

## CHAPTER 5

### CONCLUSIONS

#### 5. 1. REVISITING KEY QUESTIONS

In order to evaluate the research results, the ten questions mentioned on page 32 and page 33 (see also Borrini-Feyerabend & Buchan 1997:58-67) are answered below. The aim of these ten key questions is to assess the natural resource utilisation needs of local people in a conservation initiative. It is also important that these aspects are considered in the planning for the Lubombo Transfrontier Conservation Area, as it could ensure that the elements of the economic aspect of the culture of the inhabitants of the area are included into the management of the conservation area.

##### 1. **How do the natural resources of the conservation initiative contribute to the livelihood of local people?**

The responses of both spokespersons and of respondents to this question were discussed in detail in Chapters 3 and 4 under the headings of agriculture and animal husbandry, interaction between wild animals and humans and the utilisation of wild plants.

The people in the research area are extremely dependent on agriculture for their basic subsistence needs. They plant crops for both subsistence and commercial purposes, although few people actually sell the crops they cultivate. The most important crops are, in order of the number of people who plant those crops: cassava, maize, beans, sweet potatoes, sugarcane and groundnuts. People are thus extremely dependent on the soil in the area to make a living. Without access to areas that can be converted into agricultural fields, the local people of Matutuine will not be able, given the present economic situation, to survive. For this reason it would be ethically

irresponsible of the planners of the Transfrontier Conservation Area to remove people from the land without compensating them for their loss of a livelihood by implementing other forms of development.

Only a small minority of people rear domestic animals. This low figure can largely be attributed to the extreme poverty that prevails in the area. Poultry in the form of chickens are quite common, but very few people own goats and only a very small minority own cattle. Cattle are more common to the west of the Maputo River in the area surrounding Catuane than anywhere else in the study area. Although so few people own cattle and goats, they still attached value to these animals, mostly due to their perceived utilisation value (see 3.2.1). Although there are very few domestic animals in the research area, the utilisation of these animals contribute greatly to the livelihoods of the local people and is thus important (see 3.2.7 and 3.2.8).

Since so few people own domestic animals such as chickens and goats, they also have to rely on game for meat. The most important wild animals in this regard, in order of the number of people who said that they ate the meat from those animals are: grey duiker, bushpig, reedbuck, red duiker, hippopotamus, cane rat, vervet monkey, impala, buffalo and nyala.

Wild animals cause several problems for people living in the Matutuine district with regard to the destruction of crops. The following animals were identified as problem animals because they damage crops or are perceived as dangerous animals, known to have killed people in the research area: bushpig, hippopotamus, elephant, buffalo, vervet monkey and cane rat. Bushpigs and hippos were found to be problem animals throughout the research area. Elephants were really only problematic at Salamanga, which is situated right next to the Maputo Elephant Reserve on the Futi River. Buffalo were only problematic near Catuane, which is situated just north of the Ndumo Game Reserve in South Africa.

Although people hunt and eat wild animals, their utilisation of these animals for food is limited by the fact that fauna in the research area have been depleted due to historical events, such as the tribute system that existed between the Ronga and the

Zulu and the Mozambican Civil War. However, the utilisation of so-called bush-meat in the research area is a common practice where such meat can be obtained.

The fact that there are so few wild animals in the area increases people's reliance on fish as a source of food. Fish are caught for subsistence and commercial purposes in the sea, rivers and various lakes in the area. The main species of fish that are caught in the research area are: black tilapia, Mozambique tilapia and sharp-tooth catfish.

The poverty throughout the area and the fact that people cannot grow enough foodstuffs to meet their basic needs have made people extremely reliant on wild plants for their survival. Plants are used for various essential purposes.

As medicine the following species of plants were found to be important: sweet thorn acacia, moth fruit, broad leaved false thorn, cashew, wild custard apple, green thorn, coast silver oak, blue sweetberry, mitzeeri, pawpaw, sickle bush, African mangosteen, landolphia, umbrella tree, bursting beauty, broad-leaved resin tree, Natal karee, caustic vine, marula, tamboti, green monkey orange, black monkey orange, toad tree, silver cluster-leaf, Cape coffee, Natal mahogany, wild medlar, Natal sourplum and knobwood.

Fruit also plays an important part in the diets of people in the area. Fruit is collected from trees that grow wild and from trees that people plant themselves. The most important trees that people plant themselves are mango trees, cashew trees, papaw trees and orange trees. Fruit are also collected from the following wild trees; wild custard apple, Zulu podberry, jackal-berry, African mangosteen, landolphia, forest milkberry, Lowveld milkberry, coastal red milkwood, sugarcane, marula, green monkey orange, black monkey orange, water berry, toad tree, Natal mahogany, wild medlar and Natal sourplum.

Besides collecting fruit to eat, the people also collect various kinds of wild fruit are also used to make alcoholic beverages. By far the most important alcoholic beverage drunk in the area is palm wine (*ubusulu*) made by tapping *ilala* palms. Other species from which alcoholic beverages are made are; cashew, pawpaw, African mangosteen, landolphia, forest milkberry, wild date palm, sugarcane, marula, green monkey orange, black monkey orange, waterberry and maize.

In the absence of generated electricity in the research area, people rely more heavily on trees for firewood than they would have had there been other sources of fuel suitable for cooking. Wood is collected to supply in the demand for fuel. Although most dead and dry woods are used as firewood, the following species were identified as those mostly used or preferred in this regard: horned thorn, sweet thorn acacia, umbrella thorn, pod mahogany, worm-bark false-thorn, cashew, Zulu podberry, sickle bush, eucalyptus, coastal red milkwood, marula, green monkey orange, black monkey orange, waterberry, Jambolan-plum, toad tree, silver cluster-leaf and Natal mahogany.

For construction, people in the research area are also extremely reliant on natural resources. Most houses in the area are constructed from the common reed, thatched with cottonwool grass. Other plants used to construct houses are: horned thorn, sweet thorn acacia, umbrella thorn, sisal, worm-bark false-thorn, cashew, coast silver oak, papyrus, Zulu podberry, sickle bush, eucalyptus, forest milkberry, tamboti, black monkey orange, waterberry, silver cluster-leaf, Natal mahogany, *Typha latifolia* and buffalo-thorn.

Plants are also used to craft various objects and utensils, such as baskets, spoons and mats. Some people make these objects for commercial purposes, but for the most part they are made for personal use. The craft objects are sold, mainly in the coastal area (Ponta do Oura and Ponta Malongane) to tourists who frequent the holiday resorts. The following plants are used in this way: sweet thorn acacia, pod mahogany, sisal, broad leaved false-thorn, papyrus, *ilala* palm, cottonwool grass, salt marsh rush, wild date palm, common reed and *Typha latifolia*.

Finally, plant species used to make traps to catch fish and wild animals were identified: sisal, worm bark false-thorn, sickle bush, lala palm, salt marsh rush, landolphia, forest milkberry, common reed, green monkey orange, black monkey orange and *Typha latifolia*.

Natural resources are thus extremely important for the everyday survival of the people in the research area. This becomes even more evident when one looks at the financial status of the people. As was discussed above (2.4.5), there is an unemployment rate

of 65% in the research area. There are very few job opportunities and most people are happy to find casual work at the holiday resorts of Ponta do Ouro and Ponta Malongane. As was also discussed, only a small minority of people receive financial help from people outside the area and even fewer people receive pensions. All these factors, together with the fact that many more non-local people are moving in (especially in the coastal part), increase the pressures on natural resources.

## **2. How do the natural resources of the conservation initiative help meet people's cultural, religious and identity needs?**

This question is closely related to the previous one, except that the focus is on natural resources used for cultural and religious needs. Since medicine cannot be separated from religion in the lives of the local people who inhabit Matutuine (4.2.1.1), the plants used for healing are also relevant here.

Besides plants used for religious and medicinal purposes, it was also shown that both domesticated and wild animals are used in traditional religious practices. Cattle, goats and chickens are used to venerate the spirits of the ancestors. Body parts, mainly the fat, of the following wild animals are also used for religious and medicinal purposes: vervet monkey, crocodile, spotted hyena, hippopotamus, lion, baboon and bushpig.

Special mention must be made of the cultural importance of the marula (*Sclerocarya birrea*) in the research area. As was discussed in detail above (4.2.3), a special first-fruit festival is held at the time when the marulas ripen. No one is allowed to brew *buganu*, the alcoholic beverage made with marulas, before the special ceremony is held. During the festival the ancestors are thanked for the fruit and only after the *inkosi* has drunk *buganu* is everybody else allowed to brew and drink it. This ceremony is of special cultural importance because it ritually re-establishes the position of the *inkosi* and the unity of his people.

The sacred forest where this ceremony takes place is also of special cultural importance. It was shown that there are various sacred forests throughout the research area and that the sanctity and importance of these places to the indigenous people should be taken into account in any development planning in the region.

**3. Do local people perceive any need to conserve natural resources, specific species, habitats, etc.?**

The answer to this question was sought by asking people whether it is possible for the people who live in the research area to use up all the wild animals, fish and plants found there. The resounding answer to this question was that it would be impossible since there are too many plants, fish and wild animals. This answer should, however, not be taken to mean that people are against conservation, but rather that they see nature, as was discussed in Chapter 4, as the eternal provider. Mbiti (1996:179) notes in this regard that African people in general believe that the universe was created for the sake of man, and because of that reason the creator ensures that man continually benefits from nature. Nature has always provided people with food and materials and people cannot conceive of any reason why this would end.

When spokespersons were asked about Transfrontier Conservation, most were very enthusiastic. However, this should not be taken to mean that people are necessarily pro-conservation, since most of them valued the idea primarily because they believe that it will bring employment opportunities to the area. The same amount of enthusiasm voiced for Transfrontier Conservation was also voiced for the development of a harbour at Porta Dobela, because people believe that it will bring employment opportunities to the area, despite the fact that this development will totally destroy the sensitive ecosystem of the research area.

What can be concluded is that the people in the research area do not value conservation *per se*, but that they value the benefits that will accrue from conservation developments, such as tourism (job opportunities). This is thus a classic example that conservation can work in Africa, and will be valued by African people, if they share in the benefits that accrue from conservation.

**4. Are or where there indigenous customary resource management systems in the area and are they being affected by the conservation initiative?**

The traditional authority structure was discussed in Chapter 2 (2.3). It was shown that the turbulent past of the people living in the research area has created a situation of

confusion and disorder. If there was a customary resource management system, it has also been disrupted. As was discussed, it is not necessary for a person to obtain permission from the *inkosi* and to pay homage (*khonza*) to him in order to settle on a piece of land. This is especially true in the coastal areas surrounding Ponta Malongane. In the traditional system, the fact that a person paid homage to the *inkosi* would entitle him to utilise the communally utilisable natural resources. At present, there is no control over the people who settle in the area and thus there is no control over the utilisation of natural resources.

The present situation can thus be described as a free-for-all system where everybody takes what he/she needs from nature. The present relatively low human population in the area allows this system to function, seemingly without too much negative effect on the ecosystem. However, an increase in the human population, mostly due to the influx of people into areas such as Ponta Malongane where they hope to find work, can rapidly alter the situation. If the human carrying capacity of the area is exceeded, what Hardin (1968) termed the Tragedy of the Commons could ensue. This situation develops when people who use a resource base communally start using it for commercial gain. In the process the communal resource base is destroyed. In the fear that they will not have access to communally utilised natural resources since so many people depend on it (even people outside their own region), people start to harvest natural resources before the natural resources have an opportunity to replenish themselves. In other words, the natural resources are not harvested on a sustainable basis. Over time, this creates a situation where the poorest people knowingly destroy the very resource base they are dependent on for their future because they have no other choice if they wish to survive the present.

##### **5. Does the conservation initiative affect access to land or resources and the control over them for one or more stakeholders?**

The exact boundaries of the Lubombo Transfrontier Conservation Area have not yet been established. It is generally accepted that the area between the Futi and Maputo Rivers, the so-called Futi corridor, will become a conservation area to link the Tembe Elephant Park and the Maputo Elephant Reserve. This area is by no means densely populated, but approximately 130 families (households) are living there. If these

people were forced to leave, then the conservation initiative would definitely affect their access to natural resources and it would affect the people living adjacent to this specific area. Plans would thus have to be made to ensure that resources can be utilised at sustainable levels by those people, or they should be first in line for employment by the management structures of the conservation area.

In order to persuade the local inhabitants to leave the areas they occupy at present, it would be necessary to buy or lease their land from them. This is a decision that will have to be made by the planners and developers of the conservation initiative. It was shown that 43% of the people in the research area are willing to make their land available for tourism development. This figure, however, was much higher on the coastal region where people have moved recently. People at places like Zitundo and Salamanga were not as willing to make their land available for development. This possibility therefore seems highly unlikely to bear positive results.

**6. Are there major economic activities (e.g. mining, timber extraction) in the area which do or could affect the conservation initiative?**

The current situation regarding major economic activities in the area was discussed in detail in Chapter 1 (1.3.3.3). The proposed Sappi programme for timber extraction in the area has been halted. The programme provided by Mr Blanchard for tourism development in the area has been halted due to his death in 1999. Blanchard's concession, encompassing the entire area, has since been subdivided into smaller concessions. However, there is a great deal of confusion regarding the sizes and boundaries of these concessions. The conservation initiative can only be implemented once this confusion has been cleared up.

A positive point is that many concessionaires in the area with whom interviews were conducted have the same aims for the area as that of the Peace Parks Foundation. They also envision restocking of the area with fauna and developing eco-tourism. It may therefore be possible to work with these people to ensure the successful implementation of the Lubombo Transfrontier Conservation Area.



The most problematic development in the area is the planned multi-million dollar development of the harbour at Porta Dobela on the southern boundary of the Maputo Elephant Reserve. When one looks at the situation at Ponta Malongane, with people from all over Mozambique moving there in the hope of finding employment, the projections for Porta Dobela are alarming. As was discussed in Chapter 1 (1.3.3.3), the development of the harbour will create many job opportunities. This will increase the number of people in the area and will in turn increase the pressures on the natural resources. These developments will not only destroy the natural beauty of the area and therefore the tourism potential of the area, but will also attract a landless mass of people living in squatter camps with accompanying levels of extreme squalor and poverty.

**7. Are there incentives or disincentives to conservation in the local context?**

As has been shown throughout the study, the local inhabitants of the research area are extremely reliant on natural resources for their survival. If conservation of these resources were to be defined as preventing people's access to them, then there would certainly be a disincentive to conservation in the local context. However, it has also been shown that there are no real employment opportunities for local people in the area. Therefore, if the conservation initiative were to create jobs and a further integrated rural development approach were to be followed for the local inhabitants, there would certainly be an incentive for conservation in the local context. Conservation would therefore be regarded in a positive light if it was geared to meeting the needs of local inhabitants.

**8. What are the actual costs and benefits of the conservation initiative and how are they distributed among the stakeholders?**

It is still too early in the process to answer this question in detail. The primary costs of the conservation initiative may be a loss of access to natural resources for local people. However, at the same time, they might benefit from tourism development in the area. Whether the cost (loss of access to resource utilisation) will be outweighed by the benefit (employment and development) is difficult to project. The natural beauty of the area and a dedicated effort to restock the area with wild animals will

certainly make it a prime tourism attraction in Southern Africa. If the local inhabitants were to share in those benefits, then surely that will outweigh the costs they have to pay for nature conservation in their environment.

**9. What contributions can the stakeholders make to the conservation initiative?**

The major contribution that can be made to the conservation initiative by the local inhabitants is the provision of labour, due to their low levels of education and skills training. The local people should be employed to construct tourist facilities and other endeavours necessary for the realisation of the conservation initiative. They should also be employed as labourers once the conservation initiative has been established. They can be employed as washers, cleaners, gardeners, mechanics and tradesmen. Local people can also be trained as game rangers. Initiatives like the Southern African Wildlife College, near the Orpen Gate of the Kruger National Park, provide local people with skills and enable them to benefit from nature conservation. The Peace Parks Foundation supports the Southern African Wildlife College, which is partly funded by the United States Agency for International Development and whose aim it is to train protected areas managers to manage those areas and their wildlife populations sustainably and in cooperation with local people (Peace Parks Newsletter 2000). The problem, however, is to establish a system whereby it can be ascertained that the local people are the benefactors and not people moving in from other areas. This aspect will determine the successful outcome of such an endeavour.

**10. Are there solid social and economic opportunities to link conservation objectives with providing for local needs?**

This question has already been answered in this concluding discussion. There are indeed opportunities to link nature conservation and socio-economic development in the establishment of the Lubombo Transfrontier Conservation Area. The Peace Parks Foundation has also committed itself to this goal. If the resource utilisation needs of the local people are fully comprehended and considered, then the local people can benefit from the Lubombo Transfrontier Conservation Area by the creation of employment opportunities and tourism development in the Matutue district.

## 5. 2. FINAL REMARKS

It was stated in the introduction to this study that the greatest limitation of the research conducted was the fact that the area between the Futi and Maputo Rivers was not extensively surveyed. This area, known as the Futi-corridor, is extremely important in the design of the Lubombo Transfrontier Conservation Area, since this is the area targeted to link the Tembe Elephant Park and the Maputo Elephant reserve. Due to poor road conditions, large parts of this area were inaccessible during the time when the research was conducted. Research is, however, currently being conducted by a team of which the author is a member, under the auspices of the Peace Parks Foundation as a continuance of the research reported on here. This research focuses on the natural resource utilisation patterns of the people living in the Futi-corridor and on the demography of the area, and is a duplication of the research that was done outside the corridor. The research will be completed by the end of October 2001.

Further research will also have to be done on the South African side of the planned Transfrontier Conservation Area. This research will have to investigate the demography of the area surrounding the Tembe Elephant Park as well as the natural resource utilisation patterns of the people living in the area. A large part of that research will be done independently of the larger Lubombo Transfrontier Conservation Area programme by the author as a doctoral study on the interaction between people and the environment in Maputaland.