officials of Ruaha National Park also get their domestic needs at this village.

Apart from camps, other tourist services include lodges, game sanctuaries, game viewing and guides provided by MBOMIPA. Bars, local restaurants and guest houses are also available services for visitors. These tourist activities have become a major source of income at Tungamalenga village, and making the village a potential trading center. Other economic activities besides tourist-related businesses in Tungamalenga village are agriculture (rice, horticulture, sugarcane and maize), livestock keeping and trading (Table 32). Agriculture and livestock is dominant in other remaining villages of Mahuninga, Makifu, Mapogoro, Idodi, Kitisi, Nyamahana, malinzanga and Mafuruto (Table 32).

6.2.1.2 Pawaga Division

In Pawaga division, Itunundu village is becoming a small town with towering piles of rice which are seen soon after harvest season that commences in late May and ends in early July. Business people come from different corners of Iringa region to look for rice in Pawaga area, thereby in turn triggering a multiplier effect for other trading opportunities to emerge and increasing other avenues of source of incomes.

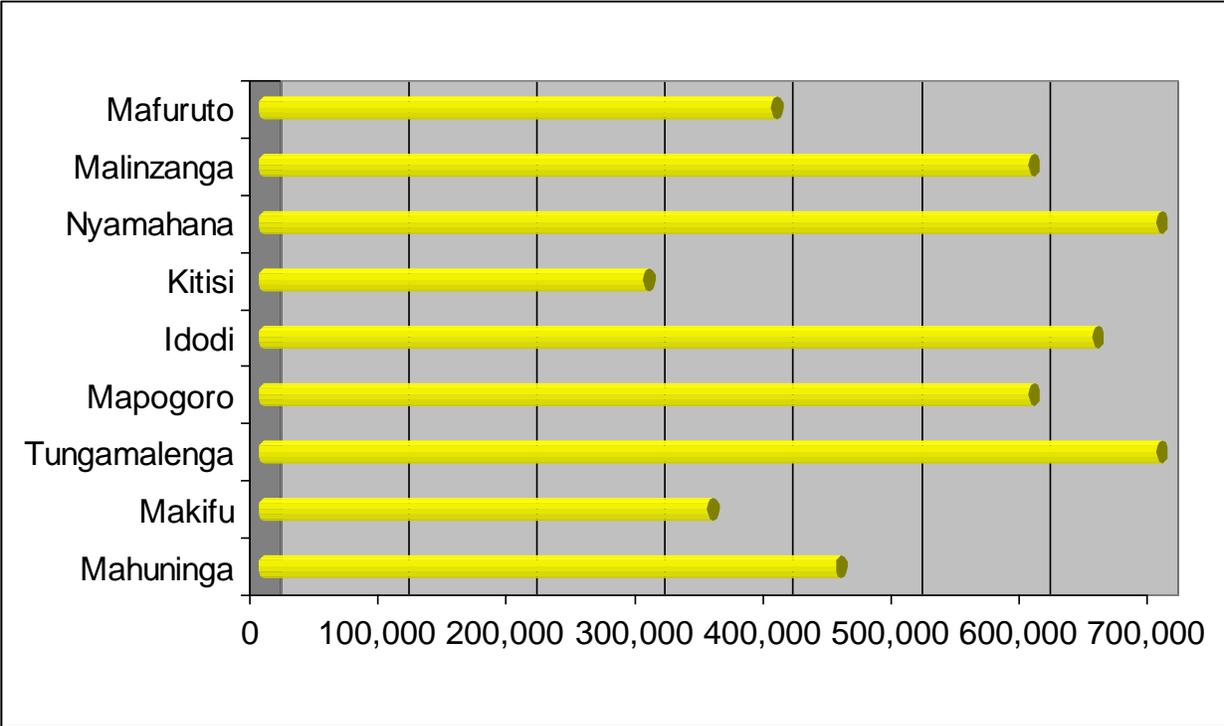
Pawaga division is famous in Iringa and neighbouring regions for its long standing rice farming. Although there are other economic activities in small scale such as fishing, trading and horticulture, rice farming is a major lifeline for almost all households in the area (Table 33). Even Maasai, Sukuma and Mang’ati pastoralists, also have rice farms alongside livestock keeping. It clearly seems that there is no any household without a rice farm permanently owned or on lease.

6.2.2 Village income levels

6.2.2.1 Idodi Division

In administering the survey questionnaire many respondents failed to properly calculate their annual incomes. A particular question on that asked them to compute total annual income from the main economic activities they mentioned, which was also their major source of incomes. From that question, a number of respondents could only mention number of bags sold but didn’t accurately know or remember how much money generated as they are used to sell just few kilos over time to meet daily basic needs. However, annual household incomes ranged from T.Sh 300,000 to over T.Sh 1,000,000 for households with relatively good living conditions. On average, annual household incomes per village ranged from T.Sh 300,000 to T.Sh 700,000 in the villages of Idodi division (Figure 41).

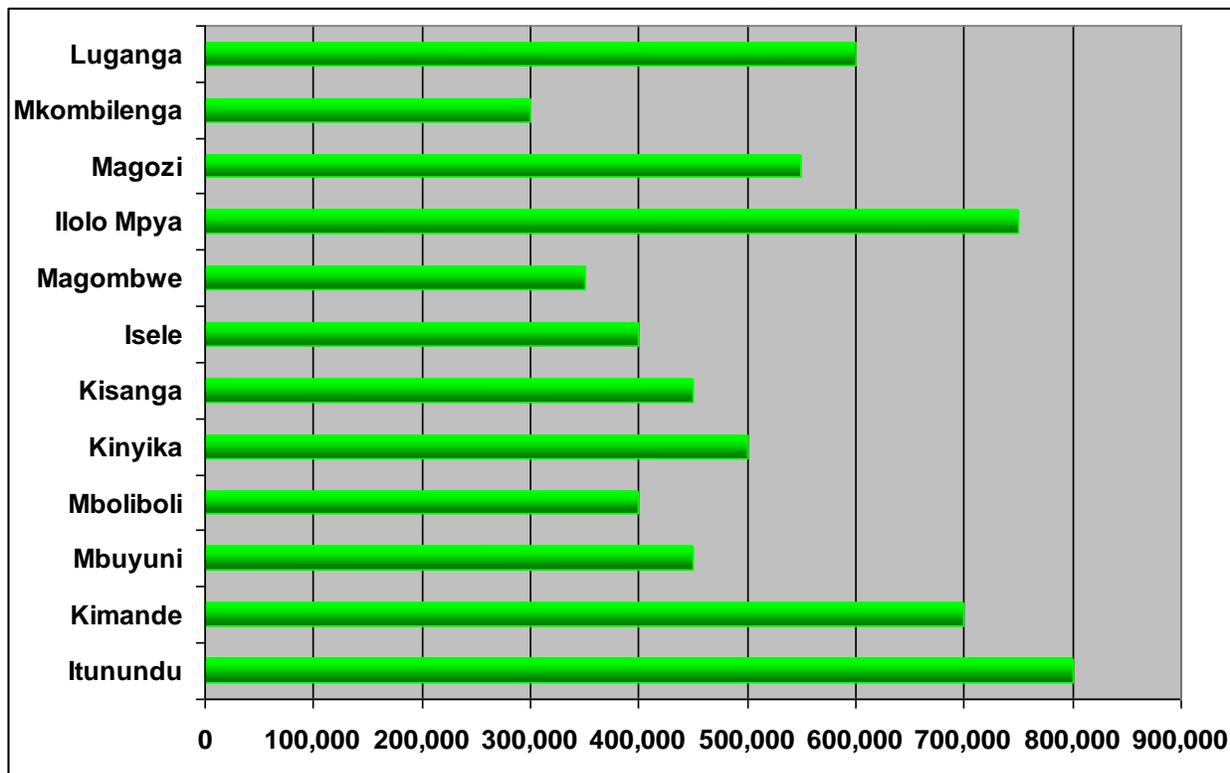
Figure 41: Annual average income for villages of Idodi Division



6.2.2.2 Pawaga Division

Annual average income per household for villages of Pawaga division is slightly above that of Idodi division villages (Figure 42). Sales of rice are probably a factor as people of Pawaga generate substantial amounts of money. Generally, their incomes end up sustaining them during the time of paddy cultivation to harvesting as they have no any other major economic activity/source of income apart from rice. However, livestock keepers find life relatively easier as they depend on both rice and animals for selling meat. Having rice as the only major source of income in Pawaga division is sometimes a risky business because many households suffer hunger disaster when rainfalls are down and when river Ruaha recedes too low to supply water for irrigation.

Figure 42: Annual average income for villages of Pawaga Division



6.2.3 Expenditure levels per household

6.2.3.1 Idodi Division

In villages where social service availability is encouraging and where economic opportunities from different businesses increase, life seems to be relatively easier in a view that households tend to spend less money per day. In the villages of Idodi and Mafuruto for instance, where water supply is a problem, many people tend to spend more money than others where water availability is assured. In these two villages,

respectively, 43.3% and 42.1% of respondents had over T.Sh 4,000 household expenditure per day, whereas over 50% of respondents from other household expenditure per day clustered between T.Sh 1,500 and 3,000 (Table 21 & 22).

Table 21: Household expenditure per day for Idodi village

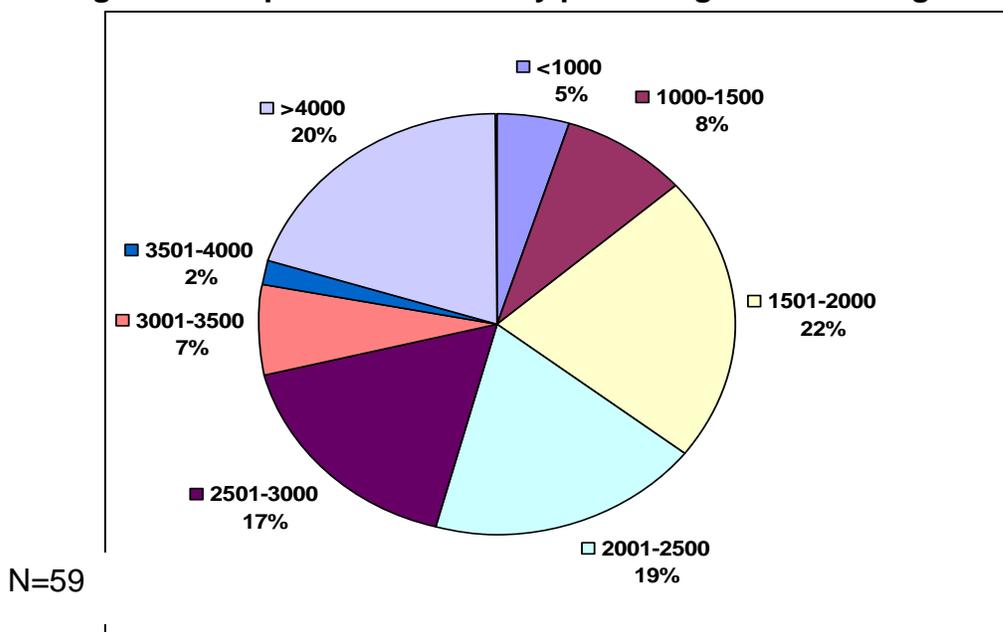
| | Frequency | Percentage |
|-------------|-----------|------------|
| < 1000 | 1 | 1.7 |
| 1000 – 1500 | 2 | 3.3 |
| 1501 – 2000 | 10 | 16.7 |
| 2001 – 2500 | 4 | 6.7 |
| 2501 – 3000 | 10 | 16.7 |
| 3001 – 3500 | 2 | 3.3 |
| 3501 - 4000 | 5 | 8.3 |
| 4001+ | 26 | 43.3 |
| Total | 60 | 100.0 |

Table 22: Household expenditure per day for Mafuruto Village

| | Frequency | Percentage |
|-------------|-----------|------------|
| < 1000 | 2 | 10.5 |
| 1000 - 1500 | 3 | 15.8 |
| 1501 - 2000 | 2 | 10.5 |
| 2001 - 2500 | 1 | 5.3 |
| 2501 - 3000 | 1 | 5.3 |
| 3501 - 4000 | 2 | 10.5 |
| 4001+ | 8 | 42.1 |
| Total | 19 | 100.0 |

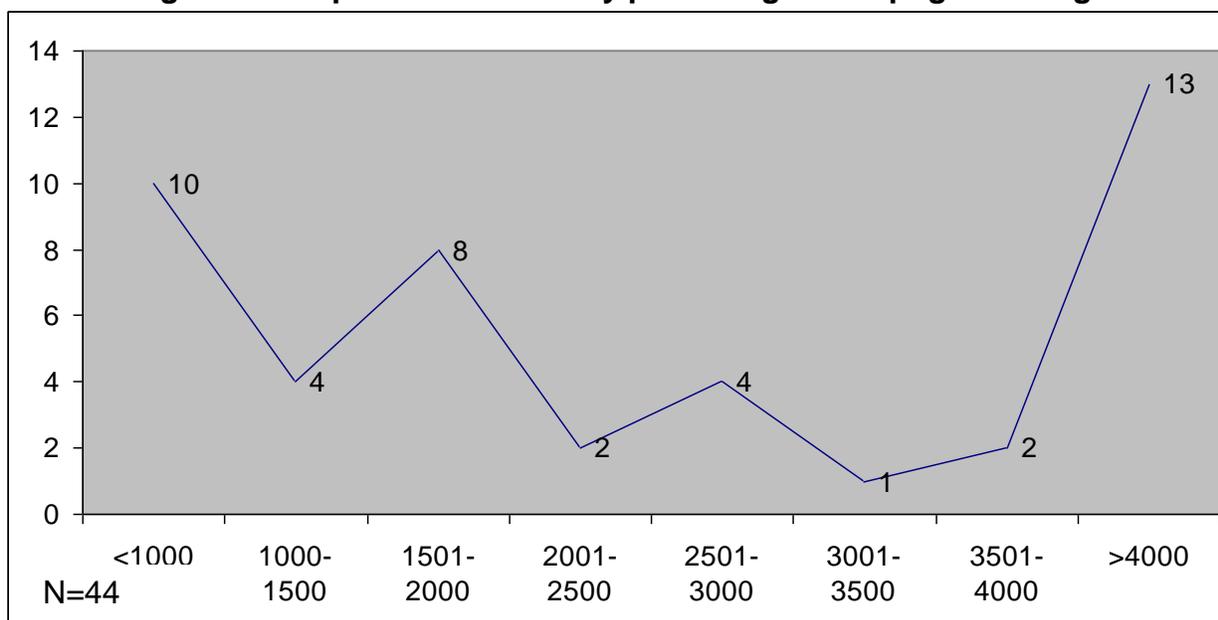
At Malinzanga village almost four-fifths of household expenditure range from T.Sh 1,000 to 4,000 per day except 20% (roughly quarter of the sample population) expend their incomes over T.Sh 4,000 (Figure 43). The expenditure level ranging from 1501-2000 had the largest share of respondents.

Figure 43: Expenditure levels by percentage at Malinzanga Village



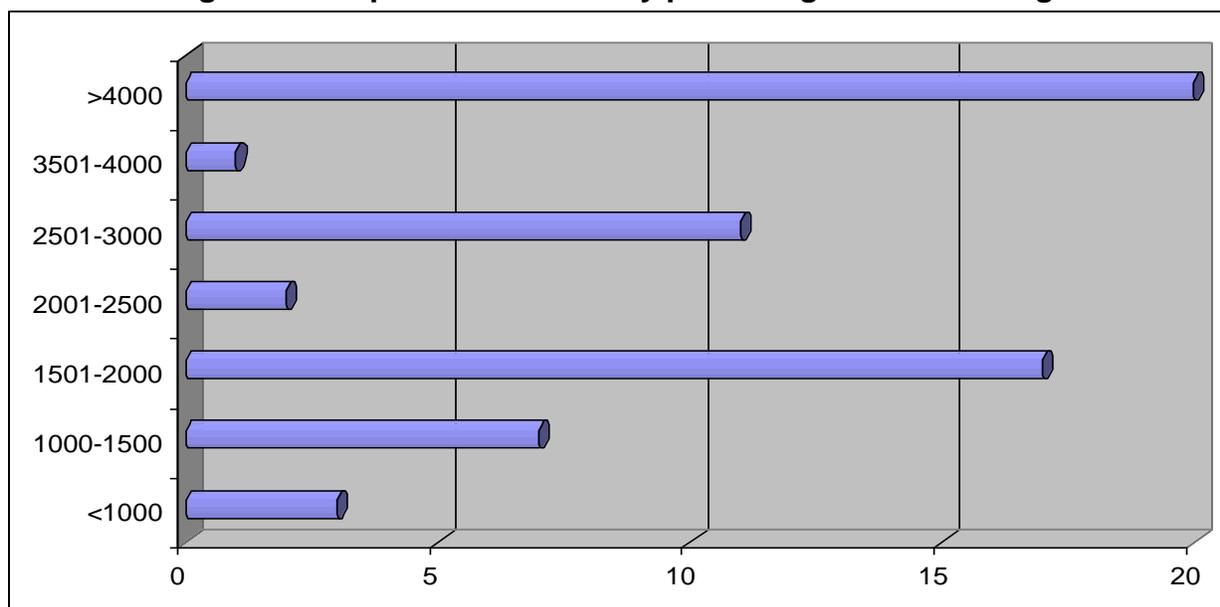
In Figure 44, the majority of respondents at Mapogoro village expend their incomes at two different extreme ends, as it was seen that most of them use below T.Sh 1,000 then decline and sharply rise to use T.Sh 4,000 per household per day.

Figure 44: Expenditure levels by percentage at Mapogoro Village



At Kitisi Village (Figure 45), most people of sampled size indicated to household expenditure had their expenditure per day at the level of T.Sh 1501-2000 and above T.Sh 4,000.

Figure 45: Expenditure levels by percentage at Kitisi Village



In Mahuninga village, where 10.3% spend less than T.Sh 1,000 per household per day, and 23.5% fall between T.Sh 2,501 to 3000 (Table 23); it shows that more households have less income for expenditure as opposed to only 1.7% in Idodi village or, 1.8% in Tungamalenga where households found to spend T.Sh 1,000 per household per day.

Table 23: Household expenditure per day for Mahuninga Village

| | Frequency | Percentage |
|-------------|-----------|------------|
| < 1000 | 7 | 10.3 |
| 1000 - 1500 | 5 | 7.4 |
| 1501 - 2000 | 13 | 19.1 |
| 2001 - 2500 | 3 | 4.4 |
| 2501 - 3000 | 16 | 23.5 |
| 3001 - 3500 | 2 | 2.9 |
| 3501 - 4000 | 5 | 7.4 |
| 4001+ | 17 | 25.0 |
| Total | 68 | 100.0 |

The villages of Mahuninga, Tungamalenga and Nyamahana where piped water is available within homesteads, and where there are various economic activities/ opportunities, only 25% to 34.5% of households spend more T.Sh 4,000 per day (Tables 24 & 25).

Table 24: Household expenditure per day for Nyamahanga Village

| | Frequency | Percentage |
|-------------|-----------|------------|
| < 1000 | 7 | 24.1 |
| 1000 - 1500 | 3 | 10.3 |
| 1501 - 2000 | 4 | 13.8 |
| 2001 - 2500 | 4 | 13.8 |
| 2501 - 3000 | 1 | 3.4 |
| 3501 - 4000 | 1 | 3.4 |
| 4001+ | 9 | 31.0 |
| Total | 29 | 100.0 |

It can be assumed that availability of water is a crucial factor towards salvaging some money that could be spent on searching water at far distances. On other hand, when domestic needs are available that situation helps prices to be lowered as traders tend to compete vigorously in attracting buyers by discounting their price tags.

Table 25: Household expenditure per day for Tungamalenga Village

| | Frequency | Percentage |
|-------------|-----------|------------|
| < 1000 | 1 | 1.8 |
| 1000 - 1500 | 7 | 12.7 |
| 1501 - 2000 | 13 | 23.6 |
| 2001 - 2500 | 3 | 5.5 |
| 2501 - 3000 | 6 | 10.9 |
| 3001 - 3500 | 3 | 5.5 |
| 3501 - 4000 | 3 | 5.5 |
| 4001+ | 19 | 34.5 |
| Total | 55 | 100.0 |

6.2.3.2 Pawaga Division

Basing on availability and affordable social services as a factor towards lower spending spree as discussed in Idodi division above, it is also truly manifested in Pawaga division where it was found that villages of Kinyika and Kisanga where water supply is a major problem, more than 50% of respondents spend more than T.Sh 4,000 per day (Tables 26 & 27).

Table 26: Household expenditure per day for Kinyika Village

| | Frequency | Valid Percent |
|-------------|-----------|---------------|
| 1000 - 1500 | 1 | 2.6 |
| 1501 - 2000 | 4 | 10.5 |
| 2001 - 2500 | 1 | 2.6 |
| 2501 - 3000 | 5 | 13.2 |
| 3001 - 3500 | 2 | 5.3 |
| 3501 - 4000 | 5 | 13.2 |
| 4001+ | 20 | 52.6 |
| Total | 38 | 100.0 |

Table 27: Household expenditure per day for Kisanga Village

| | Frequency | Percentage |
|-------------|-----------|------------|
| < 1000 | 3 | 6.8 |
| 1000 - 1500 | 2 | 4.5 |
| 1501 - 2000 | 6 | 13.6 |
| 2001 - 2500 | 1 | 2.3 |
| 2501 - 3000 | 7 | 15.9 |
| 3501 - 4000 | 3 | 6.8 |
| 4001+ | 22 | 50.0 |
| Total | 44 | 100.0 |

The sampled households in the villages of Kimande and Mboliboli were over 40% spending more than T.Sh 4,000 per day as respectively indicated in the Figure 46 and Table 29 below. The same scenario appears that, in villages with difficult basic social infrastructure and needs (especially road, water, energy etc), people tend to use more money to make their daily survival possible.

Figure 46: Household expenditure per day for Kimande Village

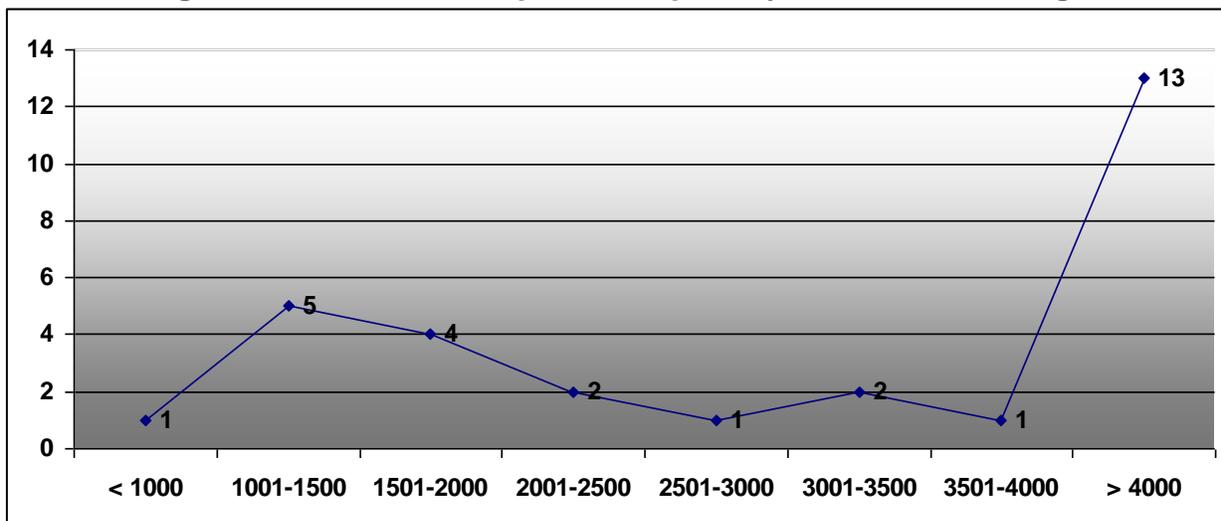
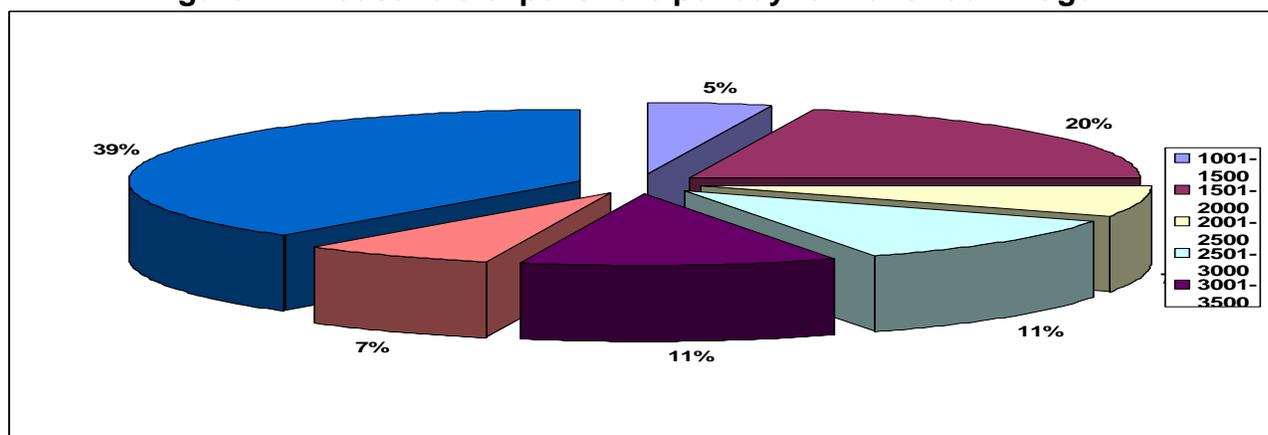


Table 28: Household expenditure per day for Mboliboli Village

| | Frequency | Percentage |
|-------------|-----------|------------|
| < 1000 | 1 | 3.2 |
| 1000 - 1500 | 2 | 6.5 |
| 1501 - 2000 | 5 | 16.1 |
| 2001 - 2500 | 1 | 3.2 |
| 2501 - 3000 | 4 | 12.9 |
| 3501 - 4000 | 4 | 12.9 |
| 4001+ | 14 | 45.2 |
| Total | 31 | 100.0 |

Figure 47: Household expenditure per day for Itunundu Village



N=44

Itunundu village, as highlighted in previous sections above, is a central trading location in Pawaga where only 39% of total sample size responded to expend their incomes above T.Sh 4,000 per household per day (Figure 47 above). However, it is not surprising to see that it is closely related to Ilolo Mpya village which, as observed in the study, it is ranked as the second trading center, where 38% of the sample size indicated to expend more than T.Sh 4,000 per household per day - more of the same to Itunundu (Figure 47 & 48).

Figure 48: Household expenditure per day for Ilolo Mpya Village

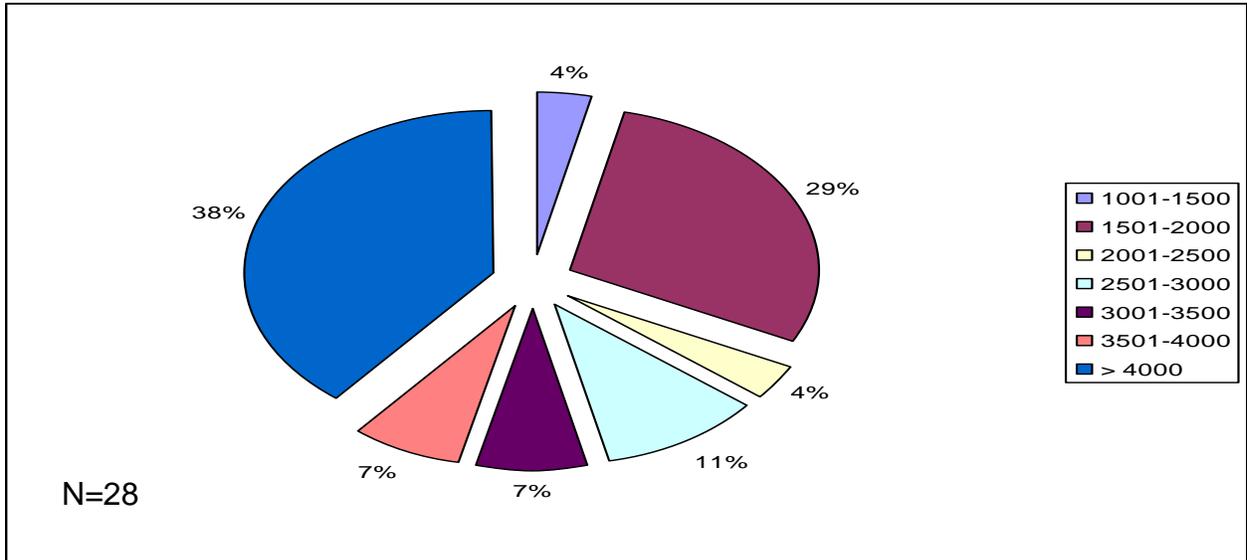
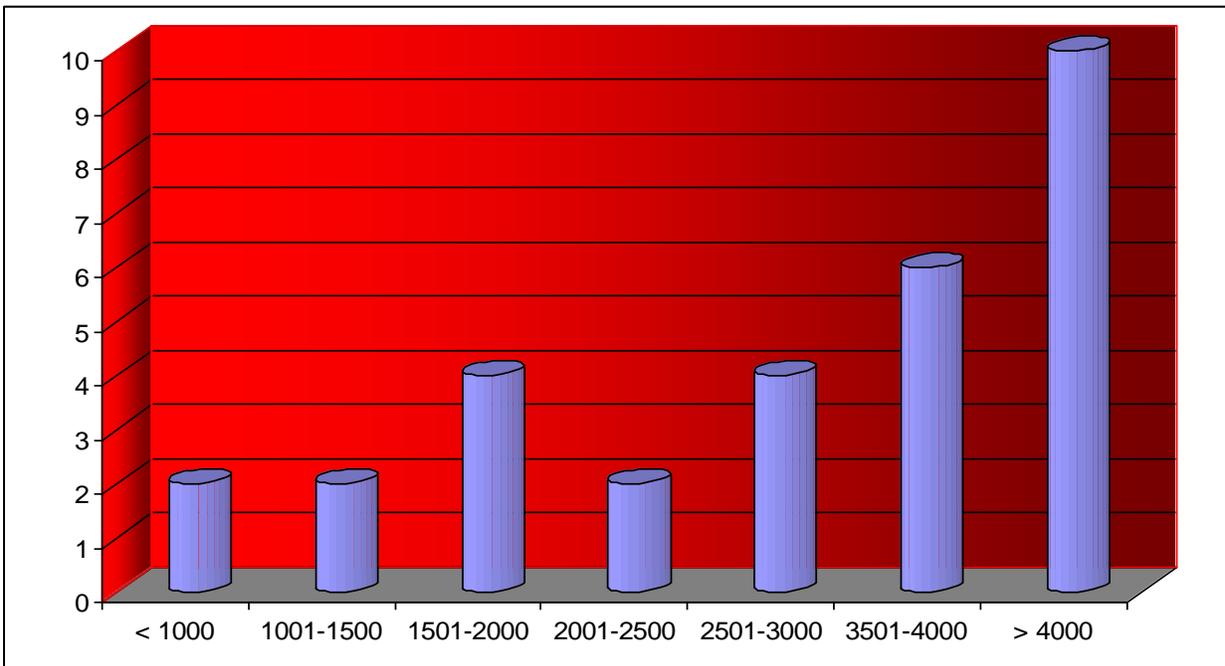
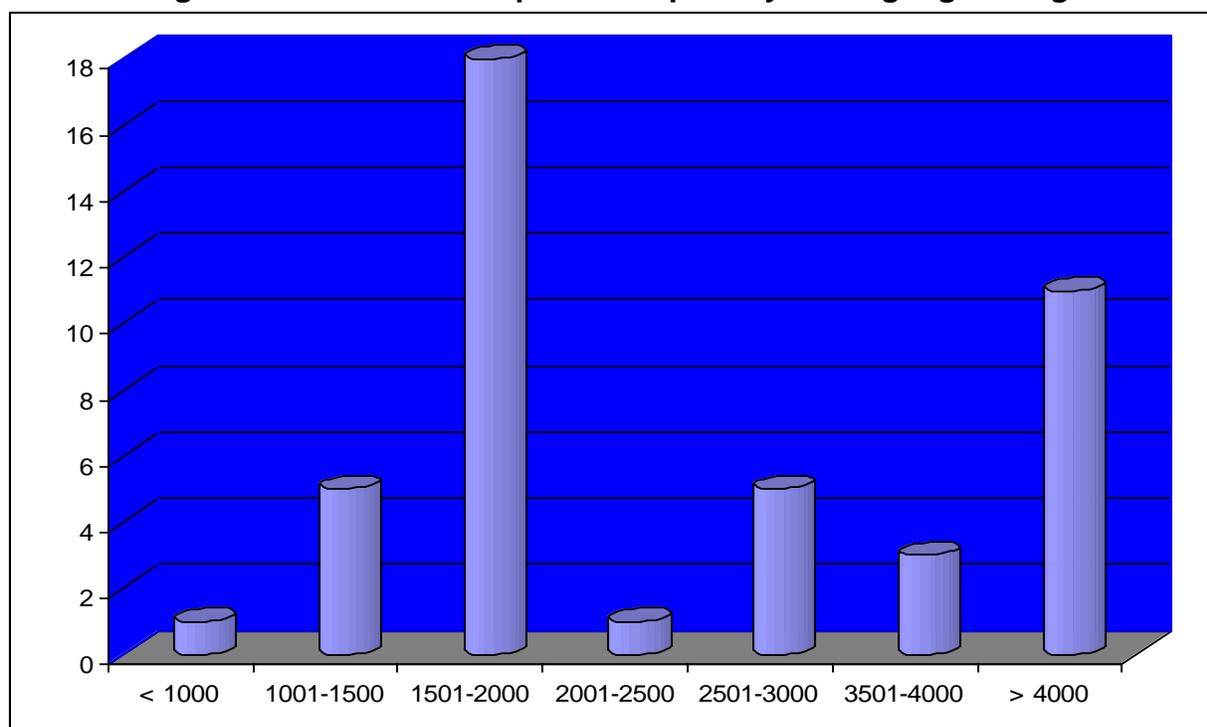


Figure 49: Household expenditure per day for Isele Village



For Isele village (Figure 49) above, we learn that more people of the representative sample size expend their incomes above T.Sh 4,000 per household. Figure ... below on the contrary, shows that majority of respondents indicated that their household expenditure fall within the range of T.Sh 1501-2000.

Figure 50: Household expenditure per day for Luganga Village



6.3 Entrepreneurship/production groups

6.3.1 Overview

Entrepreneurship or rather business groups, are mostly found in villages where trading activities are highly pronounced. Tungamalenga for instance, in Idodi division is at a leading pace in capturing rural and tourist-related businesses and opportunities, whereas in Pawaga division, Itunundu village is becoming a busiest trading center, especially soon after the dawn of rice harvesting season. However, local brewing, mainly run by women, is a most common business and a pre-historical brewery in all villages of Pawaga and Idodi division. Usually, after harvesting season, many people are found in local clubs drinking, some even start drinking in the morning.

Other common entrepreneurship businesses (Table ...) are as follows:

- Food vending (Mama Lishe)
- Small shops/ kiosks
- Grain milling
- Sales of horticultural crops (vegetables, fruits)
- Sales and purchases of rice
- Accommodation facilities (guest houses/lodges)
- Modern bars/grocery
- Roast meat (nyama choma/ pork - kitimoto)

- Transport services by power tillers, carts driven by donkeys/oxen, tractors, pickups, trucks and buses
- Sales and purchases of second hand items (textiles, shoes and domestic utensils)
- Solar power distributions/supply
- Small scale fishery
- Weaving

Table ... puts in matrix and summarizes main trading business groups and notifies involvement by sex.

6.3.2 Entrepreneurship annual income levels by village

While conducting the study, 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, 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 bar 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 from some villages provided average annual incomes of their businesses (Table 30).

In Idodi division, Tungamalenga village is the most successful trading centre as previously discussed, and has power tillers and small businesses counting for higher income levels (Table 30 below indicates). Itunundu village in Pawaga division has the highest income levels of entrepreneurship groups. Hiring of power tillers and rice sales are leading in substantial incomes by T.Sh 7,000,000 and 9,500,000 respectively.

Other villages in both divisions have more or less similar entrepreneurship income levels and fewer business opportunities compared to Tungamalenga and Itunundu villages. However, it should be noted that Tungamalenga is not the head quarter of Idodi division, but rather a trading center that is strategically positioned for tapping lucrative tourist operations and a gateway/stop over to Ruaha National Park.

6.4 Socio-economic standards at village level

6.4.1 Availability and quality of social services

6.4.1.1 Education

Social services have been generally highlighted in sub section 1.8 above, a section that shows quantity of social services in Iringa Rural District, and detailed cross tabulations are broadly discussed in chapter three. However, social services in villages comprising MBOMIPA WMA differ from one village or division to the other. Education sector for instance, on the basis of number of schools, it was found that at least each village in Idodi division has a primary school (Table 29). There are only two secondary schools in the entire division located at Idodi and a newly one at Malinzanga village. Concerted government efforts are underway to make sure that each ward has at least one secondary school as is the case for primary schools, albeit the quality is still far from satisfactory in terms of school infrastructure, teachers and books.

In pawaga division similarly (Table 30), each village has a primary school. There are only 2 secondary schools located at Itunundu and Ilole Mpya. Despite of the support from MBOMIPA revenues, TANAPA and NGOs, poor school infrastructure and teaching facilities - including human resources, are still a chronic setback as is evidenced in many government schools all over the country.

6.4.1.2 Water supply

Water availability is a serious problem across all villages of MBOMIPA WMA except in the villages of Mahuninga, Tungamalenga, Nyamahana, Kitisi and Ilole Mpya where villagers enjoy piped water just nearby their homesteads (Table 32). In Pawaga division on the other hand, heavy construction work of laying down water pipes is going on through the villages of Mkombilenga, Kimande and Itunundu.

Alternatively, it was observed that, the villages without piped water depend on wells, boreholes and streams as their main water supply sources. Itunundu, Kimande, Mkombilenga, Isele, Kinyika and Magombwe also have River Ruaha, unsafe as it is, is their major source of water for both domestic and outdoor uses.

6.4.1.3 Health Facilities

The whole lowland of MBOMIPA WMA has 14 dispensaries, two of them being health centers at Idodi village and the other one in Pawaga division located at Kimande village. Villages of Makifu, Kitisi, Mbuyuni, Kinyika, Magombwe, Magozi and Mkombilenga don't have any health facility (Table 29 &30). Shortages of medical personnel and medicines

is a major plight, the situation being even worse in villages where there are no health services.

6.4.1.4 Infrastructure

Iringa Rural District Council is making efforts to make sure that rural roads are passable throughout the year. There are main roads (gravel) entering MBOMIPA WMA from Iringa urban. The first one passes through Kalenga to the villages of Nyamahana, Idodi, Mapogoro, Tungamalenga and all the way to head quarters of Ruaha National Park at Msembe sub village. This road is passable throughout the year and regularly rehabilitated, although in rainy season its accessibility is difficult and sometimes limited. It has a short cut that diverts at Nyamahana village to the main entrance of Ruaha National Park. A rough earth road to villages of Makifu and Mahuninga is accessible, but the condition of earth roads to Kitisi, Malinzanga and Mafuruto were reported to worsen during the rainy season with potholes scattered all the way.

The second main road (also gravel) goes to Pawaga division. It begins at Mkwawa University through undulating rocky mountains to the villages of Luganga, Magozi, Ilo Ilo Mpya, Mkombilenga, Kimande and Itunundu. This road is well maintained due to its economic significance, especially transporting rice. Roads to Kinyika, Kisanga, Mboliboli and Mbuyuni are accessed with difficulty though currently were found to undergo major rehabilitations. Apparently, the villages of Isele and Magombwe (Table 30) have no roads; they are accessed only on foot through difficult narrow pathways.

6.4.2 Living standards at village level

Living standards in most villages are more or less similar, although standards are slightly higher in villages where average annual household incomes are higher (T.Sh 600,000 to 700,000) as analyzed above in Idodi division (Figure 41). Taking into account housing conditions as an indicator for the level of living standards, Tungamalenga, Nyamahana, Idodi, Mapogoro and Malinzanga have far better houses as compared to low household income earners in the villages of Kitisi, Mafuruto, Makifu and Mahuninga (Plates 4 & 5 above).

Good living standards are also reflected in Pawaga division in relation to households with higher average annual incomes as can be observed above (Figure 42); in which the villages of Itunundu, Ilo Ilo Mpya, Kimande and Luganga have more average annual incomes than the rest of lowly income villages. This is also true for household assets (disposable and physical) as analyzed in detail in chapter three and four above, whereby villages with more business opportunities and higher incomes, tend to have their people with more assets than others. This is seen in Tungamalenga and Itunundu where people have televisions, power tillers, solar panels, motorcycles, mobile phones, and etc.

6.5 Socio-economic standards at village level

6.5.1 Availability and quality of social services

6.5.1.1 Education

Social services have been generally highlighted in sub section 1.8 above, a section that shows quantity of social services in Iringa Rural District, and detailed cross tabulations are broadly discussed in chapter three. However, social services in villages comprising MBOMIPA WMA differ from one village or division to the other. Education sector for instance, on the basis of number of schools, it was found that at least each village in Idodi division has a primary school (Table 29). There are only two secondary schools in the entire division located at Idodi and a new one at Malinzanga village. Concerted government efforts are underway to make sure that each ward has at least one secondary school as is the case for primary schools, albeit the quality is still far from satisfactory in terms of school infrastructure, teachers and books.

In pawaga division similarly (Table 30), each village has a primary school. There are only 2 secondary schools located at Itunundu and Ilolo Mpya. Despite of the support from MBOMIPA revenues, TANAPA and NGOs, poor school infrastructure and teaching facilities - including human resources, are still a chronic setback as is evidenced in many government schools all over the country.

6.5.1.2 Water supply

Water availability is a serious problem across all villages of MBOMIPA WMA except in the villages of Mahuninga, Tungamalenga, Nyamahana, Kitisi and Ilolo Mpya where villagers enjoy piped tape water neartheir homesteads (Table 32). In Pawaga division on the other hand, heavy construction work of laying down water pipes is going on through the villages of Mkombilenga, Kimande and Itunundu.

Alternatively, it was observed that, the villages without piped tape water depend on wells, boreholes and streams as their main water supply sources. Itunundu, Kimande, Mkombilenga, Isele, Kinyika and Magombwe also have River Ruaha, unsafe as it is, it their major source of water for both domestic and outdoor uses.

6.5.1.3 Health Facilities

The whole lowland of MBOMIPA WMA has 14 dispensaries, two of them being health centers at Idodi village and the other one in Pawaga division located at Kimande village. Villages of Makifu, Kitisi, Mbuyuni, Kinyika, Magombwe, Magozi and Mkombilenga don't have any health facility (Table 29 &30). Shortages of medical personnel and medicines

is a major plight. The situation is worse in villages where there are no health services because people have to work long distances to get the services..

6.5.1.4 Infrastructure

Iringa Rural District Council is making efforts to make sure that rural roads are passable throughout the year. There are main roads (gravel) entering MBOMIPA WMA from Iringa urban. The first one passes through Kalenga to the villages of Nyamahana, Idodi, Mapogoro, Tungamalenga and all the way to head quarters of Ruaha National Park at Msembe sub village. This road is passable throughout the year and regularly rehabilitated. During the rainy season however its accessibility is difficult and sometimes limited. It has a short cut that diverts at Nyamahana village to the main entrance of Ruaha National Park. A rough earth road to villages of Makifu and Mahuninga is accessible, but the condition of earth roads to Kitisi, Malinzanga and Mafuruto were reported to worsen during the rainy season with potholes scattered all the way.

The second main road (also gravel) goes to Pawaga division. It begins at Mkwawa University College of Education through undulating rocky mountains to the villages of Luganga, Magozi, Ilo Mpya, Mkombilenga, Kimande and Itunundu. This road is well maintained due to its economic significance, especially transporting rice. Roads to Kinyika, Kisanga, Mboliboli and Mbuyuni are accessed with difficulty > the good news is that during the survey there were major rehabilitations going on. Apparently, the villages of Isele and Magombwe (Table 30) have no roads; they are accessed only on foot through difficult narrow pathways.

6.5.2 Living standards at village level

Living standards in most villages are more or less similar, although standards are slightly higher in villages where average annual household incomes are higher (T.Sh 600,000 to 700,000) as analyzed above in Idodi division (Figure 41). Taking into account housing conditions as an indicator for the level of living standards, Tungamalenga, Nyamahana, Idodi, Mapogoro and Malinzanga have far better houses as compared to low household income earners in the villages of Kitisi, Mafuruto, Makifu and Mahuninga (Plates 4 & 5 above).

Higher living standards are also reflected in Pawaga division in relation to households with higher average annual incomes as can be observed above (Figure 42); in which the villages of Itunundu, Ilo Mpya, Kimande and Luganga have more average annual incomes than the rest of lowly income villages. This is also true for household assets (disposable and physical) as analyzed in detail in chapter three and four above, whereby villages with more business opportunities and higher incomes, tend to have their people with more assets than others. This is seen in Tungamalenga and Itunundu

where people have televisions, power tillers, solar panels, motorcycles, mobile phones, and etc.

Table 29: Availability and quality of social services at village level in Idodi Division

| Division | Ward | Villages | Education (schools) | | Health Facility | Water Source | Road |
|----------|-----------|--------------|---------------------|-----------|-----------------|---------------------------------------------------------------------------|-------------------------------------------------------------|
| | | | Primary | Secondary | | | |
| Idodi | Mahuninga | Mahuninga | 1 | 0 | 1 dispensary | Reliable piped tape water and potable | Good condition year round with seasonal dilapidations |
| | | Makifu | 1 | 0 | None | Wells and river at long distances and not potable | Good condition year round with seasonal dilapidation |
| | Idodi | Tungamalenga | 2 | 0 | 1 dispensary | Reliable piped tape water and seasonal streams | Good condition throughout the year with regular maintenance |
| | | Mapogoro | 1 | 0 | 1 dispensary | River and boreholes plenty though not potable | Good condition throughout the year with regular maintenance |
| | | Idodi | 1 | 1* | 1 health center | Wells, seasonal streams and boreholes with acute scarcity and not potable | Good condition year round with regular maintenance |
| | | Kitisi | 1 | 0 | None | Piped tape water sometimes unreliable | Good in dry season but worsens in rainy season |
| | Mlowa | Malinzanga | 1 | 1 | 1 dispensary | Wells and boreholes with acute scarcity and not potable | Good with temporary dilapidations |
| | | Nyamahana | 2 | 0 | 1 dispensary | Reliable piped tape water and potable | Good condition year round and regularly maintained |
| | | Mafuruto | 2 | 0 | 1 dispensary | Wells, seasonal streams and boreholes with acute scarcity not potable | Good with temporary dilapidations |

Table 30: Availability and quality of social services at village level in Pawaga Division

| | | | | | | | |
|---------------|-------------------|-------------|---|----|------------------|--------------------------------------------------------------------------|-----------------------------------------------|
| Pawaga | Itunundu | Itunundu | 1 | 1* | 1* health center | Empty water tapes but reliable water from River Ruaha albeit not potable | Accessed gravel road and regularly maintained |
| | | Kimande | 1 | 0 | None | Empty water tapes but reliable water from River Ruaha though not potable | Accessed gravel road and regularly maintained |
| | | Mbuyuni | 1 | 0 | 1 dispensary | Wells, seasonal streams and boreholes, acutely scarce and not potable | Rough, accessed though with difficulty |
| | | Mboliboli | 1 | 0 | 1 dispensary | Wells, seasonal streams and boreholes acutely scarce and not potable | Bad condition but accessed with difficulty |
| | Mlenge | Kinyika | 1 | 0 | None | Unsafe seasonal streams and boreholes with acute scarcity | Rough but easily accessed |
| | | Kisanga | 1 | 0 | 1 dispensary | Unsafe seasonal streams and boreholes with acute scarcity | Rough, dilapidated and seasonally blocked |
| | | Isele | 1 | 0 | 1 dispensary | seasonal streams and boreholes, acutely scarce and not potable | No road |
| | | Magombwe | 1 | 0 | None | seasonal streams and boreholes, acutely scarce and not potable | No road |
| | Ilolo Mpya | Ilolo Mpya | 1 | 1* | 1 dispensary | Reliable piped tape water | Good condition and regularly maintained |
| | | Luganga | 1 | 0 | 1 dispensary | Reliable water from River Ruaha but unsafe | Good with regular maintenance |
| | | Magozi | 1 | 0 | None | Wells, boreholes and seasonal streams but not potable | Good with regular maintenance |
| | | Mkombilenga | 1 | 0 | None | Reliable water from River Ruaha but not potable | Good with regular maintenance |

** The facility is owned and shared by all villages forming a ward*

Table 31: Average annual income levels for Common entrepreneurship groups

| | Village | Average annual income levels for common entrepreneurship groups (T.Sh) | | | | | | | | | |
|-----------------|--------------|------------------------------------------------------------------------|---------------------------------------------|---------------|--------------|---------------------|---------------|------------|---------------|------------------------------------|---------------------------|
| | | Guest house/ lodges | Horticultural products (vegetables, fruits) | Local brewery | Grocery/ bar | Power tiller hiring | Grain milling | Rice sales | Shops/ kiosks | Roast meat (nyama choma/ kitimoto) | Food vending (Mama Lishe) |
| Idodi Division | Mahuninga | 500,000 | 400,000 | 540,000 | 1,500,000 | 3,500,000 | 2,000,000 | 700,000 | 2,500,000 | 450,000 | 350,000 |
| | Tungamalenga | 4,000,000 | 650,000 | 1,500,000 | 2,500,000 | 4,500,000 | 1,200,000 | 3,500,000 | 6,000,000 | 1,300,000 | 1,700,000 |
| | Idodi | 450,000 | 350,000 | 600,000 | 400,000 | 2,500,000 | 1,500,000 | 6,500,000 | 2,450,000 | 600,000 | 450,000 |
| | Kitisi | - | 100,000 | 450,000 | 500,000 | 5,000,000 | 1,200,000 | 3,500,000 | 1,000,000 | 250,000 | 250,000 |
| | Malinzanga | 1,100,000 | 250,000 | 250,000 | 450,000 | 5,000,000 | 5,000,000 | 4,500,000 | 1,450,000 | 150,000 | 250,000 |
| Pawaga Division | Itunundu | 500,000 | 350,000 | 1,200,000 | 500,000 | 7,000,000 | 300,000 | 9,500,000 | 3,000,000 | 350,000 | 2,000,000 |
| | Kimande | - | 120,000 | 225,000 | 250,000 | 950,000 | 360,000 | 7,500,000 | 425,000 | 300,000 | 450,000 |
| | Kinyika | - | 180,000 | 150,000 | 200,000 | 1,200,000 | 600,000 | 8,000,000 | 1,800,000 | 250,000 | 300,000 |
| | Kisanga | - | 150,000 | 100,000 | 150,000 | 4,000,000 | 200,000 | 4,000,000 | 250,000 | 250,000 | 250,000 |
| | Isele | - | 80,000 | 300,000 | 250,000 | 3,000,000 | 100,000 | 2,500,000 | 300,000 | 200,000 | 350,000 |
| | Magombwe | - | 100,000 | 200,000 | 700,000 | 1,500,000 | 2,600,000 | 2,000,000 | 360,000 | 150,000 | 300,000 |
| | Ilolo Mpya | 350,000 | 200,000 | 450,000 | 650,000 | 4,500,000 | 540,000 | 5,500,000 | 250,000 | 450,000 | 450,000 |

Table 32: Key Parameters at Village Level in Idodi Division

| Village | Population Size | | | Main economic activities (income generating activities) | Social services available | Average annual income per household | Daily average expenditure per household | Types of business/production groups |
|--------------|-----------------|-------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Total | Female | Male | | | | | |
| Mahuninga | 2913 | 1547 | 1366 | Agriculture (rice, maize and groundnuts), livestock keeping (cattle, goat, poultry and swine) and petty trading | Primary school, piped tape water, dispensary, earth road and mobile phones | 450,000 | 3,500 | Local brew and food vending (Mama Lishe) groups mainly involving women. Men surface mainly in selling rice, maize, groundnuts, kiosks and livestock products |
| Makifu | 1565 | 837 | 728 | Agriculture (rice, maize and groundnuts), livestock (cattle, poultry and swine) and small businesses | Primary school, water supply, earth road and communication | 350,000 | 2,500 | Local brew and selling vegetables done by women groups. Majority groups men sell rice, maize, groundnuts and kiosks |
| Tungamalenga | 2328 | 1214 | 1114 | Agriculture (rice, maize, sugarcane, groundnuts, vegetables), tourist-related businesses (lodges, campsites, sanctuaries), livestock and trading (shops, vending) | 2 primary schools, dispensary, piped tape water, earth road and mobile communication | 700,000 | >5,000 | Tourist business groups involving both sexes. Sales and purchases of rice and maize mainly involve men. Local brew and bars are also a common business for both sexes. |
| Idodi | 4363 | 2260 | 2103 | Agriculture (rice, maize and groundnuts), livestock, small businesses and credit services | Primary and secondary school, health center, underground water, earth road and mobile communication | 650,000 | 4,500 | 1 credit service group (SACCOS) run by mostly women than men. Food vending run by majority women. Rice and maize purchases mainly controlled by male traders |

| | | | | | | | | |
|------------|-------------|-------------|-------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mapogoro | 5403 | 2601 | 2802 | Agriculture (rice, maize and groundnuts), livestock, small businesses and credit services | Primary, dispensary, surface water, earth road and mobile communication | 600,000 | 4,500 | Some kiosks mostly owned by men. Food vending groups run by majority women. Rice and maize purchases mainly controlled by male traders. Bimonthly auction market attended by various people |
| Kitisi | 1200 | 571 | 629 | Agriculture and livestock keeping | Primary school, piped tape water, passable earth road and mobile communication | 300,000 | 1,500 | Local brew and food vending groups (Mama Lishe) mainly involving women. Men involve in selling rice, maize, groundnuts, kiosks and livestock products |
| Malinzanga | 4763 | 1309 | 2114 | Agriculture (rice, maize and groundnuts) and livestock keeping | Primary and secondary school, dispensary, underground water, earth road and mobile communication | 600,000 | >4,000 | Sales and purchases of rice and maize involving groups of both sexes. Food vending and weaving mats involve women. Some kiosks mostly run by men |
| Nyamahana | 910 | 1074 | 1984 | Agriculture (rice and horticultural produce) and livestock keeping practiced by Maasai and Mang'ati | 2 primary schools, dispensary, piped tape water, earth road and mobile communication | 700,000 | 3,500 | Local brewing and food vending groups done mainly by women whereas selling agricultural products are mainly run by of groups men |
| Mafuruto | 2250 | 1278 | 972 | Agriculture and livestock keeping dominated by migrant Maasai, Barbaig and Mang'ati | 2 primary schools, dispensary, water supply, earth road and mobile communication | 400,000 | 2,500 | Local brewing and food vending groups operated by women. Male groups involve in selling agricultural and livestock products |

Table 33: Key Parameters at Village Level in Pawaga Division

| Village | Population Size | | | Main economic activities | Social services available | Average annual income per household | Daily average expenditure per household | Types of business/production groups |
|-----------|----------------------------------|-------------|-------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Total | Female | Male | | | | | |
| Itunundu | 3700 | 1857 | 1843 | Agriculture (paddy), livestock keeping and small businesses (mainly rice and household items) | Primary and secondary school, health center, piped and surface water (river Ruaha), passable earth road and communication facilities (mobile phones) | 800,000 | >5,000 | Rice wholesaling is a dominant and blossoming business mostly done by male traders. Petty trading and food vending mostly involve women. Kiosks and shops are more or less equally owned by both sexes. The central market mostly embraced by women selling various types of food and fruits. Several power tillers on hire are owned by well-off men. Bars attract both sexes |
| Kimande | 3600 | 2400 | 1200 | Agriculture (paddy), livestock keeping and trading (mainly rice) | Primary, secondary school and health center (shared with Itunundu village), piped and surface water (river Ruaha), earth road and communication facilities (mobile phones) | 700,000 | >5,000 | Sales and purchases of rice mainly done by men; whereas women control food vending. Bars and local brew mostly operated by women |
| Mbuyuni | 1554 | 803 | 751 | Agriculture (paddy) and livestock keeping | Primary school, water supply, earth road and communication network for mobile phones available | 450,000 | 3,500 | Sales and purchases of rice mainly done by men; whereas women control food vending, petty trading and making and selling local brew |
| Mboliboli | 5190* (+1230 children) | 1860 | 2100 | Agriculture (paddy) and livestock keeping | Primary school, dispensary, water supply, earth road and available network for mobile phones | 400,000 | 2,500 | Sales and purchases of rice mainly done by men; whereas women have food kiosks and sell local brew |

| | | | | | | | | |
|-------------|--------------------------------------------|-------------|-------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Kinyika | 1595 | 861 | 734 | Agriculture (paddy) and livestock keeping | Primary school, water supply, earth road and available network for mobile phones | 500,000 | 3,000 | Mostly men sell rice. Women have food kiosks and local brew in their control |
| Kisanga | 3500 | 1774 | 1726 | Agriculture (paddy) and livestock keeping | Primary school, dispensary, water supply, earth road and available network for mobile phones | 450,000 | 4,000 | Selling rice involve both sexes. Local brew dominated by women |
| Isele | 5526 | 2582 | 2914 | Agriculture (paddy) and livestock keeping | Primary school, dispensary, water supply and communication network for mobile phones | 400,000 | 2,000 | Selling rice involve both sexes. Women have an upper hand in local brew sales |
| Magombwe | 2390 | 1401 | 989 | Agriculture (paddy) and livestock keeping | Primary school, surface water and communication network for mobile phones available | 350,000 | 1,500 | Selling rice involve both sexes. Local brew is a serious business for women |
| Ilole Mpya | 916 | 476 | 440 | Agriculture (paddy) and livestock keeping | Primary and secondary schools, dispensary, piped tape and surface water (river Ruaha), earth road and communication facilities (mobile phones) | 750,000 | >4,000 | There is a community market where both women and men sell rice, foods and household items. There are few local bars attracting all people |
| Mkombilenga | 1010 | 500 | 510 | Agriculture (paddy) and livestock keeping | Primary school, surface water and communication network for mobile phones available | 300,000 | 1,500 | Both sexes sell rice whereas women dominate local brew business |
| Magozi | 1536 | 934 | 602 | Agriculture (paddy) and livestock keeping | Primary school, surface water and communication network for mobile phones available | 550,000 | 2,000 | Both sexes sell rice whereas women dominate local brew business |
| Luganga | 2742* (+1883 youth and children) | 472 | 387 | Agriculture (paddy) and livestock keeping | Primary school, dispensary, water supply and communication network for mobile phones | 600,000 | 4,500 | Both sexes sell rice whereas women dominate local brew business |

**The villages of Luganga and Mboliboli have not separated youth and children by sex*

CHAPTER SEVEN

CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

The empowerment and implementation of managing natural resources through community based conservation (CBC) has been a major step to achieving the government intent as stipulated in the Wildlife Policy of Tanzania, adopted in 1998. This approach has instilled confidence and deepened ownership of the people to their surrounding natural resources, which in particular for this study, greatly refers to wildlife resources and their supportive ecosystems.

The benefits that come from joint management of natural resources among villages forming the WMA, have been widely accepted and inspired people to fully participate in community based natural resource management, especially wildlife resources and other tourist attractions. The availability of social services, for instance, every village having a school that is supported by MBOMIPA as a result of having a WMA, is quite encouraging for people to continue appraising their association.

The challenges are many, but the willingness and readiness of the people to fully participate in projects related to the conservation of natural resources will certainly trigger commendable success for implementing financial crisis initiative/cash-for-work programs. People are ready to contribute their labour force even without any payment because they have been doing so for many years in projects initiated by their ward or village governments.

The living standards of many families at household levels are still poor, on average having less than a dollar to spend per day. Economic activities as identified are still practiced by using local means and tools that do not give enough produce to meet their daily basic needs. Suffice to say poverty is still looming as is the case in many African rural areas. However, the people in MBOMIPA WMA are vigorously optimistic to reduce poverty if they can be supported to have enough irrigation schemes from various water sources instead of endlessly depending on scarce and unreliable rainfalls, or using inadequate water from Ruaha River.

Idodi and Pawaga divisions are potential areas for paddy cultivation and henceforth can have immense contribution for *Kilimo Kwanza* ambitions to improve people's livelihoods. Average household expenditure registered more than 50% of villagers spending T.Sh 3,500 and 3,000 in Idodi and Pawaga respectively. More than 30% indicated to spend more T.Sh 4,000 per day in most villages. However, the average annual income for all villages lies at T.Sh 600,000.

Improvements to tourist infrastructures and capacity building for MBOMIPA can as well have a positive impact and consequently boost the association to get more revenues that will in turn have more impact on improving both livelihoods and social services of

the people and member villages. Also in this regard, poaching incidences, environmental degradation and conflicting competition on scarce resources will continue to decline significantly.

7.2 Recommendations

- MBOMIPA as an association needs more institutional and capacity support
- Major economic activities practiced in MBOMIPA member villages, particularly agriculture and livestock keeping require modernized irrigation systems and respectively proper allocations for grazing areas, that will certainly help improve rural livelihoods and natural resources management.
- People's morale to participate in community based conservation is a major step and entry point for the implementation of effective conservation strategies and fostering the wildlife policy into successful enforcement
- Conflicting competition in controlling farming and grazing areas between wildlife, farmers and pastoralists needs immediate crackdowns.

REFERENCES

Emmanuel Sulle and Fred Nelson, "**Biofuels, land access and rural livelihoods in Tanzania**" Prepared by Tanzania Natural Resource Forum, August 2009.

Fred Nelson, Emmanuel Sulle and Peter Ndoipo, "**Wildlife Management Areas in Tanzania: A Status Report and Interim Evaluation**", Prepared by Tanzania Natural Resource Forum, August 2006.

Namibian Association of Community-Based Natural Resource Management Organizations (NACSO): Proceedings of the Regional Community-Based Natural Resource Management Conference, "**Sharing Best Practices for future**", Windhoek, Namibia, March 2003.

United Republic of Tanzania: Ministry of Natural Resource and Tourism, **The Wildlife Conservation Act**, 2009

United Republic of Tanzania: Ministry of Natural Resources and Tourism, Wildlife Division, "**Assessment and Evaluation of the Wildlife Management Areas in Tanzania**", Unpublished Report carried out by Institute of Resource Assessment, University of Dar-es-Salaam, Tanzania. 2007.

United Republic of Tanzania: Ministry of Natural Resources and Tourism, "**Wildlife Policy of Tanzania**", 1998.

United Republic of Tanzania: Wildlife Conservation Act, 1974, "**Wildlife Conservation (Wildlife Management Areas) Regulations**", Dar Es Salaam, Tanzania, September, 2005.

The United Republic of Tanzania: Iringa Region Socio-economic Profile.

Iringa Rural District Profile.

Albee, A. (1994). Support to Women Productive and Income Generating Activities. Evaluation of Research Working Paper Series Number 1. UNICEF, Rome. 13pp.

Bailey, D.K. (1998). Methods of Social Research. The Free Press Collier-Macmillan Publishers, London. 478pp.

Bloom, D.E., Canning, D. and Sevilla, J. (2001). Economic Growth and the Demographic Transition. National Bureau of Economic Research Working Paper 8685[<http://www.nber.org/papers/w8685>]. 87pp.

Casley, D.J. and Kumar, K. (1988). The Collection, Analysis and Use of Monitoring and Evaluation data. Baltimore, John Hopkins University Press. DC. 174pp.

- de Sherbinin, A. (2006). Rural Household Micro-Demographics, Livelihoods and the Environment. Background Paper, Population-Environment Research Network Cyberseminar. [www.populationenvironmentresearch.org]. Site visited on 13/04/2009.
- Fisher, S. (2002). A Livelihood Less Ordinary. Applying the Sustainable Livelihoods approach in the Australian Indigenous Context. Centre for Appropriate Technology (CAT). 16pp.
- Handley, G., Higgins, K., Sharma, B., Bird, K. and Cammack, D. (2009). Poverty and Poverty Reduction in Sub-Saharan Africa: An Overview of the Issues. Overseas Development Institute –Working Paper 299, London. 82pp.
- Hassanshahi, H., Irvani, H. and Kalantari, K. (2008). Analysis of capital assets of natural resources management system in the agricultural production cooperatives (APCs) in Fars Province, Iran. Australian Journal of Basic and Applied Sciences 2(4): 864-871.
- Kajembe, G.C. and Luoga, E.J. (1996). Socio-economic aspects of tree farming in Njombe District. Consultancy Report to the natural resource conservation and land use management project (HIMA-Njombe). Forconsult. Sokoine University of Agriculture, Morogoro, Tanzania. 99pp.
- Lubida, A. P. (2004). Assessment of basic land characteristics and socio-economic factors relating to ngolo trials in Uluguru mountains Morogoro, Tanzania. A Dissertation for Award of MSc Degree at Sokoine University of Agriculture. 97pp.
- Manyong, V.M., Nindi, S.J., Alene, A.D., Odhiambo, G.D., Omany, G., Mignouna, H.D. and Bokanga, M. (2008). Farmer perceptions of Imazapyr-Resistant (IR) Maiza Technology on the Control of Striga in Western Kenya: African Agricultural Technology Foundation and the International Institute of Tropical Agriculture. Nairobi, Kenya. 81pp.
- Mbwambo, J.S. (2000). The role of local knowledge and organization in sustainable conservation of biodiversity. A case study of Udzungwa Mountains, Tanzania. Dissertation for Award of Master of Science Degree at Sokoine University of Agriculture , Morogoro, Tanzania. 125pp.
- Mukhebi, A.W., Kundu, J., Okolla, A., Wambua, M., Ochieng, W. and Fwamba, G. (2007). Linking Farmers to Markets through Modern Information and Communication Technologies in Kenya. Paper presented at the Association of African Agricultural Economists (AAAE) Conference 2007. Kenya Agricultural Commodity Exchange Limited (KACE), Accra, Ghana. 14pp.

- Nkonya, E., Pender, J., Jagger, P., Sserunkuuma, D., Kaizzi, C. and Ssali, H. (2004). Strategies for sustainable land management and poverty reduction in Uganda. Research Report 133. International Food Policy Research Institute. Washington D.C. 136 pp.
- Owen, E., Kitalyi, A., Jayasuriya, N. and Smith, T. (2005). Livestock and wealth creation: Improving the husbandry of animals kept by resource-poor people in developing countries. Hobbs, Hampshire, England. 601pp.
- Saunders, M., Lewis, P. and Thornhill, A. (2007). Research Methods for Business Students, 4th Edition. FT Prentice Hall, Harlow-England. 624pp.
- Soriaga, R. and Walpole, P. (2006). Forests for Poverty Reduction: Opportunities in Asia-Pacific Region. Asia Forest Network. 24pp.
- Uliwa, P. and Fischer, D. (2004). Assessment of Tanzania's Producer Organizations. Experience and environment. USAID Tanzania, Economic Growth office. 56pp.
- United Republic of Tanzania (URT). 2006. Tanzania Census 2002: Analytical Report Volume X. National Bureau of Statistics, Ministry of Planning, Economy and Empowerment. 194pp.

Appendix 1

Structured Questionnaire

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

HOUSEHOLD QUESTIONNAIRE

| IDENTIFICATION | |
|---------------------------------------------|----------|
| 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: NEXT VISIT: DATE TIME | _____ | _____ | | TOTAL NUMBER OF VISITS [] |
| <p><i>RESULTS CODE</i></p> <p>1. COMPLETED</p> <p>2. POSTPONED/INCOMPLETE →</p> <p>3. ABSENT FOR SHORT PERIOD OF TIME →</p> <p>4. REFUSED</p> <p>5. LANGUAGE BARRIER/INCAPACITATED</p> <p>6. OTHER _____</p> | | | | <p>You have to return</p> <p>You have to return</p> |

| FIELD SUPERVISOR/EDITOR | OFFICE EDITOR | ENTERED BY (1 ST ENTRY) | ENTERED BY (2 ND 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 |
|-------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| SECTION A: SOCIO - DEMOGRAPHIC CHARACTERISTICS | | | |
| A1 | Sex of the respondent | 1 Male 2 Female | A1 [] [] |
| A2 | In what year, month and date were you born? | A2 Date of birth [DD/MM/YYYY] A2-1 1 Don't know year 2 No response | A2 Day [] Month [] Year [] A2-1 [] |
| 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 ? | 1 Yes 2 No | 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) | 1.Less than one year 2.1-4 Years 3.5-9 Years 4.More than 10 Years | A8 [] [] |
| A9 | Why did you move to this Village? | 1 Farming 2 Business 3 Employment | A9 [] [] |

| | | | |
|-----|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| | | 4 Family and friends 5 Policy(Villagelization policy) 6 Others (specify) | |
| A10 | What is the main activity you do for a living?(That is what is your main occupation that brings you an income?) | 1 Cash crop farming 2 Food crop production 3 Livestock keeping 4 Small business 5 Wage employment 6 Horticulture 7 Handcraft for sale (curio goods seling) 8 Hunting 9 Game meat business 10 Tourist business 11 Casual worker 12 Others (mention)_____ | A10 [] |

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 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 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 landload | B12 [] |

| | | | |
|-----|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| | | 4 Do not rent just staying with friends 5 No response | |
| 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 6. Bottled water 7. Pond/lake 8. Water tanker or water seller | B15 [] |
| 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 1 Yes 2 No TV B19-2 1 Yes 2 No VCR/DVD B19-3 1 Yes 2 No Satellite dish B19-4 1 Yes 2 No Radio/cassette player B19-5 1 Yes 2 No Refrigerator B19-6 1 Yes 2 No Mobile phone B19-7 1 Yes 2 No House landline phone B19-8 1 Yes 2 No Others (specify) B19-9 Do not have | B19-1 [] B19-2 [] B19-3 [] B19-4 [] B19-5 [] B19-6 [] B19-7 [] B19-8 [] B19-9 [] |
| B20 | Does your household own among the following | B20-1 1 Yes 2 No Bicycle B20-2 1 Yes 2 No Motor cycle B20-3 1 Yes 2 No Vehicle | B20-1 [] B20-2 [] B20-3 [] |

| | | | |
|--|-----------------------|----------------------------------------------------------------------------|------------------------|
| | transport facilities? | B20-4 1 Yes 2 No Oxen/Donkey cart B20-5 1 Yes 2 No Other - Specify_____ | 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? | _____ | |
| C25 | In case of agriculture production please mention the type of crops that you grow | _____ | |
| C26 | What is the estimated annual income of each economic activity mentioned in C- 24 above? | _____ | |
| 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 _____ | |
| 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 | 1 Yes 2 No | C31 [] |

| | | | |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| | If not go to section D | | |
| C32 | How much do you earn from wildlife ventures/activities? 1. Photographic 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) | _____ _____ _____ _____ | |
| 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 | D40 [] |

| | | | |
|-----|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| | | 5.Never had a meeting | |
| 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? | 1 Increasing 2 Decreasing 3 Don't know | D46 [] |
| D47 | Have ever experienced any disputes and conflicts related to wildlife management in this village? | 1.Yes 2.No | D47 [] |
| D48 | If yes,what type of disputes and conflict are related to wildlife management in your village? | 1 Village boundaries 2 Wild animal attack 3 Destruction of crops by wild animals 4 Misunderstanding between Villagers and investors 5 Disagreement on benefit sharing mechanism 6 Others (specify) | D48 [] |
| D49 | With the establishment of WMAs what are the potential productive activities did you anticipate | 1 Cash crop farming 2 Food crop production 3 Small business (food-vending,) 4 Wage employment | D49 [] |

| | | | |
|-----|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| | WMA? Would bring to the village? | <ul style="list-style-type: none"> 5 Horticulture 6 Handcrafts for sale 7 Water vending 8 Game meat business 9 Tourist guide 10 Others | |
| D50 | Has the WMA had any impact on the condition of the wildlife in your area? | <ul style="list-style-type: none"> 1 Increase abundance (in situ) 2 Provides reproduction grounds 3 Stop habitat destruction 4 Bringing species back | D50 [] |
| D51 | In the last year, how often did you have fire incidences in this village? | <ul style="list-style-type: none"> 1 More than three times 2 Three times 3 Two times 4 Once 5 Never happened | D51 [] |
| D52 | In your opinion has WMAs been beneficial to you or to your area? | <ul style="list-style-type: none"> 1.Yes 2.No 3 Don't know 4.No response | D52 [] |
| D53 | If yes, what benefits? | <ul style="list-style-type: none"> 1 Increased incomes 2 Reduced poaching incidences and practices 3 Conserves resource for future generations 4 Reduces conflicts 5 Improves livelihood 6 Provides access/security to resources(property rights) 7 Other | D53 [] |
| D54 | Do you think the system of sharing the benefits accrued from WMAs is fair? | <ul style="list-style-type: none"> 1 Yes 2 No | D54 [] |
| D55 | Overall, how has WMA impacted your livelihood? | <ul style="list-style-type: none"> 1 Decreased 2 No changes 3 Increased 4 Don't know | D55 [] |
| D56 | Overall, do you think that WMA has been good or bad for businesses? | <ul style="list-style-type: none"> 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 [] |

SECTION E: LEVELS OF INCOME AND MAIN EXPENDITURE PATTERNS.

| | | | |
|-----|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------|
| E59 | How many members of your household currently earn some income (from a job and/or business and/or part-time work)? | Number of people _____ | E59 [] |
| E60 | Do you have livestock | 1 Yes 2 No | E60 [] |
| E61 | How many of the following livestock do you own? | | |
| | Livestock | Number of livestock | |
| | 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 | E63 [] |

| | | | |
|------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| | | 4 Between 3 to 5 acres 5 Between 6 to 10 acres 6 More than 10 acres 7 No response | |
| 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 | | |
| | Crops | Quantity in good season | Quantity in bad season |
| | 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 2No 3 Do not know | E67 [] |
| E 68 | Do you think this grazing land is enough? | 1Yes 2No 3Do not know | E 68[] |
| 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 | |

| | | | |
|-----|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------|
| E71 | What is the pattern of expenditure among men/women(depends on whom you are interviewing) | 4 Others(Specify) _____ _____ _____ | |
| 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).

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

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 wilayani 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 wajiadili 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? Mnayatatia 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 mwezesaji wa majadiliano (Facilitator) na mwandishi (Note-Taker or Recorder).

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

Maswali ya kawaida kuhusu jamii

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.-Dadisii 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 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 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 imebakia 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 mafanikio?

4. Uelewa kuhusu maeneo ya hifadhi ya wanyamapori

- Mruhusu mhojiwa akueleze dhana yake ya WMA kwa kirefu. Je wananchi wanajua kikamilifu dhana hii? Je wanahusika vipi? Kwa nini kijiji chao kijiunga na umilikaji wa mali ha (WMA)?
Je, watu wanapata faida gaini?
- 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? Mnayatatia 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