

CHAPTER 11

CONCLUSIONS

The present study has shown that the Tshanini Community Conservation Area not only has the potential to contribute significantly towards biodiversity conservation in the heterogeneous Maputaland Centre of Plant Endemism, but that it will also serve as an example for conservation-based community development in South Africa. It is the first reserve of its kind to be established in a ward of a tribal area in the northern parts of the KwaZulu-Natal province of South Africa through the initiative taken by the local people themselves. This is a huge step forward for conservation in South Africa, given the current negative attitude of the rural people towards conservation. However, the success of such ventures will require structures to promote initiatives that will support their establishment and maintain their long-term sustainability. We can ill afford to lose any chance to promote conservation in South Africa where the highest known concentration of threatened plants and the highest extinction estimates for any area in the world are found (Wynberg 2002).

With the huge and still growing population of the world, especially in developing countries, and the resultant decrease in natural resources, the environment is becoming increasingly more important in development planning. Whereas middle and top management staff involved in conservation activities to a certain extent realize the need for community involvement as a valid conservation activity, they do not really understand how to go about it (Els & Bothma 2000). Most of these managers are natural scientists that have not been trained in people management skills necessary to be involved in, or to facilitate rural development. They most certainly are also not trained to be involved in the development of capacity at grass roots level in communal communities. However, although all conservation staff should today clearly have a degree of knowledge and expertise to deal with conservation-based community development in the ordinary run of their duties, it is unrealistic to expect them to be fully qualified in what is essentially a separate field of expertise. The answer to the seeming contradiction in the focus of wildlife conservation and rural development, therefore, must lie in the development of wildlife management programmes based on multi-disciplinary and multi-institutional interaction. These interactions will have to harness the scientific knowledge and skills found outside the natural sciences in the social sciences (Els & Bothma, 2000).

An integrated approach incorporating both conservation and human development needs is required. Such an approach should emphasise the value of existing conservation areas and view parks as a central component of conservation

strategies (Bruner *et al.* 2001; McKinney 2002), from which to promote the sustainable development of rural communal areas surrounding these sites (Editorial 2003), while establishing buffer zones around protected areas. Since the eradication of poverty is an indispensable requirement for sustainable development, the alleviation of poverty in areas surrounding protected areas will contribute largely towards the required future integrated approach. Developing countries like South Africa face the challenge of achieving economic growth and poverty alleviation without causing environmental degradation (UNDP 2003).

Core conservation areas like the Tembe Elephant Park cannot be the main driving force behind the sustainable development of rural communal areas surrounding the park, but instead should be used to promote environmental education and to do appropriate research on the ecosystem. There are basically two types of wildlife management: active management and passive management. Active management involves the manipulation of wildlife and their habitat, while passive management involves the prevention of any human influence. Only active management should be applied on a relatively small extensive wildlife production system or nature reserve that has been fenced. No natural area should be managed without an ecological management plan in place. The aim of an ecological management plan is to give scientifically based advice regarding the management options and recommendations. This will allow a sustainable use of a ranch or reserve without deterioration of the environment.

Both the nyala and the impala are highly adaptable and competitive and occur in relatively high numbers within the Tembe Elephant Park. Although they do not compete directly with one another in all the vegetation types within the park, with the nyala showing a preference for dense vegetation types and the impala showing a preference for vegetation of intermediate density, one of the two does, however, show a preference for every vegetation type that is preferred by every other herbivore in the present study. Either the nyala or the impala is thus competing with every other herbivore within the preferred vegetation type of that particular species within the park. Population numbers of both the nyala and the impala should therefore be kept sufficiently low in order not to have a negative influence on the vegetation or the survival of less competitive ungulates in the park. Although the herbivores are separated in terms of feeding height, the opening up of the vegetation by the nyala and the impala will have a negative influence on wildlife like the red duiker and the suni, which prefer dense vegetation with a closed structure. Population trends for all the ungulates in the present study do, however, appear to indicate an increase in the number of individuals from 1993 to 2003 and there is at

present no immediate threat of a decline in numbers for any of these populations within the Tembe Elephant Park.

No herbivore in the present study showed a preference for the Sand Forest/Grassland Mosaic vegetation type although the suni and the Burchell's zebra did use it in proportion to its availability within the park. Burchell's zebra was observed feeding on the grassland areas in this vegetation type, but it seldom entered the Sand Forest. Although the Sand Forest/Grassland Mosaic had the highest density (40.6% of all observations) of the suni in Tembe, its large size caused the overall density of the suni to be low. The destruction of the Sand Forest in the Tembe Elephant Park will thus have a negative effect on the survival of the suni, especially since this is the only vegetation type in the park where the suni occurs without competition from other herbivores like the nyala, impala or red duiker. None of the target herbivores in the present study appears to have a destructive effect on the Sand Forest within the park.

Key aspects of wildlife and their habitat should be monitored so that trends are noted in time, and management adjustments can be made accordingly. This is known as active adaptive management. It is of great importance to monitor the vegetation for changes at specific intervals in order to keep the stocking rate of wildlife at an optimum capacity, without detriment to the environment (Bothma 2002). Social behavioural patterns also play a key role in determining how different animal species utilise their habitat and therefore play an important part in determining the densities in which different animal species are found in a specific area. In sub-optimal conditions, the social structure of animal populations may be affected to such an extent that it can lead to a decline in numbers or even cause extinction (Joubert 2002). It is thus important to protect a viable portion of the preferred habitat of every target species within a reserve, and to keep competition with rare species to a minimum for the long-term survival of the regional biodiversity.