

**RESCUING AND PROTECTION OF ENDANGERED CHEETAH AND
THEIR DEGRADED HABITATS IN KASUNGU WILDLIFE
RESERVE, MALAWI.**

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JAMESTONE S. KAMWENDO

**Community-Based Natural Resources and Management and Conservation
Society of Malawi (CBNRMCSM)
P.O. Box 1017
Zomba
Malawi**

in collaboration with

**Forestry Research Institute of Malawi (FRIM)
Wildlife and Environmental Society of Malawi (WESM)
Department of National Parks and Wildlife (DNPW)**

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&

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Malawi**

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ACRONYMS

CBNRMCSM	Community-Based Natural Resources Management & Conservation Society of Malawi.
DCT	Droppings Count Technique
DNPW	Department of National Parks and Wildlife
FRIM	Forestry Research Institute of Malawi
FIT	Footprint Identification Technique
KWR	Kasungu Wildlife Reserve
NCT	Nesting Counting Technique
TAs	Traditional Authorities
WCs	Wildlife Clubs
WESM	Wildlife and Environmental Society of Malawi
WMCs	Wildlife Management Committees

Executive Summary

Emergency plan for rescuing and protection of the remaining endangered and endemic cheetah population of Kasungu wildlife reserve (KWR) in Malawi was a one year project initiated by Community-Based Natural Resources Management and Conservation Society of Malawi (CBNRMCSM) in October 2004. The collaborators were Wildlife and Environmental Society of Malawi (WESM), Forestry Research Institute of Malawi (FRIM) and the Department of National Parks and Wildlife (DNPW).

The focus of attention of this project was to protect and conserve the remaining endangered population of cheetah in KWR. The project was funded by Rufford Maurice Laing Foundation and CBNRMCSM. The goal of the project was to save and protect the remaining cheetahs by establishing local community protection and promoting the rehabilitation of their degraded habitats since the environmental problems exerted on these animals were caused by human activities. This goal was achieved by organising environmental education; awareness raising; advocacy and talks; drama and traditional songs to take environmental messages to local people, stakeholders and school pupils; hands-on-doing and organising consultative meetings and training workshops.

The outputs of the project intervention include formation of wildlife management committees (WMCs); wildlife clubs (WCs); rehabilitation and restoration of degraded habitats of cheetahs and other animals in the wildlife reserve; overwhelming participation of both women, men and school children in the implementation of project activities; reduction in rate of poaching, deforestation, bush fires and encroachment; and development of reliable wildlife monitoring and surveying techniques by local communities, stakeholders and the project team.

This project has helped to improve the conservation of cheetahs and other wildlife in KWR and increase the capacity building of local communities and stakeholders grassroots level in nature conservation, management and sustainable utilisation of the wildlife resources in the project area even though there are still some environmental problems on the western part of the reserve where it borders with Mozambique.

CHAPTER ONE

1.0 General introduction

1.1 Malawi's protected areas

Malawi has a total land area of 94,081 m² of which 38% is under forest cover (Chapman & White, 1970). The forests occupy 3.6 million hectares of land and 97% of these hectares are under indigenous forest cover, mainly *Brachystegia* (Miombo) woodlands (Malawi Government, 1994). Forest reserves, national parks and wildlife reserves constitute the majority of protected areas in Malawi. Other protected areas include botanic gardens, nature sanctuaries, shrines and graveyards. The forest reserves, national parks and wildlife reserves were established by the Forestry Act and the National Parks Act respectively (Malawi Government, 1997).

National parks and wildlife reserves were gazetted to protect selected larger animals while forest reserves were gazetted to protect water catchment areas of Lake Malawi and the Shire river, conserve the soil particularly in upland areas where soils were observed to be unstable and to provide commercial timber and firewood/charcoal to the adjacent communal areas. Less recognised services include mitigation of soil erosion by wind and water, regulation of sediment run-off thereby improving fisheries, recreation and maintenance of biodiversity (Malawi Government, 2001). As a result and with the exception of Mulanje Mountain Forest Reserve, comprehensive inventories of both animals and plants in these forest reserves, national parks and wildlife reserves are almost non-existent.

1.2 Threats to Biodiversity in Malawi

A rich genetic pool is vital for scientific research, agricultural and medicinal purposes, and the socio-economic development of the country. Due to the high increase in population pressure and the need for additional land for agricultural use, most of the terrestrial fauna are now found in wildlife reserves and national parks. Over the years, these reserves have also been encroached upon reducing the sizes of the protected areas themselves. Poaching, deforestation, encroachment and setting of wild bush fires have now become the major threats to wild fauna and flora in almost all of the protected areas (Kamwendo & Dudley, 2004). Currently, most of the customary land has been deprived of its flora and faunal life and people now obtain firewood, bush meat and other life support materials from protected areas (Malawi Government, 2001). This has led to loss of suitable ecosystems for both flora and fauna; widespread environmental degradation and most of the faunal and flora species are threatened to extinction while others have already become extinct.

It was against this background that the Community-Based Natural Resources Management and Conservation Society of Malawi (CBNRMCSM) in collaboration with the Department of National Parks and Wildlife, Wildlife and Environmental Society of Malawi and the Forestry Research Institute of Malawi took the initiative and asked the Rufford Maurice Laing Foundation of the United Kingdom for financial support to enable these institutions to carry out a rescue and environmental education programmes to protect the remaining endangered and endemic cheetah populations of Kasungu Wildlife Reserve in Malawi. The main aim of the project was to promote

conservation, sustainable management and utilisation of the cheetah and other wildlife by establishing local community protection and the rehabilitation of degraded habitats in the wildlife reserve.

1.3 Specific objectives of the project

- 1.3.1 To educate local communities, agricultural landowners and hunters the importance of cheetahs and other wildlife;
- 1.3.2 To raise public awareness on the conservation problems related to hunting, bush fires and deforestation;
- 1.3.3 To increase community participation in protection of the cheetah and reforestation of their degraded habitats;
- 1.3.4 To lobby local communities around the wildlife reserve to establish wildlife clubs and committees to protect the cheetahs and their habitats; and
- 1.3.5 To develop with communities reliable monitoring and surveying cheetah techniques.

CHAPTER TWO

2.0 Study site and methodology

2.1 Study site

Kasungu Wildlife Reserve (13° 00' S; 33° 10' E) is the second largest wildlife reserve after Nyika National Park. It is found in Kasungu district in the central region of the country at a distance of 175 km west of Kasungu Town. The size of the wildlife reserve is 2,000 km² and lies between 1,000-1,330m above the sea level. It borders with Zambia to the west and some poachers also come from this area. The landscape of Kasungu Wildlife Reserve is mainly grassland with some *Brachystegia-Julbernardia* woodland. The area has rolling hills with a small lake and a wide marshy river course. The lake is home to a group of hippos. Other animals include the threatened cheetahs, elephants, buffaloes, antelopes and zebra and there are also plenty of smaller animal species and a varied birdlife (DNPW, 2001). One of the most endangered animal species in the reserve is the cheetah. According to the DNPW (2003), cheetahs were last seen in large numbers in 1986 and the number has been dwindling to less than 80 by 2003. In light of this, it is imperative to protect the animals from becoming rare and/or extinct in order to promote nature conservation in this study area since nature contributes greatly to socio-economic deployment of any country.

2.2 Project methodology

Protection and conservation of the endangered cheetahs and other wildlife were achieved through environmental education, awareness raising, hands-on-doing and formal training workshops as stated below. Project activities were carried out from 12th December 2004 to 21st October 2005 in order to achieve the objectives of the project as outlined below.

2.1.1 To educate local communities, agricultural landowners and hunters the importance of cheetahs and other wildlife. In order to achieve this objective, the project team organised consultation and sensitisation meetings, and public lectures with traditional leaders, local communities and stakeholders bordering Kasungu wildlife reserve. The meetings and public lectures were organised to sensitise people in the area about the project, its aims and to ask the people to take an active role in the conservation, protection and management of the cheetahs and other wildlife in the area.

2.1.2 To raise public awareness on the conservation problems related to hunting, bush fires and deforestation. This objective was achieved by organising traditional dances, drama, and traditional songs. Further, environmental and education awareness materials such as posters, leaflets, simple calendars and pamphlets were produced and distributed to local people, stakeholders, school pupils and teachers and to the Department of National Parks and Wildlife but also to the Department of Forestry in the area. These methods helped to take environmental and biodiversity messages to the entire community and assisted them to fully understand the problems of cheetah conservation and how best could they be addressed.

2.1.3 To increase community participation in protection of the cheetahs and reforestation of their degraded habitats. This was achieved by organising short formal training courses on seed collection and storage, nursery site selection, establishment, propagation of seeds of indigenous plants including rare, threatened or endangered plant species using available materials. In addition, communities were trained on vegetation survey techniques in plant identification, and rehabilitation of degraded habitats and how best they could make fire breaks.

2.1.4 To lobby local communities around the wildlife reserve to establish wildlife clubs and committees to protect the cheetahs and their habitats. This objective was achieved by organising consultation meetings with local communities, stakeholders and school pupils. This helped to facilitate and mobilise them to form Wildlife Management Committees (WMCs) and Wildlife Clubs (WCs) to be involved in environment and wildlife resources management in the area.

2.1.5 To develop with communities reliable monitoring and surveying cheetah techniques. This objective was achieved by organising formal training to WMCs and WCs on sustainable monitoring and surveying techniques of the cheetah populations in Kasungu Wildlife Reserve.

CHAPTER THREE

3.0 Results and discussions

3.1 Reconnaissance survey to and consultative meeting with traditional leaders in the study area.

The first field reconnaissance survey to Kasungu Wildlife Reserve (KWR) (formerly known as Kasungu National Park) was undertaken from 12th to 21st December, 2004. The project team visited seven villages (Chipiri, Chinkhata, Misonzi, Linyangwa, Chipiko, Matenje and Zimani) in Traditional Authorities (TAs) Chulu, Lukwa, Kawamba, Santhe and Mkanda which are adjacent to the KWR on the Malawian side. The aims of the survey were to enable the project team to familiarise themselves with the study site (Fig. 1), to meet wildlife reserve rangers, traditional leaders and stakeholders bordering the reserve and brief them on the project, its aims, expected results and to ask them to actively support the project (Fig. 2).

The results of the survey revealed that the wildlife reserve is under intense pressure from surrounding local communities. It was also learnt that a series of problems such as illegal settlement in the wildlife reserve, poaching and unsustainable resource use are widespread on the western side where it borders with Zambia. However, it was learnt that the Zambian authorities seem not to take action on these issues. According to the wildlife ranger (Mr. Dyson Banda), local communities and hunters kill animals such as cheetahs, elephants, leopards, buffaloes and monkeys just to mention a few for bush meat, skins, horns and also for sale as the majority of the population in this area very poor and have little land for agriculture. It was further learnt that local communities also kill animals such as elephants and cheetahs since these animals are believed to raid their crops and livestock. The Principal Wildlife Officer (Mr. Nyirenda) also informed the project team that people come into the reserve illegally to cut down trees for fuel wood and poles, and also grass for thatching their houses.

In order to come up with sustainable solutions to these problems, lengthy discussions were held with all traditional leaders, TAs and stakeholders. It was noted that some of the problems emanate due to lack of interactions between wildlife officers and the local people and this brings a fundamental conflict of interest on conservation of nature in KWR. It was therefore, agreed that the wildlife officers should improve their working relationships with the adjacent local people and must be allowed to make decisions regarding the management of the KWR. It was also suggested that there should be active control of the wildlife resources through incentive-driven programmes such as formal and informal training of local people and stakeholders, design friendly and low cost measures to increase crop productivity per area per resource poor-farmers and smallholders. It was suggested that the transfer of resources from KWR could be directed to such programmes. It was also agreed that in near future, local people and stakeholders must be given viable and sound alternative income generation activities which could help to reduce over-reliance on wildlife resources from KWR because this would allow plant and animal populations to pick up in the reserve and eventually boost the tourism industry in the area for the benefit of the local communities. Efforts should also be made with the Zambian Authorities to establish joint programmes to curb the widespread poaching and illegal settlements.

At the end of the discussions, traditional leaders and the wildlife officers assured the project team to cooperate with them and work hand in hand with them in order to protect and conserve the remaining cheetahs and other wildlife from becoming extinct.

3.2 Public education on the importance of cheetahs and other wildlife.

As a result of the project intervention, about 976 people in seven villages which border KWR were educated on the importance of cheetahs and other wildlife (Fig. 3).

Ten consultative meetings and eight public lectures were conducted in the area and were attended by men, women and youths. Further, pupils from four primary schools and one secondary school were taught about the importance of the cheetah and other wildlife and why it was necessary to protect them. The results of the meetings and public lectures revealed that many people in the area knew the value of animals and plants but did not know that these organisms need to be protected as the majority of the people believed that these organisms take care of themselves. This misinterpretation led to serious poaching, deforestation, encroachment, bush fires and unsustainable harvesting of wildlife resources and all these resulted in serious reduction in numbers of both animals and plants which contribute positively to the socio-economic development of the people in the area. However, it has been observed that due to new information and insights from the project initiated activities, many local people including stakeholders have acquired new skills and information about the importance of protecting nature. This was evidenced by the number of people who supported and participated in the project activities. In addition, thirteen families (62%) who were settling in the wildlife reserve had removed voluntarily and have been resettled in TA Lukwa. The rate of deforestation and encroachment for agriculture and settlement on the Malawian side had also declined tremendously in KWR and this indicates that many people have understood the importance of nature conservation and protection. Local communities and stakeholders in the area are now protecting cheetahs and other wildlife, and promote natural regeneration of various plant species in some of the abandoned encroached areas of the wildlife reserve.

3.3 To raise public awareness on the conservation problems related to hunting, bush fires and deforestation.

The project team visited KWR from 2nd March to 23rd April 2005. During the visit, the project team raised public awareness on conservation problems associated with cheetahs and other wildlife in the area through drama and traditional songs (Fig.4). 210 environmental awareness pamphlets, 350 simple calendars, 750 leaflets and 250 office and school posters were distributed to local communities, stakeholders, teachers and school pupils in the area. As a result of awareness raising and campaigns, and distribution of environmental education materials, the wildlife users have acquired new knowledge on the importance of nature and its potential for local livelihood. Currently, local communities and stakeholders are now protecting the cheetahs and other animals. In addition, local communities and stakeholders are protecting various plant species that are naturally regenerating in their own but they are also committed to promote artificial regeneration of the valuable species as well. Earlier, they eliminated many tree species because they did not have knowledge about their values but after this project intervention, this activity has almost stopped. Local communities and

stakeholders have agreed that they should not fell the green standing trees for firewood and timber but instead they should collect fallen and dried trees from only from the buffer zone of the wildlife reserve. Before this project, some parts of the forest reserve were opened up for agricultural expansion and settlements as many local people have less than 1 hectare of land for agriculture. Due to the project intervention, it has been observed that the encroached land has been surrendered over the Kasungu Wildlife Reserve Authority and the encroachers have been resettled elsewhere in the same district. This has promoted natural regeneration of the tree species in the landscape and eventually will help to bring back the glory of KWR and increase more nesting and resting places for wildlife animals in the reserve. Another interesting product of this project is that many teachers at both primary and secondary schools in the area have incorporated environmental and biodiversity education subjects in their teaching curriculum and this will help the young generations to acquire the knowledge and fully understand the importance of nature and the reasons why it is necessary to conserve it. It is believed that people can only protect nature if they have fully understood the value and the importance of nature and its potential for their livelihoods and the development of their country.

It has also been observed that as a result of this project intervention, the rate of deforestation, poaching, encroachment and setting of harmful bush fires has significantly declined and it is hoped that the whole ecosystem will recover from anthropogenic pressure in a few years to come. It is also anticipated that the populations of both plants and animals will increase as a result of these project interventions since people-animal conflict has drastically gone down and animals will have enough shelter and food to eat.

3.4 To lobby local communities and stakeholders to form wildlife management committees (WMCs) and wildlife clubs (WCs).

From 10th -23rd July 2005, the local communities and stakeholders including school pupils were sensitised about the importance of forming WMCs and WCs. A series of consultation meetings were held with traditional leaders, local communities, stakeholders and school pupils. At the end of the sensitisation and consultation meetings in villages bordering KWR, seven WMCs and twelve WCs (Fig. 5) were successfully formed around the reserve with almost equal presentation of male and females. The WCs are largely dominated by school pupils from both primary and secondary schools bordering KWR.

The established groups were trained on wildlife conservation management, patrolling, monitoring and sensitisation of the general public on the importance and value of nature, sensitisation of communities on wildlife by-laws, fire fighting techniques and confiscation of illegal weapons. As a result of the formation of these groups and sensitisation of local communities and stakeholders, it has been observed that the rate of poaching, habitat encroachment and deforestation has gone down in KWR. Many local communities, stakeholders and school pupils have acquired new knowledge and skills on nature conservation and are able to rehabilitate degraded areas of the WR. WMCs and WCs that have been established in the area are given authority to sell the surplus wildlife products like edible mushrooms, dry logs of trees for firewood, edible caterpillars, fruits and tubers. These products help WMCs and WCs to raise funds which they use for the management and conservation of the wildlife reserve, natural

resources and also for community development projects such as drilling boreholes, earth wells, construction of roads and building of school toilets in their areas. Law-breakers are punished accordingly by forcing them to carry out conservation work in the wildlife reserve and other forest reserves that are found in the area. This is done in order to transform the laws breakers into better citizens. Further, the WMCs and WCs have now taken the overall responsibility of teaching local communities, school pupils and stakeholders wildlife conservation and management. This will help to build a strong capacity of local people at grassroot level in nature conservation and eventually can significantly reduce the critical mass of people who have no basic knowledge and skills on nature conservation in the country.

3.1.5 To increase community participation in protection of the cheetahs and reforestation of their degraded habitats.

The project team with assistance from traditional leaders, WMCs and WCs carried out surveys in KWR to identify degraded habitats and plant species. The surveys reveal that many habitats of the reserve were encroachment and 27 plant species were indiscriminately removed for timber, poles and firewood but also for traditional medicine. After identifying that many sites and plant species of the wildlife reserve were degraded, the project team purchased 25 kgs of assorted tree seeds from the Forestry Research Institute of Malawi in order to be propagated and reintroduced/planted into the degraded sites. In addition, 7,000 polythene tubes, 14 water cans, 14 hoes, 14 rakes, and 14 panga knives were purchased and distributed to the WMCs and WCs to assisted them during seed propagation and nursery establishment (Fig. 6). Before the seed propagation exercise and nursery establishment began, all members of the WMCs and WCs, and some few representatives of local communities and stakeholders were given a short training course on hands-on-doing in order to equip them with up-to-date skills and knowledge on seed propagation, seedling management, nursery site selection and establishment. The graduates of this course were expected to be trainer of trainers i.e. they were and are still expected to train other local communities in the district seed propagation and nursery establishment. In total, 350 people from all he seven villages bordering KWR benefited from this training course and 7, 000 seeds were propagated (Fig 7) and the seedlings have already been planted in the degraded sites of the wildlife reserve (Fig 8a &b).

3.6 To develop with communities reliable monitoring and surveying cheetah techniques.

Two training workshops were conducted for WMC and WC members. The aim of the workshops was to train the members relevant skills and knowledge used in wildlife monitoring and surveying techniques as fundamental resources for wildlife management and conservation. Members had an opportunity to learn that some of the modern monitoring and surveying techniques such as radio-collar tagging, notching, tree barking and painting are expensive and unsustainable. Therefore, members were taught inexpensive and non-invasive wildlife monitoring techniques like footprint identification technique (FIT), droppings count technique (DCT) and Nesting Counting Technique (NCT). Members were also taught some of the animal surveying techniques such as population census technique, aerial survey technique for animals in winter, vocal cords technique and road side survey techniques. Further, members were taught that vegetation is monitored using transect walks technique and systematic or

random sampling technique because these techniques can help them to assess the diversity of the species and determine those species that are rare and threatened and hence, need urgent conservation and constant monitoring to protect them from becoming extinct. Members learned that monitoring of wildlife can be done through observations and focus group discussions (sharing/reflection) of on going activities in the reserve but also outside the reserve. The workshops were attended by 63 selected participants from all the seven villages that border KWR. At the end of the two workshops, the participants assured the project team that they would perform their duties in a professional manner to ensure effective wildlife management and conservation in Kasungu Wildlife Reserve.

CHAPTER FOUR

4.0 Conclusion and Recommendations

4.1 Conclusion

Kasungu wildlife reserve supports a variety of wildlife as reported by the local communities and literature. The cheetahs in this wildlife reserve were under threat of extinction due to human activities. Further, many animals and plants in this wildlife reserve were threatened of extinction due to loss of habitats, deforestation, illegal hunting, uncontrolled bush fires and encroachment of the wildlife reserve to claim land for subsistence agriculture and human settlement. However, the implementation of activities of this project has assisted to address the environmental problems that had been persistent in KWR. The project activities have resulted in the rehabilitation of the encroached and deforested parts of KWR; most of the degraded parts have been restored; local communities and stakeholders have acquired relevant skills and knowledge in wildlife management, conservation and sustainable utilisation of wildlife resources. Seven WMCs and twelve WCs have been established around KWR and among other things these committees are responsible for the management of the wildlife reserve, safeguarding the wildlife from poachers, encroachers and deforesters but they are also responsible for the conservation of natural resources in the wildlife reserve. Currently, the rate of poaching, deforestation, encroachment and bush fires has significantly declined as a result of the project intervention. Local communities who encroached part of the wildlife reserve in the eastern side and got settled have moved out voluntarily and are settled elsewhere in the same district. All these have been achieved because of constant interaction between the project team with local communities coupled by environmental education and awareness campaigns that were conducted in the project area. In essence, the project has helped to build the capacity of local communities and stakeholders at grassroot level in the district in areas of nature conservation and management as capacity building is the most powerful tool to combat widespread environmental degradation and over-utilisation of nature in any country.

4.2 Recommendations

The following recommendations are made to assist the project team, local communities, researchers, Government Agents, and stakeholders on how best they can conserve wildlife and promote environmental education and awareness at KWR and surrounding areas:

There is a great need to liaise with the Mozambican Authority in order to form a joint conservation programme on nature conservation of Kasungu wildlife reserve.

There is a great need to strengthen training of local communities and stakeholders in areas of nature conservation.

The great need to improve the resource base of the poor local communities living adjacent to KWR by providing them with feasible and sound alternative income generating activities such as bee keeping, guinea fowl rearing, fruit processing and mushroom cultivation as one way of improving food security and income at household level.

Conservation strategies have to be described and conservation measures should look into people's perceptions of what should be conserved and what should not be conserved.

There is a great need to carry out regular studies of wildlife in Kasungu wildlife reserve in order to monitor and assess the populations of animals and plants in the reserve.

There is also a need to introduce fuel saving strategies such as briquette production and improved cooking stoves to offset deforestation.

WMCs and WCs need to be strengthened conducting regular meetings and involve them in management training in order to enable them to discharge their duties effectively.

CHAPTER FIVE

5.0 References

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