

PARK MANAGEMENT IN ZAMBIA: A Case Study



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Introduction

Recent times have shown that the world has recognized the need to manage our environment effectively. Issues concerning global warming, energy source alternatives and resource management are some topics forcing policy makers to put the environment on the agenda. A number of international organizations are dedicated to the management and conservation of the environment, such as the World Wildlife Fund (WWF), whose mission is to stop the degradation of the natural environment globally (www.panda.org). The continent of Africa has received vast attention from the environmental world concerning resource management. The continent is rich in natural resources from wildlife to exotic fauna. As this is a valuable resource, effective management is crucial. Unfortunately, there is concern that the resources are not managed well due to various factors; some parts struggle with wars, others have poor governmental regulation while some countries do not have the funds to cater for the environment. This does not apply to every country in Africa. Some countries are actually discovering ways to manage these natural resources.

Zambia, located in the southern part of Africa sits on a deep pocket of natural resources including one of the Seven Natural Wonders of the World, the Victoria Falls. The national parks of Zambia bring in tourists from all over the world to gaze at the beauty of nature. This paper analyzes park management in Zambia. The Zambian government recognizes the need to manage and conserve the parks primarily because of the economic gain. The parks have various challenges such as poaching, land use versus preservation and human-animal conflict. This essay will explore how park managers are addressing some of these issues, such as incorporating the local community. The paper

will wrap up by evaluating these strategies employed by management, and determine how effective they are in tackling the challenges.

Tourism in Zambia

Vacations to Africa have become more common, not only with superstars, but with regular families as well. One of the top reasons people all over the world visit Africa is to have a different experience with nature. Zambia is a landlocked country located in the south-central part of Africa, surrounded by eight countries namely; Angola, Tanzania, Mozambique, Zimbabwe, Botswana, Republic of Congo, Malawi and Namibia. The close to perfect sub-tropical climate with warm summer temperatures and cool snow free winters attracts millions of people every year. Being mostly a plateau, the land gives Zambia a pleasant climate compared to most tropical countries. There are three seasons; cool and dry from May to August, hot and dry from September to November and warm and wet from December to April (CIA Factbook). In the valleys, specifically Zambezi and Luangwa experience high temperatures in the hot and dry season as well as high humidity (ZNTB). In addition Zambia has astounding scenery, with one of the seven natural wonders of the world- The Victoria Falls, found in the southern part of Zambia. The Zambian government has recognized the economic gain from tourism and is finally tapping into the industry. The Zambia National Tourist Board estimates that revenue from tourism was about US\$85 million in 1999 alone (Zana-Tourism). In 2003, international tourism recipients amounted to an estimated US\$149 million (ESIP, 2006). The 'Visit Zambia Campaign' was created to attract tourists primarily through advertising. Marketing as 'Zambia the Real Africa', the Zambia National Tourist Board projects Zambia as an attractive destination. Although accounting for only an estimated

4.5% of total GDP in 2003, the tourism industry is clearly expanding (ESIP, 2006). Between 1998 and 2003, foreign tourists increased by 10% each year (ESIP, 2006). Today, the tourism industry is one of the largest foreign exchange earners in Zambia (Zambia Investment Center, 2006). There is still room for growth in this sector as there are still natural and cultural resources that are underexploited.

Tourism is a labor-intensive industry, thus it has potential to branch out to other sectors of the economy, such as direct employment for the local people. The country has also been catering to this growing industry. This includes hotels and lodges, developing infrastructure, transportation (within the country and improving airports) and banking systems to improve international transactions. International companies setting camp in the country are attempting to tap into the industry, at the same time bringing in foreign direct investment. For example, the Sun International, a three star hotel built a few minutes away from the Victoria Falls is the largest investment in the country. This has been a catalyst for more investors and tourists to the region.

Most of the tourism is concentrated in the national parks. Currently Zambia has 19 national parks, 8 of which attract the most tourists, namely; Nsumbu, Kafue, Lochinvar, South Luangwa, Lower Zambezi, North Luangwa, Kasanka, and Mosi oatunya. The national parks offer a wide range of activities for the tourists, the most popular being safaris, bird watching and village tours. This paper focuses on the management challenges and strategies of the South Luangwa National park. This particular case study is explored not only because is it one of the most visited parks in the continent, but also currently incorporates management strategies that could prove to be a keystone of managing parks in Zambia.

South Luangwa National Park

The South Luangwa National Park, located in the south east part of Zambia, is 9050 squared km (Luangwa Safari Network). The great Luangwa River flows through the region, acting as the ‘heart’ of the park. The river and its many oxbow lakes attract a variety of animals, making South Luangwa National Park as one of the ‘greatest wildlife sanctuaries in the world’ (Zambia National Tourist Board). There are 60 different animal species and 400 different bird species. Wildlife includes elephants, hippos, antelopes, buffalos, zebras, and giraffes, and the list goes on. Bird watching is also popular in the park. With about 400 of Zambia’s 732 species of birds appearing in the Valley, including 39 birds of prey and 47 migrant species, there is plenty for the birdwatcher to spot, whatever the season (Zambia National Tourist Board). The park also includes unique plants and vegetation. Some magnificent trees grow in the valley among which are the mopane, leadwood and winterthorn (gotoafrica.com). Hosting this unique flora and fauna, it is no surprise that most visitors to the park come for the safaris, which gives tourists a chance to view wildlife, birds and vegetation up close.

The history of the park goes back to 1904, when Luangwa Game Park was established on the eastern bank of the Luangwa River. This was not maintained, and in 1938 three parks were redefined, namely: the North Luangwa Game Reserve; the Lukusuzi Game Reserve; and the South Luangwa Game Reserve (gotoafrica.com). In 1972 new legislation turned all game reserves into national parks, thus creating the South Luangwa National Park.

There are a number of places to stay in the valley. Currently there are 14 lodges in the park. Most of the lodges are spread along the river and conduct game drives,

walking safaris and others have bush camps for the visitors. For the cheaper traveler, the park has self catering chalets for rent (not including the lodges) (SLNP). To enter the park visitors have to pay at the gate; non residents pay US\$20 for the day.

The South Luangwa certainly has economic value to the country. The park and lodges in the area provide employment to the locals and most of all, the park brings tourists to the country. This has forced the Zambian government to manage the park well enough to preserve and conserve the precious resource.

Challenges to Park Mgt in South Luangwa National Park

Unfortunately managing the South Luangwa is not as easy as it sounds. Management faces a number of challenges that may reduce efficiency in the park. The park management is focused on sustainable tourism development.

Poaching

Poaching is one of the biggest problems threatening the park. Commercial poaching of elephants and other large animals has had a significant impact on the population of these animals. The demand for ivory continues to endanger these species (SLCS). Between 1970 and 1975 the estimated number of elephants in the park was 35,000 (Clarida, 2003). In 1987 the population went down to 15,000 and reduced even more to 1500 in 1988. Increase in poaching was due to a number of factors, including increased price of ivory and poor government enforcement due to lack of funds. In the early 1990's funding became available to support improved protection with in the park (Clarida, 2003). Since then, aerial surveys show that the population has stabilized at approximately 10000 (SLCS). Unfortunately, the park lost all its rhino population to poaching.

The worst kind of poaching is snaring. A poacher may lay up to 30 snares at a time which end up catching any species, big or small. A few days later he may only remove a few that have caught something, the rest are left and any animal caught in it is not even used (SLCS). Even worse, snaring is the most painful way to kill an animal. As compared to being shot which is almost instant death, snaring may cause death anywhere from days to months later, usually due to starvation or infection (SLCS). As pointed out, the park is known for its vast wildlife, it is therefore crucial to control poaching and maintain this resource. In order to give the visitors the fulfilling experience they expect management must protect the 'core' of the park.

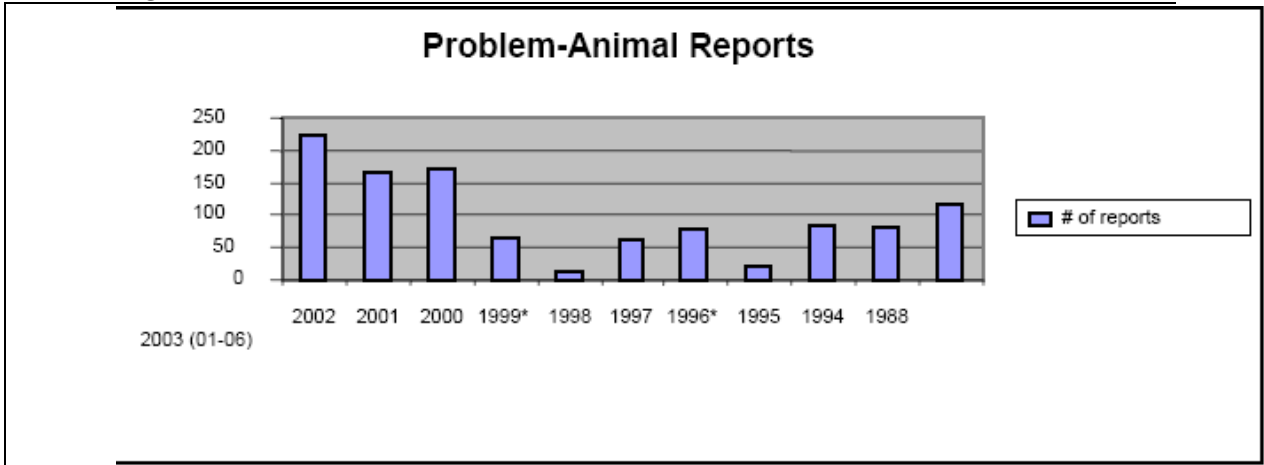
In addition to the demand of ivory, poaching is also caused by the demand of game meat by the locals. More than 60% of Zambia's population lives in the rural areas and heavily depend on the environment for food, medicine and shelter (SLCS). An increase in population due to employment opportunities in the area (mostly as a result of tourism) has further increased the demand for meat. There is also demand for meat in the nearby towns of Mpika, Chipata, Katete, Petauke and Serenje (see map) and this demand is being met (SLCS). Game continues to be seen as meat by the locals; the word for animal 'nyama', also means meat.

Animal Human Conflict

The animal-human conflict involves animals destroying personal property, crops and even causes death to the locals. The most reported problem animals are elephants, baboons, hippos and bush pigs (Clarida, 2003). A study conducted to analyze the animal problem shows that the number of reported animal problem has been fluctuating but

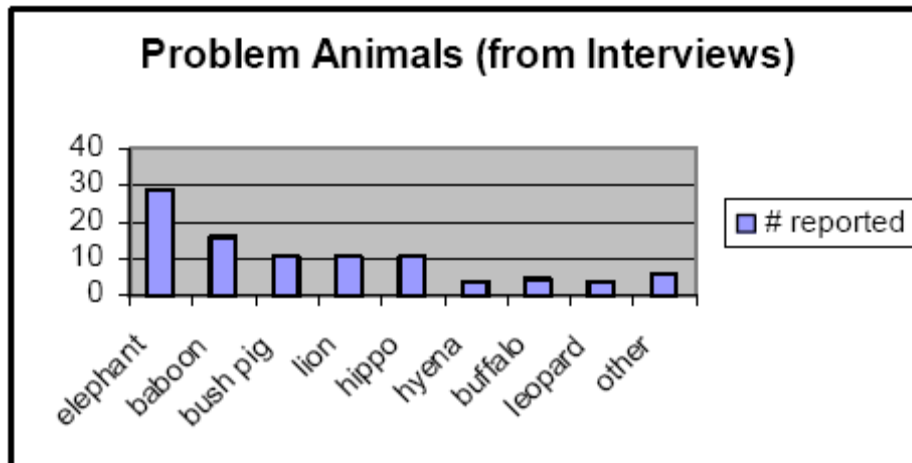
increasing from 1994 (see figure 1). As mentioned, the community relies on their environment to survive, therefore, a majority of the locals are subsistence farmers. There are no significant fences or walls to protect the villages, hence, farming close to the park allows the animals easy access to the crops. The study also showed seasonal crop damage from problem animals. Information compiled from the complaints between 1994 to 2002 indicated that the most crop damage occurred between February and May. The highest crop damage was maize, which is widely grown as it is Zambia's staple food. Other crops damaged were sorghum, groundnuts, rice and cotton (Clarida 2003). (see figure 2). This conflict between animals and humans results in the locals slaughtering the animals. Instead of being seen as an asset, this may cause the locals to view game as a hindrance. Killing off these animals may be a way to protect the locals' property, however, in the long run this is an unsustainable method to control the animals. This is particularly sensitive with animals that are struggling to keep numbers as high as the pre-poaching period such as the elephant.

Figure 1:



Source: Human Animal Conflict in South Luangwa Valley of Eastern Zambia. Clarida, 2003

Figure 2



Source: Human Animal Conflict in South Luangwa Valley of Eastern Zambia. Clarida, 2003

Land Use versus Land Preservation

An imperative challenge for management is the battle of land use by the locals versus land preservation. Green cover is being burned and turned into black charcoal for sale by the locals. The income pouring in from this sale, for most charcoal burners, is the only way to survive. One full time charcoal producer is capable of clearing 1.24 acres per year (Mukuka). Firewood is used as a primary energy source in the rural areas while

charcoal is used as fuel in urban areas. When driving between cities in this region, one can see charcoal being sold along the roads by the locals. As long as the demand is growing, the number of people entering this market increases as well. This means more fuel wood is being burnt. The detrimental effect is that the natural habitat for the animals and birds is being destroyed. This may have an effect on the population of some of these species. As much as the government is committed to protecting the environment, it cannot let the people starve, hence the lack of stringent environmental policies in regard to such practices. Managers must deal with the issue of preservation versus use.

Finally, corruption is widespread in Zambia. Despite government efforts to reduce corruption, it is still evident to some level. Looking at the corruption index, Zambia is rated one of the highest in the world. Park guards can benefit from safari hunting and illegal poaching by accepting some form of payment to buy off their silence or their direction. This can be a hindrance to effective management in the park.

All these factors pose as challenges for management. Evidently the locals play a role in these challenges. To protect and conserve the park, managers must take these into consideration and form a plan that incorporates strategies to address the issues. It is clear that wildlife conservation is the biggest concern.

Management Strategies

Previously, there was no legal way for locals to benefit from the natural resource. Local communities were ignored, and they felt that the benefits were not shared equally, as most if not all benefits generated from tourism was directly paid to the central government. As shown vast land was declared as 'protected lands'. All combined, they cover over 200,000 square km, or approximately 33% of the entire country (CBNRM

Program). However, the vast land, reduced manpower and poor funding made it impossible for the government to enforce its wildlife laws and regulations. Because the locals did not benefit from the resource, it gave little incentive to protect the resource, including reluctance to report poaching and resist government authority in this matter. This resulted to low animal populations in the park, clearly detrimental to the survival of the park and communities that relied on the park.

To rectify the problem programs were developed as a joint effort between the government and non-governmental organizations (NGO's). The Zambian President at the time, Dr Kenneth Kaunda, played a big role in developing the program in South Luangwa National Park. In 1986 the Luangwa Integrated Resource Development Project (LIRPD) was developed (Clarida, 2003) under National Wildlife Service. The program was developed to protect wildlife while taking the local community into consideration. The program was and still is funded by a Norwegian corporation called Norwegian Agency for Development Co-operation or NORAD that advocates for community based management of resources. Land surrounding the park was given special attention called Game Management Areas (GMA) in which communities reside (CBNRM). A GMA is simply an area where hunting is controlled. The area that borders the South Luangwa is called the Lupande Game Management Area

Lupande Game Management Area is about 5000 square km and home to 35000 people headed by 6 chiefs (Zambia National Tourist Board). The area supports a variety of wildlife, such as buffalo, lion, zebra and kudu. Each year the wildlife is counted and a quota is set, which is then sold to safari operators in the area who sell it to clients from all over the world. The package includes a fee for shooting the animal and a fee for using

the area. The ‘administration’ of the management area is organized specifically to cater for the locals. Structures called the Village Action Groups (VAG) are created to ensure that critical principles to the program are followed. Specifically, ideologies such as democracy, accountability and transparency are stressed (ZNTB). Each VAG has an elected committee. All adults in the village gather for two or three days for an annual general meeting to discuss wildlife management as well as how the revenue collected is to be used. Table 1 shows how much money is collected from specific animals. For example, it costs US\$5000 to hunt a lion and an additional US\$1700 for the license fee (ZNTB).

The money generated from tourism goes directly into an account for the use of the community. The locals exclusively decide how and where to use the money. In 1996 about US\$260000 was generated and paid out to the community. This can then be used to develop the local community such as construct schools, clinics and wells. Table 1 shows the allocation for Lupande GMA in 1996. Amounts are in Zambian Kwacha.

Table 1:

Allocation of revenue in Lupande GMA in 1996		
Number of households in Lupande GMA	9,353	
Total revenue distributed in 1996	266,589,500	
Allocation of revenues:		
Household cash	129,040,000	48%
VAG administration	9,069,858	3%
Soft projects (e.g. relief maize)	3,972,500	1%
Infrastructure projects	124,535,800	47%
wells	11,792,500	
school renovation	11,792,500	
teacher's houses	18,785,000	
clinics	40,922,000	
clinic houses	20,940,000	
secondary schools	11,000,000	
Mambwe Boma offices	10,836,300	

Source: <http://www.zambiatourism.com/welcome.htm>.

The community has responded well to the responsibility given. The locals finally see the benefits of the resource and take personal responsibility to care for the wildlife. Poaching has reduced significantly because of the tangible value in wildlife. Not only has the strategy caused a difference in the perception of wildlife by the locals, but it has also contributed to effective management of wildlife in the area. A pilot scheme of the area was conducted from 1984 to 1988 to test the administrative designs that allowed the community to manage the resource. Results showed dramatic drop in poaching, positive

shifts in public attitudes toward conservation and improved community relations with wildlife tourist operators (CBNRM). The government noticed the improvement and in 1988 modeled these strategies into a national program called Administrative Management Design for GMAs (ADMADE) (CBNRM).

Another factor adding to the success of Lupande GMA is that it is financially sound. NORAD donates money every year, and not to mention that Lupande GMA would not have started without this endowment in the first place. But the amount of money given is reducing as the years go by. Because Lupande GMA is generating its own money it is still able to function effectively even though funds have been cut down. Becoming financially stable is vital to the survival of Lupande GMA. Sometimes relying heavily on donated funds is unstable. If one day NORAD is unable to support Lupande, it is safe to say that the management area would still survive.

It is important to explore the key factors that have contributed to the success of Lupande GMA. Simply, the success is due to three factors (Child and Bergstrom, 2001):

- Wildlife revenue is getting back to the community
- Locals have the rights to allocate the resources
- Institutional Organizations are in place to ensure the strategies are working well and facilitate where necessary.

Comparing to other management strategies, significant changes have resulted in the effective management of wildlife in the South Luangwa National Park. Previously the government used a top-down management model, which meant that the government had all the rights, decided what to do with the revenues and placed rules that were supposed to be followed by the locals. This did not mean that locals were complying with laws and

the government was not enforcing the laws. Plainly, the locals had no voice, no rights and little benefits when it came to the natural resources. The Lupande GMA has finally given the locals rights to the benefits and the resource. The positive effects are tremendous, as shown. The notion that local people can not manage a resource has been proven wrong in this case. By giving the locals the right incentives coupled with intimate knowledge of the land, the communities are able to conserve and protect the wildlife, that is, effectively manage the resource.

The Lupande GMA is a foundation for community based resource management in Zambia and Africa. ADMADE has provided lessons for policy makers to incorporate in any wildlife policy. In 1999 the new Wildlife Act incorporated such polices, including the establishment of village Community Resource Boards (CRB's), CRB Committee's and VAG's on a larger scale (CBNRM).

To further tackle the problems facing wildlife management, the South Luangwa Conservation Society (SLCS) was created. Activities by SLCS include anti poaching and anti snaring campaigns. Workshops are held to educate the locals of the dangers of poaching. With the help of Zambia Wildlife Authority (ZAWA), SLCS has managed to import immobilizing drugs to care for the animals caught by snares. Over the years, many animals have been rescued that other wise would have died. In addition, SLCS has recruited village scouts to patrol the area and get rid of any snares. This is another way to involve the community in management. A big part of SLCS's campaign is educating the locals and provide some simple strategies to deal with the issues:

- The locals are encouraged to plant trees, through the tree planting program, as this could alleviate the pressure on the land of locals cutting down trees for charcoal.

Alternative methods for energy are suggested. People are being taught the benefits of elephant dung stoves, which is using bricks made from elephant dung as a fuel source of cooking (SLCS).

- The Chili fence campaign was started to protect the community from animals. The animals are free to roam and end up destroying property, crops and grain storages. This campaign teaches the locals to use the chili fence method. This uses sisal, rope, used engine oil, grease, old bits of cloth and crushed dried chili. The mixture is crushed to create a paste that is then applied to a string surrounding the crop fields. This is a cost effective way for locals to deter elephants, hippos and bush pigs (SLCS). To ensure self reliance, the conservation society supplies the farmers with seeds to grow the chili. Elephant dung bricks are also made using elephant dung and chili, which also helps to deter elephants. This helps the community curb the animal conflict problem.

In general, development around the park is left to a minimal (does not follow typical construction in urban areas). Even though lodges are constructed, they are developed with a 'natural' feel to it. This may improve the experience of the visitor who may travel specifically for the wilderness. By keeping development at this level, management is catering to visitors' preference. That is, complexity, coherence and exploration are highlighted. Complexity refers to the number of visual elements in a scene, while coherence helps provide a sense of order and directing attention. All these help improve the experience of the visitor. There is a common environmental preference; those with human intrusion are less preferred (RNR 448/548 class notes).

Most of these strategic methods are geared towards allowing the community to participate in managing the resource effectively.

Conclusion

The South Luangwa is one of 19 national parks in Zambia rated by experts as a sanctuary for wildlife. The park brings tourists from all over the world to view the wonders of nature. Being such an important resource, it is clear to manage the park effectively. Some of the challenges hindering effective management include commercial poaching, demand for game meat, human-animal conflict, and corruption. It is important to assess a problem effectively and plan for it accordingly. Each resource should be managed individually. Because of the different issues surrounding resource-use it is imperative not to use one system for all resources. The widely used top-down method previously used did not include the locals. However, community based management changed the perception and attitudes of the people. The creation of the Lupande Management Game Area gave the locals rights to the resource and direct benefits from tourism. This resulted in reduced poaching, positive attitudes towards conservation and a better relationship with tourists. The benefits from tourism allowed the locals to personally take care of wildlife. Unfortunately, not all resources are managed in a similar way or have a success story. Because of increased tourism in Zambia, management is pressured to put tourism first and conservation low on the agenda. Also, the lack of funds reduces the capabilities of the government tremendously.

It can be concluded that the grass root management employed is effective as it is improving sustainability, and promoting economic and social development as shown. The government has learned from these lessons and incorporated the administrative

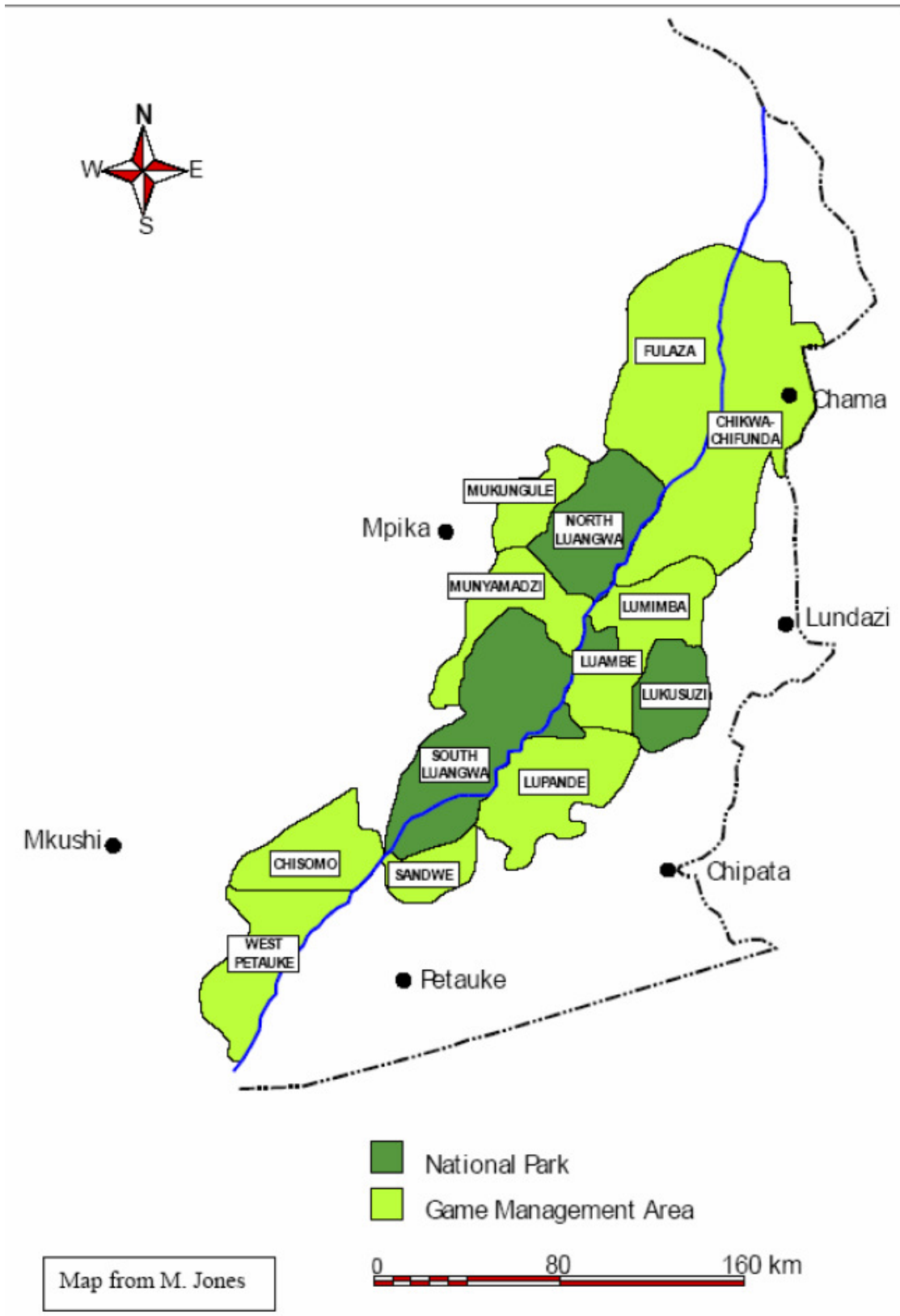
design of the Lupande GMA into the Wildlife Act. This strategy not only applies to Zambia, but can also be used as an example to the rest of Africa. In addition, the creation of the South Luangwa Conservation Society educates the locals and provides some simple strategies of dealing the challenges such as the chili fence method, planting trees and alternative energy sources.

The approach incorporated sets a foundation for effective management of resources, by including the locals who are the most familiar with the land, in the management strategy.

Appendix

Map of Zambia





Map of South Luangwa National Park. Source: Zimba, 2006

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