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Minimizing human-wildlife conflicts whenever they occur,

To contribute to poverty alleviation in rural areas.

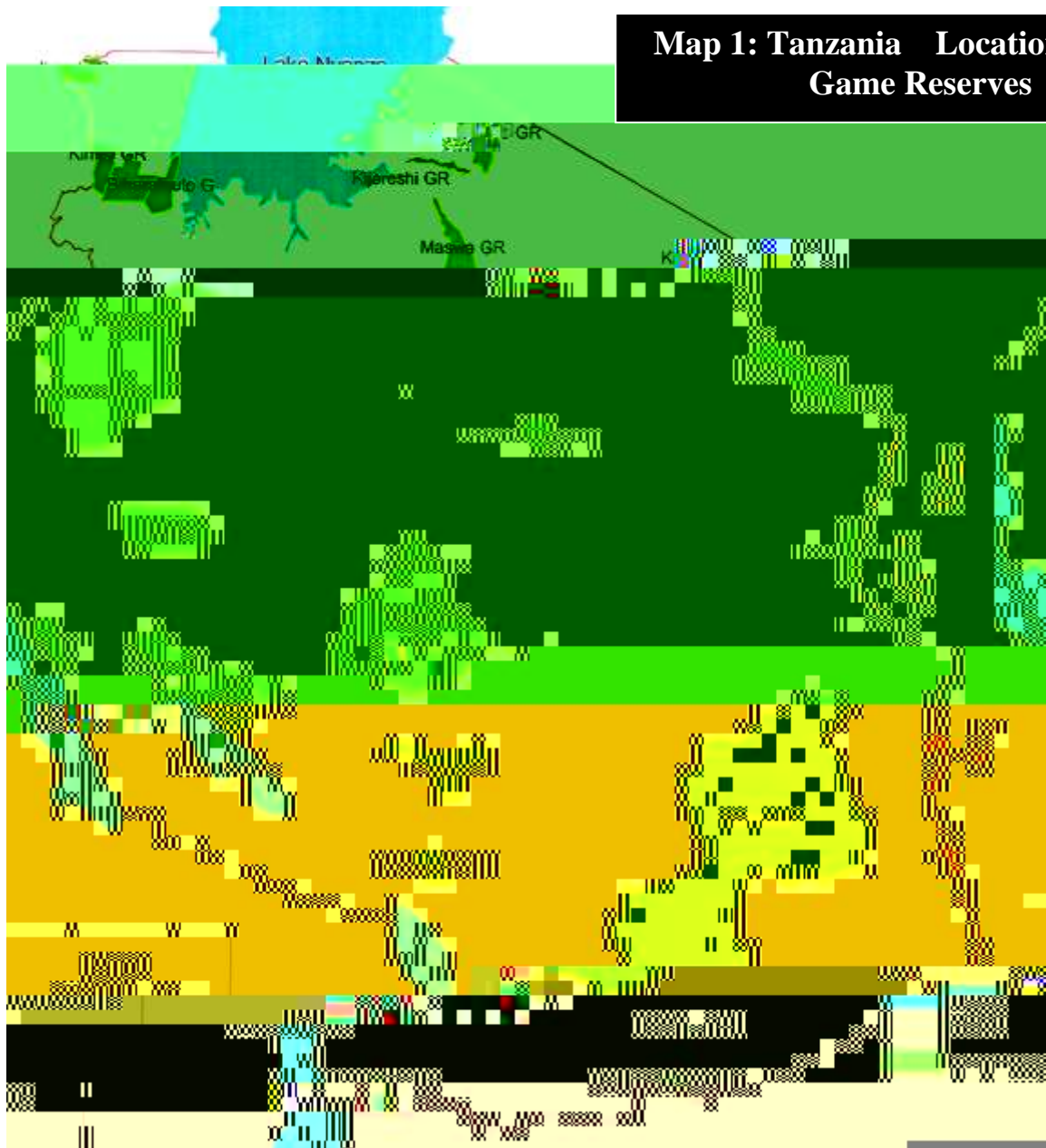
The Wildlife Division (WD) in the Ministry of Natural Resources and Tourism (MNR&T) in collaboration with various partners, NGOs and local communities has been supporting the implementation of Community Based Conservation (CBC) activities in villages adjacent to Core Wildlife Protected Areas (i.e. Game Reserves, National Parks, and the Ngorongoro Conservation Area). Map 1 shows the distribution and location of Game Reserves in Tanzania.

Most of the CBC activities in these areas relate to the utilization of wildlife and forest resources for tourism, live animals and forest products and eco-tourism. This has stimulated other activities including farming, handcraft and several community-based ventures, small and macro enterprises.

Since this is a new management approach, capacity and experience have to be built. As such, the Government chose to operationalize the WMAs concept in 15 Pilot areas and the process is to be closely monitored during the next three years using agreed monitoring indicators. An evaluation is to be done at the end of the three years period to assess achievements and challenges met.

In order to develop the monitoring indicators, the Wildlife Division in collaboration with its close partners and donors in CBC work, commissioned a study for collecting baseline data in all the Pilot WMAs. The work was contracted to teams of consultants on 1st February 2003. Four working groups comprising an Ecologist, an Economist and a Sociologist each were contracted to undertake the research work in different parts of the country.

Uyumbu Pilot WMA is found in Urambo Districts in Tabota Region. The WMA has an area of 100 km² covering 4 villages in Uyumbu Ward. Uyumbu has a visible variation in numbers and diversity of wildlife species during the rainy and dry seasons of the year.



Uyumbu Pilot WMA, was until recently, a closed Miombo woodland where licensed people did hunting, fishing and harvesting of organic honey and valuable timber species. The main users of this area included people from Urambo, Tabora and some even come from outside Tabora Region. Very little settlements were noticed to have occurred in the area, may be due to the heavy infestation of tsetse flies and apparent presence of human sleeping sickness. Sharing a common boundary with the Ugalla Game Reserve, and blessed by having the semi-permanent waters of the Walla River, Uyumbu Pilot WMA is rich in wildlife during the dry season. As we know, the Wildlife Laws in Tanzania have restricted licensed hunting activities to take place during the second half of the year (July to December); it is no wonder therefore to hear of great concentration of hunting activities taking place in the Uyumbu Pilot WMA during that time of the year.

The intensive extraction of valuable hard timber trees is remarkably visible. This has left the area empty in terms of its potential for timber extraction in the near future. However, Miombo woodlands with robust regeneration potential, if put under proper management will recover within a short period of time. Disturbance of the area through the heavy extraction of valuable timber species does not seem to have modified wildlife habitat to the extent of affecting its species composition. However, it is believed that timber cutting goes side by side with hunting for bush meat by the timber associated labour force. This group of hunters may have significant impact on the preferred and easy to hunt species of wildlife in a given area.

1.2. Study Rationale and Objective

The Wildlife Sector in Tanzania has been undertaking major reforms aimed at improving its contribution to the national economy as well as to the livelihood of rural communities so that they live in harmony with wildlife by practicing sound conservation of the natural resource biodiversity, ecological processes and landscape. The most recent change in the sector was the gazetting of regulations that permit rural communities to engage in businesses related to wildlife conservation. This opened a new window in the history of wildlife management and

Ethical arguments have been raised by many people that, excluding people who live adjacent to PAs from the use of resources, without providing them with alternatives, is increasingly viewed as politically infeasible and ethically unjustifiable. Communities occupying lands



Map 2. Location of Uyumbu WMA

One important aspect to note is the fact that the eastern side of the Uyumbu WMA borders villages that are located in Uyui District¹, which are not members of the WMA. These villages create an entry point for poachers and loggers to encroach into the WMA. It is suggested that negotiations with the respective villages in Uyui Districts should start so that these villages join the WMA for the purpose of sealing the existing loophole.

Nsogolo village has five sub-villages, namely Kalole, Mwenge, Mkasiwa, Mrema, and Tupendane. Izimbili village has six sub-villages, namely Isike, Mibonde, Majengo, Block Farm, Usukumani, and Kigodi. This village was started in 1964 as a tobacco farming settlement. Izengabatogilwe village has 5 sub-villages, namely Imalampaka, Imalauzuki, Mtakuja, Gimagi and Ujamaa. Before 1974, many residents of the village were living in Kakuninia, Isongorwa and some in Uyumbu and Ugalla. Isongwa village is has 7 sub-villages, namely Block, Ugalla, Miyembe, Isongwa Kati, Belingi, Ukuga and Wafuke. Currently, there is no serious hunting of wildlife in the Uyumbu area.

However, logging, fishing, and agricultural expansion especially for tobacco are the major activities that threaten the attainment of sustainable natural resource conservation and management in the WMA.

2.2. Institutional Set-Up

Training sessions were conducted at Urambo. In Izimbili village for example, the trained VGSs are also conducting local training to over 20 other scouts to enhance security and patrols in the WMA.

Africare is responsible for coordinating the activities in the WMA in both Uyumbu and Ipole WMAs. So far Africare is working in 39 villages in Tabora Region i.e. Urambo (13 villages), Sikonge (16 villages), and Mpanda (10 village). It has also been responsible for community conservation around the Ugalla Game Reserve with the aim of creating buffers zones for the reserve. In so doing, Africare is also addressing issues of poverty alleviation by introducing new initiatives that may lead to income generation.

About 58 VGSs have been trained in both Uyumbu and Ipole WMAs. Villages are supposed to give remunerations to these VGSs from the proceedings of the caught items. To avoid a tag-of-war between the village governments and the natural resources committees regarding who should control the resources, a formula for the distribution was suggested:

Village Government	25%
Village Natural Resources Committee	25%
Village Game Scouts	50%

It was argued that if this distribution formula is adopted it will strengthen the efficiency of the Natural Resources Committees; give incentives to the Natural Resources Committees; and improve natural resource conservation. The Director of Forestry, Regional Forest Officer, and/or District Forest Officer would conduct selling of items caught².

3. LITERATURE REVIEW

3.1. Paradigm Shift

Despite its potential, wildlife in Tanzania has not contributed much in the social economic development of the rural communities. This low profile can be attributed to the ill conceived land tenure systems and development policies, repressive wildlife legislation, inadequate

² District Forest Officers could take up the responsibility only in areas where there is no Regional Forest Officer.

Restrictive laws have been used in the control of using the PAs estates, which denied in most cases, access of people living in the rural areas to the resources found in those areas. Such a phenomenon persisted during the colonial era up to about the late 1980's. Here the government took a leading role and the communities remained passive spectators. A strong law enforcement unit had to be in place to suppress emerging conflicts from the depressed local communities. The measure of performance was based on the number of arrests of illegal hunters, fishermen and extraction of timber and other forest products.

A major drawback to the CBC programme was lack of a legal framework dealing with community integration within the existing Wildlife Act (1974). This weakness was somehow reduced when a new Wildlife Policy (1998) was adopted by the Government.

Although the TWP made a breakthrough in recognizing the role of rural communities in getting involved in the management and use of wildlife resources in the country, yet the

diversification for wildlife use and creating of innovative marketing strategies that promote the development of local entrepreneurship as well as joint ventures between the private sector business community and the rural communities.

Needless to mention that sound economic development should benefit every citizen of Tanzania both in urban and rural areas. Poverty eradication is a critical necessity due to the fact that economic growth and per capital income is still very low in this country. In fact, poverty is the biggest enemy in the rural communities.

It is paradoxical that despite the rich biodiversity, which Tanzania is endowed with, its wildlife has had little impact on improving the livelihood and food security of the rural people. Many constraints account for this including poor land tenure practices and ownership of wildlife. Since Wildlife was fully state-owned, local communities living on the periphery of protected areas, bear significant conservation costs, in the form of wildlife damage to their crops, livestock and human lives. This further impoverished rural communities, and as a result, their attitude towards government conservation programmes had been negative. Subsequently, illegal off-

used to monitor respective aspects that will impinge on the WMA ecology and the environment in general as local residents and outsiders strive to meet their various social and economic needs. Meanwhile, the ecological indicators will be used to assess the level of sustainable utilization of the natural resource base. Such information will provide guidance

Edaphic and environmental factors such as fires, rainfall regimes, droughts, floods, Wild animals populations, species composition, sex and age structures; animal movements and migrations; current utilization; crop raiding animals plus any other damage caused by wildlife to the local communities in the respective WMA.

Each of the four villages within the the Uyumbu WMA was visited during the field survey. The list of villages, which were contacted and their basic statistic are given under section 6.

shops and kiosks who were willing. The list of people who were contacted is provided under Appendix 1.

Multistage sampling was done to select villages and respondents for the structural survey.

In Uyumbu WMA, v

concentration of animals had been reported by villagers. Ecological data was collected through three methods:

- i. Focused Group Discussions were used to obtain information on the history, trends and species composition for both plants and animals. Animal movements, migration routes, water-drinking areas, for the wild animals; were all-important factors influencing the year round distribution and abundance of wildlife in any given area. The vegetation or specifically the habitat condition that we know to be a factor of soil, terrain, temperature and rainfall plus the influence that man exerts on vegetation- could therefore best be linked to the history of man in the area. Human activities that had great influence on the vegetation included but not limited to, shifting cultivation, growing and curing of tobacco, charcoal burning, lumbering, wild or uncontrolled fires caused by man for various reasons and livestock husbandry.
- ii. Assessment done using road transects surveys: Road counting of animals was conducted in each of the three Pilot WMAs in order to assess species composition; age and sex structure and habitat for each species
- iii. Use of indices such as night calls for carnivores, spoor and dung or droppings.

5.2.1.2. Key Informants

Discussion with key information mostly involved government staff and political leaders. Visits were made to Regional Commissioner's office in Tabora, and to District Commissioner and District Executive Director in Urambo. However, the DC and DED were out of office on other duties during our visits. Discussion was held with their representatives. The team also met the District Natural Resources Officer, the game and forestry officer or their representatives.

Other key informants who were contacted include the the management of Wami- Mbiki, Staff of Africare at the Tabora Office. To conclude the fieldwork, briefing and discussion were held with staff at the Africare office in Dar es Salaam, and with USAID also in Dar es Salaam. Discussion was done with staff from the wildlife division during preparation for fieldwork. A representative from the wildlife division Mr. Peter Otaro also accompanied the team during most of the fieldwork. A list of institutions that were contacted is appended (Appendix 2)

5.3. Data Analysis

5.3.1. Participatory Rural Appraisal (PRA)

Information from the focus group discussion was summarized, sometimes in tabular form. Analysis for economical data was done using excels. Parameters, which were computed, include frequencies, means and range (Maximum, minim and mode). Social data was analysed by descriptive statistics and qualitative assessment. Ecological data that was gathered through PRA meetings was used to describe the general ecological situation of the WMA. Such data was analyzed and supplemented with observations, which were made through direct observation in the field. Results for the analysis are discussed in section 7 of this report.

Table 6.1: Number of Households and Population Size by Village

Villages	No. of Households	Males	Female	Total	Average
Nsogolo	222	-	-	1,334	6.0

resources in the village. No person is allowed to harvest the resources without prior permission from the Natural Resources and Environment Committee

The VGSs are not paid any allowances for their day-to-day duties. A proposed formula for distributing the proceeds from forests products that are caught by the VGSs from unauthorized harvesters has been given. Fifty percent goes to the VGSs, 25% to the village government, and 25% to the environmental and natural resources committee.

6.2.3. Taboos and Rituals Related to Natural Resource Conservation:

It was reported that most of the ritual areas are located in the Ugalla Game Reserve. Villagers from Nsongoro mentioned areas like *Mbuga ya Fwamba*, and *Kisima Kakakuona*. In Izimbili, areas that are still respected as ritual places include *Mlima Kigodi* which has two separated peaks and was used as a ritual place by Chief Kigodi. The local people in Izimbili also mentioned *Msaluhandya*, *Miombo* and *Mgandu Mkarati* trees as being considered restricted as they are not used for firewood. In Izengabatogilwe, villagers mentioned *Kwandumu hills* and *Lembeli*, *Mtumba*, and *Mwandumwandu* as areas to be used for rituals. In Isongwa village, notable areas include the *Kasela* well that has water throughout the year. Nobody is allowed to undertake agricultural activities in those areas. Similarly there are areas that have been demarcated as fodder reserves (*ngitiri*) and areas for burial of the traditional chiefs. These areas are respected and no human activities are conducted in or around them.

6.2.4 Village Governments:

The village governments in all villages have three permanent committees, namely, Planning and Finance Committee, Defence and Security Committee, and Social Services and Community Development Committees. The distribution of committee members by village and sex are summarized in Table 6.2.

6.2.6. Community Based Organizations:

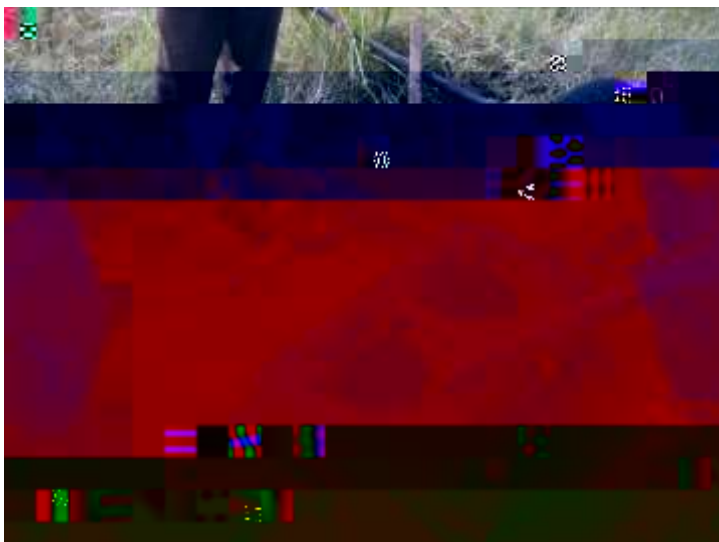
Africare is the most famous NGO operating in all the Uyumbu Pilot WMA villages. Africare assists the village governments in providing environmental education and in the formulation of beekeepers groups as in the case of Isongwa where a women's beekeeping group is



Photo 2: Training VGS at Izimbili Village

In Izimbili village, the training VGSs are conducting local training to about 30 more VGSs as demonstrated in Photo 2. This type of training is a good example that needs to be encouraged and promoted in the other villages.

The VGSs were trained in Urambo. The VGSs are not paid any allowances from the village government funds. However, there is a formula of distribution the proceeds of items caught from illegal dealers whereby the VGSs receive 50%, .25% goes to the village government, and 25% to the environment and natural resources committee. Village leaders have also received training in related to environmental conservation initiatives, participatory leadership, livestock keeping, forest resource management, and good governance. Similarly there has been some study tours done by the village government leaders to various areas, which are undertaking conservation activities. In order to reduce the demand for fuelwood for



household use, there are efforts to introduce improved stoves that use small amount of wood. Already there are local villagers that have been trained in skills to construct the improved stoves as demonstrated in Izimbili village (Photo 3).

Photo 3: Construction of Improved Stove in Izimbiri Village, Urambo District.

6.2.8 Wildlife Related Court Cases:

Though there is evidence that patrols are being made and confiscation of illegal items is happening, in very rare cases the victims have been sent to court. In all four villages no single case was reported to be opened in the court of law. However, there were reports of cases that are being sent to village or ward reconciliation committees. These situations were reported in Nsogolo, Izimbili and Izengabatogilwe. In Nsogolo, for example, four pastoralists who were charged for grazing their livestock in protected areas. In Izimbili, a number of people were caught in 2002 with various items, including timber (245 peaces), 12 bicycles, 8 saws, and 8 axes. In Nsogolo, the VGSs managed to capture a lorry that was fully loaded with timber. In Isongwa village, three people were caught grazing in the WMA.

6.2.9 Collaboration With Other Stakeholders:

In all villages within Uyumbu WMA, there was close collaboration with Africare, which facilitates and coordinates all the activities from village lists

Management planning exercises (VLUM), which have so far being completed in the Uyumbu WMA.

6.2.10. Social Services

Education: Nsogolo village has a primary school, which has Class I-VII. There are 4 classrooms, 4 teachers, and no teachers' houses in the school. Some of the pupils are using a room at church room for their studies because the existing building is not in a good condition as shown in Photo 4.



Photo 4: Poor Condition of School Buildings: Nsogolo Primary School, Urambo District.

It was reported by the Head Teacher of the school that 2 pupils were selected for secondary education in 2002. However, these students failed to attend the studies because of lack of school fees. It is a sad situation to note that these students who have worked hard in a very difficult environment were finally denied the chances to continue with higher education. This is a reflection of the poverty levels which were observed in the village as illustrated by the picture of the classrooms which were used by pupils before the completion of new classrooms under the MMEM program.

Izimbili village has a primary school, which has Class I-VII. There are 8 classrooms, 6 teachers, and 2 teachers' houses. The school has a total enrolment of 582 children. There is no school in Izengabatogilwe village. The villagers have started to construct school buildings. They have completed the walls of 2 classrooms and an office. Currently, children walk to Ugalla some 5 km away. There are 2 schools in Isongwa village. One school is located at Ugalla it has class I-VII. This school has 6 classrooms, 2 teachers' houses, 4 teachers, and about 525 registered children. The second school has class I-III and has 5 classrooms. Through MMEM, the village has managed to construct 6 classrooms and

2 teachers' offices. The funds received as a 25% remittances sent back to villages from hunting activities (which was about Tsh. 614,720), were used to construct 2 teachers' houses.

Health Services: Among the four villages in the Uyumbu WMA, only Isongwa village has a dispensary, which was constructed by the government in 1978. There are 3 nurses who provide health services to the community. Referral services for Isongwa villagers are obtained from Urambo (some 44 km), and Usoke (14 km). There are no health services provided in Nsogolo, Izimbili, and Izengabatogilwe villages. Villagers from Nsogolo normally go to Isongwa village (some 4 kilometres) to get health services. Villagers from Izimbili village obtain health services from Usoke some 6 km away. However construction of the village dispensary building has reached an advanced stage. Villagers from Izengabatogilwe village receive health services from Ugalla Game Reserve or from Isongwa village.

Water Sources: In almost all villages, the local communities depend on traditional wells which are owned by individuals. In Nsogoro village, there are no reliable water sources. Most villagers depend on traditionally constructed shallow wells owned by individual households. In Izimbili village, villagers depend on shallow wells and a dam that was constructed to facilitate gardening and fish farming. In Izengabatogilwe, villagers depend on shallow wells. There are 4 ring wells fitted with pumps, which were constructed by the water department in 1982, but only 2 pumps are working. The other two are not working since 1991. Water in Isongwa village is obtained from traditional wells. Thus, most of the villagers are not assured of clean and safe water for drinking and household use.

6.2.11. Community Solidarity:

complete the construction of the village office and the TASAF funded dispensary project. In Izengabatogilwe, solidarity had been demonstrated in the construction of two classrooms under the MMEM programme. Generally, there are very high expectations among the



villagers. These high expectations need to be nurtured through community involvement in the planning and implementation of their own development activities in the WMA.

Photo 5: Attendance of Villagers in the PRA Meeting at Izimbiri, Urambo District.

6.3. Economic services

The Pilot WMA at Uyumbu is located in Tabora region, Urambo district, Uyumbu covers four villages; Izimbili, Izenga balogilwe, Isongwa and Nsongolo all in Uyumbu ward and Usoke division. Uyumbu lies to the north of Ugalla game reserve and Walla River passes through it feeding to Ugalla River.

These villages are poorly served in terms of economic services. The of the four villages under Uyumbu WMA, Izimbili and Isongolo have seasonal tracts. Villagers at Izimbili have access to bus service from nearby Usoke village about 6 kilometers away. They also use lorries, which pass through the village. At Izenga balogilwe and Nsongolo there is practically no access road and no bus service. In all four districts between 85% and 70% of the household own bicycles, making this the most important means of transport. Bicycle rental rates are between 1,000 Shs. for self-drive service and up to 2000 Shs. if it involves a driver. No other economic services were mentioned in these villages.

6.3.1. Economic Activities

Crop farming is the most important economic activity, being practiced by all the villagers. This is followed by beekeeping, which involved 59% of the households on average, ranging

from 100% at Nsogolo village to 15% at Izimbili. Livestock production and fishing are also important, involving 21% of the households on average. The range for livestock production is 30% - 2% while at for beekeeping it is 45% - 30%. Other economic activities, which were listed as being important, included pottery and trading in livestock. Employment was not listed as being important because the only employees in these villages are teachers and medical staff.

Business as a source of income was also mentioned in only two village, Isongwa and Izimbili where only about one percent of the households or less were involved. Timber did not feature a

Table 6.3: Income Distribution For Basic Needs

Ranking	Expenditure Items	Percent of Income		
		Mean	Maximum	Minimum
1.	Food	63	70	50
2	Clothes	18	25	10
3	Medicine	13	15	10
4	Transport	5	5	-
5	Entertainment	5	5	-

6.3.2. Consumption, Production and Productivity

The consumption pattern was uniform across all four villages families have at least three meals day during most of the year.

It was stated at Isongwa that most families have three meals from February to August and two meals per day from September to January. Even though the majority of households have adequate food, households in the low wealth rank often have inadequate food during the lean months of the year (December – April). These are often people who come from outside Tabora region, mostly (from Singida, Kigoma regions), to work as labour in tobacco farms. The distribution wealth ranks and the common characteristics of each rank are presented in Table 6.4. At Izimbili villagers have more than one wife was mentioned as being characteristics for the high wealth rank but this reason was contested by some of the focus group members.

The high wealth rank had beehives as follows; 500 – 700 at Izimbili, 200 – 600 at Izengabalogilwe, 200 – 300 at Isongwa and more than 200 beehives at Nsogolo, but the richest owner was at Nsogolo had 819 beehives.

Table 6.4: Common characteristics of wealth ranks

**Wealth
Rank**

Table 6.5: Involvement in Economic Activities

Crop /Activity	Percent of Household Involved		
	Mean	Maximum	Minimum
Maize	100	100	100
Sweet potatoes	100	100	100
Groundnuts	99	100	98
Rice	97	100	90
Cassava	90	100	80
Beekeeping	48	70	25
Beans	75	80	70
Tobacco	47	80	30
Bamboo	28	30	25
Sunflower	25	25	25

Table 6.6: Productivity of Crop/Activities under Low average

Activity	Units	Productivity			
		Mean		Maximum	Minimum
		High Technology	Low Technology		
Maize	Bags/acre	16	6	20	4
Rice	Bag/acre	14	7	20	5
Groundnuts	Bags/acre	12	7	14	5
Beans	Bags/acre	4	2	4	2
Sunflower	Bags/acre	7	4	8	4
Onions	Bags/acre	40	24	40	24
Tobacco	Kg/acre	713	438	750	200
Moringer	Kg/tree	5	2	5	1.5
Honey	Lts/hive	20	7	20	7

It was reported that marketing tobacco was not a problem since Tobacco Companies purchased it. Focus group member however complained that inputs, which are supplied by the companies on credit, consumed most of their net returns. For the other crops traders, buy

from farmers at households. Farmers complained about low prices, which are offered by traders. Difficulty in marketing groundnuts and honey were reported at Izimbili and Nsogolo respectively.

In Nsogolo village, there are efforts to modernize beekeeping. By introducing improved beehives which are more environmentally friendly as compared to the traditional one which uses the tree backs. Currently there are 9 modern beehives, but the number is increasing over years.

6.3.3.

6.3.5. Development of the WMA

The area under which Uyumbu Pilot WMA falls has been managed under community based conservation (CBC) activities, which are supported by Africare. The main focus has been conservation and sustainable utilization. Thus the concept of a Pilot WMA was new to most focus group members but it was highly, welcome. The steps which have been taken towards forming the Pilot WMA include mobilization of village to join the CBC activity by contributing land and identification of villages boundaries, formation of Village Environment Committee, training of villagers and various aspects that promote community conservation, including introducing alternative crops and economic activities. These were mentioned as the main benefit from joining the CBC program. Security guards from each village have also been trained and provided with uniforms. However there was a general complaint that they lack transport and arms to pursue culprits deep in the Pilot WMA. Other problems, which were listed includes District Council officials not being supportive, persistent poaching, illegal timber harvesting and not having game meant for domestic use.

6.4. Ecological Aspects

In the Uyumbu WMA, game census and habitat assessment was undertaken for a day. The survey took place on the 23rd February 2003. Although the census crews left their base camps early in

- c) Capacity building at the village level and also at the CBO level to enhance the administration of the WMAs.
- d) Good governance through streamlining and proper definition of areas of responsibility, accountability and decision making structures in favour of the communities. Presently the Regulations and Guidelines give authority and mandate to the Director of Wildlife over the WMAs. This may not enhance true devolution of power to the local communities as originally intended.
- e) Benefits accruing from the WMA economic activities should go to the community based organization (CBO) since it is the one that is active on the ground. The Government should get its share through normal taxes paid by the communities.
- f) Put in place a plan that will allow for sustainable use of natural resources. Determine population levels for hunted game animals; set realistic hunting quotas and supervise hunting activities to adhere to set quotas.
- g) Monitor regeneration of degraded vegetation especially timber species which had been heavily exploited by putting in place a recovery programme to improve species diversity.
- h) Building capacity of villagers and therefore the CBO to enable for effective control of illegal activities.
- i) Control the exploitation of woody plants for production of charcoal and timber.

8. THE WAY FORWARD

The intention of establishing the pilot WMAs is to ensure that local communities benefit directly from the natural resources around them, which they should actively participate in managing sustainably. The study shows that the local communities and their leaders at various levels are willing and ready to take up their new role as co-owners of the wildlife resources, which were previously perceived as being under the exclusive jurisdiction of the government. In order to realize the objectives of establishing these pilot WMA, each WMA must strive to complete setting up the institutional set up to facilitate the operationalization of the WMA. According to the guidelines, which have been issued by the Ministry of Natural Resources and Tourism, they require that each pilot WMA should complete a series of steps for it to become operational. The table below summarizes key steps and the status of accomplishment within each pilot WMA, which gives an idea of what remains to be done and

therefore provides a roadmap on the way forwards towards becoming an operational WMA. These involve designation of the WMA area and formation of the CBO, which will often be the designated Authorized Association. Although these steps may take place concurrently, they are presented in Table 8.1 separately for clarity.

Table 8.1: Level of Development of Pilot WMA

Activity	Level of Attainment		
	Wami-Mbiki	Uyumbu	Ipole
A. Designation of WMA			
1. Consultation with village members, approved by village assembly to designate part of the village land for CBC as WMA	✓	✓	✓
2. Application made by village(s) to Director WD for designating part of village(s) land as WMA along with:	✗	✗	✗
Certified copy of Village Assembly minutes endorsing designation	✓	✗	✗
Dully completed information data sheet as completed by District Council	✗	✗	✗
A certified copy of registration of CBO	✓	✓	✓
A Land use plan approved by Village Assembly	✗	✓	✓
OR Minister designates Pilot WMA	✓	✓	✓
3. Director WD approves or rejects application for WMA	✗	✗	✗
4. Director WD assigns reasons for rejecting application to become WMA	✗	✗	✗
5. Director WD forwards to Minister (within 14 days) successful application of WMA for publication in Gazette	✗	✗	✗
6. Minister issues certificate of authorization	✗	✗	✗
7. Designated WMA gazetted accord2 Tfl			

constitution for CBO according to schedule one of WMA regulations			
3. Status of meeting requirements for application of AA	✓	✗	✗
Minutes of village assembly approving formation of WMA	✓	✗	✗
Complete WMA data sheet as provided under schedule 2 of regulations and in accordance with regulation 11	✗	✗	✗
Registration of CBO having a copy of the certificate of registration	✓	✗	✗
A copy of the constitution of the CBO	✓	✗	✗
Land use plan of the village, as approved by village assembly of respective villages	✗	✓	✓
A sketch map of proposed WMA in relation to village land use plan	✗	✓	✓
Boundary description of proposed WMA, its size and name	✓	✓	✓
A copy of the General Management Plan (GMP) according to Schedule 7 or a Resource Management Plan			

15. Form village environmental committee	✓	✓	✓
14. WD monitors performance of AA and WMA according to social, economic and ecological criteria	✗	✗	✗

Key: ✓ = Step has been done or attained
✗ = Step has not been done or attained

It is obvious from Table 7.1 that each of the pilot WMA has accomplished some steps towards becoming an operational WMA, but Wami-Mbiki has reached the most advanced stage in terms of forming the Authorized Association. However, it does not a General Management plan. This activity is scheduled for this year (2003). It should be given high priority so that the process of lodging application for the AA is done completed June or July at the latest. This will allow the WMA to undertake hunting acJ169(d4(l1)-3(ow)-1s8(to)-1if8(to

order to close the gap, which could provide an opportunity for illegal users within the designated WMA area. Related to the institutional set up of Wami-Mbiki is the loose and sometimes uncertain relationship and ownership rights of various key stakeholders of the natural resource, including the District Councils, the Villages, the AA, the Army, which uses part of the designated WMA area for military purposes. The conflicting interests and claims of all these stakeholders need to be resolved as a matter of priority. It was proposed during discussion with the District Commissioner for Morogoro District that a forum involving all stakeholders should be convened before to resolve pending ownership perceptions and use rights before the pilot WMA develops their GMP, latter this year.

Currently, Village Game Scouts at Wami-Mbiki are paid an attractive incentive package for the opportunity cost of the time they spend performing activities on behalf of the WMA. While this is positive for morale and enhancing rural incomes, the rates should be examined so that when the facilitator eventually withdraws, the AA will be capable of paying and able to maintain a reasonable size of village game scouts.

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9. APPENDICIES

Appendix 1: Participation in the Focused Group Discussions

N O.	NAME	ISONGWA	NO.	NAME	ISONGWA 24/2/03
1	Peter Kahama	Member	2	Kasya M. Kasya	Member
3	Rashidi L. Bilugora	Member	4	H.M. Usantu	Member
5	Batromeo Mbogo	Member	6	Charled Malela	Member
7	Bihokora Soud Saidi	Member	8	Petro Kakamba	Member
9	Joseph P. Matongo	Member	10	Fatuma Masoudi	Member
11	Samwel Mayengo	Member	12	Adam P. Mlolwa	Member
13	Haruna I Kanoni	Member	14	Oscar L. Kaombwe	Member
15	Kapela R. Mpoponga	Member	16	Charles Mwiga	Member
17	John D. Mswanya	Member	18	Edward Mayengo	Member
19	Mussa a. Kayuga	Member	20	Paziyu Banor	Member
21	Mukwaja Jemsi	Member	22		

17	Haruna I. Kaombwe	Member	18	Jibrali Omari	Member
19	Kulwa K. Clement	Member	20	Mauled S. Mahinda	Member
21	Ramadhani Juma	Member	22		

Appendix 3: Game Census Results

Uyumbu Pilot WMA on 23rd February 2003 (Line Transect length: 80KM)

Serial #	Species	Total observed	Males`	Females`	Young and Juveniles	Habitat or comment
1.	Greater Kudu	3	1	1	1	<i>Miombo Woodland</i>
2.	Bush Duiker	1	1	-	-	<i>Miombo Woodland</i>
3.	Yellow Baboon	12	3	6	3	<i>Miombo Woodland</i>
BIRDS						
4.	Battleur Eagle	2	1	1	-	<i>Wooded Grassland</i>

The two Pilot WMAs (i.e. Uyumbu and Ipole) in Tabora region did show in terms of wildlife in both absolute numbers and species composition. Infact only a few species were sighted although footprints and droppings were common. The species whose droppings and spoors were recorded are: - Elephant, Buffalo, Kudu, Hartebeest, Giraffe and Zebra others include Bushpig, duikers, baboon and bushbuck.

7. Steinbuck

Serial #	Species	Total observed	Males`	Females`	Young and Juveniles	Habitat or comment
1.	Transect One	1	-	-	-	<i>Miombo Woodland</i>
2.	Transect Two	-	-			

	- How is the distribution of benefits from the CBC to the; Village government? Villagers?	
ECOLOGICAL ASPECTS		
1.	How many animal species are in the WMA and can you mention the names of these species	
2.	Of these, which ones are endemic, endangered, threatened or exotic species?	
3.	What are the estimated populations sizes or number of animals of each species?	
4.	Can you give the animal population trends for each species for the last five years?	
5.	Give the distribution of different animal species in the WMA according to different seasons and can you indicate this on the WMA map?	
6.	Are there animal movements or migrations in the WMA and what species are involved and at what seasons	
7.	Are there special routes or corridors the animals follow during their seasonal movements or migrations and can you indicate them on the WMA map?	
8.	What is the total area of the WMA and do you consider it as an ecosystem?	
9.	Do you have a general management plan (GMP) of the WMA?	
10.	How many habitat types make the WMA and can you mention the animals species found in each habitat type?	
11.	How many plant species are in the WMA and which species do you consider to be endemic, threatened, or exotic in the area?	
	Can you identify the dominant plant species composition of each habitat type in the WMA indicating at ing at in	

	crops are raided and by which animals?	
22.	Can you estimate the area of farmed land that is raided by wild animals and the value of the crops lost through loss due to vermin	
23.	Do animals attack human beings and livestock? If so, what animals are responsible and what is the extent of attack per year	
24.	Are there diseases, which are transmitted between wild animals, livestock and people (zoonotic)? If so, what are these diseases and which animals are involved? And to what extent?	

Appendix 7: Household Questionnaire

**UNITED REPUBLIC OF TANZANIA
MINISTRY OF NATURAL RESOURCES AND TOURISM**

1.5

17. What is the primary method you use to treat your water? [do not prompt]
- _____ (00) None
 - _____ (01) Boiling
 - _____ (02) Filtering
 - _____ (03) Settling
 - _____ (04) Chemical treatment
 - _____ (05) Other, specify _____

SECTION C: SANITATION SITUATION

18. What types of toilet systems does this household usually use?
- _____ (00) No facility
 - _____ (01) Pit Latrine
 - _____ (02) Filtering
 - _____ (03) Pour Flush toilet
 - _____ (04) Public[()]u304

_____ (09) Tourist guide)

26. What are the potential productive activities do you anticipate resulting from the establishment of the new WMA?

- _____ (01) Cash crop farming
- _____ (02) Food crop production (maize, paddy, cassava, etc)
- _____ (03) Small business (food-vending,)
- _____ (04) Wage employment (casual labour)
- _____ (05) Vegetable farming
- _____ (06) handcrafts for sale
- _____ (07) Water vending
- _____ (08) Game meat business
- _____ (09) Tourist guide)

27. How much did you earn last season from your economic activities?

- _____ (01) less than 10,000
- _____ (02) Between 10,001 and 20,000
- _____ (03) Between 20,001 and 30,000
- _____ (04) Between 30, 001 and 60,000
- _____ (05) Between 60,001 and 100,000
- _____ (06) Between 100,001 and 150,000
- _____ (07) Between 150,001 and 200,000
- _____ (08) Between 200,001 and 300,000
- _____ (09) Between 300,0001 and 500,000
- _____ (99) Above 500.000

28. Remittance How much money do you receive as gifts or assistance from your children and others?

- _____ (01) less than 10,000
- _____ (02) Between 10,001 and 20,000
- _____ (03) Between 20,001 and 30,000
- _____ (04) Between 30, 001 and 60,000
- _____ (05) Between 60,001 and 100,000
- _____ (06) Between 100,001 and 150,000
- _____ (07) Between 150,001 and 200,000
- _____ (08) Between 200,001 and 300,000
- _____ (09) Between 300,0001 and 500,000
- _____ (99) Above 500.000

Income and Expenditures

29.

33. How many of the following assets are owned by your household?

2	Tomatoes				
3	Maize				
4	Beans				
5	Onions				
6	Cassava				
7.	Rice				
8	Others				

HOUSING and ownership

38. How many rooms does your household have?

_____ No. Of rooms

39. What material(s) were used to build this house? *Check only one primary material for Walls, Floors and Roof.*

- Walls: _____(01) Cement
 _____(02) Burnt bricks
 _____(03) Mud and poles
 _____(04) Sheet metal
 _____(05) Wood
 _____(06) Thatch
 _____(07) Mud bricks
 _____(08) Lime and stone
- Floor: _____(01) Cement and sand
 _____(02) Earth/Clay
 _____(03) Other
- Roof: _____(01) thatching grass/palm thatch
 _____(02) mud poles and grass
 _____(03) Mud and straw
 _____(04) Corrugated iron sheets (aluminum)
 _____(05) tiles

40. Have you ever-borrowed money

- (01) Yes
 (02) No

41. Where or from whom do you borrow the money? *Check only 1 important source:*

- _____ (01) Family member
 _____ (02) Friend
 _____ (03) Money Lender
 _____ (04) Bank
 _____ (05) other, specify _____
 _____ (99) don't Know/Not sure

42. How long would it take you to return the borrowed money?

- _____ (01) Less than 3 months
 _____ (02) 3-6 months
 _____ (03) 7-12 months
 _____ (04) 13-18 months
 _____ (05) More than 18 months

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Map 2: Location of Wami-Mbiki WMA	

Appendix 4: Wami Mbiki Line Transect Counts (16th Feb 2003)*Line Transect length: 63KM*

Serial #	Species	Total observed	Males`	Females`	Young and Juveniles	Habitat or comment
1.	Impala	1	1	-	-	<i>Miombo Woodland</i>
2.	Impala	3	3	-	-	<i>Miombo Woodland</i>
3.	Impala	1	1	-	-	<i>Miombo Woodland</i>
4.	Waterbuck	34	1	28	5	<i>Miombo Woodland</i>
5.	Waterbuck	2	2	-	-	<i>Miombo Woodland</i>
6.	Impala	13	-	13	-	<i>Miombo Woodland</i>
7.	Impala	4	-	4	-	<i>Acacia/Palm [kibaoni hilly ridge]</i>
8.	L. Hartebeest	1	1	-	-	“ “ “

Appendix 7: Itinerary of Work

Appendix 8: Interview Checklist

Appendix 9: Household Questionnaire

**REPORT ON THE CONSULTANCY FOR PILOT WILDLIFE MANAGEMENT AREAS BASELINE
DATA SURVEY.**

**WESTERN WORKING GROUP
(WAMI-MBIKI, UYUMBU & IPOLE)**

- Team Members:**
- Lota Melamari (Ecologist) - Team Leader,
 - Dr. A. Isinika (Economist), and
 - Prof. H. Madulu (Sociologist).

DATE

PLACE

ACTIVITY

DATE	PLACE	ACTIVITY
		FGD with Kinzagu Village members.
12 th February, 2003	Villages	Kifuleta, Mindu Tuliene and Makombe Village members.
13 th February, 2003	Villages	Kwa Ruhombo, and Kwa Msanja Village members.
14 th February, 2003	Villages	Pongwe Kiona, and Pungwe Msungura Village members.
15 th February, 2003	Mkongo	Tuka Misasa Village and travel to Mkongo, the Headquarters of Wami – Mbiki WMA.
16 th February, 2003	Mkongo	Game census in the morning Afternoon travel to DAR ES SALAAM
17 th and 20 th February, 2003		Literature review
13 th March, 2003		Travel to Morogoro
14 th March, 2003	Morogoro	In the morning hours courtesy call to DC Morogoro. Travel to Turiani/Mdazini. Courtesy call to the General Manager, Mtibwa Sugar Estate Ltd.
17 th March, 2003	Morogoro	Courtesy calls to DED Morogoro RC – Morogoro. Return to Dar es Salaam. Meeting with Africare in Dar es Salaam.
18 th March, 2003	Dar es Salaam	Morning with DANIDA Afternoon with USAID.
19 th March, 2003		Consultants return to their places of residence to embark on report writing.

Appendix 8: Interview Checklist
Appendix 9: Household Questionnaire

**PILOT WILDLIFE MANAGEMENT AREAS BASELINE SURVEY
 INTERVIEW CHECKLIST**

SOCIAL ASPECTS

Based on the list of social indicators above, hereunder is the interview guide that was used to guide discussion with village government officials, NGOs, and other relevant stakeholders. The consultants, through discussion, gathered the information. Probing was often done to clarify issues or to seek for more informations

1.	Name of the village, ward, division, and WMA (VG).	
2.	The ethnic groups permanently living in this village (VG Staff).	
3.		

	<ul style="list-style-type: none"> - Village government allocation - Private property (market transaction) - Use right (rent, borrow etc.) 	
26.	<p>What are the natural resources values in this village? (VG, FGD)</p> <ul style="list-style-type: none"> - Direct use values (market values) - Indirect use values (ecological functions) - Existence values (State of being there – accustomed to its presence) - Aesthetic value (tourism etc) - Bequeath value 	

27.

Appendix 9: Household Questionnaire

**UNITED REPUBLIC OF TANZANIA
MINISTRY OF NATURAL RESOURCES AND TOURISM
WILDLIFE DIVISION**

**BASELINE SURVEY FOR PILOT WILDLIFE MANAGEMENT AREAS
HOUSEHOLD QUESTIONNAIRE**

Questionnaire No. _____

SECTION A: DEMOGRAPHIC INFORMATION

16. Age _____
17. Sex _____
 _____ 01 male
 _____ 02 female
18.

29. What is the age and sex characteristic of those who moved in?

NO.	Age	Sex	Reasons for moving
1.			
2.			
3.			
4.			

SECTION B: WATER SOURCES SITUATION

30.

16. Source satisfaction table

	16.1 [Enumerator: Check all sources used in 10.1 and indicate here with an "X"]	How long do you have to queue waiting to get water? (01)<15 min. (02)<30 min (03)<1 hour (99)>1 hour		16.4. Availability from this source is ...? (01) Poor (02) Fair (03) Good
		16..2 Wet season	16..3 Dry season	
1) Private connection to piped water in house				
2) Yard tap (shared connection)				

SECTION C: ECONOMIC PROFILE

Productive Activities and Markets

24. What productive activities do you engage in during the dry season (rank 3 by Importance)

- _____ (01) Cash crop farming
- _____ (02) Food crop production (maize, paddy, cassava, etc)
- _____ (03) Small business (food vending,)
- _____ (04) Wage employment (casual labour)
- _____ (05) Vegetable farming
- _____ (06) handcrafts for sale
- _____ (07) Water vending
- _____ (08) game meat business
- _____ (09) tourist

25. What productive activities do you engage in during the wet/rainy season

- _____ (01) Cash crop farming
- _____ (02) Food crop production (maize, paddy, cassava, etc)
- _____ (03) Small business (food-vending,)
- _____ (04) Wage employment (casual labour)
- _____ (05) Vegetable farming

- _____ (05) Between 60,001 and 100,000
- _____ (06) Between 100,001 and 150,000
- _____ (07) Between 150,001 and 200,000
- _____ (08) Between 200,001 and 300,000
- _____ (09) Between 300,0001 and 500,000
- _____ (99) Above 500.000

42. Remittance How much money do you receive as gifts or assistance from your children and others?

- _____ (01) less than 10,000
- _____ (02) Between 10,001 and 20,000
- _____ (03) Between 20,001 and 30,000
- _____ (04) Between 30, 001 and 60,000
- _____ (05) Between 60,001 and 100,000
- _____ (06) Between 100,001 and 150,000
- _____ (07) Between 150,001 and 200,000
- _____ (08) Between 200,001 and 300,000
- _____ (09) Between 300,0001 and 500,000
- _____ (99) Above 500.000

Income and Expenditures

43. How many members of your household currently earn some income (from a job and/or business and/or part-time work)?
44. Do you receive money in terms of gifts or otherwise from other sources (including relatives or friends living outside the village)?
- _____ (00) Yes
 - _____ (01) No

45. [If yes] how much money (cash) do you receive per year?

46. Does your household receive any other income (agricultural sales, own business, rental, seasonal income sales of property, etc.)?
Amount per year _____ Tshs don't know (99)

47. How many of the followi 0 1 ETBT8.02 248.45 Tm[(How)4(man)-17(y)20(of the)4.r07(y)845 Tm6

10	Land (acres)		
11	Refrigerator		
12	Generator		
13	Trolley		
14	Kerosene stove		
15	Radio		
16	Water tank		
17	Furniture (tables, chairs, beds)		
18	Improved charcoal stove		
19	Fire arm		
20	Vehicle		

48. Do you have any livestock?
 _____ (01) Yes
 _____ (00) No

49. Livestock type, number and value

	Animals	Number	Estimated Current Value T (Tshs) (mean value)
1	Cattle		
2	Sheep		
3	Goats		
4	Pigs		
5	Rabbits		
6	Chicken and other poultry		
	Donkey		

HOUSING and ownership

52. How many rooms does your household have?

_____ No. Of rooms

53. What material(s) were used to build this house? *Check only one primary material for Walls, Floors and Roof.*

- | | | | |
|--------|-------|------|-----------------------------------|
| Walls: | _____ | (01) | Cement |
| | _____ | (02) | Burnt bricks |
| | _____ | (03) | Mud and poles |
| | _____ | (04) | Sheet metal |
| | _____ | (05) | Wood |
| | _____ | (06) | Thatch |
| | _____ | (07) | Mud bricks |
| | _____ | (08) | Lime and stone |
| Floor: | _____ | (01) | Cement and sand |
| | _____ | (02) | Earth/Clay |
| | _____ | (03) | Other |
| Roof: | _____ | (01) | thatching grass/palm thatch |
| | _____ | (02) | mud poles and grass |
| | _____ | (03) | Mud and straw |
| | _____ | (04) | Corrugated iron sheets (aluminum) |
| | _____ | (05) | tiles |

54. Have you ever-borrowed money

- (01) Yes
(02) No

41. Where or from whom do you borrow the money? *Check only 1 important source:*

- | | | |
|-------|------|----------------------|
| _____ | (01) | Family member |
| _____ | (02) | Friend |
| _____ | (03) | Money Lender |
| _____ | (04) | Bank |
| _____ | (05) | other, specify _____ |
| _____ | (99) | don't Know/Not sure |

51. How long would it take you to return the borrowed money?

- | | | |
|-------|------|---------------------|
| _____ | (01) | Less than 3 months |
| _____ | (02) | 3-6 months |
| _____ | (03) | 7-12 months |
| _____ | (04) | 13-18 months |
| _____ | (05) | More than 18 months |
| _____ | (99) | Don't Know/Not sure |

SECTION D: SOCIAL DIMENSION

52. What do you understand by WMA? (Check relevant aspect mentioned)
- a _____ (01) Participation
 - b _____ (02) Benefit sharing
 - c _____ (03) Resource conservation
 - d _____ (04) Follow WMA guidelines and regulations
53. Do you like the idea of WMA? _____ (01) Yes _____ (02) No
54. If No, why _____
55. What are your opinions for improvement _____
56. How many times have you been involved in a village collective activity last year? ____
57. How many village meetings have been called for the past one year _____
58. Does the leadership present the annual income & expenditure report? ____ (01) Yes- (02) No.
59. Does the leadership act responsibly and in justice? _____ (01) Yes _____ (02) No.

UNITED REPUBLIC OF TANZANIA
Wildlife Division
Ministry of Natural Resources and Tourism

**Baseline Study in the Uyumbu WMA in
Urambo District**

Volume 3: Uyumbu Report

Draft

By

**L.Melamari, N.F. Madulu &
A. Isinika**

2nd May 2003