

**Environmental Management and Biodiversity Conservation of Forests,
Woodlands, and Wetlands of the Rufiji Delta and Floodplain**

**Wildlife Management in Rufiji District
A report of a technical backstopping consultancy in
four villages.**

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¹ The Rufiji District Council implements Rufiji Environment Management Project with technical assistance from IUCN – The World Conservation Union, and funding from the Royal Netherlands Embassy.

Rufiji Environment Management Project – REMP

Project Goal: To promote the long-term conservation through ‘wise use’ of the lower Rufiji forests, woodlands and wetlands, such that biodiversity is conserved, critical ecological functions are maintained, renewable natural resources are used sustainably and the livelihoods of the area’s inhabitants are secured and enhanced.

Objectives

- To promote the integration of environmental conservation and sustainable development through environmental planning within the Rufiji Delta and Floodplain.
- To promote the sustainable use of natural resources and enhance the livelihoods of local communities by implementing sustainable pilot development activities based on wise use principles.
- To promote awareness of the values of forests, woodlands and wetlands and the importance of wise use at village, district, regional and central government levels, and to influence national policies on natural resource management.

Project Area

The project area is within Rufiji District in the ecosystems affected by the flooding of the river (floodplain and delta), downstream of the Selous Game Reserve and also including several upland forests of special importance.

Project Implementation

The project is run from the district Headquarters in Utete by the Rufiji District Administration through a district Environmental Management Team coordinated by the District Executive Director. The Project Manager is employed by the project and two Technical Advisers are employed by IUCN.

Project partners, particularly NEMC, the Coast Region, RUBADA, The Royal Netherlands Embassy and the Ministry of Natural Resources and Tourism, collaborate formally through their participation in the Project Steering Committee and also informally.

Project Outputs

At the end of the first five –year phase (1998-2003) of the project the expected outputs are:

An Environmental Management Plan: an integrated plan for the management of the ecosystems (forests, woodlands and wetlands) and natural resources of the project area that has been tested and revised so that it can be assured of success - especially through development hand-in-hand with the District council and the people of Rufiji.

Village (or community) Natural Resource Management Plans: These will be produced in pilot villages to facilitate village planning for natural resource management. The project will support the implementation of these plans by researching the legislation, providing training and some support for zoning, mapping and gazettement of reserves.

Established Wise Use Activities: These will consist of the successful sustainable development activities that are being tried and tested with pilot village and communities and are shown to be sustainable

Key forests will be conserved: Forests in Rufiji District that have shown high levels of plant biodiversity, endemism or other valuable biodiversity characteristics will be conserved by gazettement, forest management for conservation, and /or awareness-raising with their traditional owners.

Executive Summary

Background to the consultancy

Rufiji Environment Management Project (REMP) based in Utete, the headquarters of Rufiji District, is an environment management project working with the Rufiji District Council of Coast Region with technical assistance from The World Conservation Union (IUCN) and funding from the Royal Netherlands Embassy. The overall goal of REMP is ‘to promote the long term conservation through ‘wise use’ of the lower Rufiji forests, woodland and wetland such that biodiversity is conserved, critical ecological functions are maintained, renewable natural resources are used sustainably and the livelihoods of the area’s inhabitants are secured and enhanced’. REMP is working at District, Regional and National level to promote better management of the environment of the floodplain and delta including better control of the wildlife harvest. A major part of this work is the production of a workable environment management plan for the flood plain and delta.

A big portion of the project area is low lying floodplain and contains mangrove and coastal forests, riparian, swamps, fringing woodlands and thickets. Being adjacent to Selous Game Reserve is blessed with large concentrations of wildlife. These animals are charged with being the main cause of poverty in the area because of their damage to crops, livestock and threats to human lives. There are 52 villages in the project area with an estimated population of 150,000 people who are almost entirely dependent on subsistence agriculture and fishing.

In fulfilling the above role, REMP is currently assisting four pilot villages in the project area to adopt better environment management through land use planning and management. This is in line with the national environment policy and the villagers’ efforts towards “wise use” of the natural resources on their village land. This consultancy was contracted by REMP to provide technical backstopping to District Staff from the line departments who play a facilitating role in the village environment management process to enhance and accelerate the process of empowering villagers to take greater control and make greater profit from the wildlife resource.

Tasks of the consultant

The detailed tasks envisaged for the consultancy were outlined as follows:

- Gain a clear understanding of present situation in each village by studying REMP reports and files, discussing the REMP work done so far with District staff who have been involved in facilitation of the village environment management planning process, particularly the two VEMP facilitators and the forest and vermin- control advisers.
- Make familiarisation visits to the villages and listen to their descriptions of progress and their aspirations.
- Agree strategies and plans of action with villagers and co-operating district and mangrove management staff and lay out a schedule of tasks for achieving legal and operative village wild animal management areas or other management arrangements as applicable.
- Implement the strategy together with the village environment committees, the district and Mangrove Management Project personnel and national level bodies concerned.

Methodology

The approach used was mainly participatory, with a mix of methodologies, which include meetings, field visits, patrols, practical training and observations. Semi - structured interviews (formal and informal) and participatory discussion were the main approach used throughout the consultancy. In one village, however a participatory self-evaluation was used to explore the source of mis-understanding among the village leaders, environment management committee and natural resources management scouts. In some instances the consultancy turned into animation and mediation especially when issues such as legal aspects over village land and resources were being discussed.

Village boundary issues

Facilitation by REMP has raised the capacity of the villagers in several areas including local land use planning. These achievements need to be consolidated and efforts continued to strengthen them. These are the consultant's recommendations.

- It is recommended that the District Land Officer and the District Surveyor assist the pilot villages to finalise discussions on boundary dispute as provided by the Village Land Act No. 5 of 1999 section 7 (2). This is specifically in areas where the villages on their own initiatives have failed to resolve the boundary issue in neighbourhood meetings.
- It is also recommended that the same facilitate drawing of a Village Base Map i.e. Village Boundary Map and register the pilot villages as provided in the Village Land Act No. 5 of 1999 section 7 (7). The map will be required when applying for the village certificate.
- In some case, the option of a Joint Land Management may be necessary as provided by the Village Land Act No. 5 of 1999 section 11

Human - wildlife conflict

REMP has trained village scouts and others have learnt from them and from DGO personnel. This is a great achievement in problem animal control and the Arms and Ammunition Act of 1991 as well as the Wildlife Conservation Act no. 12 of 1974 permits self-defence to property and life's. It is recommended to use these skilled villagers to reduce the menace at least on farm level.

- It is therefore recommended that, the villages be assisted to acquire fire arms and nets and institutionalise vermin control in the village council
- Capacity raising is one thing and the utilisation of the raised capacity is another. Given the low capacity of the district council to combat problem animals, it is now necessary for the District Council to utilise the trained village scouts in problem animal control. The District can simulate the example of Ngarambe village, where trained village scouts have taken away the District Council nightmare in trying to solve problem animal on their village land.
- As an interim measure, the District should use the 25% revenue accrued from tourist hunting to purchase and supply ammunitions to scout based at Ward/Division headquarters.
- Arrangements should be made to improve the villagers' traditional self-defence methods such as use of hooks for crocodiles, use of fire, noise and nets for other animals. The District Council/Game Officer and Agriculture and livestock officer can arrange for this.

Wild animal hunting on village land

REMP has helped to raise the capacity of the villages in terms of their knowledge of legal rights and responsibilities, formal natural resources scouts and leaders training, environment management and has institutionalised environment management in the village council. This is in line with the national policy of decentralisation and devolution of management and user rights of the vast natural resources estate. Capacity acquired needs to be tapped to accelerate the process towards acquiring legal user rights of the wildlife resource for the pilot villages.

The following recommendations are proposed to accelerate the process:

District Council and specifically the Department of Natural Resources needs to acknowledge the efforts of the villagers and assist them to acquire legal user rights to the wildlife resource. To speed up decisions, advice and support from the Department of Natural Resources, there is a need for the District Council to assign a facilitator role to a Senior Officer from the Department of Natural Resources. This officer needs to be able to interpret natural resources policies and laws or learn the same from part time consultants.

- Poaching on village land can only be controlled by appropriate participation of the villagers themselves. The villages have trained scouts and the District Council is advised to utilise this capacity thus imitating other Districts like Songea, Ruvuma and even the Selous Game Reserve who are utilising trained village scouts on official tasks that otherwise were supposed to be done by government scouts.

- Collaboration for patrolling/training between SGR, District scouts and village scouts need to be established in order to deter poaching in the area.

Wild animal monitoring

Generally monitoring is a continuous assessment of functioning and thus it is an internal part of the day-to-day management. When we come to wild animal monitoring we would like to make systematic observations of changes in all relevant issues for the better understanding of the existing environment and anticipation on new expected situations. REMP has raised the capacity to do this and each village has trained village scouts, village leaders and plant identifiers among the villagers. What is required now is to set up a monitoring system, which will tell them what and when to do it by whom. This will also specifically require the District Game Officer to conduct external monitoring as part of his routine activity.

Formation of a good monitoring system requires a stakeholder workshop where an overview of objectives and formulation of indicators can be facilitated. It is therefore recommended to:

- Run a stakeholder workshop to discuss and develop a monitoring system in each village.
- Currently use a monitoring sheet with spaces to fill to supplement the need of a notebook in patrol.
- Deliberately attempt to establish a village baseline data (situation analysis and basic functions of the wildlife resources and its habitat) as earlier recommended by Jane K. Turpie, (2000) on use and values of natural resources of the Rufiji floodplain and Delta.
- More practical exposure to the villagers on interpretation of GPS readings into map readings as well as training on data organisation and storage

Patrol implementation

Stakeholder participation in village level planning is very important in devising ways to tackle all project issues. Newly trained village scouts and leaders need support from the District Game Officer and/or District Lands, Natural Resources and Environment Officer. It is recommended that:

- The support the villagers need to facilitate their responsibilities in patrol need to be identified in a stakeholder workshop where all important stakeholders will be required to discuss and agree on a common action plan with clear roles and responsibilities for each spelled out and agreed upon.
- Issues like patrol uniform, identification cards and the need to acquire a firearm cannot be neglected.
- Local training on practical implementation of by-laws, arresting defaulters and legal aspects thereof as well as training on patrol data collection and reporting is considered to be sufficient for current implementation in the village. And can be conducted by any scout who has formerly attended a Game Assistant Course at Pasiansi.
- The scout appointees need to get an elaborate training to match their counterparts.

Stakeholder co-ordination

Stakeholder identification has always been done during management planning at District level. Planning workshops are normally short but of crucial importance to sustainability of a project. It is therefore important to review VEMP plans at village level annually and make sure all stakeholders especially the most important ones i.e. those that can have an effect to VEMP implementation, attend and participate fully.

It is therefore recommended to:

- Short-list all known and expected stakeholders and an analysis conducted to establish the importance and influence of each to the village plan.
- Include all key stakeholders in the village level planning process.

Village significance and wild animal enterprising

All the pilot villages have a potential to wildlife enterprising but this needs further development to enhance area significance. In order to be able to do this the need to have a clear knowledge on the wild animal populations and ecosystem aspects cannot be skipped. Capacity exists to do this at village level at least in the wild animal aspect.

It is therefore recommended:

- To monitor the animal numbers and their movements
- The pilot villages lure neighbours to start conservation on their village lands
- District council collaborate with villagers in the so-called “Mloka Open Area” to control wild animal poaching and request the rest of the villages to emulate the pilot villages

Implementation of basic Wildlife Management Area guidelines.

The villages are bound to follow the current draft Wildlife Management Area guidelines, unlike the pilot villages of the Selous Conservation Programme like Ngarambe. While other issues like the village land jurisdiction are being dealt with as proposed in 6.1, it is recommended that:

- Formal expression of interest be forwarded to the Director of Wildlife. The procedure is the Village Assembly to agree in accordance to the Village Land Act No. 5 of 1999 and through the Village Council informs Director of Wildlife. The intent shall be in the form of a letter accompanied by the minutes of the Village Assembly meeting that endorsed the plan. The information may conveniently be channelled through the normal channels i.e. the Ward and District Council.
- The villages are advised to establish neighbourhood contact meetings with adjacent villages and raise awareness on uses and values of the wildlife resource as a step towards collaborative management of the wild animal resources. This can also be discussed in Ward Development Committee meetings.

Village Aquatic resources

A general survey needs to be done to establish the potentiality of the crocodiles and terrapins in Mtanza/Msona, Mbunju/Mvuleni and Twasalie village fresh waters. This survey requires a special boat with a glass pane so that the surveyor can identify and count the water resources in the village waters especially in the lakes. However if potential is established then, a management arrangement other than the existing may be required.

It is therefore recommended to:

- Discuss the matter with the villages responsible to find out their consent on the matter pre-hand
- The success of Mtanza/Msona, Jaja and Twasalie in the control of fishing gear and getting revenue from the fishery resource need to be emulated by their counterparts in Mbunju/Mvuleni and other villages in the district.

Village forest resource

REMP working with the Rufiji District Council has built capacity at village and District levels in natural resources management. It is now the turn of the District Council to tap the acquired capacity. It is therefore recommended that:

- The District Council assists the villages by opening up a District Forest Reserve register and acknowledge the Village Forest Reserve as required by law. Section 40 of the Forest act 2002 provides for this.
- On part of expertise the District Council is obliged to give professional advice to the village concerning the management of the forest estate.

Muhtasari

Historia ya shughuli hii ya ushauri

Mradi wa Usimamizi wa Mazingira Rufiji (MUMARU) ni ushirikiano kati ya serikali ya Tanzania, serikali ya Uholanzi na Muungano wa Uhifadhi Ulimwenguni (IUCN). Makao makuu ya MUMARU ni Utete ambapo pia ndiyo makao makuu ya Halmashauri ya Wilaya ya Rufiji. Lengo la MUMARU ni kudumisha maliasili za misitu, mbuga na maeneo chepechepe kwa kuzitumia kwa 'njia ya busara'. Hivyo bioanuwai itahifadhiwa, ikolojia itadumu na watu watakuwa na uhakika wa maisha. MUMARU inahamasisha usimamizi mzuri wa mazingira katika maeneo ya tambarare ya mafuriko na visiwani pamoja na uthibiti wa uvunaji wa wanyamapori. Mradi unafanya kazi zake katika ngazi ya kiwilaya, kimkoa na kitaifa. Sehemu kubwa katika kazi hii ni kutayarisha mpango wa usimamizi wa mazingira ya tambarare ya mafuriko na visiwani.

Sehemu kubwa ya eneo la mradi ni tambarare ya mafuriko, misitu ya pwani, misitu ya kingo za mito, maeneo chepechepe na maeneo yenye miti na vichaka. Eneo hili pia linapakana na pori la akiba la Selous na hivyo huwa na wanyamapori wengi ambao wakazi wa maeneo haya wanadhani ndio chanzo kikubwa cha ufukara kutokana na uharibifu unaofanywa kwa mazao mashambani, mifugo, na tisho kwa maisha yao. Ndani ya eneo la mradi kuna vijiji 52 vinavyokisiwa kuwa na wakazi 150,000 ambao hutegemea kilimo cha mazao ya chakula na uvuvi wa samaki.

Ili kuwezesha uteketezaji wa lengo lake, mradi unawezesha vijiji vya mfano vinne katika usimamizi wa mazingira kwa kufuata mpango wa upangaji wa usimamizi na matumizi bora ya ardhi. Hii ni moja katika mikakati ya sera ya mazingira na juhudi za wanavijiji kufanya matumizi ya busara na endelevu ya rasilimali kwenye ardhi ya vijiji vyao. Ili kuharakisha utekelezaji katika sekta ya wanyamapori, MUMARU ilifunga mkataba na mshauri wa fani ya wanyamapori kwa lengo la kutoa ushauri wa kiufundi kwa watumishi waliopewa jukumu la kuwezesha vijiji katika mchakato wa usimamizi wa mazingira na kujipatia kipato kutokana na rasilimali ya wanyamapori.

Shughuli za mshauri

Mshauri alipangiwa kufanya shughuli zifuatazo:

- Kupata picha kamili ya hali halisi kwa kila kijiji kwa kusoma taarifa za MUMARU na kwenye majalada ya vijiji husika. Kujadili kwa pamoja kazi iliyokwihafanyika na watumishi wanaohusika katika uwezeshaji wa utekelezaji wa mchakato wa mpango wa usimamizi wa mazingira katika vijiji vya mfano, hasa wawezeshaji wa vijiji, washauri wa misitu na udhibiti wa wanyamapori waharibifu.
- Kutembelea vijiji na kupata maelezo ya maendeleo na mtizamo wa wanavijiji
- Kukubaliana mikakati na mipango ya utekelezaji na wanakijiji, watumishi husika Wilayani na katika mradi wa usimamizi wa mikoko. Hii ni pamoja na kupanga ratiba ya utekelezaji kuwezesha kupata usimamizi wa kisheria kwa maeneo ya usimamizi wa wanyamapori ama taratibu nyingine zinazokubalika.
- Kutekeleza mikakati kwa pamoja na kamati za usimamizi wa mazingira za vijiji, watumishi wilayani na kwenye mradi wa usimamizi wa mikoko na katika ngazi za kitaifa.

Mbinu ya utekelezaji

Mbinu ya ushirikishwaji ilitumika katika njia mbalimbali mchanganyiko zilizojumisha mikutano, matembezi kwenye maeneo ya vijiji, doria, mafunzo kwa vitendo na kuchunguza. Sehemu kubwa ya ushauri imefuata mfumo wa mahojiano (rasmi na isiyo rasmi) na majadiliano ya pamoja. Hata hivyo katika kijiji kimoja, tathmini shirikishi ilitumika kuchambua chanzo cha mfarakano kati ya viongozi wa Halmashauri ya Kijiji, Kamati ya Usimamizi wa Mazingira na Askari wa usimamizi wa maliasili kijijini. Pia nyakati nyingine shughuli ya ushauri ilibadilika kuwa kuamsha na kuhuisha hisia za wanakijiji hasa wakati masuala ya kisheria kuhusu ardhi na rasilimali ya maliasili yalipojadiliwa.

Mipaka ya kiutendaji ya kijiji

MUMARU imewezesha wanavijiji kujijengea uwezo kwenye nyanja mbalimbali ikiwemo upangaji wa usimamizi na matumizi bora ya ardhi. Ni budi kuyaendeleza haya na mapendekezo ya mshauri ni kama ifuatavyo:

- Afisa Ardhi wa Wilaya na Mpima Wilaya wasaidie kukamilisha majadiliano na kufikia muafaka kwa vijiji vya mfano vilivyoshindwa kufikia muafaka kwenye mipaka ya pamoja na vijiji jirani katika vikao vya kawaida vya ujirani mwema. Kwa mfano mipaka ya kiutendaji ya Halmashauri za Wilaya za Rufiji na Kisarawe na pia Halmashauri ya Wilaya ya Rufiji na Pori la Akiba la Selous ambapo kijiji cha Mtanza/Msona kinahusika. Ni wajibu wa Halmashauri za Wilaya husika kusaidia ukamilishaji wa maelewano kwenye mipaka hiyo ya kiutendaji. Hii ni kufuatana na maelekezo ya sheria ya vijiji namba 5 ya mwaka 1999 kifungu cha 7 (2).
- Afisa Ardhi wa Wilaya na Mpima Wilaya wawezeshe uchoraji wa ramani za msingi (ramani za mipaka ya vijiji) kwa vijiji vya mfano, na kuviandikisha kama ilivyoelekezwa na sheria namba 5 ya 1999 kifungu cha 7 (7). Ramani hii ni muhimu kijiji kitakapohitaji hati ya kuandikishwa.
- Endapo ni lazima usimamizi wa pamoja wa ardhi unaweza kupangwa kati ya vijiji kama ilivyoelekezwa katika sheria ya ardhi ya kijiji namba 5 ya mwaka 1999 kifungu cha 11.

Migongano kati ya binadamu na wanyamapori

MUMARU na watumishi wa Sekta ya Wanyamapori Wilayani wametoa mafunzo mbalimbali kwa askari wa vijiji vya mfano. Haya ni mafanikio makubwa katika uthibiti wa wanyamapori waharibifu kwani sheria ya bunduki na risasi ya mwaka 1991 pamoja na sheria ya kuhifadhi wanyamapori namba 12 ya mwaka 1974 zinaruhusu ulinzi binafsi wa kujihami kwa mali na maisha ya binadamu. Inashauriwa kuwatumia wanavijiji hawa wenye ujuzi kupunguza matatizo ya usumbufu wa wanyamapori hasa kwenye maeneo ya mashambani.

- Hivyo inashauriwa, Vijiji visaidiwe katika kufuata taratibu za kujinunulia bunduki na nyavu na shughuli ya uzuiaji wa wanyamapori waharibifu ikitwe kwenye Halmashauri za vijiji husika.
- Kupata uwezo na kutumia uwezo uliopatikana ni vitu viwili tofauti. Hivi sasa ni vyema kutizama uwezekano wa kutumia uwezo ulioko kwenye vijiji vya mfano katika suala zima la uthibiti wa uharibifu kutokana na wanyamapori vijijini hasa kwa kuzingatia uwezo mdogo uliopo katika Halmashauri ya Wilaya. Kijiji cha Ngarambe kimekuwa mfano mzuri katika kupunguza tatizo la usumbufu wa wanyamapori kijijini kwa kutumia askari wake na silaha za kijiji.
- Kwa sasa Halmashauri ya Wilaya inawajibika kutumia ruzuku ya uwindaji wa kitalii kununua risasi kwa ajili ya askari wanyamapori kwenye vituo vya Kata na Tarafa.
- Taratibu za kuboresha mbinu za asili za kujihami na wanyamapori waharibifu kwa mfano matumizi ya ndoana kwa kutegea mamba, matumizi ya moto na nyavu kwa wanyamapori wengine zinatakiwa kupangwa na kutekelezwa. Uboreshaji huu unaweza kupangwa na Afisa Wanyamapori akishirikiana na Afisa Maendeleo ya Kilimo na Mifugo wilayani.

Uwindaji wa wanyamapori kwenye ardhi ya kijiji

Sambamba na sera ya kukasimu mamlaka ya usimamizi na haki ya matumizi ya rasilimali ya maliasili, MUMARU imejenga uwezo kwa wanavijiji katika nyanja mbalimbali. Hizi ni pamoja na haki za msingi, majukumu ya watendaji, mafunzo rasmi kwa askari na viongozi katika usimamizi wa maliasili, usimamizi wa mazingira na kukita shughuli za usimamizi wa mazingira katika Halmashauri za Vijiji husika. Uwezo huu uliojengeka ni budi ukatumiwa kuharakisha mchakato wa kupata haki ya matumizi kwa rasilimali ya wanyamapori.

Ili kuharakisha haya mshauri anapendekeza yafuatayo:

- Ni vyema Halmashauri ya wilaya hususani Idara ya Ardhi, Maliasili na Mazingira ikatambua juhudi za wanakijiji katika vijiji vya mfano na kuwasaidia ili kuweza kupata haki ya matumizi ya rasilimali ya wanyamapori. Ili kuweza kuharakisha maamuzi, ushauri na msaada, ni vyema Halmashauri ya wilaya ikampa Afisa Mwanandamizi kutoka Idara ya Ardhi, Maliasili na Mazingira kazi ya uwezeshaji katika mipango wa usimamizi wa mazingira kwenye vijiji vya

mfano. Afisa huyu atatakiwa kuwa na uwezo wa kutafsiri sera na sheria za maliasili ama awe na uwezo wa kujifunza kutoka kwa washauri wa nje.

- Ujangili kijijini unaweza tu kuthibitiwa endapo wanakijiji husika watashiriki kikamilifu kadri inavyofaa. Halmashauri ya Wilaya inashauriwa kuwatumia askari wa usimamizi wa maliasili vijijini kwani wana ujuzi wa kutosha na hivyo kuiga mfano wa wilaya nyingine zilizowahi kutumia Askari wa vijiji. Mfano wa wilaya nyingine kama vile Songea, Ruvuma na hata utawala wa Pori la Akiba Selous ambao huwatumia askari wa vijiji hata kwenye shughuli rasmi ambazo kwa kawaida zingefanywa na askari wanyamapori wa serikali.
- Kuna haja ya kujenga ushirikiano katika doria na mafunzo kati ya Askari Wanyamapori wa Pori la Akiba Selous, Halmashauri ya Wilaya na Askari wa Vijiji ili kuweza kudhibiti ujangiri.

Ufuatiliaji wa wanyamapori

Ufuatiliaji ni tathmini ya kudumu ya utendaji na hivyo ni sehemu ya ndani katika utekelezaji wa kila siku. Shughuli ya ufuatiliaji wa wanyamapori inajumuisha uchunguzi wa mabadiliko katika mambo muhimu kwa muda maalumu ili kuweza kuelewa hali halisi ya mazingira na kuweza kutabiri mwelekeo na hali tarajiwa kwa baadaye. MUMARU umewezesha kujenga uwezo wa kufanya ufuatiliaji na kila kijiji kina Askari, Viongozi na Watambuzi wa mimea waliofunzwa kwa ajili hii. Kinachotakiwa sasa ni kuandaa mfumo wa ufuatiliaji utakaoelekeza nini cha kufanya, wakati wa kufanya na kifanywe na nani. Mfumo huu pia utamtaka Afisa Wanyamapori wa Wilaya aendelee na taratibu zake za kawaida za ufuatiliaji katika wilayani nzima, na siyo vijiji vya mfano tu utendaji wake wa kazi.

Uandaaji wa mfumo mzuri wa ufuatiliaji unahitaji kufanya warsha ya wadau wote kijijini kwa vijiji vyote vyenye uwezekano mkubwa wa kuanzishwa maeneo ya hifadhi ya wanyamapori ya jamii - WMA's ambapo malengo ya utekelezaji yatachambuliwa na viashiria kuwekwa. Ili kuweza kutekeleza haya inashauriwa:

- Kuendesha warsha ya wadau wote kijijini kujadili na kuandaa mfumo wa ufuatiliaji.
- Kwa sasa itumike fomu ya ufuatiliaji yenye sehemu za kujaza pamoja na matumizi ya daftari wakati wa doria.
- Kuandaa orodha ya rasilimali za kijiji pamoja na matumizi yake (tathmini ya hali halisi, matumizi ya wanyamapori na makazi yake) kama ilivyopendekezwa na Turpie, (2000) katika taarifa yake ya utafiti wa matumizi na thamani ya maliasili za tambarare ya mafuriko na visiwani wilayani Rufiji.
- Kutoa mafunzo zaidi ya usomaji na tafsiri ya namba za chombo cha GPS kwenda kwenye ramani kwa wanavijiji. Pia mafunzo zaidi katika kuandaa na kuhifadhi nyaraka mbalimbali kijijini.

Utekelezaji wa doria

Ushiriki wa wadau wote katika upandaji wa mpango kijijini ni muhimu katika kuweka mikakati mizuri inayokubalika kushughulikia masuala muhimu katika mradi wa kijiji. Askari wa Kijiji na Viongozi watokapo mafunzoni wanahitaji msaada kutoka kwa Afisa Wanyamapori/Afisa Ardhi, Maliasili na Mazingira. Hivyo inashauriwa:

- Mahitaji ya msaada wanaohitaji wanakijiji ili kuweza kutekeleza vyema majukumu yao katika doria ni vyema yakabainishwa kwenye warsha ya wadau wote ambapo wataweka mikakati ya pamoja na kugawana majukumu.
- Maswala kama nguo rasmi za doria, vitambulisho na bunduki ni vyema yakaangaliwa kwa karibu.
- Mafunzo kwa vitendo katika utekelezaji wa sheria ndogo, kuwakamata wahalifu na namna ya kuwashughulikia pamoja na mafunzo ya ukusanyaji wa taarifa mbalimbali na utoaji wa taarifa kwa sasa itatosheleza utekelezaji katika ngazi ya kijiji. Mafunzo haya yanaweza kutolewa na Askari yeyote aliyepitia mafunzo ya Askari Wanyamapori katika Taasisi ya Wanyamapori Pasiansi.
- Askari watarajiwa wapewe mafunzo ili kuongeza uwezo wa kufanya kazi kama wenzao waliopitia mafunzo rasmi ya Askari wanyamapori wa kijiji.

Fungamano la wadau

Utambuzi wa wadau umekuwa ukifanyika katika ngazi ya Wilaya kwenye vikao vya upangaji wa mipango. Warsha za upangaji kwa kawaida ni fupi lakini muhimu sana katika uendeleu wa mradi na hivyo ni muhimu kurejea Mipango ya Usimamizi wa Mazingira ya Vijiji vya mfano kila mwaka na kuhakikisha kuwa wadau wote muhimu wanashiriki kikamilifu. Hivyo inashuriwa:

- Kuandaa orodha ya wadau wote wanaojulikana na wale watakaotegemewa kujitokeza na kuchambua umuhimu na uwezo wa kila mmoja katika kuathiri utekelezaji wa mradi wa kijiji.
- Hakikisha wadau wote muhimu wanashiriki katika mchakato wa upangaji wa mradi kijijini.

Umaarufu wa pekee na ufanyaji wa biashara ya wanyamapori.

Vijiji vyote vya mfano vina uwezo wa kufanya shughuli za kujipatia kipato kutokana na wanyamapori japo kwa kuendelezwa ili kuwezesha kuinua hadhi ya eneo. Ili kuweza kuboresha hadhi ya wanyamapori na makazi yake ni lazima kufahamu zaidi kuhusu jamii za wanyamapori na mfumo wa kiikolojia katika maeneo yao ya makazi. Uwezo wa kuchunguza haya upo kwa kila kijiji cha mfano na hasa kwenye sekta ya wanyamapori. Hivyo inashuriwa:

- Kufanya ufuatiliaji wa idadi ya wanyamapori na mizunuko yake
- Vijiji vya mfano kuhamasisha vijiji jirani kuanzisha uhifadhi kwenye vijiji vyao
- Halmashauri ya Wilaya kushirikiana na wanavijiji kwenye Tambarare la Magharibi kudhibiti ujangili wa wanyamapori na kuagiza vijiji vyote kuiga usimamizi wa mazingira unaofanywa na vijiji vya mfano

Utekelezaji wa maelekezo ya kuanzisha maeneo ya usimamizi wa wanyamapori.

Vijiji vya mfano chini ya ufadhili na uwezesaji wa MUMARU vinawajibika kufuata masharti na taratibu ngumu na zilizofungwa kwa uanzishaji wa maeneo ya usimamizi ya wanyamapori tofauti na vijiji vya mfano chini ya ufadhili wa programu ya uhifadhi ya Selous kama Ngarambe. Wakati masuala ya maeneo ya kiutawala yanashughulikiwa kama ilivyopendekezwa, inashuriwa:

- Kuwasilisha nia ya kutaka kuhifadhi wanyamapori ndani ya eneo la Kijiji kwa Mkurugenzi wa Idara ya Wanyamapori. Taratibu zinazotakiwa kufuatwa ni kwa Halmashauri ya Kijiji kutoa taarifa kwa Mkurugenzi wa Idara ya Wanyamapori kwa barua baada ya makubaliano kufanyika kwenye kikao cha baraza la kijiji kufuatana na sheria ya ardhi ya kijiji namba 5 ya mwaka 1999. Barua hiyo inatakiwa kuambatana na muhtasari wa kikao cha baraza la kijiji ambacho kimepitisha mpango huo. Ni vema nia hii ikapitia kwenye ngazi rasmi za mawasiliano (Kata na Halmashauri ya Wilaya).
- Vijiji vya mfano vinashauriwa kuangalisha matumizi na thamani ya wanyamapori kwa wakazi wa vijiji jirani kupitia vikao vya ujirani mwema kama njia mojawapo ya kuhamasisha usimamizi wa pamoja wa rasilimali ya wanyamapori. Masuala haya yanaweza pia kujadiliwa kwenye vikao vya kamati ya maendeleo ya kata.

Rasilimali za majini

Ni vyema utafiti wa jumla ukafanyika kwenye maji baridi katika vijiji vya Mtanza/Msona, Mbunju/Mvuleni na Twasalie, kwa lengo la kutambua thamani ya mamba na kobe walioko. Utafiti huu utahitaji boti maalumu lenye kuruhusu mtafiti kuona, kutambua na kuwahesabu wanyama hao ndani ya maji. Endapo utafiti utaonyesha kuwepo kwa thamani kubwa, basi taratibu za usimamizi zinaweza kubadilika kadri itakavyofaa. Hivyo inashuriwa:

- Kujadiliana na vijiji husika kuona mtizamo wao na kuamua kwa pamoja kabla ya utafiti kufanyika.
- Kijiji cha Mbunju/Mvuleni kinatakiwa kuiga mfano wa usimamizi na uthibiti wa rasilimali ya samaki, mbinu/vifaa vinavyotumika na namna ya kupata mapato kutokana na shughuli za uvuvi kutoka kwa vijiji vya Mtanza/Msona, Jaja na Twasalie.

Hifadhi za misitu za Vijiji

MUMARU na Halmashauri ya Wilaya ya Rufiji imejenga uwezo wa usimamizi wa maliasili katika ngazi za vijiji na wilaya. Hivi sasa Halmashauri ya Wilaya inatakiwa kutumia na kuendeleza uwezo huu na hivyo inashauriwa:

- Halmashauri ya Wilaya itambue hifadhi za misitu za vijiji na ifungue daftari la kuandikisha misitu ya hifadhi wilayani kama ilivyoelekezwa kwenye sheria ya misitu ya mwaka 2002 kifungu cha 40.
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Acronyms

CBCTI	Community Based Conservation Training Institute
CBNRM	Community Based Natural Resources Management
CBO	Community Based Organisation
CITES	Convention of International Treaty on Endangered Species of Flora and Fauna
DGO	District Game Officer
DW	Director of Wildlife
EMT	Environment Management Team
GPS	Global Positioning System
IUCN	World Conservation Union
JFM	Joint Forest Management
MBOMIPA	Matumizi Bora ya Malihai Idodi na Pawaga
PA	Protected Area
RDC	Rufiji District Council
REMP	Rufiji Environment Management Project
SAP	Structural Adjustment programme
SCP	Selous Conservation Programme
SGR	Selous Game Reserve
TDL	Trophy Dealer License
ToR	Terms of Reference
VEMP	Village Environment Management Plan
WCA	Wildlife Conservation Act
WD	Wildlife Division
WMA	Wildlife Management Area
WWF	World Wide Fund for Nature

Chapter One

1 Introduction and Background to the consultancy

1.1 Introduction

Rufiji Environment Management Project (REMP) is an environment management project working with the Rufiji District Council of Coast Region with technical assistance from World Conservation Union (IUCN) and funding from the Royal Netherlands Embassy.

The overall goal of REMP is to promote the long term conservation through ‘wise use’ of the lower Rufiji forests, woodland and wetland such that biodiversity is conserved, critical ecological functions are maintained, renewable natural resources are used sustainably and the livelihoods of the area’s inhabitants are secured and enhanced.”

In order to arrive at the overall goal, REMP has three main objectives for its first five-year phase

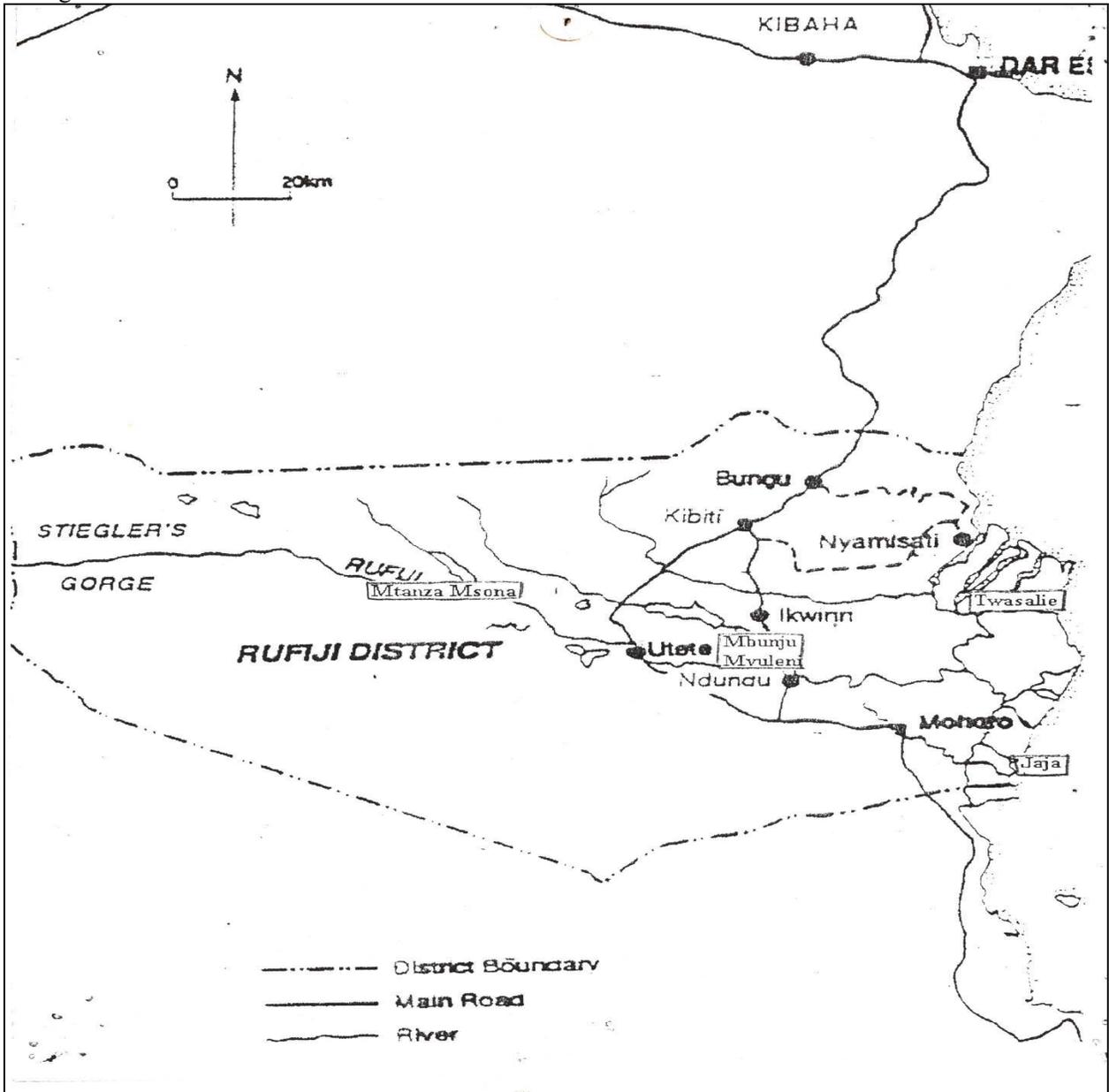
- To promote the integration of environmental conservation and sustainable development through environmental planning within the Rufiji delta and flood plain
- To promote the sustainable use of natural resources and enhance the livelihoods of local communities by implementing sustainable pilot development activities based on ‘wise use’ principles
- To promote awareness of the values of forests, woodlands and wetlands and the importance of wise use at village, district, regional and central government levels and to influence national policies on natural resource management emphasising the non sectoral, multi-biome, integrated approach to the environment.

1.2 Background

There are fifty-two villages in the floodplain and delta of the Rufiji River. The human population, estimated at 150,000, depends mainly on cultivation and fishing for its livelihood. The project area contains the largest mangrove forest on the Western Indian Ocean coast as well as extensive tracts of coastal forests, riparian, swamp and fringing woodlands and thickets (IUCN 1997). It borders the Selous Game Reserve and is one of the few places remaining in Africa where large wild animals are found outside of a protected area. It is known that the habitats of such animals and birds in the forests, and woodlands of Rufiji Floodplain and Delta are being depleted at an increasingly unsustainable rate in an almost “open access” regime. The wildlife itself is also subject to “open access” with little control of off-take and virtually no proactive management of the wild animal stock or their habitats. There are conflicts between humans and wild animals. The inhabitants of the project area claim that wild animals are a major cause of poverty because of their damage to crops, livestock and the threat that they pose to human lives. The boundary of the Selous is in dispute and relationships between game staff and villagers are not always co-operative and sometimes degenerate appallingly, causing serious injury or even death.

REMP is working at a District, Regional and National level to promote better management of the environment of the floodplain and delta including better control of wildlife harvest. A major part of this work is the development of an Environment Management Plan for the Flood plain and Delta. The Plan is being developed in co-operation with a diverse range of stakeholders who, on the wildlife side, include the Director of Wildlife, German Technical Co-operation, Selous Game Reserve, hunting agencies, tourism agencies, the Forest and Beekeeping Division, WCST, WWF and others. REMP also works in four villages (pilot villages) two in the delta (Twasalie and Jaja) and two in the floodplain

(Mbunju/Mvuleni and Mtanza/Msona), which it has assisted to identify their priority environment management issues.



Map 1: Rufiji District showing location of the pilot REMP Villages

All four pilot villages have developed integrated village environment management plans that include zoning areas for a variety of uses and management regimes. The villages have set-up new environment management committees to deal with particular sections of their management plans. Detailed action plan schedules and budgets have been prepared. Sets of rules that govern each land/natural resource management type have been outlined. These rules include wild animal management rules, which have begun to be enforced using the newly trained village natural resource scouts. Village Forest Reserves are being established in which the wildlife rules will be enforced. The villagers are receiving assistance, principally training, to firmly establish their environment management system. Natural resource scouts and administrative leaders from each village have been trained at Likuyu Sekamaganga Community Based Conservation Training Institute (CBCTI). Also village representatives have participated in study tours to (Wami-Mbiki, Jukumu Society, Selous Game Reserve), vermin control

and legal training courses. They have identified further training needs which include practical skills in monitoring the resource, legal and licensing information, enterprise opportunities, wildlife business skills and establishment of commercial relationships with other villages and with business organisations. They are aware that the proposed new Wildlife Management Guidelines of the Tanzanian government allow for more community control of wildlife and wish to gain skills in their practical application.

The Wildlife Division is currently re-drafting the Wildlife Management Guidelines. After their approval, enforcement according to the wildlife policy of Tanzania (1998), will require expertise in their interpretation and practical application at all administrative levels. In the meantime other instruments can be used to prepare for increased community control, examples of which are found throughout the country. REMP and Rufiji District Council are constrained by a shortage of capable wildlife extension workers. The District council has 15 wildlife extension officers who require a training on the new wildlife policy approaches and implementation and therefore engaged a consultant to accelerate the process of empowering villagers to take greater control and make greater profit from of their wildlife resource. Fortunately funding was available from the Hoag Foundation for this purpose.

This is the report of the above-mentioned consultancy to Rufiji Environment Management Project. Appendix 1 contains the detailed Terms of Reference for the consultancy. The objectives of the consultancy, as stipulated in the terms of reference, were outlined as follows

- To facilitate the four pilot villages to improve management of the wild animals within their jurisdiction such that the villagers gain more direct benefit and sustain less losses from the resource.
- To provide technical advice to the villagers for the development and implementation of the wild animal and bird aspects of their natural resource monitoring system.
- To expose villagers to ideas and methods for assessing possibilities for initiating wildlife enterprises and devise a long-term plan to meet their enterprise development needs.
- To provide general wildlife information, advice - particularly on the interpretation and practical application of the new guidelines - and input to Rufiji District Council and REMP towards the development, together with all stakeholders including Selous Game Reserve, private companies, Gtz, WWF and other development agencies, of the Project Area Environment Management Plan.

The detailed tasks envisaged for the achievement of the four main objectives of this consultancy were outlined as follows;

- Gain a clear understanding of present situation in each village by studying REMP reports and files, discussing the REMP work done so far with District staff who have been involved in facilitation of the village environment management planning process, particularly the two VEMP facilitators and the forest and vermin- control advisers.
- Make familiarisation visits to the villages and listen to their descriptions of progress and their aspirations.
- Agree strategies and plans of action with villagers and co-operating district and mangrove management staff and lay out a schedule of tasks for achieving legal and operative village wild animal management areas or other management arrangements as applicable.
- Implement the strategy together with the village environment committees, the district and Mangrove Management Project personnel and national level bodies concerned.

The expected outputs of the consultancy were as follows:

1. Four village governments, environment committees and natural scouts have a clear understanding of their rights and responsibilities and opportunities for improved and more profitable wildlife management.
2. Four villages practising new skills in wildlife management.
3. A wild animal and bird monitoring system developed and being piloted in each of the four villages.
4. Villagers have improved capacity in appraising wildlife enterprise opportunities and are exploring at least one new enterprise idea per village.
5. REMP and Rufiji District Council are kept up –to-date on developments in the wildlife sector. (Appendix 1 gives the detailed ToR)

The consultancy was split into two inputs. Input one was carried out over a period of 28 days in July and August 2002. During this period special attention was paid to two villages of the four pilot villages (Mtanza/Msona and Mbunju/Mvuleni) covering all the detailed activities of the ToR.

The second input was carried out in November 2002 giving most attention to the two pilot villages of the delta –Jaja and Twasalie- and conducting a feedback workshop for the District Environment Management Team and village representatives from the 4 pilot villages and Ngarambe. A representative from the Selous Game Reserve of the Eastern Sector at Kingupira also attended the workshop.

The remainder of this report is laid out as follows; Chapter 2 gives the approach and methodology, familiarisation, and mentions the limitations encountered. Chapter 3 gives the pilot village informal training and wildlife status appraisal Chapter 4 gives a set of conclusions and Chapter 5 gives a set of recommendations for improvement in the various issues discussed in favour of the wildlife aspect in VEMP implementation.

Chapter Two

2 Approach and methodology

2.1 Approach

The Consultancy focussed on providing backstopping to District Staff who plays a facilitation role in the village environment management process. Specifically, the consultancy was based on management and utilisation of the wildlife resource, as well as capacity building at village level implementation. In order to reach the objectives, the consultant did the following in close collaboration with the District staff that play a facilitator role and with villagers:

- Introductory briefing meetings with District leaders
- Intensive familiarisation discussions with District natural resource department personnel, particularly the District Game Office staff
- Discussions with other District staff including vermin control personnel and Village Environment Planning Facilitators from the Agriculture and Food Security Department.
- Reading of project documents and studying of present land use
- A reconnaissance tour in one of the World Wide Fund for Nature (WWF)/Selous Conservation Project (SCP) pilot villages, i.e. Ngarambe village with a Game Assistant from the department of natural resources. A briefing on the wildlife project and formal and informal discussions were held on profits from wild animals on village land and/or conservation of wildlife on village land, profits (%) from Selous Game Reserve (SGR) tourist hunting activities. Also a discussion on, problems encountered in managing wildlife on village land, village firearms and their acquisition, co-operation and collaboration with Selous Game Reserve government scouts, patrol and wild vermin animal control plan/schedules and related subjects.
- A reconnaissance tour to the Eastern Sector, which collaborates with Ngarambe in wildlife management on the buffer zone, i.e. Kingupira (the headquarters of the Eastern Sector of SGR) with a Game Assistant from the Department of Natural Resources. Informal discussions were held with the Sector Warden on collaboration in wild animal conservation with adjacent villages, support to these villages from the SGR project, physical boundary issues and conflict resolution on boundary aspects.
- An informal debriefing to REMP Technical Advisor Community Development and Socio-economics and other VEMP facilitators
- 9 day backstopping to VEMP in Mtanza/Msona village of Mwaseni Ward.
 - A visit to Mtemere SGR gate of Matambwe Sector with village leaders and scouts and discussion on collaborative issue between the village and the SGR staff.
 - Introduction and familiarisation to village area and resources therein
 - Briefing and discussion with VEMP implementers at village level on village natural resources, resources utilisation, problems faced in implementation of VEMP specifically on the wildlife aspect and suggestions.
 - Farm visits, and visit to village and current Selous Game Reserve boundary
 - A forest visit, animal counts and patrol
 - Training on; field patrols and record keeping procedure (natural resources inventory), vermin animals and legal aspects on their control, policy (Lands, Natural Resources Policies) and the laws involved including dispute/conflict resolution, animal census (mammals and birds), map reading and interpretation of Global Positioning System (GPS) readings. Also training on identification of area potential and significance, basic Wildlife Management Areas (WMA) draft guidelines (specifically on initiation), legal aspects in licensing, capture and hunting of wild animals (mammals and birds), natural resources monitoring and evaluation.
- 9 day backstopping to VEMP in Mbunju/Mvuleni village of Mkongo Ward.

- Introduction and familiarisation to village area and resources therein
- Briefing and discussion with VEMP implementers at village level on village natural resources, resources utilisation, problems faced in implementation of VEMP specifically on the wildlife aspect and suggestions.
- Farm visits, forest visits and patrol
- Training on; field patrols and record keeping procedure (natural resources inventory), vermin animals and legal aspects on their control, policy (Lands, Natural resources policies) and the laws involved including dispute/conflict resolution, animal census (mammals and birds), map reading and interpretation of GPS readings. Other training include, identification of area potential and significance, basic WMA draft guidelines (specifically on initiation), legal aspects in licensing, capture and hunting of wild animals (mammals and birds) , natural resources monitoring and evaluation and legal aspects in community natural resources management.
- Two days report writing and a day debriefing to Chief Technical Advisor, VEMP facilitators and Game Assistant. Informal discussions were also held with District Natural Resources and Environment Officer, District Game Officer and the Forest Backstopping Consultant.
- 6 days backstopping to VEMP in Twasalie village of Maparoni ward
 - Introduction and familiarisation to village area and resources therein including time plan for implementation in the village.
 - Briefing and discussion with VEMP implementers at village level on village natural resources, resources utilisation, problems faced in implementation of VEMP specifically on the wildlife aspect and suggestions.
 - Farm visits, forest visits and patrol
 - Training on field patrols and record keeping procedure (natural resources inventory), vermin animals and legal aspects on their control. Other training's on policy (Lands, Natural resources policies) and the laws involved including dispute/conflict resolution, animal group counts (mammals), map reading and interpretation of GPS readings. Also a training was given on, identification of area potential and significance, legal aspects in licensing, capture and hunting of wild animals (mammals and birds), natural resources monitoring and evaluation and legal aspects in community natural resources management.
- 7 day backstopping to VEMP in Jaja village of Kiongoroni ward
 - Introduction and familiarisation to village area and resources therein
 - Briefing and discussion with VEMP implementers at village level on village natural resources, resources utilisation, problems faced in implementation of VEMP specifically on the wildlife aspect and suggestions.
 - Farm visits, forest visits and patrol
 - Training on field patrols and record keeping procedure (natural resources inventory), vermin animals and legal aspects on their control. Training's on, policy (Lands, Natural resources policies) and the laws involved including dispute/conflict resolution, animal group counts (mammals), map reading and interpretation of GPS readings. Others include, identification of area potential and significance, legal aspects in licensing, capture and hunting of wild animals (mammals and birds), natural resources monitoring and evaluation and legal aspects in community natural resources management.
- 1 day workshop

Semi - structured interviews and participatory discussion was the main approach used throughout the consultancy. In some instances the consultancy turned into animation and mediation especially when issues such as legal aspects over village land and resources were being discussed.

The training activities aimed at developing knowledge, skills and attitudes that would enable the target group to pursue a viable wild animal management process. The participants being adult learners, several approaches were used in the training including a touch on practical application to various topics dependent on need and time during field implementation from the first day we arrived at the village. However two days were set specifically for training in each village. This helped to consolidate what might have been touched in the fieldwork. A detailed schedule of the consultant's itinerary is attached in Appendix 2 for input 1 and appendix 3 for input 2

2.2 Limitations to the consultant

In carrying out this backstopping assignment, the consultant was constrained by several factors. These include:

- Limited availability of transport, because of a blanket government impoundment of non-government registered vehicles. This prevented the consultant from having a smooth run and from paying quick visits to important areas and from crosschecking information gathered on the village resources and implementation.
- On the part of the Rufiji District Council staff time and other pressing responsibilities were also major constraints which prevented sufficient interaction between them and the consultant
- On part of the villages, the turnout was generally low in Mtanza/Msona and Mbunju/Mvuleni, on average 10 - 15 participants in a day. These villages were covered in the first input in July/August. They say they have to participate in farm guarding against wild animals but also had to fend for their families as hunger was striking the villages following the April 2002 floods. On the other hand, there was an improvement in attendance in Jaja and Twasalie villages. On the average of 30 participants in a day. These villages were covered in the second input in November. Probably as it was after the crop-farming period and during the fasting month of Ramadhani when most villagers spend more time at home fasting.

Against this background some deficiencies in this backstopping assignment are unavoidable. However, being the start of this long term backstopping consultancy, the data gathered in the 50 days work with REMP provided essential information required for useful conclusions and recommendations.

2.2 Familiarisation

2.2.1 Familiarisation at District Headquarters

On 10/07/2002 - Short talks were held with some of Rufiji District's heads of Departments. A meeting took place with the two facilitators of VEMP for the pilot villages, an Assistant Game Officer and a Game Assistant. The meeting was arranged to familiarise the consultant with REMP activities and agree on a strategy of implementation. A detailed plan of activities was scheduled together with these district staff. The district environment library was also available for literature review and orientation.

2.2.2 At village level

In June 13 and 14, 2002 a brief familiarisation visit was made to Mbunju/Mvuleni village where the consultant had brief discussions and exchanged views on wildlife issues with several people. Those involved include the villagers, Mr. R. X. Nandi - a VEMP facilitator, Mr. Haji Mkungura a Game Assistant, Ms. Rose Hogan - Technical advisor community development. A walk was also conducted across the two sub-villages.

11/07/2002 - Familiarisation visits started with a visit to Ngarambe village. The village is rich in natural resources particularly wildlife and is one of the villages bordering Selous Game Reserve that were selected to be pilot villages by WWF and Selous Conservation Project (SCP). It is located on agriculturally marginal areas; furthermore the villagers' lives and livelihoods are threatened by the

proximity to wild animals. A discussion on natural resources management in the village was conducted. Participants in this meeting were members of the village government and village natural resources management committee. At Ngarambe the consultant also visited the area earmarked to be a village wildlife management area and that for village farm blocks.

In all the four pilot villages, the first day was spent for village introduction and familiarisation. In each one or more villagers led us in the interpretation of the village map(s) presented.

2.2.3 Familiarisation with other Institutions and projects

A day was spared for a meeting with the Selous Eastern Sector Warden at Kingupira. The objective of the meeting was to discuss on relationships between the village scouts and the Selous government scouts as well as co-operation between the two institutions. The Ngarambe village radio was used to communicate with Kingupira Eastern Sector Headquarters. The Sector Warden, Captain Shayo, B. sent a track to collect as in the morning and we had talks at his home and office. He was of the opinion that, collaboration with buffer villages will be improved given the new policy. On the Selous boundary aspect he thinks, people are not used to seeing physical boundary and that a meeting held for the two wards (Mwaseni and Ngorongo) together with District Council Staff, Political leaders and Selous management had resolved the matter. He personally was given the duty to fly the representatives across the boundary.

As part of the familiarisation at Mtanza/Msona, on the morning of 16/07/2002, the consultant together with Mtanza/Msona village leaders paid a visit to the Selous Game Reserve gate at Mtemere and met the Officer In charge Mr. Fadhili Seif. Talks were held on co-operation between the village and the officers of the station.

On the 14/11/2002, the consultant, Twasalie villagers with Mr. Frank Sima - the Rufiji District Mangrove Manager and Mr. Michael Abuu, a mangrove officer from Kiasi station, discussed mangrove forest management issues including legal actions against defaulters and how to handle future cases. Also discussed in the meeting was the state of the village proposal on Joint Management of the Mangrove forest in the village between the Village and the Director of Forest and Beekeeping.

2.2.4 Lessons learnt from Ngarambe village

Start of the village project

The project as many other wildlife management projects in the SCP pilot villages along the Selous buffer zone was initiated by the SCP. The main objective was to get villagers involved in the management of wildlife and at the same time getting direct benefit from sustainable use of wildlife occurring in their village lands. The main approach was thus giving the village a subsistence-hunting quota where animals were hunted for villagers' consumption and/or sale to the villagers within and outside the village. For this reason the village is currently in the process of accomplishing some of the pre-requisites of initiation stage in WMA guidelines i.e. preliminary steps. These include formal land use planning, community based organisation formation and management planning.

Significance of the Ngarambe village area

The main attraction in the village area is large concentrations of buffaloes and other plain game such as Gnu, Zebra, Impala, and Warthog etc. from the month of September to December in each year. At this time many of these animals and several other species move in from the nearby Selous Game Reserve possibly in pursuance of water and grazing. They also have a forest of *Dalbergia sp.* that can be a good attraction to ecologists and photographers

Achievements so far

The village now receives a quota that they divide into two i.e. part for licensed subsistence hunting for resident hunters with valid hunting licenses from the District Game Office and the remaining part for subsistence hunting for sale to the villagers within or outside the village. Earnings from the sales has been growing in each year (appendix 4)

A hand mobile radio and five bicycles have improved communication. The village can now communicate with the Eastern Sector Headquarters at Kingupira in case of need and through the same, they can communicate with the District Game Office. In general collaboration and co-operation between the villagers and government scouts (District, SGR) has improved and they seem to be working together

Under the assistance of SCP, the village managed to own two firearms (a rifle and a shotgun) after paying 50% of the total costs. They normally buy ammunition from the Director of Wildlife although at times, shotgun ammunition may be available at the District Agriculture Office for sale to shotgun owners in the district. Equipped with firearms, ammunition and with trained village scouts, the village is quite independent. The village can now control wild animal attacks, conduct subsistence hunting and patrols on their own.

At the start of each hunting season they conduct an annual budget meeting where the Natural Resources Committee reports on implementation and plan for the following year. In such meetings they have managed to plan and implement communal projects starting with infrastructure for their school and a milling machine house.

No village whatsoever gets % from SGR but 25% is deposited at District H/Q with intention that the money could be disbursed equally to all villages that border SGR. All in all, the village has been receiving seed money from the District Council. This year, Ngarambe got 1,000,000 for construction of a Doctors House for the village Dispensary.

Future plans in the village

The village is eagerly waiting for formal approval of the new WMA guidelines so that they can start tourist hunting on their village land. They already have a person they think is interested in hunting on their WMA. To start with, they have plans to join their hunting area with that of Tapika (Tapika village is notably having a much larger hunting area). Other plans include formulation of a village constitution as an input towards CBO formation. They also plan to continue implementation of communal projects particularly living houses for government staff working in the village. At the same time, in their long-term plan they have proposed to buy a lorry to smoothen movement within and outside the village as well as boosting the village economic capacity.

Current problems in the village

Although the village has developed rules and procedures to guide implementation of the village project, some issues such as terms of reference to the village natural resources management committee are not clear. Lack of a clear constitution to guide implementation of the village project may have contributed to this problem.

Chapter Three

3 Pilot village informal training and wildlife status appraisal

3.1 Implementation strategy

Two villages were covered within the first backstopping input, which took place in July - August, and the remaining two in the second backstopping input which took place in November. The first day in each village was set for village introduction and familiarisation in which a village map and a general description of the natural resources available and their values was drawn. This was planned to provide a further learning experience to the consultant. The programme for the other days differed, dependent on the size and nature of the resources. Mtanza/Msona village was given a longer time plan than Mbunju/Mvuleni while Jaja and Twasalie were given even a shorter time plan. The itinerary for the first input is summarised in appendix 2 and that for the second input is given in appendix 3.

The time plan was adhered, but in some instances the schedule had to be changed dependent on actual field situation. However, all the scheduled training's which were tailored, were conducted and after the feedback meetings, strategies on how to continue were decided by the participants in the feedback meeting for either direct action or for further presentation in village assembly meetings.

3.2 Training Topics discussed

Basically topics of the training's conducted in the villages included:

- Field patrols and record keeping procedure (natural resources inventory):
- Vermin animals and legal aspects on their control:
- Policy (Lands, wildlife, forest, environment and agriculture policies) and the laws involved including dispute/ conflict resolution:
- Animal census (mammals and birds), map reading and interpretation of GPS readings:
- Identification of area potential and significance:
- Basic wildlife management areas (WMA) guidelines:
- Legal aspects in licensing, capture and hunting of wild animals (mammals and birds)
- Natural resources monitoring:
- Legal aspects in community based natural resources management:
- Joint Forest Management arrangements

Participants in all villages seem to be quite conversant with some issues in many of the topics discussed clearly showing they have been exposed to various aspects pertaining to local community participation in environment management and resource use. They have for long been waiting to acquire resource user rights and were now impatient and wish to expedite the process by trying to utilise every opportunity including this consultancy to remove the blockages, which restrain them. This was an interpretation the first question the consultant was asked on arrival at Mtanza/Msona village, concerning his position in decision-making machinery. This ensued during discussions on resources on village land and village boundary issues. This was found to be interesting and laid a base in the training needs.

3.2.1 Details of the Training

Training needs assessment was done in the first day by asking the villagers to point out areas they need training in Mtanza/Msona while Mbunju/Mvuleni, Twasalie and Jaja they were asked to write out their expectations to save the same purpose. Training was conducted throughout the stay in the village in a participatory discussion with a practical touch. The training was however tailored and concentration was dependent on actual specific needs for a village. A summary of the training follows below.

Field patrols and record keeping procedure (natural resources inventory):

Patrols are continuous surveillance on the resources to safeguard its continued existence and sustainability as planned by the villagers.

Patrol area

To make sure patrol is not biased towards a certain portion of the resource area or to specific resources, it is important to zone the area into smaller patrol zones. Criteria on the decision on the size of a patrol zone will be on number of patrol days or hours on single errands. It is however important that, the whole area is reached at least on monthly basis noting that higher patrol frequency ensures a better safe guard to the resource.

Patrol discipline

As soldier's patrol teams need to be cohesive and thus commands should only be from one central point. Thus a hierarchy type of leadership should be maintained at all times. There should not be any room for arguments in patrol and who ever defaults must be assessed and a punishment allotted accordingly and without delay. In case the scouts are of the same/similar rank a safari leader should be selected at the start of the patrol journey. For convenience purposes, a roaster can be maintained covering say a month.

Assignments to village scouts during patrol implementation

Each member in the patrol team is assigned a task to carry out while in patrol. For example pointing out of animal tracks; identifying vegetation type; counting of young animals; counting of adult animals; separation of males from females; carrying the GPS and taking readings; recording data on data form or notebook etc.

Walking manner

A single file should be maintained and the whole group should be quiet unless there is reason and permission to do otherwise. This is specifically to afford utilisation of all the senses (particularly sight, smell and hearing) during patrol.

Data collection

Anything of interest must be recorded. During recording all resources elements need to be recorded. For example on sighting an animal track or people foot prints or snares, vegetal data including names of species, their status and vigour need to be recorded. For all those species that cannot be identified, their vernacular/local names are recorded and specimens are taken for later identification.

Reporting

After each patrol work writing a report to be presented to the village council though the environment management committee. The report should be brief touching only major issues but nothing should purposely be left out.

Vermin animals and legal aspects on their control:

What is a vermin animal?

Any animal that destroy farms, property and lives causing damages and/or deaths

Development actors and their roles in vermin animal control

Tanzania does not pay compensation for losses incurred through attacks by wild animals. The responsibility to control small game (such as baboons, bush pig, warthog, monkeys and some vermin birds such as quelea quelea and some doves) is vested in the Agriculture and Livestock Development Department. For large game (such as lion, leopard, elephant, hippo and buffalo), the Department of

Natural Resource is responsible. These two departments normally co-operate in their work. Self-defence (property or life) is permitted by law and current national policies and needs to be institutionalised in the village council under the supervision and/or facilitation of the two departments. There is no limit to self-defence and that only common sense is used to determine and interpret the term self defence. Therefore it is the role of all development actors in Tanzania to control vermin animals.

Common local techniques used in vermin animal control

Traditional techniques are several and may be ethnic specific but the best is dependent on culture involved, the animal type and number. It is therefore important to look on various issues before selecting the best technique to be developed in a village. The following aspects are necessary to facilitate the decision making in selecting the best technique to be used:

- Identification of the vermin animals and an inventory of their types in the village
- Identification of the residence of the vermin animals
- Locating the movements within and without the village area
- Identification of local population groups (resident and non resident)
- Counting of numbers of each of the local populations

The following is a sample of techniques that are common in many communities:

- Village land use planning. Use areas need to be identified and described at least in writing and when possible, markings may be put to show the boundaries and identities of each zone put.
- Block farming to easy guarding of farms against vermin animals
- Keeping farming and residential areas clear of unnecessary bushes which are obvious hideouts for many of the vermin animals
- Application of the appropriate technique in the areas and species type. These range from formation and use of large and small groups who track the vermin animals to individual actions.

Tools used in vermin control

Traditional and modern tools are used provided the control is institutionalised in the village government and the method is generously selective. Firearms and nets are the commonest tools, but others like traps and hooks especially for lion, leopard and crocodile are also used in control. The village council can acquire a firearm but may be required to ensure its safety before purchase.

Policy (Lands, Natural resources policies) and the laws involved including dispute/conflict resolution

Policy is action adopted especially in state affairs; aims and ideals of a person or a group; a plan of action. Several policies exist at various levels, these needs to be understood and implemented and require great flexibility in implementation at local level.

Environmental management involves improving access to and management of natural, social, human financial and physical resources, which support people's livelihoods. It means building understanding of the environment, of the links between the environment and livelihoods, of the need to manage rather than simply exploit the environment and the urgent need for more careful use of the wildlife resource and its habitat. It is therefore clear that decentralisation and local participation in environment management are key policies for improved natural resources management and sustainability.

National level policies are thus directed to meet the national development objectives despite some conflicting issues and overlapping responsibilities. Generally these policies are interdependent since one has to understand the requirements of each of these policies in order to have a sustainable wildlife management enterprise. However most policy interpretations have been left on the ground operators

and that in the absence of comprehensive local environment management plans, the wildlife, like many other natural resources considerations are often forgotten. The following are briefs from the national level policies of importance to a sustainable wildlife management.

The land policy of 1995 aims at secure land tenure, as one basis for sustainable use of resources. It thus encourages the optimal use of land resources and to facilitate broad based social and economic development without upsetting or endangering the ecological balance of the environment.

The agriculture policy of 1997 aim to increase agriculture production and rural incomes. The policy recognises agriculture as the biggest single employer in the country. It also recognises that most of the farmers in the country are smallholder crop and/or livestock subsistence farmers. It promotes integrated and sustainable natural resources management.

The environment policy of 1997 focus at ensuring the sustainability of Tanzania environment, as basic to Tanzania's economy and human survival. While economic development is essential, the policy recognises the damage that can be done through poorly planned developments. It thus defines the needed environmental policy framework, which is necessary to enhance incorporation of environmental perspectives in the fabric of national decision making. It aims at defining plans and guidelines for prioritising, monitoring and continuous follow-up of plans and programmes. It is therefore designed to provide the framework for planning and co-ordination of all sectoral policies and activities dealing in one way or the other with environment. National strategies need to balance the short and long term aims, the development needs of recent generations as the population grows and the resource needs of future generations. This permeates to the lowest level (i.e. individual level) possible in development action.

The forest policy of 1998 promotes the sustainable management of forests. **The wildlife policy of 1998** addresses conservation and sustainable management of the wildlife resources. Both the natural resources policies recognise the linkages between the environment and the local livelihoods, promotes community participation in management and benefits. Increased local management of, and responsibility for resources are seen as key to sustainable management of the wildlife resource.

The land laws - No. 4 and 5 of 1999. Describes the whole land of Tanzania as public land and the President manages the land on behalf of the general public. It also states the three main divisions of the public land as being Village land, reserved land and General land.

Acquisition of village land. The village land act no 5 of 1999 section 7 define how a village land is acquired. Several ways are defined but for the purpose of these villages the main definitions of interest include: all land that was traditionally under the villagers use; all land acquired during villagisation. Also land defined by the village boundaries as agreed after - 'village and village'; 'village and reserve management'; and 'village and commissioner for lands' in neighbourhood meetings. Other ways include agreement with a neighbour who has a right of occupancy (in this one can start thinking of the Msigani camping site - does he have a right of occupancy). Provision is also available for joint land management

Acquisition of wildlife user right. The policy requires following the draft wildlife management area guidelines. The preliminary steps entail expression of interest to utilise the wildlife resources to the Director of Wildlife.

Animal census (mammals and birds), map reading and interpretation of GPS readings:

Simple design and implementation of line transect animal census. Several census methods exist but only a few of the methods are feasible at village level. Line transect is one among the few

methodologies that can be implemented by government Game Assistants and ordinary common villager. Despite its simplicity, the Rufiji District council (RDC) has never implemented it. RDC has been using estimates from population groups seen during patrols to request for hunting quotas. Such estimates cannot give a good statistical inference necessary for guiding appropriate wildlife management initiatives. Line transect require a census team to move on a defined line, not necessarily straight but it is best designed to avoid looping up. This method is used for sample counts whose results will be used to estimate the total population in the whole area (the census zone). A sample size of 20% is best for a good statistical inference on the population size.

Pre-requisites before designing a line transect. The area to be censured should be known, the total area needs to be zoned according to vegetation type. The area of each zone should be established. For each zone the sample size to be taken needs to be established mathematically to compute a rough estimation of the length of transect needed to make the required sample size.

Calculating the transect length. Depending on the vegetation type, an estimation of possible sighting distance is given after a test count. Twice this sighting distance gives the transect width. Having known the total zone area calculate the sample size, which is 20%. Then calculate the transect length by dividing the sample area by the transect width.

Example: Given total zone area to be 1000,000 metre squared (i.e. 1 Km²), 20% sample size, average sighting distance being 50 metres; Then:

- The samples size is $1,000,000 \times 20/100 = 200,000$ metre squared,
- The transect width is thus 2×50 metres = 100 metres,
- The transect length needed to produce 20% sample is thus $200,000$ metres squared/100 metres = 2,000 metres.

Taking record and measurements. At the starting point, GPS readings are taken together with other data as described under the patrol data recording. This is to mark transect starting point. In case 30-minute pass without seeing an animal for recording another GPS reading is recorded. This is to keep a short pace on the GPS readings. On the other hand after recording of animals time is also recorded such that in case no new sightings 30 minutes walking time is taken into account. Thus the recording after every thirty minutes walk ensures easy line tracing by use of GPS. It is expected that walking in animal census activity is slow and thus only a small distance say a kilometre walk is covered in such a time.

The use of GPS in wild animal foot counts is simple and can be implemented by any one from government extension workers to local villagers once they have a capability of interpreting the GPS readings.

Calculation of the number of sampled animals.

Several steps are needed in the calculation as follows:

- Enter the GPS reading into a map and use a string to trace the distance the first marked points to the last point. Thereafter use the map scale to get the total length of the distance covered. The linear scale is easier to use when a string is used.
- Interpretation of the GPS readings into map grid readings is easy but care should be taken. GPS give a reading in 7 digits while most of the common maps, either three or four digits appear on the grid lines.
- It should be noted that when three numbers appear, a fourth number is a zero preceding the three numbers. For example 491 would mean 0491. The last three numbers are normally not shown when the measurements are taken at kilometre levels. It can thus be simply said that zeros at the beginning or at the end are not shown on many maps. Thus 491 would mean 0491000. The last three numbers are metres and they can be calculated.
- The 1:50,000 standard sheets have grid with a difference of 1 kilometre apart. This means any intermediate point can be found with the least trouble.

- After entering the points, the linear scale is used to calculate the distance from the first point to the last point.
- Sum up the totals of each species recorded
- Sum up the total sighting distances and find the average
- Find out the width of the transect by multiplying the average sighting distance by 2
- Calculate the sample area by multiplying the length of distance covered by the transect width
- Find the animal density by dividing the total number of a species by the sample area
- Use the results to estimate the population of the census zone.

Example: Given total census zone area to be 1,000,000 metres squared (1 Km²), a sample size of 200,000 metres squared, and total Impala of 20 individuals. The total impala in the census zone will thus be:

- $20 \text{ individuals} / 200,000 \text{ metres} = 0.0001 \text{ individuals per metre squared or } 100 \text{ individuals per kilometre squared.}$
- Thus the total individuals in the census zone of 1,000,000 metre squared $\times 0.0001 \text{ animal per metre squared} = 100 \text{ individuals of impala.}$

Identification of area potential and significance

Area significance is normally the main reason that made the area to be protected and it is therefore a very important element in tourism development. One or several potential elements (resource values) may be joined up to describe the area significance. Several criteria are used to identify the area potential that can be used to define the area significance. This starts with identification of exceptional resources and values and building on them to get the area significance. For best results, one need to work in close co-ordination with local communities and other government authorities in related fields (multi-displinary team) that are needed to be concerned with the village project. The following is a sample of a checklist that can be used:

- Outstanding examples of - natural, scenic, geological, scientific, ecological, floral, faunal, recreational etc.
- Unique biological attributes, vegetation types and land forms
- Area essential for protecting ecological integrity of the protected area (PA)
- Area critical for maintaining water flow and quality to protect the (quality) ecological integrity of a protected area
- Rare and endemic plants and animals
- Sensitive, threatened or endangered plants and animals
- Resource increasingly sensitive to human use
- Major archaeological or historical or local culture site
- Major local culture sites
- Resources with world-wide recognition

After establishing the area potential and building on them to describe the area significance then the tourist potential is also scrutinised.

The checklist on tourist potential (not covered in the training as it was considered not of immediate concern) can be a general one or tailored depending on the type of tourism you want to develop. In general, competition, accessibility, accommodation, sideline attractions or cultural interests, guarantee in for example game viewing, hunting, photography etc.

Tourism development, which will be tailored, will then follow after the above shake-up.

Basic wildlife management areas (WMA) guidelines

WMA initiation procedure is a stepwise process needed towards acquisition of user rights for wildlife resources. The new WMA guidelines are not yet out and for that matter, the draft guidelines will be used for sometime. Taking note that the new WMA guidelines will be out soon its advised to start with the preliminary steps only.

Section one of the draft WMA guidelines narrates the preliminary steps in seven subsections:

- Initiation of WMA establishment

In the context of WMA guidelines initiation means preliminary steps in the process of establishing WMA.

Criteria to be used include:

a) Conditions to be fulfilled:

- Must have significant resources that can be assessed
- The resources (biological and non biological) must have economic value
- Area must be ecologically viable
- Area may belong to one or more villages
- The village(s) in collaboration with the Wildlife Division (WD) shall manage conservation activities

However some areas depleted of wildlife can also be considered.

b) The Wildlife Division shall receive information regarding the intention to establish a WMA from the village government. This information may be channelled through the District Council

Procedure

- a) Village must agree in accordance to the Village Land Act No. 5 of 1999 to form a WMA and through a village agreement inform the Director of Wildlife of their intention
- b) The information regarding the intent shall be in the form of a letter accompanied by the minutes of the village assembly meeting
- c) Applicant shall be required to complete a WMA information data sheet provided by the Wildlife Division.

These steps are enough for a start since it is expected the new guidelines will be out soon. Under the same section however there are the following other sub sections:

- Sensitising the community
- Organising the community
- Preparation of land use plan
- Process of authorisation for the CBO
- Declaration and gazettelement of the WMA and
- General management plans

The draft guidelines of January 2000 was the last government working paper and by the time the report was out, these have4 been launched as Wildlife Conservation Act No. 12 of 1974 WMA regulations on 24/01/03. These regulations are accompanied by guidelines on how to implement them.

Legal aspects in licensing, capture and hunting of wild animals (mammals and birds)

There are generally three types of licences namely presidential, tourist and subsistence.

Presidential licence is a licence issued for specific purpose and many times to distinguished people as presents and the like. Presidential licence can also be issued in case of need to rescue people from hunger etc.

Tourist licence is issued to tourists for the purpose of hunting game for pleasure and trophy.

Subsistence license is for subsistence hunting for the pot. The rates for subsistence hunting are of two types i.e. those for resident citizens and those for resident non-citizens.

In our case we are more concerned with the subsistence hunting for the pot. A village with land under its jurisdiction may apply for user rights to the wildlife resource. Once user rights are acquired, the same can arrange for utilisation of the resources in their village land and apply a quota from the Director of Wildlife. The quota may be for subsistence licence hunting or subsistence hunting for sale of meat. The rates (government rates in Tshs) was first given out under the Wildlife Conservation Act number 12 of 1974 through government notice number 272 of 8/11/1974 but there has been some amendments which brought the rates to the current levels. The current fees in use are given in the following table:

Table 1: Licence fees payable by residents and Authorised associations

(A) Mammals

S/N	Species name	Resident citizens	Resident non citizens	Maximum number per hunter per month
1	Buffalo	6,000	27,000	1
2	Bushbuck/male	1,200	15,440	2
3	Bush-pig	1,200	9,843	2
4	Dikdik	450	7,720	2
5	Duiker - Abbotts	600	8,363	1
6	Duiker - Blue	500	8,363	2
7	Duiker - Common	600	8,363	1
8	Eland/male	10,000	38,600	1
9	Gazelle - Grant,s/male	1,500	8,363	1
10	Gazelle - Thomson,s/male	1,200	9,972	2
11	Hare	300	2,252	2
12	Heartbeast	3,000	16,726	1
13	Impala/male	2,000	10,615	1
14	Hyrax - Rock	200	3,217	2
15	Oribi	500	5,468	2
16	Pygmy Antelope	400	5,468	2
17	Reedbuck - Bohor/male	1,200	12,867	1
18	Reedbuck - Southern/male	1,500	12,867	1
19	Steinbuck	500	6,433	2
20	Topi	3,000	16,083	1
21	Warthog	1,500	14,153	2
22	Wild beast	2,000	14,153	1

(B) Birds

S/N	Species name	Resident citizens	Resident non citizens	Maximum number per hunter per month
1	Ducks and Geese	200	6,427	2
2	Francolins	150	444	5
3	Lesser Bustards	150	8,427	2
4	Snipe - Painted	150	251	5
5	Snipe	150	251	5
6	Sandgrouse	150	6,427	5
7	Pigeons	150	6,427	5
8	Guinea Fowl	300	6,427	3

Source: WD - Dar es Salaam

On trial basis in transfer of user rights and benefits from the government to the local community, the Director of Wildlife reacted to workshop deliberations and in year 2000, gave Ngarambe village permission to charge fees on hunters in their village land. In each year the pilot villages through DGO apply for a hunting quota from the DW. Currently the WD is formalising such permits though the new WMA guidelines expected to come out soon.

The fact that the WMA guidelines are not yet out to give pilot villages such as those under SCP/WWF user rights to the wild animal resource, the pilot villages have to utilise their quota for hunting under the umbrella and co-ordination of DGO. There is thus a loose agreement that the villages hunting quota is sub-divided into resident hunting and hunting for meat sales. This is decided in a village assembly in presence of the co-ordinator. Some villages for example those of MBOMIPA (Matumizi Bora ya Malihai Idodi na Pawaga) in Iringa, have gone to the extent of auctioning the quota to trophy hunting companies. A license for hunting animals under the village land with special recognition by the DW is issued by DGO in reference to previous arrangements between the two parties. The village charges fees for entitling a licensed hunter to conduct hunting on their village land. Proceeds from the DGO hunting license accrue to RDC while that from the village fees goes to the village committee accounts.

Table 2: Fees for certificate of entitlement to hunt in (Ngarambe) village land

S/N	Species name	Rates in Tshs.
1	Buffalo	150,000
2	Bushbuck/male	25,000
3	Bush-pig	30,000
4	Duiker - Common	10,000
5	Eland/male	200,000
6	Heartbeast	45,000
7	Impala/male	25,000
8	Warthog	30,000
9	Wild beast	60,000
10	Francolins	2,000
11	Guinea Fowl	2,000

Source: Ngarambe village natural resources management committee

Other wildlife enterprising may include wildlife photography, tourist hunting, wild animal farming and/or ranching and wild animal capture. All these modes of hunting require a business license. In regard to game ranching, game farming, game capture and any deals in trophies such as carving bones, horns etc. need to be covered under the trophy dealers licence (TDL) in the various classes provided (18 classes are available). To apply for TDL one has to fill Game Form number 13 and hand it to the DW through the DGO. Formally, the Game Form number 13, appendix 5, was given under government notice number 268 of 8/11/1974 under the Wildlife Conservation Act (WCA) number 12 of 1974.

On patrol there is need to check the authenticity of each licence by following a criteria for example:

- The licence is not transferable and therefore it should be with the original owner.
- The animals to be hunted are listed down by species and number
- The area to conduct the hunting is the one indicated in the license
- The type and serial number of firearm to be used is indicated
- The date of expiry of the licence is indicated
- On the reverse side, the animals killed are indicated immediately after the kill.
- Each hunter is supposed to carry with him a hunter's identification card bearing his name, picture, firearms owned.

Animal capture licenses are also issued on yearly basis under the TDL system and capture permits are issued for a specified period of time. A person with a capture permit, can also be checked by using the following criteria:

- The permit bears the license number
- Animals to be captured are indicated in species and number
- Areas where the capture is to take place is indicated
- The expire date of the capture permit is indicated
- The District Game Officer should countersign the capture permit
- The capture person should have a capture identity card bearing the picture and name of the person and number of the original licence.

Natural resources monitoring

Everyone in daily life practices monitoring. It basically implies the systematic observation of changes in issues that are relevant for one's own situation. This is normally done to better understand the environment and to anticipate new or expected situations.

Monitoring requires data collection and utilisation of indicators to crosscheck desired objectives/situations. Logical framework approach is best used to determine appropriate indicators. For best results the VEMP objectives are taken into account to decide on the type of data required. At this stage the backbone of the monitoring system is set. It is basically the cause effect relationship of the issues at hand. For example 'open access appropriation of the wildlife resource is seen as an issue needing immediate attention'. One of the objectives may be 'to control wild animal hunting'.

Two matrixes (or one long table) are made - one for the cause effect relationship and the existing opportunity or objective and the second one narrating for each objective, the information needed, sources of the information, indicators and responsible

Table 3: Cause - Effect relationship

Issue	Cause	Effect	Objective
Open access appropriation of wildlife resource	- Inadequate control to wildlife hunting	- Depletion of wildlife resource at unsustainable rate	- To control wildlife resource hunting
	- Low capacity of RDC to conduct frequent patrols by using government scouts	- Increased illegal hunting	- To involve other stakeholders in patrol
	- Lack of baseline data on wildlife resource off-take	- Biased or unplanned off- take of wildlife resource	- To conduct wildlife inventory

Table 4: Indicators

Objective	Information needs	Indicator	Sources of information	Responsible
Controlled wild animal hunting	Poaching pressure	- Number of poachers apprehended per unit area and time	- Court records - DGO records and annual reports - Village environment management committee reports	- DGO - Village environment management committee
		- Number of carcasses per unit area and time	- Patrol reports - DGO records and annual reports	- DGO - Village scouts
	Licensed hunting	- Number of licenses issued per unit area and time	- DGO records and annual reports	- DGO
		- Number of licensed hunters reporting per unit area and time	- Village environment management committee reports	- Village environment management committee
	Surveillance actions	- Number of patrol days per unit area and time	- Village environment management committee reports - Patrol schedules	- Village environment management committee

To be able to collect this information, tailored data forms are prepared and later the information is compiled for analysis. The analysis is necessary to see if the project objectives are being met. It can be a simple comparison to baseline data that is supposed to have been obtained earlier in the planning process. In the analysis process, criteria vary with the indicator type, for example - increased number of patrol days will be interpreted to be positive while increased number of poachers apprehended would mean a negating trend in the management efficiency.

Modality of conducting the monitoring depends on the project owner's capacity. One may require to set up permanent transects for timed monitoring while another may monitor specified blocks. However, it may also be conducted monitoring randomly and that data is collected randomly during patrols and field implementation. Normal villagers would many times like to this version and specifically to conduct it during field patrols.

Several categories of indicators are available but for the wild animal resource management, state, pressure and response indicators can make a good inference for such a biological resource.

Definitions

State indicators reflect the condition of environmental functions, and have direct linkages with the environmental qualities to be monitored. For example, number of wild animals, species composition, annual recruitment etc.

- *Pressure indicators* reflect (the change in) the level of stress or pressure by human activities, and have indirect linkages with environmental qualities to be monitored. For example, number of poachers apprehended, number of snares removed during patrols, clearing of land for agriculture etc.
- *Response indicators* reflect the response measures to environmental problems. For example, emigration of animals, adoption of better methods in farming

Note: The pressure and response indicators can be on reverse order as well.

Establishing a monitoring system require several steps (This could not be done in the training given the limited time). The steps are as follows:

- Step 1: Developing a log frame.
- Step 2: Definition of the type of information required for certain objectives.
- Step 3: Determining the indicators.
- Step 4: Definition of the information flow and sources of verification
- Step 5: Definition of responsibilities and parties involve, required means and costs
- Step 6: Analysis of the data

Legal aspects in community based natural resources management (CBNRM)

Tanzania conservation initiatives can be described under three main phases:

- ***Pre-colonial era.*** Where natural resources management was under traditional institutions and regulations governing wildlife management was based on customs. The Chiefdoms were functioning and the local community had a strong spiritual affiliation to wildlife. There was a general respect to nature.
- ***Colonial era.*** In the 19th century there was a view by Americans that wildlife and people (wilderness and human premises) are incompatible and thus areas exclusive for wildlife should be set aside. Therefore evolved the national park concept that 'some areas be set aside as pre-modal wilderness for recreation purposes.' In 1970's, the protected area (PA) vision had dominated the global conservation movements. Under this, the traditional institutions were undermined, people's traditional rights of use and access were classified as poaching and encroachment. The respect for nature was gradually eroded by this move.
- ***Post-colonial.*** Colonial era approach was adopted after independence with the main features being State direction of the economy; government as the main employer; ideologies favouring public ownership and control of potentially productive resources. After independence the chiefdoms were totally abolished.

Main consequences in the evolution include:

- Subordination of institutions which used to supervise the common property resource (communal ownership of resources)
- Lack of attention to local knowledge
- People were displaced and excluded from the resources that they originally owned and still think/feel it is theirs
- State assumption of the wildlife resource
- Lack of attention to human needs and aspirations (people were alienated and forgotten)

Major impacts seen include:

- Increased encroachment, unauthorised hunting and sabotage
- Reduced food security, livelihoods and cultural values of the local people
- Social conflict in and around PA.
- Lack of attention to wildlife outside the PA system

With these impacts, the conservation goals were frequently threatened and thus a change in general thinking was mandatory. The last 20 years saw the realisation that:

- Over-extended state departments have insufficient resources for wildlife conservation
- It is important to understand the needs and aspirations of the local people
- There is need for interactive communication between PA authorities, other government institutions and the local community
- Need to strengthen local institutional capacity

Following this realisation in the 1980's, Tanzania entered the International Monetary Fund and World Bank to institute the Structural Adjustment Programme (SAP). SAP was a shift from centralised economy to market economy. Thus need to decentralise could not be skipped and in this move the Local Governments were re-introduced. Local Governments go down to village governments and local communities.

This move made it necessary to change the natural resources policies with two main features in the wildlife policy:

- Management roles and responsibilities transferred to local community
- Local communities obtain substantial tangible benefits from wildlife.

Community based natural resources management then tries to institutionalise these ideas at local level.

Why community management of the natural resource?

Policies in Tanzania have changed in favour of addressing the challenging question of who pays for conservation of the natural resources and who benefits from its conservation. Community based natural resources management was thus designed to take into account the changed policies. Community based natural resources management is a terminology used in the context of local community participation. This means the owner of the natural resources agreeing to share management responsibilities with another stakeholder under specific and mutually acceptable conditions.

How is it implemented?

This is variably implemented for example in the wildlife sector, game controlled areas and game open area or rather public lands can be turned into WMA. A WMA is a new category in protected areas list meant to be owned and managed by the local community as they acquire user rights. In the forest sector, there are two main types of arrangement, one is the so-called communal forest reserve - this includes a village(s) forest reserve, a group forest reserve, and individual forest reserves. The second category is the joint management arrangement for the territorial and local authority forest reserves as well as the public lands irrespective of where they occur.

The forest policy therefore calls for villages and individual or groups to take up the management of the otherwise unreserved public forests. They can also do the same to any other parcel of areas not forested land provided it is unreserved and that it has been on customary use by the persons or villages seeking to manage it. However, they can also apply for transfer of land from reserved land or general land to become a village land. Such a requested piece of land is called 'transfer land'

Some basics to consider when planning for implementation of a community based natural resources management

A community based natural resources management is management of the natural resources by a specified community. This takes a community to be a group of people with common interest. One merit of a community based natural resources management is that, it is able to pay for its own management and that current action does not water down future aspirations. It should thus be noted that people have a range of business and troubles to deal with - winning in some, losing in others, playing off one against the other. It is thus important to consider the people's livelihoods and examine the basic characteristics of the natural asset and the people in order to win on CBNRM.

In summary, four elements may be examined:

- **Natural capital.** Natural asset is of great variability, the same as the stakeholders' vision. It is common to get quite different and conflicting vision. CBNRM therefore calls for the ability of individuals practising it to agree on basic issues in management able to deny others the use of the asset and extract some benefit from the asset. This calls for clearly defined boundaries in the asset itself as well as the group. The asset should also be able to provide to its management. Therefore the amounts and value of the asset must be easy to appropriate in well laid down independent enterprises.
- **Human Capital.** The level of knowledge and skills of the stakeholders is important in CBNRM success. It therefore calls for a build up on the required capacity at local level and a general agreement on use rules and local conditions. The community should also be able to negotiate business with other private sector and external agents for example on hunting of wild animals, on joint ventures or on supply of natural resources to market for instance the crabs of Jaja and birds to Dar market or even export market.
- **Institutions and social capital.** People have differing values and practices leading to different agenda and perception of the natural asset. It is important to note that the natural asset is worth very little without secure rights and responsibilities for access and use. It is thus important to consider clear stakeholder identification as well as identification of the existing institutions. Cohesiveness in a group, ability to deal with conflicts, the right to organise and ability to affect management by individuals is a few of the important elements to effect success of CBNRM. The community should therefore be able to use, access and defend the asset, transform it into income and access markets and state for help.
- **Produce capital.** This narrates the need for infrastructure, equipment and funds. At the start, the social capital may equip a community to organise and lobby government for these services. Later the asset can be able to provide for itself i.e. for its management and the community or group managing it.

What is transfer land

This is a general land or reserved land, which is to be transferred to become part of a village land. That means if an area is already a reserved land or designated by the commissioner for lands to be a general land, but a village wishes to acquire the land an application is registered with the commissioner or the reserve management. Section 5 of the Village Land Act No. 5 of 1999 gives the president power to direct the transfer of such lands.

It must be clear that these policies do not contradict or conflict neither were they meant to replace the existing systems unless where it is stated. However in case of urgency, transfer land under the Village Land Act No. 5 of 1999, arrangements can be made to facilitate such a transfer. This means, the land to be transferred first from reserved land into village land then the village decides to manage it under communal management. It is a long process and bureaucratic.

3.2.2 Training Evaluation

Training evaluation was only done for Mbunju/Mvuleni, Twasalie and Jaja villages. It was not possible to do it in Mtanza/Msona as we had to cut short the village stay because of transport problems. A total of 67 participants completed the evaluation; details are given in the table below:

Table 5: Villagers who completed training evaluation

Village	Participants
Mbunju/Mvuleni	11
Twasalie	38
Jaja	18
Total	67

At the start of the training, the participants were asked to write down their expectations. This was specifically to assess the training needs in a specific village and facilitate evaluation of the training. They were also asked to write down their recommendations at the end of the training.

Participant expectations

A summary of the expectations as given by the participants:

- Reduced wild animal (baboons, monkeys and bush pig) marauding by use of nets
- Village scouts to go for formal training at Likuyu Sekamaganga institute
- Capacity building in vermin control and patrol equipment specifically a fire arm, muzzle loader pellets and powder and nets
- Gain more skills in wild animal conservation and environment management
- Increase co-operation and collaboration between village scouts, District Council scouts and other neighbouring villages
- Closing of Uba lake for fish to grow
- To get a knowledge on how to use wild animals and market for the vermin animals specifically baboons, monkeys and the bush-pigs
- Get first hand information on how a wild animal hunting quota is acquired
- Training on practical skills in patrol implementation
- Enhance economic control and gains from the forest and other village resources in various aspects including tourism.
- Improved farming practices and income through block farming, early ploughing by tractor and control to vermin animals.

Evaluation

The participants were asked to respond to two basic questions by assigning either (a) good, (b) average and (c) low to the following two basic questions:

- Meeting of expectations
- Understanding of the training

Results of the evaluation

A total of 67 participants from Mbunju/Mvuleni, Twasalie and Jaja were involved in the evaluation. The evaluation questions were written on a flip chart, which was hanged for every one to see. The questions were ready out aloud and explained so that the participants understand them. There after each participant was given a piece of paper and asked to respond to the questions and write up his/her recommendations.

For those who could not read and/or write, a neighbour was asked to help out. After the evaluation exercise there was a general discussion of the results and the recommendations.

The results are given as follows:

Table 6: Question 1 - Meeting of expectations

Response	% Response per village			
	Mbunju/Mvuleni n=11	Twosalie n=38	Jaja N=18	Mean N=67
A	100	58	47	68.33
B	0	42	47	29.67
C	0	0	6	2

The evaluation shows that, Mbunju/Mvuleni respondents had their expectations met by a higher response when compared to Twosalie and Jaja village. It is generally shown that the expectations were met at a good standard by 68.33% while 29.67% indicated a satisfactory standard with 2% as low. The 2% discrepancy may be due partial participation of some of the participants.

Table 7: Question 2 - Understanding of the training

Response	% Response per village			
	Mbunju/Mvuleni n=11	Twosalie n=38	Jaja n=18	Mean N=67
A	75	54	44	57.67
B	25	44	39	36
C	0	3	17	6.67

As for meeting of expectations, Mbunju/Mvuleni village led in the response to a good standard of understanding of the training. This may be due to the fact that they seem to have more pressing issues such as the need to control the frequent animal poaching in village forest and thus were more attentive and interactive. However the overall response indicated a 57.67% good standard with 36% as satisfactory. Low understanding was indicated by 6.67% of the respondents, majority of them from Jaja village. The low level of literacy may also have a contribution to this.

In general, the overall evaluations results indicate above 80% of the respondents has gained from the training and thus are expected to be able to pursue a better wild animal management.

Participant recommendations

Participants were also asked to write down recommendations for future training and any other recommendations, as they felt appropriate. The following is a list of recommendations pertaining to training as given out by the participants:

- Training to continue and be increased, training time to be increased
- Need to know/understand development i.e. knowledge on the roles and responsibilities in bringing about development (why, who, whom and how).
- Training on vermin control and anti-poaching to continue
- Training on how to co-operate and work together for members of the village government, village environment management committee and the village natural resources scouts
- Training to village natural resources management scouts appointees
- Further training on animal census outside the village
- Need for training leaflets.

3.3 Wildlife management status appraisal

3.3.1 Field report

The pilot villages, like other villages in Rufiji District, were established in the 1970's villagisation campaign. The villagisation policy aimed to increase agricultural production and centralise social economic services. Each village council in the pilot villages is supposed to have 25 members and a chairperson but all of them have fewer members. The vacant posts have been left out either by deaths or resignations of members and have not been filled. A village executive officer is the council secretary. Each village has the three statutory committees - Finance and planning, education and socio-economics and security and defence. The council members are divided in these committees; each has a chairperson and reports to the village council.

The pilot villages in the flood plains (Mtanza/Msona and Mbunju/Mvuleni) have formed Environment Management Committees while those in the delta (Jaja and Twasalie) have formed environment and mangrove management committees. Twasalie and Jaja villages adopted the already existing mangrove management committee by expanding its roles to cover the whole environment management issues. Like many other villages in Rufiji District, the pilot villages do not have a village government office and in all, a villager has volunteered a few rooms or the whole house to accommodate the Mazingira library and Environment Committee Office. However, Twasalie village has started building its village office, which is now in roofing stage and plans are underway in the other pilot villages.

All the villages have prepared village environment management plan through following several steps in village level planning process. These steps include socio-economic survey, problem identification and development of objectives and strategies to be employed to enhance environment management. This resulted in a VEMP in each of the villages, which is currently under implementation and the villagers' capacities are gradually improving given various training facilitated by REMP. As one of VEMP strategies, each village has zoned its village into several management zones.

The village council works under directives of the village assembly and it is thus a supervisor of VEMP implementation and other village activities. The village environment or environment and mangrove management committees have prepared some rules and appointed 10 village scouts to take care of the village natural resources and police implementation of VEMP. The scouts report to the head scout who is supposed to write implementation report to the village environment or environment and mangrove management committee. The committee reports to the village council, which will finally report to the village assembly.

Four of the village scouts have undertaken a formal village scout training at CBCTI in Likuyu Sekamaganga. The rest are getting on job training by the trained scouts as well as from the government Game Assistants of the District Game Office. Administrative village leaders have also attended a leadership course at CBCTI. At the same time, Village representatives have participated in vermin control, legal training courses and study visits to Wami-Mbiki, Jukumu society, SGR and MBOMIPA. Mtanza/Msona and Mbunju/Mvuleni each has two-trained villagers in plant identification.

Agriculture is considered by all villages to be a primary economic activity. They cultivate the land for crops and keep a few animals. All villages with only Jaja village keeping cattle, sheep and goats keep chickens.

The fieldwork was basically divided into forest/field visit and patrol, farm visits, field training and feedback meetings. Time plan for implementation of the fieldwork depended on actual field situation. However, two solid days were set out for basic training on several issues and emphasis was given to

topics depending on the actual field situation and needs. Summaries of the basic training conducted are given in 3.2 above.

3.3.2 Mtanza/Msona village

The consultant visited Mtanza/Msona village with Mr. Haji Mkungura (Game Assistant) and Ms. Pili Mwambeso (VEMP facilitator). The village is located in the western flood plains approximately 150 kilometres by road from Utete, the RDC headquarters. The access road crosses the Rufiji River at Ndundu where there is a ferry for moving vehicles and people. Rufiji River itself provides access to the village by a boat. There are also canoes for movement across the river. Mtanza/Msona village is the only village with a Government Game Assistant stationed at the village. However, the villagers say he has been of little help, as many times he does not have ammunition and a gun for his duties.

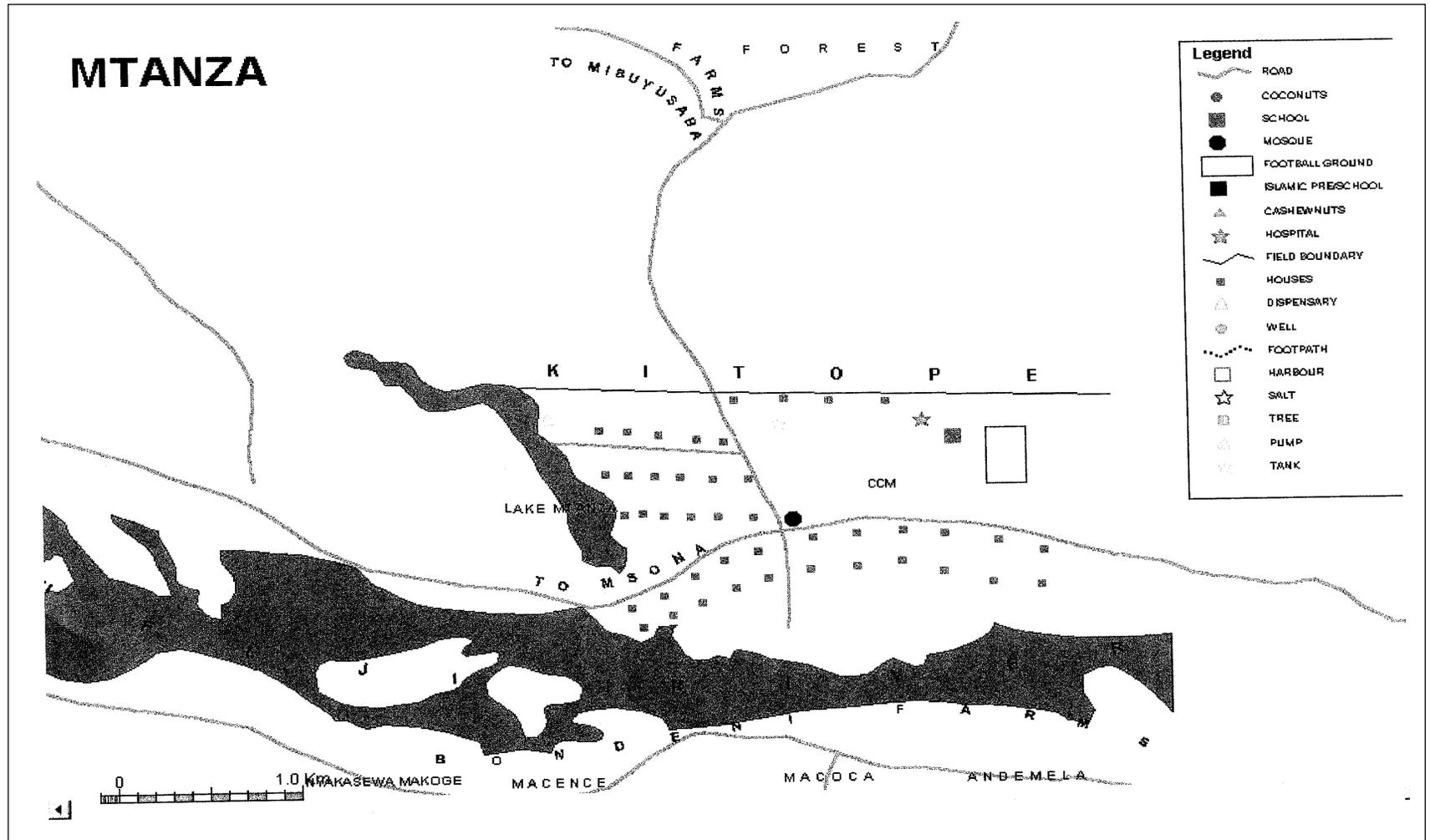
Background to the village

Mtanza/Msona village is one of the villages in the western flood plain along the Rufiji River. The main official village settlements are located on the northern side of the river but main active cultivation area is south of the river. The settled area is small stretch along Rufiji River, on the northern side, unless under extreme cases the unpredictable floods do not affect this area and the villagers have their permanent houses. The villagers therefore maintain two homes, one in the settlement area and the other in the farms. According to data in the District profile 1997, extrapolated from 1988 census, the village population stood at 2003 in 343 households with a growth rate of 1.3 per annum. As one of the strategies in the VEMP implementation, the village has zoned the village land into several management zones. The village therefore has specified areas for a village forest reserve, utilisation forest, cultivation area, settlement area, water bodies, and wild animal area.

The village land is said to have a width of approximately 12 kilometres and extends Southwestwards to the Selous Game Reserve boundary and Northeastwards to the Kisarawe District boundary. The village land is not yet officially surveyed but its expanse is quite large (approximately more than 300 Km²). The village also shares its eastern boundary with Nyaminywili village and the western boundary with Mibuyu Saba village. Despite interactive neighbourhood meetings, the village is yet to compromise on its eastern boundary, which is shared with Nyaminywili village. At the same time, they have tried but not yet successful on the northern boundary with Vikumburu village of Kisarawe District and the southwestern border with SGR.

The village is blessed with large concentrations of wild animal from the month of August through December in each year. These animals are attracted by the presence of water and possibly forage on village land. The main animals found in the village during this period are elephants, lion, buffalo, hippopotamus, crocodile, leopard, wildebeest, giraffe, zebra, impala, reedbuck, dikdik, bush-buck, hare, spotted hyena, bat eared fox, civet cat, kudu, eland, hartebeest, waterbuck, porcupine, mongoose, squirrel, bush-pig, warthog, yellow baboon, blue monkey, vervet monkey, colobus monkey, tortoise, monitor lizard, wild cat and several snake and bird species. With such a variety of wild animals hunting is a common practise. All hunters do not report to the village council and therefore it is assumed that their hunting is illegal. Hunters from Kisarawe District and Dar Es Salaam conduct hunting on the northern portion of the village while tourist hunting companies do it on the southern portion of the village land.

Except for a few young fishermen, the rest of the villagers have farms and consider farming as their primary economic activity. Fishing is taken to be secondary by most villagers and a rescue during floods where immediate after the floods; fish catches are boosted probably by the raised water levels. Other natural resources of importance to the villagers are pole for building, trees for timber cutting and fuel wood, canoe making logs and wild palm products. Villagers are also used to harvesting wild foods, which include grains, tubers, leaves and fruits. These fruits have a big role to play especially after high floods, as they become the main source of food.



Map 2: Mtanza/Msona Village map showing current land use and natural resources

Main farming area is across the river to the south where rice, maize, cashew nut, mango, pumpkins, sugarcane, banana, and vegetables are the main crops cultivated. The farming season starts from October/November up to May when harvesting is conducted. Farmers especially women spend more time in the farms than in their permanent homes. In years where there are floods, farmers adopt a flood recession farming (Mlao) where farmers plant maize, pumpkins and vegetables. On the north side of the village, farmers do farm on some of the wet areas where they grow rice. This northern portion is characterised by low fertility, which result in low yields.

During farm visits, the consultant found that, a farm field for an individual farm family range from 0.4 to 1.2 ha. This compares favourably with findings by Turpie (2000) who indicated an average of 0.77 to 1.2 ha of field per household. Most farmers indicated they do increase their farm size with increased number of wives. According to the customs of the farmers in Mtanza/Msona village each wife maintains a farm, which range from 0.4 to 0.6 ha. Such small farms with considerably low production per unit area - 10 to 20 bags of paddy per hectare are not enough to keep a household through the season.

On top of low production the food security in the village is generally fragile since too much or too low floods are harmful to the farming system, which is generally of low technology. Apart from the floods, wild animals especially the elephant and buffalo are reputed to have cleared whole fields forcing such farm families to depend on fish and wild foods. The crocodiles are another menace since villagers depend on the river and lake waters for drinking, means of movement and livelihood activities such as fishing.

Village introduction and familiarisation

As part of the familiarisation, in the morning of 16/07/2002, the consultant, Mr. Haji Mkungura and village leaders paid a visit to Mtemere SGR gate of Matambwe Sector and met the Officer In charge of the station Mr. Fadhili Seif. Matambwe Sector headquarters is also the headquarters of the SGR management. We had discussions on co-operation between the village and the officers of the station. The main agenda was on a joint patrol implementation and general two-way communication between the two institutions.

Back to the village, a village map was laid down and one villager led the village resources interpretation. Almost everyone seemed to be aware of the various village resources and their values. Nearly all the villagers new the problems they are facing with the most pressing ones being the motorised hunters on village land and the boundary disputes. The villagers have been working into resolving the boundary disputes and although they still have neighbourhood meetings in a roll, they say, they have asked for a support from the District Land Officer and this is in place for year 2003.

The village council do meet often but village accounts are not discussed despite governance training the village leaders have received. Some members feel the village leaders are not working properly and they had opened up a case at the Ward Office to challenge the villages' financial management. Village scouts have been given the role to implement village bylaws concerning natural resources, which include collection of revenue and conducting patrol on village land. The village Environment Management Committee on the other hand is responsible in directing the implementation of VEMP.

A training needs assessment was conducted and time plan was drawn for all the days planned in the field works in the village. Two feedback meetings were planned to discuss issues from the fieldwork. The feedback meetings were expected to convene all villagers in a village assembly short of which the deliberations need to be tabled in a village council and village assembly in a later date.

Farm visits

In the evening of the first day, with a group of villagers mainly leaders and scouts (Appendix 6 gives the list of participants), the consultant, Mr. Haji Mkungura and Mr. Mbonde - Game Assistants, crossed the river to the south and slept in the farms. In the night, Buffaloes invaded farms and there were shouts to chase the animals from the farms. A day walk was conducted in the Mchangini area to the said current SGR boundary. During the walk, training on patrol organisation and discipline as well as important data to be recorded for inventory and monitoring was highlighted.

Village forest visit and patrols

A visit to the village forest reserve and other areas claimed to be the traditional village land. The Msigani area had clear signs of hunting, which was possibly conducted by week-enders, as the patrol day was a Monday afternoon. Animal counting was an activity earmarked in the trip but could not be conducted since animals had not yet immigrated into the area. Several ad hoc discussions were conducted on practical identification of area potential.

Feedback meeting

Two feedback meetings were held to discuss issues arising from the fieldwork. In Mtanza/Msona there was a general low participation and the village chairperson agreed to call for the respective meetings to decide on specific issues, for example the utilisation of village money to purchase a firearm. The first feedback meeting was to discuss findings from the introduction day to farm visits and the second feedback meeting was to sum up the whole programme in the village after the field visits and patrols. The following is a summary of the discussions and opinions of the participants in the feedback meetings as discussed by the participants whose names are in appendix 6.

- **Village boundary issues**

Follow-up to boundary disputes should continue along side implementation of other activities. For example, the northern boundary, which is not the subject of a dispute, should not hinder implementation of other activities such as expression of interest to utilise wildlife on the village forest/land.

Further neighbourhood meetings between the village and Vikumburu village to the North, Nyaminywili village to the East and the Selous Game Reserve to the South should be planned and conducted soon in order to continue the process of smoothing co-operation.

- **Gazettement of the village forest reserve**

A process is underway to have a village forest reserve of 107.13 Km² North of the Rufiji River gazetted. What delays this is seen to be the low profile of the District Forest Officer giving a leeway to a claim by some councillors that the forest is a council forest which is however not managed to much the new Forest Policy requiring prompt management of the forest estate. Moreover such bureaucratic delays in gazettement have nothing to do/ need not delay the implementation of other activities in the village forest i.e. patrols and safeguarding the forest resources including wild animals. After all, the Forest Act of 2002 specifies that, a forest is reserved once a village assembly declare part of its village land to be a village forest reserve.

- **Anti-poaching patrols**

The village decided to lay down procedures to establish appropriate communication with Mtemere game post for assistance especially when there is armed poaching or emergencies of game marauding. The Mtemere post I/c Mr. Fadhili Sefu, promised to assist either directly or by providing assistance in communication for outside assistance such as the anti-poaching unit in Dar Es Salaam or to the District Game Officer at Utete. However detailed plans on how to work together are yet to be set out.

- **Vermin animal control**

The participants in the feedback meeting decided that a firearm should be bought for the village since they already have four trained village scouts and the law permits them in self-defence. They say raising funds for this will not be a problem taking into account that, the District Council owes them more than three hundred thousand shillings. Noting that the amount may not be enough for buying a firearm such as a rifle that they need, they also thought of boosting the amount by revenue from permits to fish in village waters. The VEMP facilitator, Ms Pili Mwambeso, said the District Council had promised to pay this debt anytime in this year. They also understand they have to get permission from the village assembly to both agree on utilisation of the funds and consent to buy the said firearm.

- **Expression of interest to utilise wildlife on village land**

Wise use of the village wildlife resources is one of the activities in the Village Environment Management Plan, which has been formally endorsed by the Village Assembly and is in the process of implementation. The villagers have understood that, the guidelines for Wildlife Management Area or utilisation of wildlife resources on village land/forest requires the village to forward the endorsed interest to utilise wildlife resources on village land to the Director of Wildlife. The villagers also know that, their interest need to be stated clearly in a form of a letter and the minutes of the village assembly meeting that endorsed such an interest is required to accompany the letter of expression of interest. They understand that it may be rewarding to pass such an expression of interest through the Ward and District Council.

3.3.3 Mbunju/Mvuleni village

The consultant visited Mbunju/Mvuleni village with Mr. Eddy Kilapilo (Game Assistant) with Mr. Nandi R. X. (VEMP facilitator) joining up in the last 3 days. The village is located in the central flood plains approximately 70 kilometres by road from Utete, the RDC headquarters. The access road crosses the Rufiji River at Ndundu where there is a ferry for moving vehicles and people. Rufiji River itself provides access to the village by a boat. However the main village settlement is situated approximately 10 kilometres from the main Rufiji River. There are also canoes for movement across the river.

Background to the village

Mbunju/Mvuleni village is one of the villages in the central flood plains along the Rufiji River with the main village settlements and farming area approximately 10 kilometres North of the main Rufiji River. The main settlement area is in two sub villages Mbunju and Mvuleni along the road that crosses the village from Ikwiriri to Mkongo. Mvuleni sub-village is a few metres from Lake Ruwe and likewise the Mbunju sub-village is a few metres from Lake Uba, which is shared with Mpima sub-village. The villagers are used to maintain two homes, one being a permanent home in the main settlement areas and the other one a farmhouse located in the main cultivation area in between the main settlement area and south to Rufiji River. According to data in the District profile 1997, extrapolated from 1988 census, the village population stood at 754 in 123 households with a growth rate of 1.3 per annum. As one of the strategies in Village Environment Management Plan, the village has zoned the village land into several management zones. The village therefore has specified areas for a village forest reserve, utilisation forest, cultivation area, and settlement area and water bodies.

The village area has not been officially surveyed but is comparatively small when compared to a village like Mtanza/Msona. It also extends from the Rufiji River that is the Southern boundary adjoining Utunge/Nyanda village on the South side of the river to the northwards/westwards where it borders Mng'aru Village. Since the village started positive steps in management of their customary natural resources, boundary disputes ensued. The boundaries in dispute are the western, which is shared with Ruwe village and the eastern, which is shared with Mgomba Kaskazini village. Discussions are underway in trying to come to a compromise on a common boundary in the disputed areas and the Ward Executive Officers have been helping out.

The village is blessed with large concentrations of wild animals from the month of August through December in each year. Majority of the wildlife come all the way from the SGR following Ruhoi River and upon reaching the village may go northwards through Mung'aru village. These animals are attracted by the presence of water and possibly forage on village land. The main animals found in the village during this period are elephants, lion, buffalo, hippopotamus, crocodile, leopard, giraffe, zebra, impala, reedbuck, dikdik and bushbuck. Others are hare, spotted hyena, bat eared fox, civet cat, kudu, water-buck, porcupine, mongoose, squirrel, bush-pig, warthog, yellow baboon, blue monkey, vervet monkey, white colobus monkey, tortoise, sable antelope, monitor lizard, wild cat and several snake and bird species. With such animals on village land, animal hunting is common most of it being illegal off-take as neither of the hunters get a license from the DGO nor do they report to the village council. The village being near to Ikwiriri Township, a ready market exists for poached meat.

Most villagers have farms and consider farming as their primary economic activity. Fishing is taken to be secondary activity by most villagers but a rescue from hunger in bad years. Other natural resources of importance to the villagers are pole for building, trees for timber cutting and fuel wood, canoe making logs and wild palm products. Villagers are also used to harvesting wild foods, which include grains, tubers, leaves and fruits. These fruits have a big role to play especially after high floods, as they become the main source of food.

Splendid natural mixed woodland with patches of forest covers part of the village area particularly on the North, West and part of Northeast. On a patrol in the forest, we saw a few of the resident forest species like bushbuck, colobus and blue monkeys. Logging and timber harvesting in the unreserved forestland are common/regular activities in the village. The village charges a levy of 2,000/= per tree and 100/= for a piece of timber on top of the license normally issued by the District Forest Office. The villagers have been using these areas and know the traditional boundaries of the forests within their village. They are now affirming the forest boundaries and management regime. The villagers have divided this forest into two; reserved and utilisation forests and intends to legally establish control of use rights to both.

Main farming area is on the flood plains along the north side of Rufiji River where rice, maize, cashew nut, mango, pumpkins, sugarcane, banana, and vegetables are the main crops cultivated. The farming season starts from October/November and planting is continuous up to January. The season goes on to May when harvesting is conducted. Farmers especially women spend more time (approximately 2/3 of a year) in the farms than in their permanent homes. In years where there are floods, farmers adopt a flood recession farming (Mlao) where farmers plant maize, pumpkins and vegetables.

During farm visits, the consultant found that, a farm field for an individual farm family range from 0.4 to 1.2 ha. This compares favourably with findings by Turpie (2000) who indicated an average of 0.77 to 1.2 ha of field per household. However one farmer, Mr. Saidi Yusufu Ngubege was found to have a farm of 4.8 hectares with a well cared for maize plants. Although he has three wives, owning a shotgun may be a major reason for such a farm family to maintain such a good farm. The maize was neatly planned in rows and was healthy. Most farmers indicated they do increase their farm size with increased number of wives. According to the customs of the farmers in this village each wife maintains a farm, which range from 0.4 to 0.6 ha. Such small farms with considerably low production per unit area - 10 to 20 bags of paddy per hectare is not enough to keep a household through the year

On top of low crop yields the food security in the village is generally fragile since too much or too low floods are harmful to the farming system, which is generally of low technology. Apart from the floods, wild animals especially the elephant, hippopotamus, monkeys and baboons are reputed to have cleared whole fields forcing such farm families to depend on fish and wild foods. The crocodiles are another menace since villagers depend on the river and lake waters for drinking, means of movement and

livelihood activities such as fishing. For example, in June this year, a crocodile had killed one villager at Mvuleni sub-village.

Village introduction and familiarisation

On arrival at the village, on 28/7/2002 the consultant and Eddy Kilapilo visited the residence of the village chairperson and a brief introduction of our mission in the village was done. The chairperson was of the opinion that, it would be difficult to meet in the same day since majorities of the expected participants were currently held up by farm guarding against wild animal marauding. The second day was set for the meeting and in the start we discussed a schedule of implementation, time plan for the field trips (patrol and farm visits) and the participants were asked to write down their expectation. The expectations were discussed and understood by all. In the afternoon 3 village maps were brought and an interpretation of the maps and the natural resources therein given in turns by some of the villagers.

Farm visits

A day walk was conducted to Mtumbini and Nyalwala areas and 7 farm families were visited. Discussions on issues concerning the vermin problem, methods used to reduce losses and in self-defence, type of farming practised and their suggestions to reduce or remove the vermin problem was done. During the walk, further discussions on how to tackle the vermin problem were also conducted.

Village forest visit and patrols

A visit to the village forest reserve and patrol in Mbundi area was conducted. At Mbundi area, several trees had been felled and there were pieces of timber. All these were not stamped and there were no persons to be questioned as to whether they had a licence or not. However the area may be outside the village boundary as advocated by some of the scouts, but the chairperson claim it to be within the village land. During the visit, which took two days, practical animal census, patrol organisation and discipline were conducted. Several ad hoc discussions were conducted on practical identification of the area's potential

Feedback meetings

Two feedback meetings were held to discuss issues arising from the implementation. The first feedback meeting was to discuss findings from the introduction day to farm visits and the second feedback meeting was to sum up the whole adventure in the village after the field visits and patrols. Here below is a summary of the discussions and the opinions of the village participants in those feedback meetings.

- **Village boundary issues**

The village chairperson elaborated that further request for assistance from the District land Office to resolve boundary conflicts. They have also presented the matter to the District Environment Management Team meeting (EMT) and those neighbourhood meetings under the facilitation/assistance of the District Land Officer have been scheduled for implementation in year 2003. However majority were of the opinion that, the disputes are becoming a major hindrance for resource management on village land. They thus suggested and agreed to hold a neighbourhood meeting with Utunge/Nyanda village. Likewise, a follow-up to the Ward Executive Officer is made to find out the fate of their request of assistance in resolving the boundary dispute on their eastern and the western side.

- **Possibilities for corrections to the village forest reserve**

The village has formally reserved part of its land to be a village forest reserve, which stands at 12.22 Km² in area. Although the village was fully involved in the forest survey, some of the villagers' feel that, the Northeastern boundary of the forest was miss-interpreted. They would therefore want to make some corrections and also include the utilisation zone of the forest such that in management planning the two zones will be distinct. They thought this would make sure they have full control of the forests on their land unlike the current situation where they perceive that they will have to share profits from

the forest that is not included in the village forest reserve area proposed for gazettelement. The villagers are of the opinion that, once the forest is given a village forest reserve status, it will belong to them as it used to be in the past old days under customary chieftains. Currently, timber and log harvesting conducted outside the village forest reserve is only charged a levy of 2,000/= for a log and 100/= per piece of timber. The District Forest Officer is known to be taking a much larger share with the felling licence he issues to the harvesters. One tree can produce two or three logs but can measure several cubic metres. A felling licence for a cubic metre range from 30,000/= to 80,000/= depending on the species.

- **Anti-poaching patrols**

The villagers feel that, encounters by their scouts with armed hunters during patrols, especially when the migrant animals come in, require equal strength to combat. In the current situation where they do not possess a firearm, they are totally dependent on assistance from the distant and badly equipped District Game Office. They thus feel, there is a need to buy a firearm to combat armed poaching in their village land.

- **Vermin animal control**

The villagers decided that at least a net should be bought for trapping vermin animals particularly bush pig, baboons and monkeys in order to control their numbers. The main problem is however how to raise funds for buying the net, which costs approximately 200,000 shillings for a 150 metre net. In the cases of crocodiles and hippopotamus, a need for a village firearm is necessary and thus they plan to buy a firearm in order to reduce the dependence to assistance from the District Game Office. They plan to utilise the fish resources to raise funds for buying the firearm.

- **Wildlife utilisation**

The villagers have expressed their interest to utilise wildlife in their village forest reserve. Although they have been talking over it several times, they have not formerly applied for such permission. They thus decided to write a formal application to the Director of Wildlife expressing their intention. They also understand that their request is to pass through the Ward Development Council and District Council to smoothen implementation.

- **Improvement to communication and leadership**

Village scout duty implementation had for some time broken down thus reducing cohesiveness and efficiency among themselves. This was revealed in the first day of the training when the village environment management committee expressed fears that, patrol records are not authentic. Despite the fact that the scouts had formerly appointed a scout leader, patrol are not conducted as planned and that patrol schedules have frequently been cancelled as some member fail to show up in the specified date and time.

The leizer faire attitude was also proved when the scouts almost failed to locate the northern boundary of the village forest reserve and the argument that ensued. Later in the meeting it was seen prudent to solve the problem in leadership. Thus the consultant conducted a rapid assessment by use of Participatory Self-Evaluation methodology and the main problem was found to be communication. The meeting then requested the village environment management committee to make a follow-up of the issue by appointing scout leaders who will ensure patrol schedules are adhered to and reports are written. This will help strengthen implementation of all the regulations including the fisheries, which they already have but not implementing. In the same way project equipment and revenue collection and management will be achieved when all the players in the village project are fully involved.

Formerly there was a record keeping procedure that has for some time not been followed and the meetings wanted a turn back by all responsible in implementation. They also wanted a procedure for continuous follow-up for the village environment management committee and the village council to be prepared and followed. They also thought of adopting a monitoring sheet, that on top of writing patrol findings in notebooks will make sure specific information is recorded to facilitate monitoring. On top of registering of the information in their record book, the sheets should be filled out safely and a report written.

- **Codes of conduct for implementers of village environmental management plans**

The village environmental committee members said, natural resource control rules have been set out but there are no regulations to deal with misbehaviour and refusal to implement scheduled activities such as patrols. The villagers agreed to design and implement this after they are passed in the village assembly.

- **Fire management**

Wild fires were said to be common and the villagers who were at the feedback meetings feel early burning may help to stimulate vegetal growth that is important to retain wildlife. This has however not been formerly entered in the village environment management plan and they want to adopt it now. This activity will also aim at reducing hazards of fierce late fires, which occur annually on the village land. They plan to first concentrate on the village forest boundary but they will also adopt the technique as observed earlier to stimulate vegetal growth important to attract and retain migrant animals for longer periods.

- **Village forest reserve boundary marking**

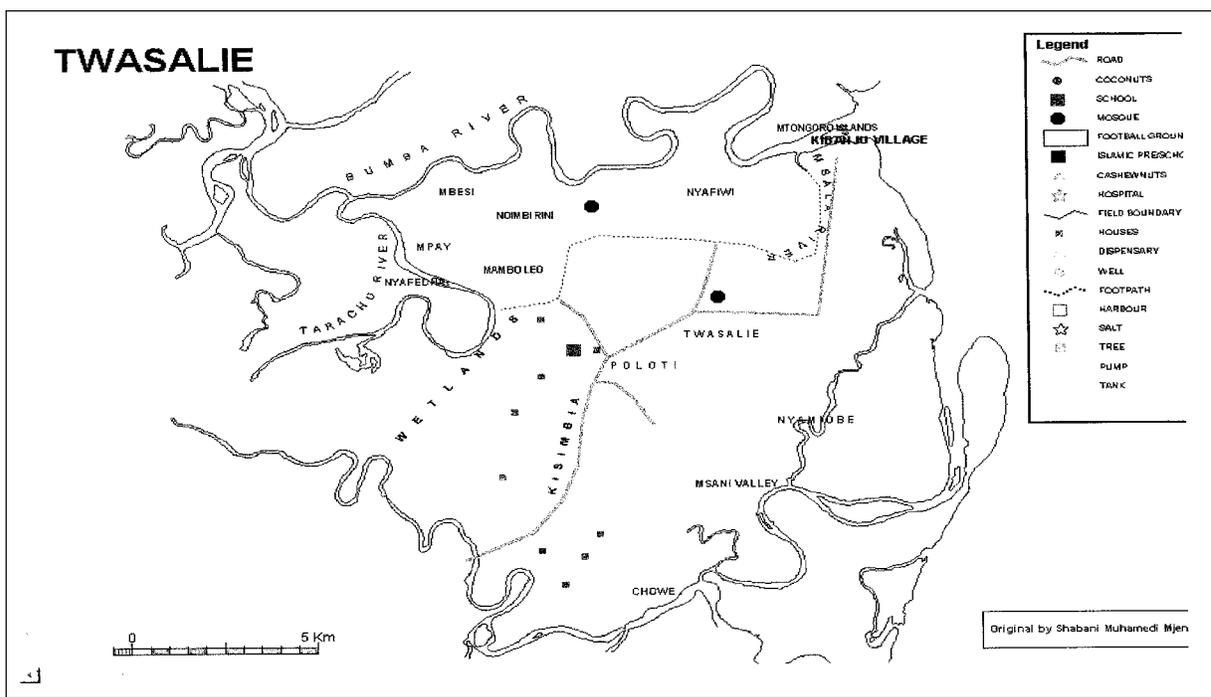
Some areas where the boundary was not painted should be completed and signposts be set to indicate the village forest for better identification by outsiders. This being an activity that was originally planned but not implemented, the village chairperson requested the village environmental management committee to send formal proposal to the village government so as to solicit for financial assistance from village accounts.

- **Awareness rising on conservation to adjacent villages**

Noting that the village does not form a complete ecosystem it was proposed that the village might lure other villages to start conservation efforts on their village lands as well. The chairperson said, villages like Ruwe and Mng'aru were actually planning to start the same activities on their village lands.

3.3.4 Twasalie village

Twasalie village is located in the North Delta, it takes 8 hours by a 40 Horsepower engine boat travel through Rufiji River from Utete, the Rufiji District headquarters. The travel can take more time as it depends on the water levels and one may be forced to camp for a night waiting for the water level to rise and easy movement. The consultant, with Mr. Juma Mkungura (Assistant Game Officer) visited the village on 10/11/2002. After reaching the Tarachu harbour, one has to walk across the paddy farming area to reach the main settlement area where the village is now building a village office.



Map 4: Twasalie Village map showing current land use and natural resources

Background

Twasalie village has the main settlement area in the centre of Twasalie Island. It borders Msala village to the East, Maparoni village to the South, to the west, it borders Mtunda, Nchinga and Mfisini villages. To the Northwest the village borders Salale ward and to the Northeast the village borders the Indian Ocean, Kiomboni and Kiasi villages. Several neighbourhood meetings have been held to have the village and its neighbours agree on a common village boundary and it has been successful in some but yet to come to a compromise in the border shared with Msala, Mtunda, Kiomboni, Nchinga and Mfisini villages. The village has five sub villages namely, Poroti, Domwe, Kisimbia, Tarachu and Nyahimba. According to data in the District profile 1997, extrapolated from 1988 census, the village population stood at 1955 in 325 households with a growth rate of 1.3 per annum.

One of the strategies in VEMP implementation includes village land zoning. The village has zoned the village land into several management zones. The village therefore has specified areas for a village forest reserve, utilisation forest, cultivation area, settlement area, water bodies and wild animal area. The forest area in the village is of mangrove trees, which is a reserved tree according to forest laws. This means wherever it occurs it is already a national forest reserve; the village is now joining in the management through a joint management arrangement with the Department of Forest and Beekeeping. The process is therefore underway and the village forest reserve has been mapped.

The main wild animals found in the village are lion, hippopotamus, crocodile, reedbuck and bushbuck. Others are hare, mongoose, squirrel, bushpig, warthog, yellow baboon, blue monkey, vervet monkey, monitor lizard, wildcat and several snake and bird species. With these animals on village land and occasional visits of a few buffaloes in some years, wild animal hunting is a common activity. Hunting of Hippopotamus is frequent in Domwe sub-village and the meat is either sold in the village or taken to Mtunda where the hunters come from. It has not been a tradition for the village council to control wild animal hunting on village land and thus meat is sold in the village in presence of village scouts. One villager in one of the meetings with villagers said the house of one of the scouts village scout is commonly used as a selling place for wild meat and surprisingly, the scout said he did not know it was unlawful.

Main economic activities in the village are agriculture and fishing. Most farmers take agriculture to be primary activity and fish being a secondary activity. The main cultivation areas are the low-lying plains around the main settlement area and Domwe sub-village. The main settlement area is also farmed. Main crops grown in the village vary with location for example in the main settlement area, coconuts, mango and cashew nuts are grown. In Domwe sub-village, mangrove trees were cleared to give way to maize, rice and sugar cane. The low lying plain around the main settlement area is important for rice farming. Fishing activity is conducted in River Tarachu and River Bomba with a few fisher-persons venturing the seawaters for fishing. The water salinity in the rivers differs with distance from the sea and also with season, being less saline in the wet season. This means, at some places the water is fresh and harbours, hippopotamus, crocodile and other fresh water fishes while in some other areas, the water is a mixture and thus harbours transitional species. Kibanju, which borders the village mangrove forest reserve, is a fishing camp and well known for prawn fishing.

Farmers are used to cultivate only a small field commonly one acre (0.4 ha) and the farming is characterised by low technology. Most of the cashew nut farms have been left to become bushes, very few farmers care for their trees. The main reason given to this attitude is the destruction done by monkeys and baboons on the trees. Coconut palm farming is no better either as the trees are drying out from some diseases, possibly a viral disease, but also the continuous attack by monkeys or baboons may have a part to play as well.

Wild animals are generally reputed to be taking more than 1/4 of any acre planted with paddy. However, if a farm were not guarded against marauding animals, all the crops would be eaten up early in the growing season. The case of attacks to coconut is even extreme since frequent visits by the primates will result in no harvest. Blue monkey for example eats throughout the day and night and thus very difficult to control in dark hours on palm trees. A decent harvest from a coconut palm is 50 nuts in every 3 months meaning that a farmer can harvest 200 nuts from one tree in a year with some well cared trees yielding more.

Village introduction and familiarisation

On arrival at the Tarachu harbour on 9/12/2002 the consultant and Juma Mkungura (Assistant Game Officer), accompanied by some villagers and Mr. Mpili (boat driver) marched to the main village settlement and looked for the village chairperson. A brief talk was held and later we had a meeting with the villagers who had come to hear what we had. After a self-introduction of the consultant, Mr. Juma Mkungura and all the villagers who attended, two village maps were laid down and the villagers in turn led us in interpretation of the maps and the natural resources therein. Later on we discussed a schedule of implementation, time plan for the field trips (patrol and farm visits) and the participants were asked to write down their expectation. The expectations were discussed and understood by all.

Farm visits

A day walk was conducted in Domwe sub-village on our way back from a field patrol. 5 farm families were visited. Discussions on issues concerning the vermin problem, methods used to reduce losses and in self-defence, type of farming practised and their suggestions to reduce or remove the vermin problem was done. During the walk, further discussions on how to tackle the vermin problem were also conducted.

Village forest visit and patrols

A visit to the village forest reserve and patrol in Mbalanyimbo and Ngatola areas of the village forest reserve was conducted. A total of 1,520 mangrove poles (76 Korija) were arrested in three different occasions (At Mbalanyimbo area, roughly 280 poles, Ngatola area 1,200 poles and Kijamundu area 40 poles). Except for the Mbalanyimbo area, the other owners were not seen. All these were later reported to the District Mangrove Manager stationed at Nyamisati for further action. The villagers have not yet been given mandate to decide on the fate of culprits especially when they are doing business on

mangrove products. The villagers were taught on how to conduct patrol and legal arrest by practising the required techniques. These included thorough survey of the area in question, recording of the circumstances and all the resources and materials found in the area.

Feedback meetings

One feedback meeting was held to discuss issues arising from the implementation. This meeting was held in the last day of the village visit with the main aim of providing a feedback and summing up the whole fieldwork in the village. Here below is a summary of the discussions and the opinions of the village participants in the feedback meeting.

- **Village boundary issues**

The participants felt the need to make a further follow-up to the boundary issue on the western village boundary shared with Mtunda, Nchinga, Kiomboni and Mfisini villages as well as the eastern boundary shared with Msala village. Further neighbourhood meetings with these villages should be planned and conducted soon. Therefore an immediate follow-up of the village council to the Ward Executive Officer for Maparoni be made in request for another neighbourhood meeting with these villages.

- **Village forest reserve**

The village forest reserve has an area of 169.87 Km² (16987 ha) of mainly mangrove trees. A process is underway for a Joint Forest Management (JFM) arrangement with other villages sharing the forest and the Forest and Beekeeping Department in Dar Es Salaam. The villagers feel the process is taking a long time and up to now they have not agreed on management boundaries. However Mr. F. Sima (District Mangrove Manager) revealed to them that, the proposal is now in the Directors Office for approval and signature before further steps are taken.

- **Anti poaching patrols**

The participants in the meeting were of the opinion that, patrols are not conducted as expected. More still they feel the wild animal poaching has not been considered as a problem by the village council members, Environment Management Committee members and Natural Resources Management Scouts. They thus wanted the scouts and the Environment Management Committee members to be committed to the village project and increase frequency of patrol implementation to at least twice per month. It was also agreed that, the scouts should be given food during patrol days and the untrained/new appointee scouts participate fully in patrol work to increase the patrol force.

Likewise they wanted every villager to participate fully in the process of arresting poachers, which include information networking among the villagers. Such patrols would generally help to control tree harvesting in the village forest reserve as well as in the utilisation zone. More still it will ensure prompt collection of the tree cutting fee of 50/= per 'Korija' (20 pieces of cut poles or withers) normally harvested in the Mtomboro and Kihembwa utilisation forest.

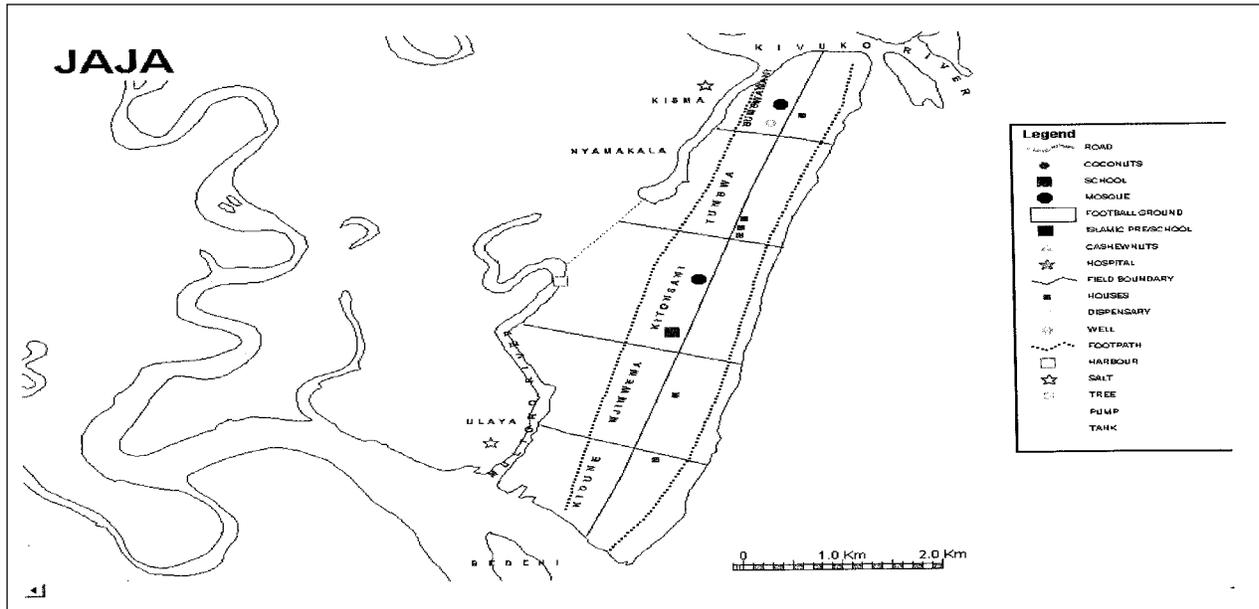
- **Vermin animal control**

The participants wanted their earlier plan to buy a net for tracking down vermin animals to be implemented. However the village council was unable to raise the required funds. They say the village council has to show expenditure of previous contributions for the past three years before they start to contribute. In response, the village chairperson told the meeting that, there was already a schedule to deliver the village accounts in a village assembly on 16/11/2002.

With the crocodile problem, the participants thought good gunpowder and pellets for their private muzzleloaders could very much help out in vermin animal control. The gunpowder they bought last year from the Agriculture and Livestock Department was not good enough and that it could not explode without further treatment.

3.3.5 Jaja village

Jaja village is located in South Delta, which is approximately 60 Km from Utete, the RDC headquarters when accessed through the Rufiji River. The consultant together with Juma Mkungura (Assistant Game Officer) visited the village by a 40 Horsepower boat engine from Twasalie village on 15/11/02. The travel took 6 hours since the water level was favourable thus making the travel non-stop. The nearest access road reaches as far as Muhoro. The group was on 18/11/02 joined up by Mr. R. X. Nandi (VEMP facilitator), Mr. Haji Mkungura (Game assistant) and Ms. Rose Hogan (Technical Advisor - Community Development) who came by car through the new road under construction to Ruma village. The consultant on his way back from King'ongo farm visits collected them by boat from Ruma, which is approximately less than an hour travel. Once the road is completed, would be a major improvement to communication between the village and the District headquarters at Utete.



Map 5: Jaja Village map showing current land use and natural resources

Background

Jaja village is made up of mainly three Islands i.e. Jaja, Ulaya and Bedenii with the main settlement being Jaja and Ulaya Islands. Bedenii Island is not settled but is important for birds (aspecially Egrets) and edible snails (Tondo), which are also used for lime making and bait for fish. The village borders the Indian Ocean to the East, Pombwe village to the South, Kiongoroni village to the west and Mbwera village to the North. According to data in the district profile 1997 extrapolated from the 1988 census, the village had a population of 1,376 people in 206 households and an increase rate of 1.3 per annum

One of the strategies in VEMP implementation includes village land zoning. The village has therefore zoned the village land into several management zones. There are specified reserved areas, which include the mangrove forest of Kilobani, the coral reefs off shore and the Bedeni Island. The mangrove forest is also a home for monkeys, the main wild animals in the village. The main cultivation zone includes Mpendeni and King'ongo in Ruma Village Island and some parts of Jaja and Ulaya Islands where there is also a settlement area. Other specified areas zoned out are the water bodies' mainly Mkongo River and a coastal zone.

The main wild animals found in the village are blue monkey, vervet monkey, bush pig, warthog, reedbeek and bushbeek. Others are hare, mongoose, squirrel, yellow baboon, and wildcat, monitor

lizard, and several snake and bird species. Some poaching is said to occur in the farming area especially for reedbuck and bushbuck meat. Occasionally lion, hippopotamus and hyena do visit the main farming area in Ruma village. Ruma village is the main farming area for all the farmers of Kiongoroni ward. Jaja and Ulaya Islands are marginally suitable for agriculture due to a higher salinity in their soils that are also too sandy. The main crops that flourish in Jaja and Ulaya Islands are coconut palm, mango, cashew nut, some vegetables and sweet potatoes. Cattle, goats and sheep are also kept in these islands.

The villagers take agriculture to be the primary economic activity with their official cultivation areas being King'ongo and Mpendeni located in Ruma village Island. These farm areas are a distance from the residence areas and one has to use a canoe to reach them. Farmers in these areas grow mainly rice and maize with some vegetables and sweet potatoes. Many of the farms visited were small in size on the average of 0.4 Ha per household when a household is deemed to be of one woman and her spouse and children. A man with more than one wife normally manages a larger farm as each wife cultivates her own field. Although farming may be mechanised there is generally no fertilisation and most farmers move on after farming an area for say 3 to 5 years once they sense low productivity and an increase of weeds in their farms.

Crop guarding against vermin animals is a tedious activity and although most farmers have permanent homes in Jaja and/or Ulaya Islands they spend more than 2/3 of their time in any one-year in the farming area. Important vermin animals in the village are mainly bushbuck, blue monkey, vervet monkey, yellow baboons, reedbuck, warthog and bush pig. Occasional vermin animals include hippopotamus, lion and hyena that may visit and raid the farming area in some years.

Salt making and fishing are considered secondary economic activities by most villagers. However there are a few villagers, especially the young fisher-persons, who take fishing as their main livelihood activity. Salt making is mainly conducted in Ulaya Island in what they call salt deserts (majangwa ya chumvi). The salt is sold for cash or exchanged for food items such as rice or maize. Likewise, fishing is an activity of importance to most villagers but many fisher-persons do not venture the deep sea for fishing due to lack of appropriate fishing vessels like what they call 'Jahazi' that is safe to go to deep seas. Trawling by big ships from outside the village is however common in places near the village and even within the village boundary.

The village is blessed with mangrove making a big mangrove forest in all its islands. Some Mivinje (*Cassuarina* sp.) trees also do occur in some parts of the village. Noting that, mangrove trees are reserved trees according to forest laws, the village is now in the management of the mangrove forest under a JFM arrangement with the Department of Forest and Beekeeping. The process is therefore underway and the village forest reserve has been mapped and the left out utilisation area is allowed under a forest-harvesting license and a permit from the village. Most of the harvest from the utilisation zone is exported to Zanzibar and Dar Es Salaam.

Village introduction and familiarisation

On arrival at the Jaja harbour on 15/11/2002 the consultant and Juma Mkungura (Assistant Game Officer), accompanied by Mr. Mpili (boat driver) visited the Mazingira office in an attempt to meet the Village Environment Management Committee Secretary. When the Village Environment Management Committee Secretary arrived in response to our call, there was already a considerable group of village leaders and Village Environment Management Committee members who had gathered to hear from us. After a self-introduction of the consultant, Mr. Juma Mkungura and those who had come around, familiarisation meeting was planned to take place on 16/11/02. Informal discussions were held on VEMP implementation and training needs. It was not surprising when the informal discussion revealed that, the villagers were actually prepared for governance training as it was already scheduled for

implementation. Some villagers were curious and wanted to know when governance training would take place.

On 16/11/02, the Village Environment Management Committee Chairperson Mr Mng'ombe R. and the deputy Village Environment Management Committee Secretary brought a village map. After a self-introduction of the consultant, Mr. Juma Mkungura (Assistant Game Officer) and the other village participants, Mr. Mng'omba led the interpretation of the map and the resources therein. Most villagers can interpret the village resources but they could not produce a comprehensive written description of the existing village resources.

An in-depth discussion on the village resources, the resources value and the main problems the villagers face in VEMP implementation was undertaken. Special attention was paid to the wild animal aspect and its habitat. Potentiality of some village resources such as the Kipwa Mtumbuka coral reef and Bedeni Island were deeply discussed. After reviewing the current efforts by the villagers to remove/reduce the problems they were facing, a time plan for our fieldwork in the village was drawn. Day three was set for forest visit and patrol in Kilobani, Makao and Bedeni Island while day four was set for farm visits to King'ongo and Mpendeni farming areas in Ruma village. Day five and six were set for training in the village and day seven for feedback meeting. Later, the plan was extended to day eight for farm visits in Mpendeni, which could not be implemented as earlier planned and day nine was for the journey back to Utete.

Farm visits

One day was spent in King'ongo and one in Mpendeni farming areas in Ruma Village Island where a total of 10 farm families were visited. Discussions on issues concerning the vermin problem, losses incurred, methods used to reduce losses and in self-defence, type of farming practised and their suggestions to reduce or remove the vermin problem was done. An exchange of views between the consultant and the farmers was meant to be a further training on vermin control.

A visit and patrol in village forest and other reserved areas in the village

The Consultant and Mr. Juma Mkungura (Assistant Game Officer) accompanied by 6 villagers paid a visit to the village forest reserve and patrol in Makao and Kilobani areas. In one roll a visit was also made to Bedeni Island, which has been reserved for its existence value. Kipwa Mtumbuka areas also reserved for their existence values were not visited although Ms. Rose Hogan (Technical Advisor - Community Development) visited one site on 21/11/02 when the consultant was conducting a feedback meeting in the village.

In the Kilobani closed forest area, one person Mr. Rajabu Saidi Mnema of Kiongoroni village was found cutting mangrove withers and had accumulated 161 pieces. The arrested person, his canoe, the withers and other belongings were hauled to the village where village bylaws were used to deal with the matter. In that patrol the patrol team was taught on how to conduct patrol, arrest, and handle culprits including recording of the circumstances of arrest. Training on how to assess resources potential was also given a touch.

Feedback meeting

One feedback meeting was held to discuss issues arising from the implementation. This meeting was held in one but last day of the village visit with the main aim of providing a feedback and summing up the whole fieldwork in the village. Here below is a summary of the discussions and the opinions of the village participants in the feedback meeting.

- **Village boundary issues**

In regard to the disputed village boundaries that are shared with Pombwe and Kiongoroni villages, the participants felt the need to call for further neighbourhood meetings. It was also agreed that, village boundaries in water be inserted particularly where the village borders the vastness of the Indian Ocean and specifically to safeguard Kipwa Mtumbuka, a coral reef area which has been reserved by the village for future tourist attraction.

- **Village forest reserve**

The village forest reserve has an area of 13.18 Km² (1318 ha) of mainly mangrove trees. A process is underway for JFM arrangements with the Forest and Beekeeping Department in Dar Es Salaam. The decision to have a village forest reserve was an idea brought up by the Director of Forest and Beekeeping through the Mangrove Project and adopted by the village. It was decided that a deliberate effort be made for further awareness raising on the new policy and benefits provided if implemented. Together with awareness raising, boundary marks need to be inserted with signposts that show what is permitted and what is not permitted in the areas reserved.

- **Anti poaching patrols**

The participants in the meeting were of the opinion that patrols work and dealing with defaulters was not undertaken as earlier agreed by the villagers. They feel the village government is weak and there exist nepotism in the village. More still they say the Village Environment Management Committee and the Village Council members have not been in good terms. They say all these led to illegal harvesting of Mangrove poles and withers and thus denying the village the meagre fees that could be charged. They also felt the failure to get the boat engine they were promised has made them unable to conduct patrols in distance areas like Kipwa Mtumbuka coral reef areas. This has made the area to be looted by fisher persons from outside the village. The VEMP facilitator Mr. R. X. Nandi however told them that, since the boat was ready, the engine would be brought up in the next village visit scheduled for 16/12/02. The participants thus wanted patrols to be intensified and the village government adhered to good governance ethics.

- **Vermin animal control**

The villagers, who participated in the feedback meeting, wanted the existing efforts of tracking down marauding animals in the main farming areas to continue. They also felt the need to replicate the activity in Jaja and Ulaya Islands by first conducting animal census and deciding on the specific number of blue monkeys to be reduced. This was in order to safeguard the existence value of the wild animals found on the village land.

- **Awareness raising on benefits of environment conservation to villagers in Jaja and those in adjacent villages**

Participants were of the opinion that, there still exist some fellow villagers and those from adjacent villages who feel the village project is pressing them to adopt some other arrangements in appropriation of the resources they were once free to use. It was thus decided that, a further awareness raising on benefits of the new arrangement be conducted in the village

3.3.6 General assessment and observations

Wildlife is one of the biological resources and therefore wildlife management is nothing but managing a biological resource within the interwoven nature of the environmental context/framework. Environment management is a process that takes some time for fruits to be achieved. The greatest challenge we have now, is how to fund this process i.e. moving from natural resources users to managers of the environment. This puts us at crossroads in the history of human civilisation. That means our actions in the next few years will determine whether we take a road towards a chaotic future characterised by over-exploitation and abuse of our resources, or take the opposite road towards maintaining great biological diversity and using biological resources sustainably. Tanzania is now undergoing a transition in decentralisation and devolution of responsibilities and user rights over several resources. These policies are new and many people expected to implement them have to be trained on practical application for their sustainability.

In conjunction to the new policies, REMPs aspiration has been centred on wise use and sustainability of the environment, which includes appropriate wildlife management, and it has rationalised this consultancy. In the fieldwork the consultant examined several factors and issue pertaining to a better wildlife management. The following topics give a generalised summary of the observations and assessment.

Village boundary issues

In trying to establish their boundaries, the pilot villages, since they began their village environment planning process in 1999, found themselves running into several disputes. However under the assistance of REMP there have been some remarkable achievements in solving these disputes, but to date there are still some disputes existing. Those yet to be solved include:

Mtanza/Msona village. This village has disputes on the southern and Eastern boundaries and northern village boundary is unclear. The village borders Selous Game reserve to the South. The villagers feel there is a conflict on their Southern boundary that is supposed to be the Selous boundary. This boundary is set at approximately 4 Km South of Rufiji River. It is argued that villagers were not involved when the current SGR boundary was inserted (in 1997/8) and they were used to another boundary that was much further South (approximately 16 Km South of the Rufiji River). This new boundary has made them unable to access resources they were once free to use such as lakes to fish and boat building logs.

There has always been a cat and rat chase since the new SGR boundary was inserted between the villagers and the scouts of Selous Game Reserve in the area between the current boundary and Rufiji River and specifically in the area known as Mchangini. This boundary issue was brought up in a meeting in 1997/98 of the two Wards (Mwaseni and Ngorongo) called by the councillors where several political and public leaders including those from the SGR management attended. The main agenda in the meeting was to set up co-operative arrangements for wildlife management for all the villages bordering the SGR. After that meeting, a follow-up was made by the Mtanza/Msona villagers to the SGR sub-office in Dar Es Salaam and it culminated into another meeting and a fly over to look at the physical boundary from the air.

The villagers seem not to be content with the outcome of the meeting and they feel at least they should have been told from the start that the stretch is actual a new boundary and not an access road. Currently the village scouts cannot conduct patrols in this area, as they are afraid of the government scouts. When trying to make a crosscheck with the Selous Game Reserve sub-office in Dar Es Salaam, an informal discussion was held with Mr. Foya J. of the SGR management. The talk revealed that, there was a new boundary description for Selous Game Reserve and it is only in few places that the concrete beacons are not established like those of Mtanza/Msona stretch. This confirmed informal discussion with Eastern Sector Warden and Mtemere game post in-charge that SGR is intensifying management, which will apart from physical demarcation of the boundaries of the SGR; collaboration with adjacent villages will be improved.

Nyaminywili village shares the **eastern** border with Mtanza/Msona village and they have not compromised on the boundary separating them. There is a claim that the boundary mark (beacon) was moved by some of the Mtanza/Msona villagers. This allegation is yet to be resolved.

The **Northern** side boundary is deemed to be the District boundary between Rufiji and Kisarawe Districts. However the procedure is for neighbouring villages to meet and agree on a common boundary, which is in many instances their customary boundary irrespective of District Administrative boundary. Even-though there is no dispute about the boundary but it has not been easy to achieve this

for the village because the Ward Executive Officer for Vikumburu ward in Kisarawe District requires a permission of the Kisarawe District Commissioner to act on their request.

Mbunju/Mvuleni village. This village has disputes on the Eastern, Western and Southern village boundary. In some for example the Southern boundary is just hearsay and the village has not taken trouble to make a follow-up as it knows the portion belongs to its area of jurisdiction on customary grounds. The village borders Utunge/Nyanda village to the South. The villagers say, people from Utunge/Nyanda who conduct farming on the southern portion of the village does also claim it to be part of their village. The claimants have not officially declared this dispute and the village government plan to explore and redress the hearsay in a neighbourhood meeting with the Utunge/Nyanda village government.

People from Ikwiriri Township also use this area for crop farming. There are over 150 households, some established since the mid-1980 in the Mupi area. These residents are not registered in the village but have by virtue of their long-term residency and use of the land and natural resources, acquired customary use rights.

Mbunju/Mvuleni village on the **West** borders Ruwe village and the location of their boundary is not yet established. Initially in 2001, the two village governments had a meeting together and agreed on a boundary, which was later disputed by some members whose original residence was in Mbunju/Mvuleni village. These people moved out during the villagisation campaign (*operesheni vijiji*) and they obviously had farms in Mbunju/Mvuleni village and would like to maintain them. Their main problem is that they fear they may lose their farms if they do not claim the area to be part of their village land. These allegations are however contrary to both the land policy and act guidelines which they may have not been told. A person is allowed to reside anywhere and that all land acquired through '*operesheni vijiji*' belongs to the benefiting village. The villagers say, the Mkongo Ward Executive Officer was called in to mediate but could not resolve the conflict to date.

On the **Eastern** side the village borders Mgomba Kaskazini village. The customary boundary between the two villages is said to be located on a depression where there was a tree called 'Mgache' and a beacon was set at a place called Mwenda. This customary boundary is also claimed to be the current Ward Administrative boundary yet to be confirmed by the Ward Executive Officers in the two wards.

The boundary is said to leave Mpima sub-village to be under the administrative umbrella of Mbunju/Mvuleni village. Despite this, the sub-village receives its administrative guidance from Mgomba Kaskazini village. Although, Mgomba Kaskazini village agrees on the said customary boundary, the sub-village claims to belong to Mgomba Kaskazini village and not Mbunju/Mvuleni. However there is a lot of progress in improving relationships between Mpima sub-villagers and Mbunju and Mvuleni sub-villagers since REMP has started facilitating better lake management institutions. The Mpima sub-villagers also participated fully in deciding on the boundary of the Mbunju/Mvuleni village forest reserve.

Twosalie village. The village has not yet agreed on a common boundary with four villages of Mtunda ward on the west (Mtunda, Nchinga, Kiomboni and Mfisini villages). As for the other pilot villages, the dispute started after the village-started implementation of active environment management. However, the villagers' view of the boundary between Mbwera and Kikale divisional administrative areas as the customary village boundary has fabricated the problem. The ward executive officer for Mtunda was involved in a neighbourhood meeting in an attempt to solve the village boundary problem, but they did not reach a compromise on a common boundary. Likewise, the placement of the eastern boundary shared with Salale village of Salale ward was not agreed on in the last neighbourhood meeting that was held in August 2002. The ward officer was also involved but a compromise was not reached.

Jaja village. This village has not yet agreed on a common boundary to the southern boundary that is shared with Pombwe village. Pombwe villagers are said to claim part of Bedeni Island. A neighbourhood meeting called to talk over the claim was later cancelled. The village has also not compromised on a common boundary on its western boundary shared with Kiongoroni village. It was also said that, the mis-understanding started after Jaja village closed Mkongo River and allow restricted utilisation when opened in that a fishing permit is a pre-requisite to the fishing activity in the River.

In regard to the eastern boundary in the Indian Ocean, trawler-fishing vessels from outside the village have been fishing on village waters without the consent of the village. There is no clarity to how far should the village boundary be offshore. It is claimed that the national water boundary extends 12 Kilometres offshore. However there are still some questions to be answered on the extent of the village boundary offshore, whether it is all right for the village to use the national water boundary and whether the licensed trawler vessels are required to report to the village once in village waters. The trawler vessels are however disliked by most villagers despite the fact that, some villagers do sell their farm products to their fisherperson and buy the fish that were formally left to rot at the shores. This has been possible after a long struggle but it is still claimed that the profit the villagers get is peanuts when compared to the exorbitant environment damage caused by the trawlers.

Human - wildlife conflict

Although wild animal numbers have not been established scientifically or losses incurred quantified, there is a general increase in the number of wild animals in the pilot village lands since REMP started facilitating better environment management. This increase in wild animal numbers usually comes in with an increase in vermin animal attacks to farms and other property.

In Mtanza/Msona for example, the villagers' claim that, since they started conservation in place of illegal off-take, they have gradually been facing higher wild animal attacks as years pass by. The increased conservation efforts of the village, coupled with the said intensification of management in the SGR are obviously the main reason for increased number of wild animals on the Mtanza/Msona village land. In the SGR, the main work is concerned with intensive mobilisation and patrols as well as boundary demarcations and inserting of signposts.

The main life threatening animals in these villages are crocodiles, buffaloes, elephants, hippopotamus and leopard. Crocodiles have their main residence in the Rufiji River and in other temporary and permanent water bodies such as the river distributaries, lakes Mtanza, Uba, Ruwe and several other small lakes. They are known to be voracious hunters taking several people in each season. Leopards are residents in the fringing riparian forests as well as in the village forests. Apart from the fear the leopards cause due to their close proximity, they have not yet posed any danger. The buffaloes and elephants come in to Mbunju/Mvuleni with the migrations in August, although Mtanza/Msona village has them all year round.

In our farm visit in Mtanza/Msona the night was decorated by shouts from all corners as farmers try to chase the buffaloes away. On the other hand, the farm visits in Mbunju/Mvuleni evidenced several farms invaded and some whole fields cleared by bushpigs, baboons or monkeys. This confirmed the fear raised by the Mbunju/Mvuleni participants in the first day of the village introduction when we were discussing the time plan and schedule of activity implementation in our trip. They thus planned to have forest patrols to be completed early enough to give them time for a night guard to their farms. This thus explains their low attendance in the training and fieldwork.

Mbunju/Mvuleni village suffers more from these smaller animals and at times they have to hire people from Ikwiriri to help trap these animals and reduce the menace on their farms and village land. There is also allegation that some of the villagers are currently using poison to kill marauding animals

particularly baboons, monkeys and bush pigs. Some traders from Ikwiriri Township sell the industrial poison to the farmers. The identity of the poison is yet to be established.

In some instances whole fields are cleared of crops by these marauding animals, especially caused by elephants and/or Buffaloes for Mtanza/Msona and baboon, bushpig and monkeys for Mbunju/Mvuleni. Mtanza/Msona has one government scout but can not help out since many times he is not armed as the District cannot buy ammunition to take care of wild animal attacks in the villages. The District Game Officer said, despite cries from the villagers and that the District Council receives 25% from tourist hunting and owns the resident hunting fees, last year he was not given funds to buy even a single bullet.

Mtanza/Msona villagers are much closer to the SGR but in such instances, the government scouts in SGR do not assist and the common answer the villagers get is that they should report the matter to the District Game Officer who has jurisdiction over the area. In hard times the villagers from both villages have to seek assistance from the District Game Office, which they claim is hard to come by.

Human-wildlife conflict in Twasalie and Jaja villages do not differ much and the main vermin animals in these villages are found to be primates (monkeys and baboons) The primates easily feed on the coconut palms, mango and maize. They are however known to destroy other farm products such as sweet potatoes and pumpkins. It has been noted that guarding palm trees from attacks of the blue monkey is rather tricky since the monkey eats during the day and night. It has been very difficult and almost impossible for the farmers to guard their trees at night. This made some of the visited farmers to think of getting a poison that; they once used to reduce the vermin animals. It was not easy to get the name of the retired Agriculture Officer who used to sell them the poison neither could the farmers give the identity of the industrial poison.

Losses from these animals are great especially on coconut palm as several trees can go without a single nut for the whole year. Despite the fact that the Moslems were in the fasting month of Ramadhan when the consultant visited the Twasalie and Jaja villages, the general prices for nuts had gone up from the normal 30 - 40/= to 100/= per nut in Twasalie and 70/= in Jaja village. This vermin marauding coupled with a viral disease, which is rife in the two villages, are considered to be the main cause of the upward surge in the coconut prices. For example one farmer in Ulaya Island of Jaja village claimed he can not harvest a single nut from his farm of 150 coconut palm trees simply because he can not guard the farm from these primates. Taking an average production of 200 nuts per year from a single coconut palm tree and a price of 70/= per nut means, this single farmer with 150 coconut palms losses 30,000 nuts equivalent to 2,100,000/= per year.

Other vermin animals of importance in Twasalie and Jaja villages include hippopotamus, bush pig and warthog on rice, sugarcane and maize farms. Sample calculations could be made for paddy farming where the loss was found to be between 25% in guarded farms to 100% in unguarded farms. Turpie (2000) had put the average loss to 42% of total production in a study in use and values of natural resources in the District. In order to control vermin animals in the farm areas, farmers in Jaja village join up efforts with younger villagers to hunt and chase marauding animals, which are mainly baboons, warthog, monkeys, and bushpig.

Crocodiles are also reputed for causing deaths in Twasalie village. The villagers say some crocodile are used to picking people from their dugout canoe specifically if the driver paddles the oar too low making his/her hand touch the water. The crocodile goes for the hand as one paddles the oar with one hand very low and touching the water. Crocodiles are thus a great menace in the Tarachu and Bomba fresh waters rivers. Attacks from crocodiles are a recurring problem in each year. In year 2002 alone 5 people were killed and 7 injured. Occasionally, there are attacks from leopards, hyena and lion. In

hard times like for Mtanza/msona and Mbunju/Mvuleni they have to seek assistance from the DGO, which they say, they occasionally get.

Currently, the majority of the villagers in all four pilot villages have to spend sleepless nights and whole days guarding their farms. They say, a person without a wife cannot farm and thus most of the farmers have married two to three wives. Children's attendance at school is basically poor due to the need to keep on guard for wild animal marauding to their farms.

Wild animal hunting on village land

Wild animal hunting in Mbunju/Mvuleni and Mtanza/Msona village lands by poachers is continuous but is intensified as the migrant animals come in from the SGR. Mtanza/Msona village abuts the SGR and has a common border in the south and part of east of the village. On the other hand, Mbunju/Mvuleni village land lies alongside a corridor that extends from the Selous Game Reserve to the West following the Ruhoi River, which forms a dry season drinking place for wildlife. Mbunju/Mvuleni village is close to Ikwiriri Township and thus experiences hunting that they can not tell if it is licensed or not. However the DGO confirmed that for quite a long time now he has never issued a license to hunt in Mbunju/Mvuleni village land. Hunters are said to come in on bicycle or foot and after hunting they send for a car to collect the carcass that is in many times sold in Ikwiriri Township.

Most hunters operating in Mtanza/Msona are motorised and they normally come over weekends to hunt in the northern portion of the village, which is part of the so-called Mloka Open Area. Some of these hunters are said to be army officers, who are known to be notorious hunters due to their unselective nature of hunting and the type of firearms they use on top of the fact they would not yield to be questioned on their activities. These hunters are said to come from Kisarawe District and Dar es Salaam City. It is alleged that they get their licenses from Kisarawe District. It is believed that, these hunters formerly used to hunt in Viaraka open area in Kisarawe. In our field visit, which we had on Monday 22/07/2002, we managed to witness clear signs of hunting done on the previous weekend.

On northern part of the Mtanza/Msona village, there are signposts indicating Msigani Camp. The village council does not know the owner of the camp and when the DGO was asked about its legality, he was not sure. It is however true that; the northern boundary of the Mtanza/Msona village is yet to be agreed upon but the District Lands Office reports that the campsite is within the village land.

However District Council are allowed to control hunting and prohibit the use of any District land by using the Local Government (District Authorities) Act 1967. Under section 114, subsection 2 (b) of the Local Government (District Authorities) Act 1982, the local authority is empowered to utilise the Land Acquisition act No. 47 of 1967. That means they can 'Request the president to exercise the power conferred on him by the Land Act to revoke a right of occupancy in respect of the land concerned'. In the same act they can 'Prohibit or regulate the hunting, capture, killing or sale of animals or birds or any specified animal or bird' under section 118 subsection 2 (o).

There is no system set to crosscheck the authenticity of their hunting licenses since they are not being accompanied by a government scout and since they do not yield to be questioned, the legality of their hunting adventures are doubted. The southern portion of Mtanza/msona village is also hunted by a tourist company, which has a hunting block in the SGR. When the Eastern Sector manager at Kingupira was asked about it, he said the hunter is doing it illegally and if it is true then he should be arrested. Poaching for the elephant tusks was also said to exist in the past and the villages along the Rufiji River were once famous in assisting the poaching and ivory trade. Probably the poaching is still on but basically, very few villagers if any, do benefit from such illegal hunting on village land.

In our trip we met one professional hunter by the name Krispin of Intercon Hunters and Safari's LTD who is looking for the possibility of acquiring the so-called Mloka Open Area as a hunting block. It is

not known whether he wants to establish his own hunting company or not. A cross-check with the CITES people in Dar Es Salaam, Wildlife Division Headquarters confirmed his interest but could not talk more on the issue. A game open area is one with a description of its extensiveness but without a surveyed boundary or a legal status. According to the Rufiji District Game Officer, Mr. John Enoiye, the so-called Mloka open area extends all the way from the Selous Game Reserve boundary through the villages along the northern bank of the Rufiji River. The stretch goes further east to Ngulakula, Miwaga, Umbuga and Nyatanga villages on the East and borders Kisarawe District to the North. However the DGO did/could not supply any map depicting the area.

In the Delta, wild animal hunting for meat is very little since they have fewer animals in numbers of the preferred species. The animals that are normally poached for meat are hippopotamus in Bomba River of Twasalie village and to a lesser extent in Mpendeni and King'ongo farming areas for Jaja villagers. Other animals that may be killed for their meat in both villages are reedbuck and bushbuck. It is also noted that Jaja village joins up in the occasionally organised vermin animal hunting in their main farming areas located in Ruma village. Although the Kiongoroni ward villagers do organise vermin animal control in their farm areas, they do not know the animal numbers and shifting cultivation is a common practice. People shift from one farm area to another once they sense low productivity. The shifting goes together with clearing, which in the process denies wild animals their residence. The consultant could not trace if the fallow periods are long enough for natural rejuvenation. It is also not known if Ruma village has a land use plan so that at least a minimum care is taken to avoid environment degradation.

Wild animal monitoring

The villages are each recently equipped with a GPS and the village scouts have been trained to use the instrument to locate positions. In each village, there is a register to enter data collected from patrol rounds. During patrol work, data is recorded in notebooks for later transfer to the data register. Data recorded is animal type and number, animal tracks and the GPS readings. They however did not know how to interpret the GPS readings into map readings.

Despite this monitoring equipment existing at the village level and training given at CBTI, Songea and by District Game and Vermin Control staff, there is no elaborate system to do wild animal monitoring. Wildlife resource monitoring requires a systematic and regular observation and recording of the trends of the wildlife resource on village land.

Village aquatic resources

Except for Jaja village, fish, crocodiles, hippopotamus and terrapins are the important water resources. Main water bodies in Mtanza/Msona and Mbunju/Mvuleni (flood plain villages) were found to be Rufiji River and its distributaries, lakes Mtanza, Uba and Ruwe. In the Delta villages (Twasalie and Jaja), the main water bodies were found to be Bomba, Tarachu and Mkongo Rivers. Jaja village borders the Indian Ocean to the east. Also several small lakes do exist as well as the Ruhoi River, which is mainly outside the village land area. The villages have made rules to control use of water resources, which apart from fishing by a permit and control to fishing gear, they also close their main waters for fish to grow. When opened for utilisation Mtanza/Msona villagers charges Tshs. 100/ for a day fishing while in the delta villages, the charge is 1000/= per high tide and they normally have two high tides in a month. The plan is yet to be blessed in Mbunju/Mvuleni waters or has been delayed in enforcement.

In the three villages (Twasalie, Jaja and Mtanza/Msona) fisheries regulations are also being followed and the village scouts conduct patrols to arrest defaulters. The process is generally good in trying to control open access appropriation in the fisheries resources in these pilot villages. The visit and patrol in Jaja proved this in that, while moving in Mkongo River, which was by then closed, no single fisher

person was seen in the River. Contrary to this, in Mbunju/Mvuleni, the activity is yet to take place. There are allegations that the village assembly has not formerly endorsed the implementation of the fisheries regulations. And it is claimed by some of the Village Government/Council leaders that, in this year, there is hunger as well as the Eastern village boundary dispute so it is not possible to implement either the fishery regulations nor the village by-laws on fishery resources. This means that the fishery resources in Mbunju/Mvuleni continue to be exposed to open access appropriation using even the prohibited gear.

The crocodiles and the hippopotamus at times tend to be dangerous and in this year in Mbunju/Mvuleni a crocodile killed one person. In Twasalie village, the crocodile is known to take several people in any one year and that some people are taken from their dugout canoes as they move through the river. In terms of numbers, it is only the crocodiles that can support harvesting at least for subsistence purposes but the hippopotamus are few both in number and distribution.

Some years back, the villagers in Mbunju/Mvuleni say, there was a person who wanted to establish a crocodile farm adjacent to lake Uba but his attempts to make an agreement with the District Executive Director were not successful.

Crocodile hunting has been a rare activity in village waters although the Director of Wildlife issues permits to conduct it. This has been a response by the Director of Wildlife following several requests for assistance over the harassment and costs to the villagers. This year (2002) a group of licensed hunters managed to kill only one crocodile in Lake Uba and claimed that there were many crocodiles in the lake but too young for the trophy they needed. The villagers think the mode of hunting employed i.e. hunting without bait or putting a bait and expect to hunt immediately as well as the type of bait used may be the main reason why they could not get big crocodiles and not that they do not exist. The villagers are not involved in the crocodile hunting and they do not get any direct benefit but as for other tourist hunting the District Council is expected to receive the 25% of proceeds. The village need to come up with a by-law, which will necessitate whoever hunts in the village to pay something. This can be discussed during village meetings and proposed to the Director of Wildlife.

Whenever there is revenue accruing from sales or licenses one has to do the collection and some other body has to decide on its utilisation. This system exists in all the villages but in Mtanza/Msona village corrupt practices are reported, Ms. Pili Mwambeso - VEMP facilitator, reports that misappropriation of revenue from these sources is frequent and they have to change the collector hoping they will improve the situation that way.

Village scout patrol implementation

Natural resources management scouts patrol work is constrained by several issues. However, I consider lack of appropriate recognition and identity by the relevant authorities i.e. the natural resources sectors in the District Council and SGR management staff to be the major constraint in their work. I say appropriate because, the scouts would need to be co-ordinated by the respective sector heads in the Natural Resources department and also brought to work together as their counterparts in the respective villages. With the SGR, under the facilitation of DGO, the scouts from the villages and those from SGR need to be brought to work together. The role of the subject matter at District level in co-ordinating their counterparts at village level is important in the success in VEMP implementation. For example without support from the Fisheries officer the Jaja scouts can not match the trawler vessels even now after they acquire a boat with a 15 horsepower engine.

Two important constraints are their low capacity in combating motorised armed poaching and that their projects are still young and therefore cannot facilitate elaborate patrols. It may be one of the main reasons given to limit patrols to areas close to the village centre. The duration is one to two days in a

month for Mtanza/Msona and a day per week in Mbunju/Mvuleni, Twasalie and Jaja villages. At times scheduled patrols have been cancelled because a member scheduled for the patrol did not show up. At least two trained scouts in Mbunju/Mvuleni and one in Twasalie are said to have moved out of their villages and thus they are no longer implementing their roles as earlier planned.

During harvesting of fish resources, patrol schedules changes as the same scouts are used to collect revenue for example from fishery resources in Mtanza/Msona village.

Encounters with armed hunters have left their imprints on the scouts' memories. For example Mbunju/Mvuleni scouts will always talk of a poacher they had chased while on patrol. Despite having a gun, the poacher resorted to run, possibly because they were quite close to him and most likely could not tell whether they were with armed government scouts from the District Council or empty handed gun-less villagers. Both the Mtanza/Msona scouts and their counterparts in Mbunju/Mvuleni are always on patrol with mere hands. They say in case of an encounter with armed hunters especially those originating from the army, handling has never been easy as they refuse to be questioned. Being unarmed simple villagers they cannot so easily force them to yield.

Jaja and Twasalie villages conduct patrols for various reasons but mainly to arrest illegal mangrove harvesters and defaulters to village by-laws that control resources use and direct management. However, they have been directed to report the illegal mangrove tree harvesters in their village forest to the Mangrove management for legal actions. They say the villages have not been given mandate to deal with defaulters directly. Patrol schedules are planned per week in both villages. Scout trainees in Twasalie village do not officially join up in the patrol force unlike in Mtanza/Msona and Mbunju/Mvuleni villages and at the same time one of the trained scouts in Twasalie village has moved out making it even tougher to the remaining scouts. The scouts also claim that, they are not facilitated to conduct patrols and they do not have identification cards that would identify them against outsiders during their official work. Thus laxity in anti-poaching in Twasalie village has made it possible for hippopotamus hunting and selling of poached wild meat in the village in the eyes of the village chairperson, village scouts and other village leaders. In Jaja village, it has not been easy to patrol the Kipwa Mtumbuka areas in the Indian Ocean.

The villagers' successes in the pilot villages include arresting of illegal harvesters on village land. For example, in one incident they managed to arrest a hunter with a firearm in Mbunju/Mvuleni. Mtanza/Msona, the villagers had arrested illegal timber harvesters on their village land and they expect to be paid a percent from the proceeds received by the District Council from the timber that was confiscated. Twasalie and Jaja villagers have mainly recorded arrests of illegal harvesters of mangrove poles and withers on village land both without a forest harvesting license and a village permit in utilisation forest as well as in the reserved forest.

Stakeholder co-ordination

Co-ordination between stakeholders is generally weak and even if there are clear roles and responsibility for each stakeholder they are either partially or not being implemented. For example, the role of the District Council in facilitating forest management in/by villages is not clear. This has resulted in delivering different messages to the community and to other authorities. The differing description on the status of the natural forest in Mtanza/Msona and Mbunju/Mvuleni villages can be given as an example.

It is well known even by all common villagers in the pilot villages that, village boundary disputes started after they started active environment management, which include restriction rules on use. Despite this fact, the consultant could not establish a clear indication as to whether such disputes arose because of alienating the traditional users of the resources that have of late been reserved by the pilot

villages. The right of such resource user groups from outside the village needs to be addressed in management planning by best involving the user in the planning itself and if it is necessary a joint land management can be arranged.

A successful CBNRM calls for exclusion capabilities but also recognises the minimum customary right to use of the resources. This means who ever is expected to be affected by the CBNRM operational rules is given a chance to modify them and then at the end all agree to common operational rules.

Village forest reserve

Establishment of village forest reserve is in line with implementation of the new National Forest Policy. All four villages' assemblies have endorsed part of their village land to be a village forest reserve. Mtanza/Msona and Mbunju/Mvuleni have opted for a communal forest reserve for the village while Twasalie and Jaja have opted for a JFM arrangement with the Department of Forest and Beekeeping in Dar es Salaam. The reserved forest sizes per village are given below:

Village	Type of forest management arrangement	Size of the reserved forest in Ha. And square Km. in brackets
Mtanza/Msona	Communal village forest reserve	10713 (107.13)
Mbunju/Mvuleni	Communal village forest reserve	1222 (12.22)
Twasalie	Joint Forest Management	16987 (169.87)
Jaja	Joint Forest Management	1318 (13.18)

The Mtanza/Msona forest forms part of the area, the so-called Mloka Open Area where migratory animals pass on their way to and from the SGR. The same area is also claimed by some people in the RDC to be a Local Authority Forest Reserve by the name Mtanza. The same story exists for Mbunju/Mvuleni village where there is a claim of an existence of Ruhoi Local Authority Forest Reserve. However central government department records cannot verify the existence of this forest reserve and its physical boundaries. Differences in vision on the status of the natural forest Mtanza/Msona and Mbunju/Mvuleni villages prompted the Director of Forest and Beekeeping to issue a directive to stop harvesting at least briefly as the village and RDC sort out the matter. This directive has been in force to-date. Apart from this in the Msigani area, the northern part of the Mtanza/Msona village and village forest reserve, there are marks and signposts indicating Msigani camping site. The owner of the camp and its legality is yet to be established.

On the other hand the Mbunju/Mvuleni village forest reserve is small (12.22km²) with, prime forest areas of tall trees and colobus monkeys located outside the earmarked village forest reserve or outside the village bounds altogether. It is the opinion of the Village Chairperson that, some village area as well as the earmarked forest reserve may have been left out and after long arguments among the villagers, they found that, their agreement with Mpima sub-village on the boundary of the forest reserve was not adhered to. They felt it should be corrected but too late as the area has been mapped out.

The Mbunju/Mvuleni village forest harbour some resident animals like the baboons, monkey colobus monkey, bushpig, bushbuck also they are home for the migrant animals from the famous SGR. The type and numbers as well as their population dynamics in the village forests are yet to be established.

Most of the village forests in Twasalie and Jaja are of mangrove trees, which are by forest law reserved trees and their management is vested under the Director of Forest and Beekeeping. Given the New Forest policy, these forests need to be managed on a joint venture arrangement within a village or between villages with immediate interest or a feel of customary user right to such forests and the Director of Forest and Beekeeping. The Mangrove management has held meetings with individual

villages and each village formed a Mangrove Management Committee. In Twasalie and Jaja villages the Mangrove Management Committee was later given more responsibilities and the committee name changed into Environment and Mangrove Management Committee.

Each village has written a proposal for a joint management arrangement between the individual village and the Director of Forest and Beekeeping. There is no official feedback yet from the Director of Forest and Beekeeping and management boundaries for individual villages have not been established neither has the villages met in a common meeting. However the Twasalie and Jaja villagers have already prepared and forwarded village bylaws with natural resource management rules for approval and endorsement by RDC. In Jaja village, the forest reserve is the main home for monkeys and baboons, which are the main resident animals.

Village area potential and significance

The villagers in all the pilot villages have not yet started an inventory of the village resources although they say it was scheduled for implementation. In Mbunju/Mvuleni, those trained in vegetation inventory have moved out of the village and thus planning for the inventory work is deprived of their services. In Twasalie and Jaja these people do not exist, however Jaja villagers thought that they could do inventory by conducting meetings at village level.

Despite these, all the pilot villages have generally good potential for wild animal and natural resource management. Type of wild animals, their numbers and population dynamics are yet to be established but according to existing data the significance differ in the four villages. Mtanza/Msona village feature a higher potential to wildlife management virtually as it has a much larger village area and/or forest and higher vegetation variability, and is closer to Selous Game Reserve.

In Mtanza/Msona village area, the main attraction is large concentrations of giraffes, buffaloes and elephants from the month of August through December in each year. At this time many of these animals and several other species move in from the nearby Selous Game Reserve, possibly in search of pasture and water from the Rufiji River.

On the other hand, the main attraction in the Mbunju/Mvuleni village area is a prime natural forest. Part of this is within the village forest reserve and other areas are left out or extend to other villages. Some wild animals do come in from the month of August through December in each year. The largest concentration of a single population of wild animal apart from that of baboons, ever seen on the village land was 20 Sable Antelope seen last year. Generally, wild animal potential is low, thus its viability for a wildlife-based tourism in Tanzania is also low.

With the onset of the rains the migrant animals move back to SGR. The main reason attached to their rapid return/emigration is said to be the rains and wetting of the area although poaching is evident. Because of the latter the animals seem to spend as little time as possible outside the protected area (SGR) and return there as soon as grazing and water needs return to adequate levels.

In the Delta, the major attraction is the tidal vegetation of pure stands of mangrove trees in their natural state. It is said for example, Makao area in Jaja village the mangrove species variability is high and 8 species of mangrove have been recorded. This vegetation also harbours a few animals mainly blue and vervet monkey, baboons, warthog and bush pig. There is also some migrant bird species (such as stocks and egret) that visit the villages briefly in each year from December to February. Twasalie village has set an area that is specifically for wild animal management. The Warthog of Twasalie are free grazing animals and thus their potentiality cannot be disputed. Jaja village potentiality on oceanic resources has not been explored. However Kipwa Mtumbuka coral reef is quite potential.

3.3.7 Feedback workshop to EMT

A special one-day workshop was called in the last day of the assignment for report presentation to EMT members in RDC. The workshop was also aimed at giving the participants room for guided discussion of the actual situation and contribution to laying down strategies in solving the major issues in the wild animal aspect in the District.

The report was divided and presented in three main sections as follows:

- Overview of the wildlife sector in the District
- Current situation per village
- Issues needing immediate attention

Details of each are given in the workshop report.

After each presentation there was a general discussion, which helped to further beef up the information and confirm the report. Among the areas that received much debate and attention include:

- Roles, responsibilities and participation of various actors (Councillors, Villagers, Village leaders, Extension staff, WEO, VEO) in environment management
- Roles, responsibilities and participation of various committees (Village Council Village Assembly, Environment Management Committee, Environment and Mangrove Management Committee, Ward Development Committee, District Council) in environment management
- Capacities of both the Wildlife Sector in RDC and the Village Councils in the vermin animal control.
- Hunting fees and the needed participation of villagers in decision of its use to enhance bottom up approach in planning.
- Environment management bylaws and commitment in their implementation by all to avoid stratification in the community
- Trawler fishing in the Indian Ocean and the consequent environment destruction
- Participation of villagers other than those from pilot villages in environment management workshops
- Inventory and valuation to village resources
- Poachers, their arrest and support from the relevant authorities
- Inter - Village boundary disagreements, record keeping on boundary issues and District support in solving
- Wildfires and their management

Later in the afternoon, the workshop participants were divided into seven groups and each was given one issue needing immediate attention to discuss and give recommendations on how best it should be addressed and by whom. The major issues needing attention that were discussed in groups were:

- Low capacity in the pilot villages in combating wild animal marauding and lack of data on magnitude and value of destruction/loss suffered
- Increased wild animal poaching and inadequate patrol implementation within village lands
- Elaboration of village area of jurisdiction and the boundary aspect.
- Low capacity in the Wildlife Sector in combating wild animal marauding
- Lack of resources District/Village inventory, value thereof and law capacity in sustainable planning and management.
- Trawler fishing in reserved areas of villages along the Indian Ocean shores.
- Wild fires and farming in the natural forest

The results of the group discussions were presented and discussed and the agreed actions are given in the workshop report. A list of the workshop participants is given in appendix 6 to this report.

Chapter Four

4 Conclusions

4.1 Village boundary issues

Implementation of VEMP in all the pilot villages is constrained by village boundary uncertainty and disputes. Facilitation by REMP has greatly improved communication between the villages and their neighbours. On some of the boundary lines, the villages have managed to clear disputes, which is important in improving management of wild animals and other natural resources within their jurisdiction. Despite this, it has not been easy for the villages to go it alone.

The Lands Policy of 1995 section 4.2.27 states that, 'in order to control land in villages... Village councils will be given documents indicating boundaries...' This is provided for implementation under the Village Land Act No. 5 of 1999 under section 7 (7), which, provides for a village to be issued with a Certificate of Village Land. This element of village land jurisdiction has not been tackled in the pilot villages and probably in other villages in Rufiji District, as well as the majority of village nation-wide.

The problem the pilot villages are getting in implementation of a local land use plan in their villages is probably due to the fact that they are doing it in isolation. Experience has shown that, if all the villages, for example the whole of RDC villages, are involved in local land use planning, conflicts over customary boundaries are greatly reduced. Land use-planning starts with village boundary agreements. For example if it were a directive of the District Construction, Economics and Environment Committee and a deadline is given most villages will have smooth runs on compromise to their customary village boundaries. Care should however been taken not to mix or confuse customary village boundary for Ward, Divisional or District boundaries. A village customary boundary can extend beyond these boundaries or leave a portion in between to be a General Land under the jurisdiction of the Commissioner for lands.

4.2 Human - wildlife conflict

Wildlife is a fugitive common property resource and thus its freedom of movement is unlimited. It can be observed that, with the decreased human activity in protected areas (either village or national) there is an increase in wild animal populations. In such a scenario the local human community is in perpetual competition for survival with wild animals as they both occupy the same habitat. Due to this proximity with wild animals, wild animal marauding to farms has always been the cry of many farmers in the pilot villages as well as in the whole of RDC.

It has not been easy to establish the magnitude of losses incurred to human life and property in the pilot villages, but it is considered to be immense. A rapid survey by the consultant indicated whole fields to be wiped out of crop in continuous seasons. The average loss is 25% for well-guarded farms and 100% to unattended farm. Buffaloes, elephants, hippopotamus, baboons, monkeys and bushpig are among the notorious vermin animals recorded so far. Buffaloes and elephants are only found in Mtanza/Msona and Mbunju/Mvuleni although occasionally Twasalie village reports a visit of a few buffaloes. Crocodiles are also a nightmare in Mtanza/Msona, Mbunju/Mvuleni and Twasalie, as they are known for taking up several people in a single season. People have resorted to fishing and possibly wild animal hunting in all the pilot villages to make ends meet once their farms are cleared of crops.

Currently, it is the role of the District Councils to combat dangerous animals, encourage use of non-lethal methods of deterring wildlife from causing problems to humans and their property as well as assisting farmers in crop protection. But the Rufiji District Council is understaffed and not adequately equipped to perform this duty. The low capacity of the District Council and the fact that the

government does not pay any compensation for damage or losses from wild animal attacks have been a source of conflict between conservators and local communities thus leading to illegal exploitation of resources. This has resulted in putting the villagers in a dilemma and has led to a low morale and divided attitudes to wild animal conservation on their land.

4.3 Wild animal hunting on village land

Wild animals, in the village like any other common property resources, are subject to open access appropriation. People from outside the village conduct this hunting and many times from outside the District altogether. Very few villagers if any do benefit from such illegal hunting on village land which is continuous, not only in the hunting season but also in off-season. Neither the District Council nor the Director of Wildlife has the capacity to combat illegal wild animal hunting on these village lands.

This has been advocated to be the main reason for a need of a new policy where Game Open Areas and Game Controlled Areas can be turned into Village Reserves christened Wildlife Management Area. REMP is using the National Forest Policy and National Forest Guidelines for Community Forest Management to support the District staff to facilitate villages to assert forest boundaries in the process of declaration of a Village Forest Reserves. It is now in the process of facilitating the application by the District, of the National Wildlife Policy in order to facilitate the villages to access user rights to the wildlife resources. Efforts to control illegal hunting and get user rights are now underway for the pilot villages.

4.4 Wild animal monitoring

Basically monitoring should be tailored to the management objectives and utilises data that is recorded on a daily basis if possible. Already in the pilot villages a system exist where data collected from patrol rounds is recorded in a data register. In the village there is a system of data collection but the villagers and the district game assistants are yet to learn on how to extract and utilise information from the existing data in their data register. However in the fieldwork a brief discussion on identification and use of indicators was conducted. All in all, a detailed monitoring system needed more time and therefore it was left for a later plan.

It was seen that the type of data collected from patrol errands is inadequate in wild animal monitoring and that more data could be recorded. Therefore the existing data is also not sufficient for appropriate inference in monitoring and evaluation of the wildlife aspect. On part of recording data, a notebook is convenient but the recorder may easily forget to record some data that could be important in monitoring and evaluation exercise. A more detailed form to be filled for collecting monitoring data was designed and discussed in the training for use at least before a monitoring system is laid down. A tailored monitoring system needs to be able to collect information from all aspects in wildlife management.

Thus in order to be able to appropriately monitor wildlife resource, village scouts require training on basic inventorying, mapping, organisation and storage of data. The Village Scouts in all the pilot villages and three-District staff were taught on how to interpret GPS readings into a map. They seem to adopt the subject easily. Interpretation of GPS readings is a basic tool in patrol and animal census and thus the villagers need more practical exposure to this. Now that they have been given their own village GPS handset and are getting further training from District staff, they may become quite adept at using this tool.

4.5 Patrol implementation

In all the pilot villages (MtanzaMsona, Mbunju/Mvuleni, Jaja and Twasalie), the villagers have organised natural resources management scouts to conduct patrols on village land in one to two days

every month. The success shown by some implemented patrols demonstrates the moral capacity among the scouts. However the main constraint is recognition and identity by their counterparts in the RDC and SGR. Patrol work is also limited to areas close to the village for one thing, they fear attacks from armed poachers and that they are not armed. Apart from firearms, only the trained village scouts have patrol uniforms and, even so, their identity is also limited to the village.

The pilot villages are supposed to get support for pinning down defaulters to the natural resources laws and village by-laws. RDC and the Selous Game Reserve management are supposed to support Mtanza/Msona and Mbunju/Mvuleni and the Mangrove management and the RDC to extend support to Twasalie and Jaja villages. Claims are rife in all the villages that they are not supported and in some instances they have been called poachers themselves. This situation puts them on crossroads in the wild animal conservation agenda.

4.6 Stakeholder co-ordination

Several stakeholder workshops have been held under the facilitation of REMP at District and Regional level. It is common for additional stakeholders to come up in such workshops. Although this is expected to be sufficient for implementation at village level, some shortfalls have occurred in that, some important stakeholders such as District Forest Officer, District Game Officer and SGR sector managers have not been participating and committed to assisting VEMP implementation. The villagers are fighting in and out to get that support.

In the Delta, the Mangrove management has been co-operating and in each of the two pilot villages (Twasalie and Jaja) constructive meetings have been held to start up JFM. The process is in advanced stage in that the Mangrove Manager for Rufiji District stationed at Nyamisati Mr. Frank Sima, informed the Twasalie villagers that, their proposal was in the Forest and Beekeeping Department Director's Office in Dar Es Salaam for approval and signature.

4.7 Village significance and wild animal enterprising

Investment in wildlife ventures is expensive for a village to carry out. However there may be entrepreneurs looking for viable new sites to send their tourists or possibly looking for partners to work with. The importance of an inventory can thus not be disputed. The results of such an inventory would be handy information that can be sold out to solicit possible investors or donor funding.

Migrant wild animals from the SGR enter Mtanza/Msona and Mbunju/Mvuleni villages in the months of August through December in each year. Mtanza/Msona receives much larger concentrations than Mbunju/Mvuleni, as it is closer to the SGR. These animals come to drink water in the Rufiji River and its distributaries, Ruhoi River, in Lakes Mtanza, Uba and Ruwe. Despite the migrant animals, viability for dependable wildlife based tourism needs populations to pick up and stay on village land for longer periods in any one-year.

However, Mbunju/Mvuleni and Mtanza/Msona have a good potential for subsistence hunting for meat sales and licensed hunting where existing numbers will determine quotas, it is worth giving a try. Despite the need for the animal numbers to pick up, Mtanza/Msona village stands a higher chance to plan for a successful photography and safari hunting tourism. The draft WMA guidelines define entrepreneurship as utilising opportunities provided in a WMA for business purposes. However one cannot access the entrepreneurship before the user rights are acquired

Mbunju/Mvuleni on the other hand has a low viability for wildlife based tourism because of three main reasons: one being the small size of the forest/village area; secondly the few number of animals that visit the village forest reserve and thirdly, the type of the vegetation cover. High forests normally

harbour small populations though the biodiversity may be high. Mbunju/Mvuleni can thus invest in a biodiversity related tourism i.e. forest-based ecotourism.

Ecotourism is variously defined but in general, it is tourism with the primary purpose of '*an interaction with nature, and that incorporates a desire to minimise negative impacts*'. This requires an inventory of the village natural resources values and uses to describe the significance at national or regional level. For example the main reason, which made the village forest to be reserved, can be used to derive the significance of the forest reserves.

In the Delta on the other hand the pure mangrove forest with a reasonable variability in species is the main attraction. Twasalie may be one of the few places along the coast where crocodiles and hippopotamus are found in their natural habitats quite close to the Ocean. Jaja being one of the villages bordering the Indian Ocean has a coral reef by the name Kipwa Mtumbuka. With management this can be a good attraction. These Delta villages have a potential for devising a trade in seashells as well.

Other potentialities in all the pilot villages in the wildlife enterprising are in dealing with trophies either live trophies or dead ones. For example there is a possibility of conducting trade in live birds for local market and/or export market. The various trophy types and deals are summarised in the TDL application form (appendix 7) and some of them for example animal farming can be given a try. One can therefore explore crocodile, tortoise and butterfly farming and camping is also a possibility.

Acquisition of a wild animal-farming permit as well as for other deals in wild animal trophies is through an application in a prescribed form (Game Form Number 13) to the Director of Wildlife. This, if consented by the Director of Wildlife, avail the village or who ever applies for a trophy dealer's license (TDL). From there on, permits will be processed with need for example if the farm was for crocodiles then, a permit to harvest crocodiles will be processed each year under the Convention of International Treaty on Endangered Species of Fauna and Flora (CITES) regulations. Tanzania has ratified CITES and thus it has to abide to the CITES regulations. The TDL procedure does not require one to abide to the draft WMA guidelines

Mbunju/Mvuleni village has a portion of forest with *Dalbergia sp* and thus, the villagers can invest in manufacture of artisan wood based products All these require investment first in evaluation of the resources available followed by publicity and investment in infrastructure. All these require a detailed research on the resources availability and trade before attempting them.

4.8 Implementation of basic Wildlife Management Area guidelines

The interest of the villages to initiate wild animal utilisation on their village land is well placed in the VEMP document. However, major problem still exists in both village in that, the village area of jurisdiction is not yet clear. It is thus difficult for now to talk of legal wild animal utilisation by use of the draft WMA guidelines.

Applying for the transfer of user rights from the Director of Wildlife, require an up to-date land use plan of the village. Under the land act, a village cannot do a land use planning when it has disputes over its boundaries. However there is enough reason to start laying down the base towards this end by starting on the initiation as covered by the draft WMA guidelines i.e. preliminary steps. This will later be a valuable step for Mtanza/Msona village, which has a large unreserved area.

It should also be expected that, there would be separate arrangements for utilising wildlife in reserved forest reserves under the new WMA guidelines expected to come out soon.

Therefore, neither of the villages is a complete ecosystem for the fugitive resources nor is sure of its village boundary. This puts the VEMP at dilemma and that natural resources situation analysis may be necessary.

4.9 Village water resources

Management of aquatic wildlife resources is yet to be considered by the villages. However in Mtanza/Msona, Mbunju/Mvuleni and Twasalie villages, crocodiles are viable wildlife resources whose management can be enhanced. Currently, the villages are more concerned with the fish resources, which is also subject to open access appropriation. The current mode of fishery resources harvesting especially in Mbunju/Mvuleni is not sustainable and there is urgent need for its control.

4.10 Village forest resource

Forest Reserves are wild animal habitats and thus appropriate management of these areas will enhance wild animal management. Management schemes for natural forest provide for specific arrangements such as VFRs, JFM'S etc. under the Forest Act 2002. User rights for tree resources located within the forest reserve are vested on the institution or individual managing it. Likewise, although with an extra procedure in its acquisition, the user rights to the wildlife resource, will be vested to these same institutions. In a process to acquire these, the pilot villages have spearheaded several processes and at least they have set the ball rolling.

In the process two villages declared part of their village land to be village forest reserve during VEMP management zoning. When affirming boundaries in order to gazette them, a word came from some people within RDC claiming the areas to be council reserves. The fact is, RDC (on its behalf - the District Forest Officer) has for long been issuing licenses to cut timber and logs in Mtanza/Msona and Mbunju/Mvuleni despite low management of the same. These have for long earned the District Council the much-needed revenue and as usual with no plough back.

Therefore the endorsement by the villages for a communal forest reserve was not easy to pass unchallenged. This brewed some arguments between some people from the RDC including the District Forest Officer himself and the villages responsible. As an arbitrator, the Director of Forest and Beekeeping deliberately directed a stoppage of harvesting in these forests for the responsible bodies to sort out the matter.

To-date the harvesting has not stopped as expected and there is a delay in the whole process of sorting out the matter. On the other hand the Forest Act 2002, under section 40 (preliminary steps) describes a village forest reserve as a natural forest declared by the village assembly to be reserved. This means immediate after the village assembly, the natural forest is already reserved. Likewise, the forest guidelines to community forest management require the District Council to open and operate a register of forest reserves. This is yet to happen in RDC, possibly because the National Forest Policy and Guidelines for implementation are still new and may require expertise in interpretation. However in all the villages a process is underway for formal recognition of the village forest reserves

In the Delta a JFM arrangement is underway for formal recognition of the village forests. Likewise for Mtanza/Msona and Mbunju/Mvuleni a process underway for the District Council formal recognition of the village forest reserves.

Chapter Five

5 Recommendations

At district level exist EMT, which is basically a platform where environment management issues are discussed. This team is however not a statutory but discusses issues that require a binding solution which unfortunately cannot be reached in EMT meeting. Thus despite its establishment in 1998 and its 50 or so meetings held so far, there is however insufficient co-ordination of efforts. Experience elsewhere has shown that, a statutory committee with the District Commissioner as the chairperson has helped to improve co-ordination. The District Executive Director Mr. F. X. Fisso and the District Lands, Natural Resources and Environment Officer Mr. M. S. Chande said that, RDC has been asked by the Prime Minister to form statutory Environment Committees at District, Ward and Village level. However they have not been given the directives on how to form and operate these committees. Since it is not known when these directives will come up, at least for now the consultant proposes for a statutory District Natural Resources Advisory Committee. The proposed members and responsibilities are given in appendix 8

5.1 Village boundary issues

Facilitation by REMP has raised the capacity of the villagers in several areas including local land use planning. These achievements need to be consolidated and efforts continued to strengthen them. These are the consultant's recommendations.

- It is recommended that the District Land Officer and the District Surveyor assist the pilot villages to finalise discussions on boundary dispute as provided by the Village Land Act No. 5 of 1999 section 7 (2). This is specifically in areas where the villages on their own initiatives have failed to resolve the boundary issue in neighbourhood meetings.
- It is also recommended that the same facilitate drawing of a Village Base Map i.e. Village Boundary Map and register the pilot villages as provided in the Village Land Act No. 5 of 1999 section 7 (7). The map will be required when applying for the village certificate.
- In some case, the option of a Joint Land Management may be necessary as provided by the Village Land Act No. 5 of 1999 section 11

5.2 Human - wildlife conflict

REMP has trained village scouts and others have learnt from them and from DGO personnel. This is a great achievement in problem animal control and the Arms and Ammunition Act of 1991 as well as the Wildlife Conservation Act no. 12 of 1974 permits self-defence to property and life's. It is recommended to use these skilled villagers to reduce the menace at least on farm level.

- It is therefore recommended that, the villages be assisted to acquire fire arms and nets and institutionalise vermin control in the village council
- Capacity raising is one thing and the utilisation of the raised capacity is another. Given the low capacity of the district council to combat problem animals, it is now necessary for the District Council to utilise the trained village scouts in problem animal control. The District can simulate the example of Ngarambe village, where trained village scouts have taken away the District Council nightmare in trying to solve problem animal on their village land.
- As an interim measure, the District should use the 25% revenue accrued from tourist hunting to purchase and supply ammunitions to scout based at ward/Division headquarters.
- Arrangements should be made to improve the villagers' traditional self-defence methods such as use of hooks for crocodiles, use of fire, noise and nets for other animals. The District Council/Game Officer and Agriculture and livestock officer can arrange for this.

5.3 Wild animal hunting on village land

REMP has helped to raise the capacity of the villages in terms of their knowledge of legal rights and responsibilities, formal natural resources scouts and leaders training, environment management and has institutionalised environment management in the village council. This is in line with the national policy of decentralisation and devolution of management and user rights of the vast natural resources estate. Capacity acquired needs to be tapped to accelerate the process towards acquiring legal user rights of the wildlife resource for the pilot villages.

The following recommendations are proposed to accelerate the process:

- District Council and specifically the Department of Natural Resources needs to acknowledge the efforts of the villagers and assist them to acquire legal user rights to the wildlife resource. To speed up decisions, advice and support from the Department of Natural Resources, there is a need for the District Council to assign a facilitator role to a Senior Officer from the Department of Natural Resources. This officer needs to be able to interpret natural resources policies and laws or learn the same from part time consultants.
- Poaching on village land can only be controlled by appropriate participation of the villagers themselves. The villages have trained scouts and the District Council is advised to utilise this capacity thus imitating other Districts like Songea, Ruvuma and even the Selous Game Reserve who are utilising trained village scouts on official tasks that otherwise were supposed to be done by government scouts.
- Collaboration for patrolling/training between SGR, District scouts and village scouts need to be established in order to deter poaching in the area.

5.4 Wild animal monitoring

Generally monitoring is a continuous assessment of functioning and thus it is an internal part of the day-to-day management. When we come to wild animal monitoring we would like to make systematic observations of changes in all relevant issues for the better understanding of the existing environment and anticipation on new expected situations. REMP has raised the capacity to do this and each village has trained village scouts, village leaders and plant identifiers among the villagers. What is required now is to set up a monitoring system, which will tell them what and when to do it by whom. This will also specifically require the District Game Officer to conduct external monitoring as part of his routine activity.

Formation of a good monitoring system requires a stakeholder workshop where an overview of objectives and formulation of indicators can be facilitated. It is therefore recommended to;

- Run a stakeholder workshop to discuss and develop a monitoring system in each village.
- Currently use a monitoring sheet with spaces to fill to supplement the need of a notebook in patrol.
- Deliberately attempt to establish a village baseline data (situation analysis and basic functions of the wildlife resources and its habitat) as earlier recommended by Jane K. Turpie, (2000) on use and values of natural resources of the Rufiji floodplain and Delta.
- More practical exposure to the villagers on interpretation of GPS readings into map readings as well as training on data organisation and storage

5.5 Patrol implementation

Stakeholder participation in village level planning is very important in devising ways to tackle all project issues. Newly trained village scouts and leaders need support from the District Game Officer and/or District Lands, Natural Resources and Environment Officer. It is recommended that:

- The support the villagers need to facilitate their responsibilities in patrol need to be identified in a stakeholder workshop where all important stakeholders will be required to discuss and agree

on a common action plan with clear roles and responsibilities for each spelled out and agreed upon.

- Issues like patrol uniform, identification cards and the need to acquire a firearm cannot be neglected.
- Local training on practical implementation of by-laws, arresting defaulters and legal aspects thereof as well as training on patrol data collection and reporting is considered to be sufficient for current implementation in the village. And can be conducted by any scout who has formerly attended a Game Assistant Course at Pasiansi.
- The scout appointees need to get an elaborate training to much their counterparts. The training can be local (a tentative schedule in appendix 9) and supervised by DGO who can also arrange for the training to be conducted in SGR, which may also be a good step towards bridging the gap between them.

5.6 Stakeholder co-ordination

Stakeholder identification has always been done during management planning at District level. Planning workshops are normally short but of crucial importance to sustainability of a project. It is therefore important to review VEMP plans at village level annually and make sure all stakeholders especially the most important ones i.e. those that can have an effect to VEMP implementation, attend and participate fully.

It is therefore recommended to:

- Short-list all known and expected stakeholders and an analysis conducted to establish the importance and influence of each to the village plan.
- Include all key stakeholders in the village level planning process.

5.7 Village significance and wild animal enterprising

All the pilot villages have a potential to wildlife enterprising but this needs further development to enhance area significance. In order to be able to do this the need to have a clear knowledge on the wild animal populations and ecosystem aspects can not be skipped. Capacity exists to do this at village level at least in the wild animal aspect.

It is therefore recommended:

- To monitor the animal numbers and their movements
- The pilot villages lure neighbours to start conservation on their village lands
- District council collaborate with villagers in the so-called “Mloka Open Area” to control wild animal poaching and request the rest of the villages to emulate the pilot villages

5.8 Implementation of basic Wildlife Management Area guidelines.

The villages are bound to follow the current Wildlife Management Area guidelines, unlike the pilot villages of the Selous Conservation Programme like Ngarambe. While other issues like the village land jurisdiction are being dealt with as proposed in 5.1, it is recommended that:

- Formal expression of interest is forwarded to the Director of Wildlife. The procedure is the Village Assembly to agree in accordance to the Village Land Act No. 5 of 1999 and through the Village Council informs the Director of Wildlife. The intent shall be in the form of a letter accompanied by the minutes of the Village Assembly meeting that endorsed the plan. The information may conveniently be channelled through the normal channels i.e. the Ward and District Council.
- The villages are advised to establish neighbourhood contact meetings with adjacent villages and raise awareness on uses and values of the wildlife resource as a step towards collaborative

management of the wild animal resources. This can also be discussed in Ward Development Committee meetings.

5.9 Village Aquatic resources

A general survey needs to be done to establish the potentiality of the crocodiles and terrapins in Mtanza/Msona, Mbunju/Mvuleni and Twasalie village fresh waters. This survey requires a special boat with a glass pane so that the surveyor can identify and count the water resources in the village waters especially in the lakes. However if potential is established then, a management arrangement other than the existing may be required.

It is therefore recommended to:

- Discuss the matter with the villages responsible to find out their consent on the matter pre-hand
- The success of Mtanza/Msona, Jaja and Twasalie in the control of fishing gear and getting revenue from the fishery resource need to be emulated by their counterparts in Mbunju/Mvuleni

5.10 Village forest resource

REMP working with the Rufiji District Council has built capacity at village and District levels in natural resources management. , It is now the turn of the District Council to tap the acquired capacity. It is therefore recommended that:

- The District Council assists the villages by opening up a District Forest Reserve register and acknowledge the Village Forest Reserve as required by law. Section 40 of the Forest act 2002 provides for this.
- On part of expertise the District Council is obliged to give professional advice to the village concerning the management of the forest estate.

6 Appendices

6.1 Appendix 1: Objectives and activities for Consultancy

Terms of Reference for Technical Back- stopping in Community Wildlife Management expertise.

1. Introduction

The Rufiji Environment Management Project based at Utete Town, the Headquarters of Rufiji District, Tanzania has as its goal to promote the long-term conservation through “wise use” of the Lower Rufiji forests, woodland and wetlands such that biodiversity is conserved, critical ecological functions are maintained, renewable natural resources are used sustainably and the livelihoods of the area’s inhabitants are secured and enhanced”. The three main objectives of the project’s first five-year phase are;

- to promote the integration of environmental conservation and sustainable development through environmental planning within the Rufiji delta and floodplain
- to promote the sustainable use of natural resources and enhance the livelihoods of local communities by implementing sustainable pilot development activities based on “wise use “ principles
- to promote awareness of the values of forests, woodlands and wetlands and the importance of “wise use” at village, district, regional and central government levels and to influence national policies on natural resource management emphasising the non-sectoral, multi-biome, integrated approach to the environment.

This consultancy is mainly concerned with objective a) an b) above and especially with the implementation of the wildlife aspects of the village environment management planning.

2. Background

There are fifty-two villages in the floodplain and delta of the Rufiji River. The population, estimated at 150,000, depends mainly on cultivation and fishing for its livelihood. The project area contains the largest mangrove forest on the Western Indian Ocean coast as well as extensive tracts of coastal forests, riparian, swamp and fringing woodlands and thickets (IUCN1997.It borders the Selous Game Reserve and is one of the few places remaining in Africa where large wild animals are found outside of a protected area. It is known that the habitats of such animals and birds in the forests, and woodlands of Rufiji Floodplain and Delta are being depleted at an increasingly unsustainable rate in an almost “open access” regime. The wildlife itself is also subject to “open access” with little control of offtake and virtually no proactive management of the wild animal stock or their habitats. There are conflicts between humans and wild animals. The inhabitants of the project area claim that wild animals are a major cause of poverty because of their damage to crops, livestock and the threat that they pose to human lives. The boundary of the Selous is in dispute and relationships between game wardens and villagers are not always cooperative.

REMP is working at a District, Regional and National level to promote better management of the environment of the floodplain and delta including better control of wildlife harvest. A major part of this work is the development of an Environment Management Plan for the Flood plain and Delta. The Plan is being developed in cooperation with a diverse range of stakeholders who, on the wildlife side, include the Director of Wildlife, German Technical Cooperation, Selous Game Reserve, hunting agencies, tourism agencies, the Forest and Beekeeping Division, WCST, WWF and others. REMP also works in four villages (pilot villages) two in the delta (Twasalie and Jaja) and two in the floodplain (Mbunjumvuleni and Mtanzamsona) which it has assisted to identify their priority environment management issues. All four pilot villages have developed integrated village environment management plans which include zoning areas for a variety of uses and management regimes. The villages have set-up new environment management committees to deal with particular sections of their management plans. Detailed action plans, schedules and budgets have been prepared. Sets of rules which govern each land/natural resource management type have been outlined. These rules include wild animal management rules which have begun to be enforced using the newly trained village natural resource scouts. Village Forest Reserves are being established in which the wildlife rules will be enforced. The villagers are receiving assistance, principally training, to firmly establish their environment management system. Natural resource scouts and administrative leaders from each village have been trained at Likuyu Sekamaganga. Also village representatives have participated in study tours to (Wami-Mbiki, Jukumu Society, Selous Game Reserve), vermin control and legal

training courses. They have identified further training needs which include practical skills in monitoring the resource, legal and licensing information, enterprise opportunities, wildlife business skills and establishment of commercial relationships with other villages and with business organizations. They are aware that the new Wildlife Management Guidelines of the Tanzanian government allow for more community control of wildlife and wish to gain skills in their practical application.

REMP and Rufiji District Council are constrained by a shortage of capable wildlife extension workers and therefore require a consultant to accelerate the process of empowering villagers to take greater control and make greater profit from their wildlife resource. It plans to engage a community based wildlife management expert on a part time basis for one year for the purpose of backstopping district staff from other departments who play a facilitating role in the village environment management process. The wildlife consultant will work closely with the District Game Office and with the present two Village Environment Planning facilitators and the Forest Backstopping consultant in order to provide a coherent technical advice package to the four villages. Fortunately funding is available from the Hoag Foundation for this purpose.

3. Objectives of the consultancy

The proposed consultancy has the following major objective;

- To facilitate the four pilot villages to improve management of the wild animals within their jurisdiction such that the villagers gain more direct benefit and sustain less losses from the resource.
- To provide technical advice to the villagers for the development and implementation of the wild animal and bird aspects of their natural resource monitoring system.
- To expose villagers to ideas and methods for assessing possibilities for initiating wildlife enterprises and devise a long-term plan to meet their enterprise development needs.
- To provide general wildlife information, advice - particularly on the interpretation and practical application of the new guidelines - and input to Rufiji District Council and REMP towards the development, together with all stakeholders including Selous Game Reserve, private companies, Gtz, WWF and other development agencies, of the Project Area Environment Management Plan.

4. Tasks of the consultancy

The detailed activities envisaged for the achievement of the four main objectives of this consultancy are outlined below.

4.1 Profile the present situation

4.1.1

- Gain a clear understanding of present situation in each village by studying REMP reports and files,
- discussing the REMP work done so far with district staff who have been involved in facilitation of the village environment management planning process, particularly the two VEMP facilitators and the forest and vermin control advisers .
- making familiarisation visits to the villages and listening to their descriptions of progress and their aspirations.

4.1.2 Agree strategies and plans of action with villagers and co-operating district and mangrove management staff and lay out a schedule of tasks for achieving legal and operative village wild animal management areas or other management arrangements as applicable.

4.1.3 Implement the strategy together with the village environment committees, the district and Mangrove Management Project personnel and national level bodies concerned.

5. Output

Four village governments, environment committees and natural scouts have a clear understanding of their rights and responsibilities and opportunities for improved and more profitable wildlife management.

Four villages practising new skills in wildlife management.

A wild animal and bird monitoring system developed and being piloted in each of the four villages.

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Villagers have improved capacity in appraising wildlife enterprise opportunities and are exploring at least one new enterprise idea per village.

REMP and Rufiji District Council kept up –to-date on developments in the wildlife sector.

6. Expertise required

The consultant will have specialist qualifications in wildlife management with at least three years experience in community based wildlife management. Knowledge of the Tanzanian law and policies regarding community based wildlife management and private wildlife enterprises is essential.

7. Planning and Reporting

Monthly-input workplans will be prepared and presented for approval to the Technical Adviser Community Development and the DLNREO.

Progress reports will be prepared, in electronic and hard format, on a 25-day input basis. The reports will be presented verbally and visually to the Environment Management Team at their monthly meetings. A final report will be submitted within one month of the end of this contract.

8. Time Schedule

The proposed time for this consultancy is 40 days on the basis of two twenty-day inputs over an six-month period. The start date is July 1st. 2002, the end date is December 31 2002 (or on satisfactory completion of the tasks). The proposed schedule is tabulated below.

Task	Number of Days	When
Familiarisation, planning and Fieldwork Input One	19	July week two, three , four and August week one.
Contact-making and write-up Input one	1	August week two
Submission of report Input one		August end of week two.
Fieldwork Input Two	19	October week four (28.10.02) to November week three.
Review, presentation to EMT and reporting	1	November week four
Submission of input two report		November, end of week four
Total	40	

6.2 Appendix: Itinerary Input 1

Date	Activity
July 7	Travel to DSM
July 8	Travel to Kibiti
July 9	Travel to Utete
July 10	- Meeting District Staff - Briefing by REMP facilitators and Vermin Control Advisors - Documents reading, set up of consultancy report - Agree on itinerary input 1
July 11 - 12	Reconnaissance tour to Ngarambe village
July 13	Visit Kingupira - Selous Eastern Sector Headquarters
July 15	- Travel to Utete - Debriefing to technical advisor community development - Travel to Mtanza/Msona
July 16	- Village familiarisation, travel to Mtemere game post - Cross river to camp in farms
July 17	- Farm visits - Practical training on patrol discipline, assignments in patrol and data recording - Visit current Selous Game Reserve boundary
July 18	Back to the village, feedback meeting not possible due to a burial ceremony
July 19	Feedback meeting on work of July 16 - 18
July 20	- Training * Importance of patrol record data * Animal census and computations of numbers * Policy and laws of lands and natural resources * Vermin animals and legal aspects in their control * Identification of area potential and entrepreneurship in wildlife industry * Basic guidelines towards establishment of a Wildlife Management Area
July 21	- Recap training of July 20 - Training on * Identification of indicators and their use in monitoring the wildlife resource * Legal and licensing information on hunting and capture of wild animals
July 22	Travel to Northern boundary of village forest and patrol
July 23	Patrol village area, visit village boundary and vikumburu village
July 24	- Visit Zilizili forest - Practical animal census - Back to village, feedback meeting
July 25	- Practical training on map reading and interpretation of GPS data into map readings - Travel to Utete
July 26	Report wringing
July 27	Travel to Ikwiriri
July 28	Travel to Mbunju/Mvuleni
July 29	Village familiarisation, time plan for implementation in the village
July 30	Farm visits
July 31	Feedback meeting
August 1 - 2	- Forest visit, patrol - Practical training on animal census

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August 3	<p>Training</p> <ul style="list-style-type: none"> * Importance of patrol record data * Policy and laws of lands and natural resources * Vermin animals and legal aspects in their control * Identification of area potential and entrepreneurship in wildlife industry * Basic guidelines towards establishment of a Wildlife Management Area * Legal aspects in community based natural resources management * Legal and licensing information on hunting and capture of wild animals
August 4	<ul style="list-style-type: none"> - Recap training of August 3 - Training on <ul style="list-style-type: none"> * Animal census and computations of numbers * Identification of indicators and their use in monitoring the wildlife resource
	<ul style="list-style-type: none"> * Practical training on map reading and interpretation of GPS data into map readings
August 5	Feedback, training assessment
August 6 - 7	Report writing
August 9	Travel to DSM

6.3 Appendix 3: Itinerary Input 2

Date	Activity
Nov 3	Travel to DSM
Nov 5	Travel to Utete
Nov 6	- Meeting District Staff and discussions on input 1 draft report with Technical advisor - Community Development
Nov 7	- Meet DLNRE and Trade Officer and discuss various matters on issues needing attention as unveiled by the input 1 draft report
Nov 8	- Meet DED and the District Council Chairperson and discuss various matters on issues needing attention as unveiled by the input 1 draft report - Talk to DGO on various issues including the arranged workshop and his role as DGO. - Travel to Ikwiriri
Nov 9	- Travel to Twasalie - Meet village leaders and villagers for village introduction and familiarisation to village and village resources and VEMP implementation, time plan for implementation in all 6 day stay in the village,
Nov 10	Patrol to Mbalanyimbo and Ngatola - a Joint Management Forest Reserves (JFM) arrangement
Nov 11	Farm visits in Domwe sub-village
Nov 12	Training * Policy and laws of lands and natural resources * Vermin animals and legal aspects in their control * Group animal census and use of the data acquired * Identification of area potential and entrepreneurship in wildlife industry * Practical training on map reading and interpretation of GPS data into map readings
Nov 13	- Recap training of November 12 - Training on * Anti-poaching patrols and importance of patrol data recording and keeping, village level planning and good governance * Legal aspects in community based natural resources management policies and laws there in. * Legal and licensing information on hunting and capture of wild animals * Identification of indicators and their use in monitoring the wildlife resource
Nov 14	- Feedback meeting of the villagers for all the five day work in the village and discussion thereafter - Training evaluation - Meet Sima and Michael of Mangrove management and discuss on legal aspects with the villagers in the feedback meeting
Nov 15	Travel to Jaja and meet village leaders to plan for November 15
Nov 16	Meet village leaders and villagers for village introduction and familiarisation, time plan for implementation in all 6 day stay in the village.
Nov 17	Visit Beden Island, Makao and Kilobani - JFM forest reserve
Nov 18	- Visit King'ongo farms in Ruma village - Collect TADC, Nandi and Haji
Nov 19	Training * Policy and laws of lands and natural resources * Vermin animals and legal aspects in their control * Group animal census and use of the data acquired * Practical training on map reading and interpretation of GPS data into map readings

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Nov 20	<ul style="list-style-type: none">- Recap training of November 19- Training on<ul style="list-style-type: none">* Practical group animal count and plotting of results* Anti-poaching patrols and importance of patrol data recording and keeping, village level planning and good governance* Legal aspects in community based natural resources management policies and laws there in.* Legal and licensing information on hunting and capture of wild animals* Identification of indicators and their use in monitoring the wildlife resource
Nov 21	<ul style="list-style-type: none">- Training evaluation and discussion of the evaluation results- Feedback meeting
Nov 22	Farm visits in Mpendeni area of Ruma village
Nov 23	Travel to Utete
Nov 24 - 25	Report writing and workshop preparation
Nov 26	Feedbacking workshop to EMT members
Nov 27	Wrapping up and travel to Dar

6.4 Appendix 4: Proceeds from Subsistence Hunting Ngarambe Village

Year	Amount in Tshs.
1995/96	526,450
1996/97	238,320
1997/98	1,504,900
1998/99	2,019,920
1999/00	2,148,500
2000/01	2,833,700
2001/02	4,766,750

Source: Ngarambe Natural Resources Management Committee

6.5 Appendix 5: An example of a Record Form For Wildlife Monitoring

Date of patrol				
GPS Readings	Easting			
	Northings			
Name of place				
Wild animals	Species/ vernacular name			
	Activity			
	Male			
	Female			
	Young			
	Total			
Vegetation	Species/ vernacular name			
	Life form			
	Description/density			
Water resources	Species/ vernacular name			
	Description			
	Activity			
Animal tracks	Species/ vernacular name			
	Description - Grazing/moving			
Snares	Type			
	Number			
	Description			
Poachers/defaulters	Names			
	Crime committed			
	Action taken			
Remarks	General			
	Suggestion/ recommendation			
Patrol team	Safari leaders name			
	Others			
Recorder	Name			
	Signature			

6.6 Appendix 6: List of People Met/ Key Informants

People met during introduction at District level and other organisations

S/N	Name	Position	Address	Phone Number /Email/Other method of contacting
1	R. X. Nandi	Land Use Officer - VEMP facilitator	Box 40 Utete	
2	Haji Mkungura	Game Assistant	Box 12 Utete	
3	Ms. Pili Mwambeso	Agriculture Officer - VEMP facilitator	Box 40 Utete	
4	Juma I.Mkungura	Assistant Game Officer	Box 12 Utete	
5	M. S. Chande	Lands, Natural Resources and Environment Officer - RDC	Box 12 Utete	
6	Eniyoye J. John	District Game Officer - RDC	Box 12 Utete	
7	Brg. Gen. Silvester Hemedi	District Commissioner - Rufiji District	Box 43 Utete	
8	F. Q. Fissoo	District Executive Director - RDC	Box 28 Utete	C/o remputete@twiga.com
9	Msako	District Trade Officer - RDC	Box 28 Utete	
10	F. Mhina	Project Manager - REMP	Box 11 Utete	remputete@twiga.com
11	Dr. Olivier Hamerlynck	Chief Technical Advisor - REMP	Box 11 Utete	remputete@twiga.com
12	Rose Hogan	TACD REMP	Box 11 Utete	remputete@twiga.com
13	Musika Nyangabo	Game Officer - RDC	Box. 12 Utete	
14	Captain B. Shayo	Sector Warden - SGR	Kingupira	
15	Jachson Foya		Matambwe - SGR H/Q	
16	Kigula	Forest Officer - Community conservation	H/Q Forest and Beekeeping Department - DSM	
17	Kibebe	Game Officer - CITES	H/Q Wildlife Division - Box 1994 DSM	
18	Fadhili Sefu	i/c Mtemere Game Post	Matambwe - SGR H/Q	
19	Krispini	Professional Hunter - Intercon Hunters and Safaries Ltd	Mk2 hunting block - SGR	
20	Marando	District Security Officer	Utete	

Participants in the village introduction and familiarisation to village natural resources and wildlife project implementation conducted on 11/07/02 in Ngarambe village

S/N	Name	Position	Address
1	Nasoro Kidagaa	Chairperson - Village Council	Ngarambe village
2	Salumu Njajo	Secretary - Natural Resources Management Committee	"
3	Kawaida Mayovo	Member - Natural Resources Management Committee	"
4	Ally Tenga	Member - Natural Resources Management Committee	"
5	Sefu Ngatima	Member - Natural Resources Management Committee	"
6	Ally Ngalunda	Member - Natural Resources Management Committee	"
7	Saidi Logolo	Member - Natural Resources Management Committee	"
8	Hasani Mponda	Member - Natural Resources Management Committee	"
9	Mohamedi Ngalunda	Member - Natural Resources Management Committee	"
10	Salimu Malengenda	Member - Natural Resources Management Committee	"
11	Chande Mtutuma	Member - Natural Resources Management Committee	"
12	Saidi Mtilimwaki	Member - Natural Resources Management Committee	"
13	Saidi Shomari	Chairperson - Natural Resources Management Committee	"
14	Haji Mkungura	Game Assistant	Box 12 Utete

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Feedback meeting on farm visits and fieldwork from day 16 - 18/07/2002 conducted on 19/07/2002 in VEMP backstopping to Mtanza/msona village

S/N	Name	Position	Address
1	Halfani A. Mazera	Chairperson - village Council	Mtanzamsona village
2	Moshi M. Nduli	Natural Resources Management Scout	"
3	Abdallahamani Mbonde	Game Assistant - Mwaseni Ward	"
4	Juma M. Nduli	Member - Environment Management Committee	"
5	Juma A. Kopa	Natural Resources Management Scout (new appointee)	"
6	Shabani S. Nyangalio	Natural Resources Management Scout (new appointee)	"
7	Saidi S. Nduli	Member - Environment Management Committee	"
8	Tuweje A. Nduli	Member - Environment Management Committee	"
9	Shabani M. Ngondo	Member - village Council	"
10	Saidi Amiri Milandu	Member - village Council	"
11	Sefu Salumu uhando	Secretary - Environment Management Committee	"
12	Abdallah Saumu Mgane	Mbwiga	"
14	Haji Mkungura	Game Assistant	Box 12 Utete
15	Ms. Pili Mwambeso	Agriculture Officer - VEMP facilitator	Box 40 Utete

Participant to the training on wildlife management conducted on 20-21/07/02 in VEMP backstopping to Mtanza/Msona village

S/N	Name	Position	Address
1	Halfani A. Mazera	Chairperson - village Council	Mtanza/Msona
2	Moshi M. Nduli	Natural Resources Management Scout	"
3	Abdallahamani Mbonde	Game Assistant - Mwaseni Ward	"
4	Ally Mbiteheni	VEO - village Council	"
5	Juma A. Kopa	Natural Resources Management Scout (new appointee)	"
6	Shabani S. Nyangalio	Natural Resources Management Scout (new appointee)	"
7	Saidi S. Nduli	Member - Environment Management Committee	"
8	Ismaili S. Lusonzo	Chairperson - Environment Management Committee	"
9	Ms. Fatuma Mbonde	Member - village Council	"
10	Salumu Mtou	Vegetation and ethno medicinal expert	"
11	Saidi Amiri Milandu	Member - village Council	"
12	Sefu Salumu Ruhando	Secretary - Environment Management Committee	"
13	Juma Mohamedi Nduli	Member - Environment Management Committee	"
14	Haji Mkungura	Game Assistant	Box 12 Utete
15	Ms. Pili Mwambeso	Agriculture Officer - VEMP facilitator	Box 40 Utete

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Participants in feedback meeting on farm visits and fieldwork on VEMP backstopping from day 16 - 23/07/2002 held in Mtanza/msona village on 24/07/2002

S/N	Name	Position	Address
1	Halfani A. Mazera	Chairperson - village Council	Mtanza/Msona
2	Moshi M. Nduli	Natural Resources Management Scout	"
3	Ramadhani Mgombelwa	Member - Village Council	"
4	Juma M. Nduli	Member - Environment Management Committee	"
5	Musa Mtou	Member - Village Council	"
6	Omari S. Fupa	Villager	"
7	Adiona A. Milandu	Member - Village Council	"
8	Athumani A. Mgomi	Member - Environment Management Committee	"
9	Ally S. mbiteheni	VEO - Village Council	"
10	Saidi Amiri Milandu	Member - Village Council	"
11	Sefu Salumu Ruhando	Secretary - Environment Management Committee	"
12	Abdallah Salumu Mgane	Mbwiga	"
13	Haji Mkungura	Game Assistant	Box 12 Utete

Participants in the village introduction and familiarisation to village natural resources and VEMP implementation conducted on 29/07/02 in Mbunju/Mvuleni village

S/N	Name	Position	Address
1	Hashimu Salumu Muhenga	Chairperson - Village Council	Mbunju/Mvuleni
2	Bakari S. Kitambulio	Member - Village Council	"
3	Mohamedi A.	Member - Environment Management Committee	"
4	Ms. Salima Haruna	Member - Environment Management Committee	"
5	Athumani Mkumbwa	Natural Resources Management Scout (new appointee)	"
6	Athumani M. Nondo	Natural Resources Management Scout (new appointee)	"
7	Ms. Mwajuma Hamisi	Member - Environment Management Committee	"
8	Shabani Omari Nyumba	Natural Resources Management Scout	"
9	Asha N. Kilungi	Member - Village Council	"
10	Ms. Shukuru Omari Matimbwa	Secretary - Environment Management Committee	"
11	Hamisi Shabani Mlawa	Natural Resources Management Scout	"
12	Shamte Kasimu	Member - Village Council	"
13	Ms. Furaha Rashidi	Natural Resources Management Scout	"
14	Moshi Ally Mlanzi	Chairperson - Environment Management Committee	"
15	Eddy Kilapilo	Game Assistant	Box 12 Utete

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Participants in farm visits and fieldwork conducted on 30/7/2002 in Mbunju/Mvuleni village in VEMP backstopping.

S/N	Name	Position	Address
1	Hashimu Salumu Muhenga	Chairperson - Village Council	Mbunju/Mvuleni village
2	Bakari Kitambulio	Member - Village Council	"
3	Bakari S. Kitambulio	Member - Village Council	"
4	Mohamedi Mtupa	Member - Environment Management Committee	"
5	Ms. Salima Haruna	Member - Environment Management Committee	"
6	Athumani Mkumbwa	Natural Resources Management Scout (new appointee)	"
7	Athumani M. Magandi	Natural Resources Management Scout (new appointee)	"
8	Sultani Makasala	VEO - Village Council	"
9	Shabani Omari Nyumba	Natural Resources Management Scout	"
10	Ms. Asha H. Kilungi	Member - Village Council	"
11	Ms. Shukuru Matimbwa	Secretary - Environment Management Committee	"
12	Hamisi Mlawa	Natural Resources Management Scout	"
13	Shamte Kasimu	Member - Village Council	"
14	Ms. Moza B. Mngando	Member - Village Council	"
18	Eddy Kilapilo	Game Assistant	Box 12 Utete

Participants in feedback meeting on farm visits and fieldwork from day 30- 31/7/2002 held in Mbunju/Mvuleni village in VEMP backstopping on 31/07/2002

S/N	Name	Position	Address
1	Furaha Rashidi	Natural Resources Management Scout	"
2	Ally K. Nyuki	Natural Resources Management Scout (new appointee)	"
3	Bakari S. Kitambulio	Member - Village Council	"
4	Salima H. Nyumba	Member - Environment Management Committee	"
5	Ms. Mwajuma Hamisi	Member - Environment Management Committee	"
6	Athumani M. Nondo	Natural Resources Management Scout (new appointee)	"
7	Maulidi Kwanyue	Member - Village Council	"
8	Hashimu S. Muhenga	Chairperson - Village Council	"
9	Shabani Omari Nymba	Natural Resources Management Scout	"
10	Moshi Ally Mlanzi	Chairpeson - Environment Management Committee	"
11	Ms. Shukuru Matimbwa	Secretary - Environment Management Committee	"
12	Hamisi Mlawa	Natural Resources Management Scout	"
13	Shamte Kasimu	Member - Village Council	"
14	Ms. Moza Mngandu	Member - Village Council	"
15	Eddy Kilapilo	Game Assistant	Box 12 Utete

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Participants in the field patrol implemented in village forest on 1 - 2/08/02 in VEMP backstopping in Mbunju/Mvuleni village

S/N	Name	Position	Address
1	Ms. Furaha Rashidi	Natural Resources Management Scout	Mbunju/Mvuleni
2	Ms. Asha H. Kirungi	Member - Village Council	"
3	Mohamedi Mtupa	Member - Environment Management Committee	"
4	Ms. Salima Haruna	Member - Environment Management Committee	"
5	Ms. Mwajuma Hamisi	Member - Environment Management Committee	"
6	Ms. Moza B. Mngandu	Member - Village Council	"
7	Maulidi Abdallah	Natural Resources Management Scout	"
8	Hashimu S. Muhenga	Chairperson - Village Council	"
9	Shabani Omari	Natural Resources Management Scout	"
10	Ally K. Nyuki	Natural Resources Management Scout (new appointee)	"
11	Athumani Mkumba	Natural Resources Management Scout	"
12	Shamte Kaimu	Member - Village Council	"
13	Moshi A. Mlanzi	Chairpeson - Environment Management Committee	"
14	Shukuru O. Matimbwa	Secretary - Environment Management Committee	"
15	Hamisi Mlawa	Natural Resources Management Scout	"
16	Athumani Magandi	Natural Resources Management Scout	"
17	Bakari K.	Member - Village Council	"
18	Eddy Kilapilo	Game Assistant	Box 12 Utete

Participant to the training on wildlife management and feedback meeting in VEMP backstopping conducted to Mbunju/Mvuleni village on 03-05/08/02

S/N	Name	Position	Address
1	Furaha Rashidi	Natural Resources Management Scout	"
2	Asha H. Kirungi	Member - Village Council	"
3	Sikujua Ally	Villager	"
4	Salima Haruna	Member - Environment Management Committee	"
5	Mwajuma Hamisi	Member - Environment Management Committee	"
6	Athumani M. Magandi	Natural Resources Management Scout (new appointee)	"
7	Maulidi Abdallah		"
8	Hashimu S. Muhenga	Chairperson - Village Council	"
9	Shabani Omari	Natural Resources Management Scout	"
10	Shululu Omari		"
11	Athumani Mkumba	Natural Resources Management Scout	"
12	Mohamedi Mtupa	Member - Environment Management Committee	"
13	Moshi A. Mlanzi	Chairpeson - Environment Management Committee	"
14	Shukuru Matimbwa	Secretary - Environment Management Committee	"
15	Hamisi Mlawa	Natural Resources Management Scout	"
16	Athumani Magandi	Natural Resources Management Scout	"
17	Eddy Kilapilo	Game Assistant	Box 12 Utete
18	R. X. L. Nandi	VEMP facilitator	Box 40 Utete

Remp Technical Report 32: Wildlife Management in Rufiji District

Participants in the village introduction and familiarisation to village natural resources and VEMP implementation conducted on 09/11/02 in VEMP backstopping to Twasalie village

S/N	Name	Position	Address
1	Rajabu R. Muwa	Chairperson - Village Council	Twasalie Village
2	Amiri I. Kisoma	Member - Village Council	"
3	Shemuhuni M. Goyo	Villager	"
4	Salumu O. Monero	Villager	"
5	Islahi H. Mlanzi	Villager	"
6	Juma A. Mbembe	Member - Village Council	"
7	Abdi H. Bombebombe	Villager	"
8	Kaswaida A. Manduma	Village natural resources management scout	"
9	Shuari A. Mbwinganyeye	Villager	"
10	Shabani H. Koge	VEO - Village Council	"
11	Bakari I. Kisomo	Chairperson - Environment and Mangrove Management Committee	"
12	Miraji J. Mwingo	Secretary - Environment and Mangrove Management Committee	"
13	Amiri J. Kitanda	Member - Environment and Mangrove Management Committee	"
14	Mrisho M. Baruwishi	Villager	"
15	Mzee Mkonde Mkwere	Villager	"
16	Mzee Mohamedi Bongo	Villager	"
17	Jamadi H. Ndezi	Village natural resources management scout	"
18	Jumanne J. Koge	Villager	"
19	Jumanne A. Litope	Villager	"
20	Amani M. Kongwe	Villager	"
21	Juma A. Njowe	Villager	"
22	Ally S. Ndezi	Villager	"
23	Rajabu Mkomboya	Villager	"
24	Abuu M. Kongwe	Villager	"
25	Ibrahima M. Mtopelwa	Villager	"
26	Abdu K. Kofunjwa	Villager	"
27	Jafari M. Mtopelwa	Villager	"
28	Yahaya R. Koge	Villager	"
29	Saidi S H. Koge	VEO - Village Council	"
30	Mikidadi J. Kitanda	Villager	"
31	Hashimu M. Salamala	Villager	"
32	Juma I. Mkungura	Assistant Game Officer - RDC Utete	Box 12 Utete

Participants in the forest visit, patrol and farm visits implemented on 10-11/11/02 in VEMP backstopping to Twasalie village.

S/N	Name	Position	Address
1	Rajabu R. Muwa	chairperson - village council	Twasalie Village
2	Jamadi H. Ndesi	Natural resources management scout	"
3	Kaswaida Athumani	Natural resources management scout	"
4	Miraji Mwingo	Secretary - Environment and Mangrove Management Committee	"
5	Juma A. Mbembe	Member - village council	"
6	Amiri J. Kitanda	Member - Environment and Mangrove Management Committee	"
7	Juma I. Mkungura	Assistant Game Officer - RDC Utete	Box 12 Utete

Remp Technical Report 32: Wildlife Management in Rufiji District

Participant to the training on wildlife management conducted on 12 -13/11/02 in VEMP backstopping to Twasalie village

S/N	Name	Position	Address
1	Rajabu R. Muwa	Chairperson - village council	Twasalie village
2	Ms. Fatuma Ngofunjwa	Member - village council	"
3	Shemuni Goyo	Member - village council	"
4	Ms. Asia N. Mpili	Member - Environment and Mangrove Management Committee	"
5	Ms. Asmaha Baruani	Villager	"
6	Shabani H. Koge	VEO - Village Council	"
7	Ms. Hadija Mkanu	Villager	"
8	Kaswaida A. Manduma	Natural resources management scout	"
9	Bakari I. Kisoma	Chairperson - Environment and Mangrove Management Committee	"
10	Ms. Sofia Mbonde	Villager	"
11	Miraji J. Mwingo	Secretary - Environment and Mangrove Management Committee	"
12	Muhidini Hamisi	Villager	"
13	Mrisho M. Baruwishi	Villager	"
14	Hamisi Iddi Kisoma	Villager	"
15	Mwema Abdalhamani	Villager	"
16	Jamadi H. Ndezi	Natural resources management scout	"
17	Shabani Mchenga	Villager	"
18	Shabani J. Mpauka	Villager	"
19	Mosi Amiri	Villager	"
20	Ms. Zuhura O. Mpili	Villager	"
21	Mikidadi Y. Goyo	Villager	"
22	Taifa Ally Mangutire	Villager	"
23	Jamadi Muhungutwa	Villager	"
24	Yusufu Goyo	Villager	"
25	Amiri J. Kitanda	Member - Environment and Mangrove Management Committee	"
26	Rajabu Mkomboya	Villager	"
27	Ramadhani H. Koge	Villager	"
28	Mbonde Mkwera	Villager	"
29	Mohamedi Bongo	Villager	"
30	Sulainu Hamisi	Villager	"
31	Shuari J. Kitanda	Villager	"
32	Muhisini Mbega	Villager	"
33	Rukia Mpambya	Villager	"
34	Hadija Mkanu	Villager	"
35	Tumu Athumani	Villager	"
36	Ms. Zaidu Hamisi	Villager	"
37	Mauliki Swahi	Chairperson - CCM Domwe	"
38	Juma I. Mkungura	Assistant Game Officer - RDC Utete	Box 12 Utete

Remp Technical Report 32: Wildlife Management in Rufiji District

Participants in feedback meeting on farm visits and fieldwork from day 9- 14/11/2002 held on 14/11/2002 in VEMP backstopping Twasalie village.

S/N	Name	Position	Address
1	Rajabu R. Muwa	Chairperson - village council	Twasalie village
2	Ms. Fatuma Ngofunjwa	Member - village council	"
3	Shemuni Goyo	Chairperson - sub-village	"
4	Ms. Asia N. Mpili	Member - Environment and Mangrove Management Committee	"
5	Ms. Asmaha Baruani	Villager	"
6	Shabani H. Koge	VEO - Village Council	"
7	Hadija Mkanu	Villager	"
8	Kaswaida Athumani Manduma	Natural resources management scout	"
9	Bakari I. Kisomo	Chairperson - Environment and Mangrove Management Committee	"
10	Ms. Sofia Mbonde	Villager	"
11	Miraji Juma Mwingo	Secretary - Environment and Mangrove Management Committee	"
12	Muhidini Hamisi	Villager	"
13	Mrisho M. Baruwishi	Villager	"
14	Haruna Baruani	Villager	"
15	Mwema Abdallah	Villager	"
16	Jamadi H. Ndezi	Natural resources management scout	"
17	Shabani Mchenga	Villager	"
18	Shabani J. Mpauka	Villager	"
19	Mosi Amiri	Villager	"
20	Ms. Zuhura O. Mpili	Villager	"
21	Mikidadi Y. Goyo	Villager	"
22	Taifa Ally Mangutire	Villager	"
23	Jamadi Muhungutwa	Villager	"
24	Ms. Maimuna H. Ndezi	Villager	"
25	Amiri J. Kitanda	Member - Environment and Mangrove Management Committee	"
26	Rajabu Mkomboya	Villager	"
27	Ramadhani H. Koge	Villager	"
28	Mbonde Mkwera	Villager	"
29	Mohamedi Bongo	Villager	"
30	Sulainu Hamisi	Villager	"
31	Shuwari J. Kitanda	Villager	"
32	Muhisini Mbega	Villager	"
33	Juma A. Njowe	Villager	"
34	Amini I. Kisoma	Member - village council	"
35	Ms. Tunu Athumani	Villager	"
36	Rajabu Shente	Villager	"
37	Ms. Zaidu Muhidini	Villager	"
38	Muhusini Mbonde	Villager	"
39	Juma Mpoto	Villager	"
40	Mohamedi Ngofunjwa	Villager	"
41	Abduli Ngofunjwa	Villager	"
42	Ibrahimu Muhidini	Member - village council	"
43	Juma I. Mkungura	Assistant Game Officer - RDC Utete	Box 12 Utete
44	Francis Sima	District Manager - Mangrove Management Rufiji	Nyamisati
45	Michael Abuu	Extension Officer - Mangrove Management	Kiasi

Remp Technical Report 32: Wildlife Management in Rufiji District

Participants in the village introduction and familiarisation to village natural resources and VEMP implementation conducted on 16/11/02 in VEMP backstopping to Jaja village

S/N	Name	Position	Address
1	Mohamed R. Kigumi	VEO - Village Council	Jaja village
2	Mohamed O. Mwera	Natural Resources Management Scout	"
3	Athumani A. Nangondo	Villager	"
4	Bakari M. Ngaima	Member - Village Council	"
5	Omari S. Maluka	Villager	"
6	Rashidi R. Gimbu	Villager	"
7	Ms. Rafana M. Muki	Villager	"
8	Mohamed M. Matope	Villager	"
9	Maulidi S. Makutika	Villager	"
10	Mauidi R. Kigumi	Villager	"
11	Iddi Y. Kimbete	Villager	"
12	Athumani J. Rogoro	Villager	"
13	Juma M. Muki	Villager	"
14	Ramadhani R. Chaugambo	Member - Village Council	"
15	Saidi S. Manzi	Villager	"
16	Rashidi B. Mng'ombe	Chairperson - Village Environment and Mangrove Management Committee	"
17	Bakari H. Amagae	Member - Village Council	"
18	Khawami M. Mziwanda	Natural resources management scout	"
19	Ms. Asha A. Kisoma	Secretary - Village Environment and Mangrove Management Committee	"
20	Juma I. Mkungura	Assistant Game Officer - RDC Utete	Box 12 Utete

Participants in the forest visit, patrol and Kingongo farm visits implemented on 17-18/11/02 in VEMP backstopping to Jaja village.

S/N	Name	Position	Address
1	Rashidi B. Mng'ombe	Chairperson Village Environment Committee	Jaja Village
2	Asha A. Kisoma	Secretary - Village Environment and Mangrove Management Committee	"
3	Omari Saidi Maluka	Natural Resources Management Scout	"
4	Mohamed Omari Mwera	Natural Resources Management Scout	"
5	Bakari Mohamed Ngaima	Member - Village Council	"
6	Bakari Hashimu Amagae	Member - Village Council	"
7	Juma I. Mkungura	Assistant Game Officer - RDC	"Box 12 Utete

Remp Technical Report 32: Wildlife Management in Rufiji District

Participant to the training on wildlife management Conducted on 19 -20/11/02 inVEMP backstopping to Jaja village

S/N	Name	Position	Address
1	Rashidi Bakari Mng'ombe	Chairperson - Environment and Mangrove Management Committee	Jaja Village
2	Maulidi Rashidi Kigumi	Villager	"
3	Mohamedi Mwichande	Villager	"
4	Bakari Hashimu Amagae	Member - Village Council	"
5	Maulidi S. Makutika	Villager	"
6	Mohamedi R. Kigumi	VEO - Village Council	"
7	Mohamedi O. Mwera	Natural Resources Management scout	"
8	Omari S. Maluka	Natural Resources Management scout	"
9	Athumani J. Rogoro	Villager	"
10	Athumani A. Mangondo	Villager	"
11	Khawami M. Mziwanda	Natural Resources Management Scout	"
12	Bakari M. Ngaima	Member - Village Council	"
13	Mohamedi Omari Mwera	Villager	"
14	Juma M. Muki	Villager	"
15	Ms. Asha A. Kisoma	Secretary - Environment and Mangrove Management Committee	"
16	Ms. Shazili Shabani Makutika	Villager	"
17	Rashidi Bakari Mkundege	Villager	"
18	Saidi S. Manzi	Villager	"
19	Kumbuka Haruna Gimbu	Villager	"
20	Ms. Tano Haruna Gimbu	Villager	"
21	Ms. Pili Saidi Amagae	Villager	"
22	Ms. Mariamu Athumani Kionga	Villager	"
23	Ms. Sharifa Athumani Gilla	Villager	"
24	Ms. Fatuma Mwinyi	Villager	"
25	Ms. Fatuma Bakari Ming'uro	Villager	"
26	Amuri Ally Mng'oroya	Villager	"
27	Ms. Mwanahawa Omari Mziwanda	Villager	"
28	Ms. Zainabu Iddi Rogoro	Villager	"
29	Hafidhu M. Mziwanda	Villager	"
30	Athumani Kigumi	Villager	"
31	Juma I. Mkungura	Assistant Game Officer - RDC Utete	Box 12 Utete
32	Revis X. L.I Nandi	Land Use Officer - VEMP facilitator	Box 40 Utete
33	Ms. Rose Hogan	TACD	Utete
34	Haji Mkungura	Game Assistant - RDC	Box 12 Utete

Remp Technical Report 32: Wildlife Management in Rufiji District

Participants in the feedback meeting conducted on 21/11/02 in VEMP backstopping to Jaja village

S/N	Name	Position	Address
1	Rashidi Bakari Mng'ombe	Chair person - Environment and Mangrove Management Committee	Jaja Village
2	Maulidi Rashidi Kigumi	Villager	"
3	Mohamedi Mwachande	Villager	"
4	Bakari Hashimu Amagae	Member - Village Council	"
5	Maulidi S. Makutika	Villager	"
6	Mohamedi R. Kigumi	VEO - Village Council	"
7	Mohamedi O. Mwera	Natural Resources Management Scout	"
8	Omari S. Maluka	Natural Resources Management Scout	"
9	Athumani J. Rogoro	Villager	"
10	Athumani A. Mangondo	Villager	"
11	Khawami M. Mziwanda	Natural Resources Management Scout	"
12	Bakari M. Ngaima	Member - Village Council	"
13	Ms. Hadija Ally Yeleu	Member - Village Council	"
14	Juma M. Muki	Villager	"
15	Ms. Asha A. Kisoma	Secretary - Environment and Mangrove Management Committee	"
16	Ms. Shazili Shabani Makutika	Villager	"
17	Jafari Mohamedi Ngaima	Member - Village Council	"
18	Sultani Amili Amagae	Villager	"
19	Kumbuka Haruna Gimbu	Villager	"
20	Ms. Tano Haruna Gimbu	Villager	"
21	Saidi Ally Amagae	Villager	"
22	Bakari Mbwana Malekya	Villager	"
23	Ramadhani Rashidi Chaugambo	Member - Village Council	"
24	Juma Bakari Malekya	Villager	"
25	Ms. Fatuma Bakari Ming'uro	Villager	"
26	Shaweji Mohamedi Makurungo	Villager	"
27	Maulidi Abrahamani Makurungo	Villager	"
28	Hamisi Saidi Nongwa	Villager	"
29	Hafidhu M. Mziwanda	Villager	"
30	Ramadhani Hasani Kisoma	Villager	"
31	Bakari Mohamedi Rumbongo	Villager	"
32	Rajabu Saidi mkurungo	Villager	"
33	Omari Ally Kae	Villager	"
34	Rashidi R. Gimbu	Villager	"
35	Mafudhu Mikidadi Mziwanda	Villager	"
36	Rashidi B. Mng'ombe	Chairperson - Environment and Mangrove Management Committee	"
37	Ahmadi Yusufu Mnyachimo	Villager	"
38	Shabani Abrahamani Mandwanga	Villager	"
39	Abrahamani Mandanga	Villager	"
40	Mkuu Bakari Gimbu	Villager	"
41	Nunu Ally Ngurangwa		"
42	Hija Husseni Ngurangwa	Villager	"
43	Shabani Mohamedi Mziwanda	Villager	"
44	Iddi Yusufu Kimbete	Villager	"
45	Habibu Omari Mnaswa	Villager	"
46	Athumani Rashidi Kigumi	Villager	"
47	Rajabu Mohamedi Rumbongo	Villager	"
48	Ally Omari Mneke	Villager	"
49	Sumaila Amiri Amagae	Villager	"
50	Juma I. Mkungura	Assistant Game Officer - RDC Utete	Box 12 Utete
51	Revis X. L.I Nandi	Land Use Officer - VEMP facilitator	Box 40 Utete
52	Ms. Rose Hogan	TACD	Utete
53	Haji Mkungura	Game Assistant - RDC	Box 12 Utete

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Participants in the feedback workshop on the technical backstopping in community wildlife management to EMT members held on 26/11/02 at Utete

S/N	Name	Position	Address	Phone Number /Email/Other method of contacting
1	Ismaili S. Lusongo	Chairperson - Environment Management Committee	Mtanza Msona	
2	Halfani A. Mazela	Chairperson - Village Council	Mtanza/Msona	
3	Ms. Niachieni S. Wambangua	Natural Resource Management Scout	Mtanza/Msona	
4	Abdurahamani M. Mbonde	Game Assistant - Mwaseni Ward	Mtanza/Msona	
5	Heri A. Ngwinye	Vegetation/plants Identification	Mtanza/Msona	
6	Shukuru O. Matimbwa	Secretary - Environment Management Committee	Mbunju/Mvuleni	
7	Athumani Mkumba	Natural Resource Management Scout -	Mbunju/Mvuleni	
8	Ms. Hadija Ngingo	Natural Resource Management Scout	Mbunju/Mvuleni	
9	Ms. Moza K. Mngando	Member - Village Council	Mbunju/Mvuleni	
10	Rondo Mohamedi Ngaima	Natural Resource Management Scout - Jaja	Jaja	
11	Ms. Asha Athumani Kisoma	Secretary - Environment and Mangrove Management Committee	Jaja	
12	Ms. Hadija A. Yeleu	Member - Village Council	Jaja	
13	Khawamu M. Mziwanda	Natural Resource Management Scout	Jaja	
14	Jamadi H. Ndezi	Natural Resource Management Scout - Twasalie	Twasalie	
15	Juma A. Mbembe	Member - Village Council	Twasalie	
	Miraji j. Mwingo	Secretary - Environment and Mangrove Management Committee	Twasalie	
16	Kaswaida Athumani	Natural Resource Management Scout	Twasalie	
17	Ms. Halima Kibuki	Member - Natural Resources Management Committee	Ngarambe	
18	Hasani Mtidu		Mbwera	
19	Kaimu I. Mkinda		Mkongo	
20	F. A. Mejake		Mkongo	
21	Chamtungu	Councillor	Kiasi	
22	Kasimu Palla		Pombwe	
23	Ms. Sofia Saidi		Utete	
24	M. S. Chande	District lands, Natural Resources and Environment Officer - RDC	Box 12 Utete	
25	Revis X. L. Nandi	Land Use Officer - VEMP facilitator	Box 40 Utete	
26	T. L. Mbulule		Utete	
27	Haji Mkungura	Game Assistant - RDC	Box 12 Utete	
28	H. Mkele		Utete	
29	Juma I. Mkungura	Assistant Game Officer - RDC	Box 12 Utete	
30	M. P. Sadalla	Forest Assistant - RDC	Box 12 Utete	
31	S. Mwangia	Game Assistant - RDC	Box 12 Utete	
32	N. M. Kisenga	District Beekeeping Officer - RDC	Box 62 Ikwiriri	
33	E. B. Chirwa	District Fisheries Officer	Box 12 Utete	
34	Ms. Pili Mwambeso	Agriculture Officer - VEMP facilitator	Box 40 Utete	
35	Ayoub Mchana		Utete	
36	Richard Elibariki	Forest Backstopping Consultant	Utete	remputete@twiga.com
37				
38	Ms. Nyangapo Nusika	Game Officer - SGR	Kingupira Game Post	Box 1994 DSM
39	Ms. Rose Hogan	TACD	Box 11 Utete	remputete@twiga.com
40	Peter J. M.	DALDO	Box 40 Utete	“
41	Ngulangwa	District Lands Office	Utete	“
42	Br. Gen. Silivester Hemedi	District Commissioner - Rufiji District (Workshop guest of honour)	Box 43 Utete	
43	Fredrick Mhina	Manager - REMP	Box 11 Utete	remputete@twiga.com

6.7 Appendix 7: Game Form No. 13

Game Form No.13

G. N. No: 268 of 8/11/1974

FIRST SCHEDULE

TANZANIA

APPLICATION FOR A TROPHY DEALER'S LICENCE

- 1.Full name of applicant.....
- 2.Sex.....3.Age.....4.Nationality.....
- 5.Residential address.....
- 6.Business address (1). P.O.BOX.....(2) Telephone (s).....
- (3). Plot No.....(4) Street/Area.....
- (3). Town/Place.....
- 7.Size of (1) Factory.....(2) Show-room.....
- 8.Number and Location of (1) Stores.....
- (2). Godowns.....
- 9.State whether factory, main shop or branch.....
- 10.If factory or mainshop give details of branches.....
-
-
- 11.Other line of business conducted at the factory/shop.....
-
- 12.Current licences.....

Types of Licence	Number	Place of Issue	of	Date of Issue	of	Date of Expiry
------------------	--------	----------------	----	---------------	----	----------------

Trading Licence ...				
Tourist Licence ...				
Trophy Dealer's Licence				

13. State whether you are a general hunter, trapper and/or tour operator.....

14. If a tour operator, state (a) Number of vehicles owned.....

 (b) Clients per month.....

15. Capital investment to be put into the business.....

16. State briefly the items you will deal in and nature of dealing.....

17. Type of Market(Whether local or export).....

18. Description of Source of Trophies.....

19 Class of business for which licence required.....

20. Have you ever been refused a Trophy Dealer's Licence in Tanzania, or any other Country?
 If so, give reasons.....

21. Has any licence issued to you under the current or repealed Game laws of Tanzania, or any
 other country ever been cancelled or suspended? If so, give reasons.....

22. Have you ever been convicted for an offence against the current or repealed Game laws of Tanzania or any other country? If so, give reasons

.....

.....

.....

DECLARATION

I hereby declare that the above particulars are correct and I understand the requirements of the Wildlife Conservation Act, 1974 and of the subsidiary legislation made under that Act.

Date

.....
Signature of Applicant

RECOMMENDATION BY TANZANIA WIDLIFE CORPORATION.

This application is hereby not/recommended because.....

.....

.....

.....

Date

.....
General Manager

RECOMMENDATION BY REGIONAL AUTHORITY

This application is hereby not/recommended because

.....

.....

.....

Date.....

.....
Regional Game Officer

APPROVAL BY DIRECTOR

This application is hereby not/approved because

.....

.....

.....

Date

.....
Director of Game

SECOND SCHEDULE

CLASSES OF TROPHY DEALING

Class	Description	Fees (Tshs)
1	Dealing in Ivory, Rhinoceros, Horns, Hippopotamus teeth or Warthog turshes in a whole condition or as pieces without being submitted to any process other than necessary for preservation	20,000
2	Dealing in game skins, other than Hyrax and Colobus monkey skins, in a whole condition or as pieces without being submitted to any process other than necessary for preservation	10,000
3	Dealing in Hyrax and Colobus Monkey skins in any condition	10,000
4	Polishing, carving, manufacturing or Commercial processing of Ivory, Rhinoceros horns Hippopotamus teeth or Warthog turshes and sale of the same and any article made there from..	10,000
5	Cutting, manufacturing or commercial processing of tanned skins of Leopard, Lion Serval or other cat skins and any dealing in articles made from those skins	10,000
6	Cutting, manufacturing or commercial processing of tanned skins of other game animals other than Hyrax and Colobus Monkey skins, and any dealing in articles made from those skins	10,000
7	Dealing in manufacturing trophies	10,000
8	Dipping, curing and tanning of game trophies	10,000
9	Commercial processing or dealing in game bones, horns or feet and articles made there-from	5,000
10	Commercial processing or dealing in animal tails and article made there-	5,000
11	Cleaning and forwarding of trophies	5,000
12	Commercial dealing in live or stuffed birds	10,000
13	Commercial dealing in live primates	10,000
14	Commercial dealing in live mammals other than primates...	10,000
15	Commercial dealing in live or stuffed reptiles	10,000
16	Commercial dealing in other live or stuffed animals	10,000
17	Keeping a commercial Zoo, animal farm or similar establishment	5,000
18	Any trophy dealing other than those specified in Classes to 17 above as may be specified on the licence.	5,000

6.8 Appendix 8: A sample of Lands Natural Resources and Environment Advisory Committee Participants and Main Roles

- The District Commissioner (Chair person)
- District Executive Director
- District lands, natural resources and environment officer or District Game Officer (Secretary) – in either case both should be members
- District Lands officer
- District Forest Officer
- District Bee-keeping Officer
- District Community Development Officer
- District Fisheries Officer
- District Agricultural, Livestock and Food Security Officer
- Another officer from DALDO Office e.g Metrology, Flood warning, vermin control
- District Education Officer
- District Planning Officer
- Representatives from the respective villages i.e. all villages practising community conservation in the District.
- Representatives From the Selous Game Reserve - at least one from each sector adjoining the District.
- Other Co-opted experts (health, civil engineering, mining/oil drilling, hydrologists, vegetation)

NB: The consultant suggests that;

- the committee shall comprise not more than 12 members other than those representing villages or Authorised Associations (how many of the latter as a minimum?)
- the committee shall be a technical body and no allowances will be paid to its members
- Co-opted members shall be resource persons invited to provide technical advice to the committee on certain issues. They shall have no voting powers

The responsibilities of the District Lands, Natural Resources and Environment Advisory Committee would thus be to:

- Act as a forum for arbitration and resolution of conflicts
- Resolve major land and natural resources conflicts
- Reconcile interest of major stakeholders
- Provide and co-ordinate technical advice on all environmental matters in the district.
- Set and enforce environmental impact standards and regulations for developments within the district, which comply with national legislation and guidelines.
- Provide legal advice (including by-laws and contracts) and make sure the Manpower Management Office assumes its legal advisory role in the District.
- Facilitate setting of wildlife quota by the village or Authorised Association through the District Game Officer and them forward it to the Director of Wildlife for endorsement.

6.9 Appendix 9: A tentative Shchedule for Local Village Scout Training

Day 1		
Time plan	Activity	Expected output
AM	Finalise arrangements for logistics, training centre and camping site	Contacts with Kingupira Sector Warden finalised
AM	Setting in and travel to Kingupira game post	All participants signing in and ready to move
PM	Camp setting	Camp set out ready for the training
	Brief on camp manners	Camp rules set and agreed by all
Day 2		
Time plan	Activity	Expected output
5 - 8 AM	Physical training	Demonstrated ability in physical fitness
8 - 9 AM	Breakfast	
9 AM to 2 PM	Policy elaboration's and a VEMP example on how to implement integrated policies (Environment, Forest, Beekeeping, Fisheries, Wildlife, Lands, Agriculture and livestock)	Demonstrated ability to pract interpretation of the natural prerequisites the resources management policies
2 - 3 PM	Lunch	
3 - 6 PM	<ul style="list-style-type: none"> The firearms and legal aspects in their acquisition, handling, care and safety 	Demonstrated ability to handle firearms
	<ul style="list-style-type: none"> Use of firearms in wildlife management 	"
	<ul style="list-style-type: none"> Firearms operations 	"
6 - 7 PM	<ul style="list-style-type: none"> Rest 	
7 - 8 PM	<ul style="list-style-type: none"> Dinner 	
8 - 10 PM	<ul style="list-style-type: none"> Video (natural resources management) 	Improved awareness on community natural resources management
10 PM to 11 PM	<ul style="list-style-type: none"> Rest for the night 	
Day 3		
Time plan	Activity	Expected output
5 - 8 AM	Physical training	Demonstrated ability in physical fitness
8 - 9 AM	Breakfast	
9 AM to 2 PM	Review of traditional conservation methods and institutions in the respective villages	
	<ul style="list-style-type: none"> In groups - List down the various natural resources found and their uses 	
	<ul style="list-style-type: none"> Plenary presentation and discussion 	An inventory of natural resources and their current uses
	<ul style="list-style-type: none"> In groups list down the current natural resources users indicating user and the resources involved 	
	<ul style="list-style-type: none"> Plenary presentation and discussions 	An inventory of natural resources users and the type of resources involved
	<ul style="list-style-type: none"> In groups - Discuss traditional natural resources management schemes and institutions 	
	<ul style="list-style-type: none"> Plenary presentation and discussion 	An inventory of traditional natural resources management schemes and institutions
	<ul style="list-style-type: none"> In groups - Discuss the existing management schemes and institutions 	
	<ul style="list-style-type: none"> Plenary presentation and discussions 	An inventory of the existing natural resources management schemes

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	<ul style="list-style-type: none"> Compare the two management schemes and institutions 	An inventory of issues requiring attention
2 - 3 PM	Lunch	
3 - 6 PM	Awareness on basic human rights	
	<ul style="list-style-type: none"> Communication skills 	Demonstrated improved skills in communication
	<ul style="list-style-type: none"> Civic education 	Increased awareness of basic human rights
	<ul style="list-style-type: none"> Legal arrest and how to implement it 	Demonstrated ability to conduct arrests to defaulters
6 - 7 PM	<ul style="list-style-type: none"> Rest 	
7 - 8 PM	<ul style="list-style-type: none"> Dinner 	
8 - 10 PM	<ul style="list-style-type: none"> Video (natural resources management) 	Improved awareness on community natural resources management
10 PM to 11 PM	<ul style="list-style-type: none"> Rest for the night 	
Day 4		
Time plan	Activity	Expected output
5 - 8 AM	Physical training	Demonstrated ability in physical fitness
8 - 9 AM	Breakfast	
9 AM to 2 PM	Review of issues from day 3 - for each issue write down on:-	Improved ability to review implementation
	<ul style="list-style-type: none"> What would you like to continue doing at present level 	Check list on best practice
	<ul style="list-style-type: none"> What would you like to improve 	Checklist on areas for improvement
	<ul style="list-style-type: none"> What would you like to stop doing 	Check list on bad practices
	<ul style="list-style-type: none"> What would you like to watch 	Check list of assumptions
2 - 3 PM	Lunch	
3 - 6 PM	Aiming and range	Demonstrated ability to shoot by use of various calibre's of guns
6 - 7 PM	<ul style="list-style-type: none"> Rest 	
7 - 8 PM	<ul style="list-style-type: none"> Dinner 	
8 - 10 PM	<ul style="list-style-type: none"> Video (natural resources management) 	Improved awareness on community natural resources management
10 PM to 11 PM	<ul style="list-style-type: none"> Rest for the night 	
Day 5		
Time plan	Activity	Expected output
5 - 8 AM	Physical training	Demonstrated ability in physical fitness
8 - 9 AM	Breakfast	
9 AM to 2 PM	Review of traditional defence method against wild animal attacks	
	<ul style="list-style-type: none"> In groups let the participants list all the vermin animals found in their lands and the losses incurred 	
	<ul style="list-style-type: none"> Plenary presentation and discussion 	An inventory on vermin animals and the affected
	<ul style="list-style-type: none"> In groups let the participants list all the traditional techniques used to prevent/stop wild animal attacks 	
	<ul style="list-style-type: none"> Plenary presentation and discussion 	An inventory of tradirional techniques against vermin animals
	<ul style="list-style-type: none"> In groups discuss on how to improve the 	

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	techniques agreed on above	
	<ul style="list-style-type: none"> Plenary presentation and discussion 	An inventory of local techniques that can be used to prevent/stop wild animal marauding
3 - 6 PM	Practical vermin control	Demonstrated ability to prevent/reduce wild animal destruction to people and their property
6 - 7 PM	<ul style="list-style-type: none"> Rest 	
7 - 8 PM	<ul style="list-style-type: none"> Dinner 	
8 - 10 PM	<ul style="list-style-type: none"> Video (natural resources management) 	Improved awareness on community natural resources management
10 PM to 11 PM	<ul style="list-style-type: none"> Rest for the night 	
Day 6		
Time plan	Activity	Expected output
5 - 8 AM	Physical training	Demonstrated ability in physical fitness
8 - 9 AM	Breakfast	
9 AM to 2 PM	Good governance	
	<ul style="list-style-type: none"> Existing institutional set up 	
	<ul style="list-style-type: none"> Roles and responsibilities of different actors 	
	<ul style="list-style-type: none"> Record keeping, reporting and report writing. 	
	<ul style="list-style-type: none"> Monitoring and evaluation 	
3 - 6 PM	Practical anti-poaching	
6 - 7 PM	<ul style="list-style-type: none"> Rest 	
7 - 8 PM	<ul style="list-style-type: none"> Dinner 	
8 - 10 PM	<ul style="list-style-type: none"> Video (natural resources management) 	Improved awareness on community natural resources management
10 PM to 11 PM	<ul style="list-style-type: none"> Rest for the night 	
Day 7		
Time plan	Activity	Expected output
5 - 8 AM	Physical training	Demonstrated ability in physical fitness
8 - 9 AM	Breakfast	
9 AM to 2 PM	Practical monitoring and data collection	Demonstrated ability in data recording
2 - 3 PM	Lunch	
3 - 6 PM	Closing of training (Either DC and/or DED)	
6 - 7 PM	<ul style="list-style-type: none"> Rest 	
7 - 8 PM	<ul style="list-style-type: none"> Dinner 	
8 - 10 PM	<ul style="list-style-type: none"> Video (natural resources management) 	Improved awareness on community natural resources management
10 PM to 11 PM	<ul style="list-style-type: none"> Rest for the night 	
Day 8		
Time plan	Activity	Expected output
AM	Closing camp	
	Travel back to Utete and respective villages	