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Community-based conservation:
experiences from Zanzibar

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EXECUTIVE SUMMARY

Participatory approaches to conservation and resource management are increasingly being adopted worldwide. They range from minor involvement of local people, to increasingly sophisticated community-owned processes of conservation and resource management. Yet much of the literature associated with these approaches documents the theoretical background at the expense of the many valuable practical lessons learned.

This paper provides a practical and reflective account of a community wildlife management programme in Zanzibar, initiated to address the unsustainable hunting of three species of antelope. It describes how through working with key stakeholders, mainly rural village hunters, hunters' associations were formed as a precursor for establishing community-based conservation of the resource. New policy and legislation were piloted through the joint formulation of hunting by-laws with each village. The by-laws set out the rules for resource control and revenue generation mechanisms to promote community management and financial viability. Joint efforts between the government agency responsible for the wildlife resource and partner villages were simultaneously made to improve the implementation of an annual closed hunting season. Linkages between participating villages and key government institutions were strengthened through opening dialogue between parties.

The success of these initiatives have been curtailed by a number of difficulties and constraints, primarily:

- Institutional constraints and bureaucracy, meaning that by-laws agreed by villages remained unapproved and therefore impossible to implement
- Resource shortages, resulting in inadequate support to participating communities
- Continued loss of the antelopes' forest habitat through over-harvesting by poor neighbouring communities. Poverty remains the biggest challenge in achieving greater sustainability in forest, wildlife and agricultural practices in the coral karst areas of Zanzibar

A key lesson of these experiences is that whilst changes in attitude and approaches at a local level can, with the right support, be encouraging, there is a clear need for parallel changes in government attitudes, structures and processes. These changes take time, but will be vital if any community-based resource management initiative is to succeed.

COMMUNITY-BASED CONSERVATION: EXPERIENCES FROM ZANZIBAR

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Early participatory wildlife management efforts can be traced back at least 30 years in Africa (eg. Parker, 1964). But it is in the last 20 years that the participatory paradigm has developed to sophistication and become widely popular. The transformation of rural development approaches from the 1980s onwards has provided a new opportunity for some conservation agencies and policy-makers to begin to re-address the impasses between conservation and development (eg. IUCN, 1980; McNeely and Miller, 1984; Brundtland, 1987; Kiss, 1990; IUCN, 1992). There had been a growing realisation amongst conservation agencies and governments that protected areas all over the world were often part of a complex socio-cultural history. In East Africa exclusionary protected area management styles had been inherited from the colonial era. Colonial administrators tended to promote romantic ideals of a wild and uninhabited Africa in their management of wildlife resources (Anderson and Grove, 1997; Adams and Hulme, 1996). Many protected areas were created by excluding and/or severely restricting the production systems of local peoples in these new set-aside areas (eg. Little, 1984; Conte, 1996). The socio-ecological and political economy of local peoples and their natural resources were often misunderstood, overridden and exploited for new values and systems of production (eg. Collet, 1987; Shepherd, 1991; Conte, 1996).

These inherited policies were maintained through East African independence but ran into increasing trouble in the late 1970s and 1980s. During this period African governments were no longer able to afford the high costs of law enforcement and protected area management. As a consequence, the wildlife resource base began to dwindle alarmingly (Gibson and Marks, 1995). If anything, with the high levels of 'poaching' of floral and faunal wildlife resources, conservation agencies and governments began to realise that the future of the wildlife resource, especially outside protected areas, lay in the hands of rural people.

The reality of the inherited policies was that rural peoples were effectively disconnected from wildlife resources, despite varying levels of resistance to state authority - often reflected in high levels of illegal wildlife use. Frequently local people bore the substantial opportunity costs of the wildlife resources without deriving sufficient benefits. Based on a range of theoretical participatory paradigms and practical experience, a number of new initiatives were pioneered which experimented with various forms of participatory wildlife

1. An earlier version of this paper was presented at the Conservation and Development Forum, Istanbul, November 1997

management. These initiatives ranged from those analogous to compensatory mechanisms to much more advanced community[2]-based management pilots (see Box 1).

Box 1. Defining community involvement

There is a range of 'community participation' approaches (refer to IIED, 1994) that have been developed in association with nature conservation and sustainable resource use programmes. Although there are many variations, these approaches can be grouped as below. Progressing down the list, there are increasing levels of community participation, community custodianship of resource-bases, ownership of the management process and exposure to economic costs and benefits. Levels of self-sustainability and complexity tend also to increase as does the time taken for the approaches to achieve their goals.

- *Community service and out-reach programmes*: often established in association with protected area management with the aim of resolving conflicts between the protected areas and surrounding communities through relation-building and community development projects funded from protected area revenues. An example of such a programme is the Tanzania National Parks Community Service 'SCIP' programme.
- *Integrated Conservation with Development Projects*: piloted in the 1980s, these projects sought to bridge conflicts between conservation and development by focusing on the linkages while emphasising the maintenance of biodiversity. The projects aim to facilitate the participation of local people in planning and decision-making processes of the protected area while simultaneously trying to address the social and economic requirements of participating communities (Stocking and Perkin, 1992). There are numerous examples of ICDPs, such as those at the East Usambara Forest, Tanzania and the Impenetrable Forest, Uganda.
- *Community-based conservation programmes*: developed in Zambia (ADMADE) and Zimbabwe (CAMPFIRE) in the 1980s with variable success (see Gibson and Marks, 1995; Patel, 1998), these programmes sought, at least in part, to empower communities to manage their own wildlife resources as means for development and conservation. This was done by variably endowing participating communities with rights of resource custodianship, management and revenue retention. A large emphasis is placed on community institution strengthening, and development of micro-economic management skills and capabilities.

Since their inception, the more advanced community-based initiatives have had to contend with many problems - from operation in hostile policy environments, to negotiating with the interests of private, district and regional power élites, to coping with the under-developed capabilities of village level institutions. Yet in the face of these challenges, there have been some notable successes.

There is now a growing and extensive literature on community-based conservation - some of it increasingly merging into that of sustainable rural livelihoods. The academic nature of

2. The term 'community' is used widely throughout the literature, and in this context, recognising the homogenous connotation of the word. The term is used as a convenient collective expression for the variably heterogeneous nature of a group of people living in some form of locational and social proximity

much of this means that often the practical problems and challenges encountered in specific cases are lost amongst the wider context of the discourse. This short paper therefore seeks to present some straightforward and practical lessons drawn from a small community-based conservation initiative in Tanzania, openly discussing the practical problems that were encountered and the mistakes that were made. Some simple but hopefully useful conclusions are drawn which relate back to the theory of the approach and point towards methodological improvements that might be of use to others in similar situations.

The Case Study - Zanzibar

Zanzibar, which is part of Tanzania, is located approximately 40km from mainland Tanganyika in East Africa. It comprises two main islands - Unguja (the location of this study) and Pemba. Unguja island has an area of approximately 1650 sq. km (Harper 1974; Leskinen and Silima 1993).

The climate of Unguja is governed by the tropical monsoon system of the western Indian Ocean, which brings a bimodal pattern of rainfall. The annual temperature varies from 18-34C and the average rainfall is 1600 mm (Pakenham, 1979). A deep soil area extends along the western side of the island and a coral karst zone occurs along the eastern side and much of the south of the island. The vegetation in its natural state in the deeper soil areas was coastal forest and a mosaic of thicket-forest is likely to have covered the coral karst. Today, the landscape in the deeper soil area has been transformed through increasing inhabitation, especially in the last 200 years, into a densely populated agroforestry. In the coral karst, patches of higher thicket forest occur among extensive areas of degraded thicket and shifting agriculture. The last remaining areas of older-growth forest are protected as part of Jozani Reserve, soon to be designated as a National Park. The majority of Unguja's wildlife occurs in the eastern coral karst which is home to three species of mini-antelope: the endangered Ader's Duiker (*Cephalophus adersi*), the Zanzibar Blue Duiker (*Cephalophus monticola sundevalli*) and the Suni (*Neotragus moschatus moschatus*).

The antelope are widely hunted by hunters from rural villages and urban areas as an income source. The meat is a popular delicacy eaten at cultural events. Before the 1964 revolution (a political and cultural uprising which precipitated Zanzibar's union with Tanganyika to form Tanzania) each village had its own customary hunting areas, with hunting often managed by the village leaders (Archer, 1994). Since the revolution, hunting has fallen increasingly out of control - both in terms of customary management practices at the village level and also through negligible (pre-independence) law enforcement at the national level. As a result, the utilisation of the resource has become increasingly unsustainable and the antelope have undergone a drastic decline in their population and range (Archer, 1994; Williams et al., 1995). This decline has been exacerbated by continued destruction of the antelopes' habitat.

In 1995 a population survey of the antelope (Williams et al., 1995) and other ethnobiological work was carried out to establish the population size, distribution and status of the three antelope species. The study concluded that the mini-antelope populations had undergone declines in the last 12 years of up to 25 per cent for the Blue Duiker and 65 per

cent for the Ader's Duiker. The large decline in the Ader's Duiker is especially significant since this Zanzibari population is one of the last remaining in the world.

Prior to the field survey work, in early 1994 the Commission for Natural Resources (CNR) began to address the unsustainable hunting situation with a trial approach of conserving the mini-antelope populations at village level through the co-operation and participation of villagers. They did this by placing hunt registers in a selected number of villages. Unfortunately after an initial first season of success, villages stopped maintaining the registers and they became defunct. The hunt registers were potentially a very useful wildlife management tool, allowing the CNR to understand hunting practices and to assess the harvest of antelope each year. However, many hunters were apprehensive that the hunt registers were going to be a form of government control on hunting. Therefore, about 50 per cent of hunters recorded their hunting activities (Archer, pers. comm.), while hunters visiting from urban and other areas often purposefully avoided the formality - when they knew about it. The number of hunt registers was increased and their format was redesigned to maximise the validity of the data being collected. However, their up-keep began to decline drastically and few were filled out as the villagers and their leaders saw no benefit in them. Since the villagers perceived insufficient ownership of the antelope resource, why should they manage a resource for which they had no responsibility?

Learning from this experience, the CNR continued to refine the community wildlife management programme, through the formation of local hunter associations and the development of locally-defined and agreed by-laws. This case study describes some of the steps taken in the evolution of the community wildlife management programme, and reflects on the principles guiding this evolution, and some of the lessons learned along the way.[3]

3. Conservation officers from the CNR carried out the programme work from early 1996 onwards as resources and circumstances allowed. The programme was initially partially funded through the CNR by the FinnIDA Zanzibar Forest Development Project and, upon its start-up, supported by the CARE Jozani-Chwaka Bay Conservation Project as funds allowed

Reflections and Lessons

It was felt by the CNR that community resource management would only occur if some of the principles set out below were in place:

- A sense of long-term custodianship of the resource on the part of the community
- A conducive policy and legislative environment
- Strong institutional capacity at all levels - and especially at the village level
- Co-ordination and co-operation between different stakeholders and levels of administration
- Conservation education and a public awareness of enabling laws
- Strong partnerships between stakeholders
- Revenue generation from hunting activities

This section describes the steps taken, obstacles encountered and lessons learnt in pursuing these principles.

Ensuring Long-term Custodianship

With the nationalisation of land and wildlife following the revolution, customary ownership of the mini-antelope as a resource was eroded, and any degree of customary control over hunting previously exercised by villages was generally lost. The state did not, and was not able to, enforce colonial wildlife laws effectively and thus the mini-antelope became an open access resource, both for villagers and for outside hunters visiting the coral karst villages to hunt. Many villagers saw little point in trying to conserve the antelope when access to the resource remained open to anyone. In the few villages where antelope continued to be perceived as a resource belonging to the village, a higher degree of control was maintained and as a result antelope populations declined less (Archer, pers comm.).

It became very quickly evident in 1996 that a substantial amount of work had to be done to secure the long-term custodianship of the antelope population by villages and improve their management capabilities. Two main approaches were taken to achieve this:

1. The formation of hunter associations
2. The creation of locally-developed and approved by-laws

Building Local Institutional Capacity: The Hunter Associations

Community-based management institutions need to possess sufficient capability to manage a natural resource effectively. In situations where a community has either effectively lost its customary management capabilities, or never had the opportunity formally to manage a resource themselves, such skills and capabilities need to be (re)developed.

One way of doing this in Zanzibar was through the development of hunter associations in each village. The idea was to form groups of hunters who possessed an inherent interest in

conserving the antelope and who would be likely to do so actively as they became empowered. These associations were formed in 17 villages through a wildlife extension effort which was generally well received (Box 2).

Box 2. Forming hunter associations

Field workers visited a number of villages that were identified as potential partners on the basis of their local resource status. All the villages were located in the coral karst and had access to antelope populations. Through a process of formal discussions (in the presence and absence of field workers), hunters' associations were established in participating villages.

While these hunters' associations were not a community-generated initiative, they were as close an approximation as possible given the circumstances. A recurring theme in participatory development literature has been the importance of community-generated responses to development problems as compared to initiatives begun and marketed by an external agency. The former are preferable, being generally sustainable, while the latter are characterised as less sustainable, liable to collapse once the mediating agency has withdrawn. However, a well-known constraint constantly faced by practitioners is the project cycle. Short term project and funding cycles pressurise development workers into achieving results within set time periods at the expense of the longer term methodological ideal. Furthermore, development projects may often seek to address an urgent problem, such as in this case where the antelope populations are rapidly declining.

Experience with the conservation committees formed by villages participating in the ICDP showed that the initial composition of the community institution was less important than how they evolved (as their importance grew) over time as a product of dynamic intra-village power relations and stakeholder interests.

Creating A Conducive Policy And Legislative Environment: Developing By-Laws

Unless policy and legislation give a community the potential for a high degree of control and management of a resource, then any community-based natural resource management initiative will eventually flounder. The wildlife ordinance of Zanzibar dates back to 1919 and is, in many respects, obsolete. The legislation does not establish the right of a community to manage any wildlife resource. New related policy and acts of law for the environment and forest resources have recently been passed, although the wildlife legislation has not yet been revised. The new sets of forestry and environment legislation establish the right of a community to manage a set of natural resources under agreement and it is under these acts of legislation that the community-based wildlife management initiative has had to continue. Nevertheless it has been a major task piloting, through the process of developing hunting by-laws, the implementation of aspects of this new policy and legislation - especially in a historical context of state-centred power structures and control over natural resource management. However, the creation of local by-laws can be a powerful approach in a situation where there is effectively a legislative vacuum.

In 1996 the past practice of opening and closing antelope hunting on a six month rotating basis was reinstated. Despite being enshrined in law, the closed hunting season had largely been ignored for many years. This reinstatement came about through consultations at the village level with village hunters and leaders. Many hunters agreed that this practice had been beneficial in allowing antelope populations to recover. The closed hunting season was also perceived by the CNR as an opportunity to develop further the management capacity of hunters' associations, since during the closed season hunting by-laws could be developed in participating villages and ratified by central government. The hunters' associations in each village would then be ready for when the season was reopened to begin a trial period of antelope management at the village level.

By-laws were jointly formulated at the village level involving village leaders, conservation committees and hunters' associations under facilitation from the CNR. From experience, by-law formulation was initiated by providing villagers with a suggested format to take away and discuss amongst themselves so as to produce their own version. This was found to be the most efficient process, since villagers had no experience of developing by-laws. A total of 17 first drafts were formulated involving 21 different village areas. At the end of the closed hunting season, joint patrols between the CNR and villages were carried out to control illegal and detrimental hunting techniques. These patrols were a useful experience for community members who took part.

Ensuring Co-ordination and Co-operation

Often the communities trying to manage a wildlife resource are not independent actors but require the support and co-operation of other stakeholders (e.g. government agencies and urban hunters) and higher levels of administration (such as district and regional authorities, the police, the judiciary and the legislature). Developing appropriate and effective links between these institutions is necessary in order to produce a facilitatory environment which enables a community to manage its natural resources effectively. Thus, not only should communities be targeted for support and institution building, but the roles and capabilities of other strategic partners may often need to be strengthened.

To implement the 1996 closed hunting season effectively, co-ordination was necessary to develop stronger linkages and support between the CNR (which acted as the facilitator) and the other relevant institutions. Co-ordination and co-operation began at the village level where hunters (through their hunters' associations), village leaders, conservation committees and other village members were encouraged to participate fully in the closed hunting season and its enforcement. In order to engender strong support for effectively implementing the closed hunting season, the CNR also worked with district and regional authorities, the police, the armed forces, the Criminal Investigation Department, the National Hunters Association and other relevant institutions. The linkage-building and development of co-operation between these different institutions resulted in the 1996/7 closed hunting season being much better implemented than it would have been otherwise.

A cultural constraint to the implementation of the closed hunting season was the need amongst all stakeholders to be able to hunt during Idd-el-fitur (the celebration at the end of Rhamadhan) which overlapped with the closed hunting season. At this time, demand for

antelope meat is very high and while stakeholders agreed formally that the closed hunting season should be technically up-held, there was tacit recognition by everyone that hunting would occur and be difficult to control.

However, despite this constraint, the linkages which have been built to implement the closed hunting season will now be further developed to help the communities effect their wildlife management programmes. Communities will require the support and co-operation of district level administration, police and judiciary to implement their antelope management laws. The CNR will continue to act as a facilitator helping to resolve problems and ensure that the villages receive the support they need - for example pursuing law enforcement cases on behalf of a village or providing technical advice.

Educating Communities in Natural Resource Dynamics and the Existence of Enabling Laws

Conservation education plays a substantial role in eliciting the support, not only of direct resource users, but also of the wider community, for resource management. Community members who would otherwise be oblivious to conservation issues, may become active and co-operative when they understand the impact of such issues on their livelihoods. This is especially true when these people are members of a community which is developing its local resource management capabilities. Explaining how law facilitates community conservation and management of natural resources allows those communities to become aware of their rights and how best to use the law to achieve their resource management goals.

For example, whilst many hunters were well aware of the decline of the antelope populations, most were unconcerned about such declines as:

1. They did not perceive the antelopes to be finite, and
2. They did not feel responsible for the maintenance of the antelope populations.

Other community members were even less aware of the status of the resource. Upon initiation of the programme, it was immediately apparent that no community members were aware of their right to form associations and village by-laws to control hunting and habitat destruction. Extension was carried out through village hunting meetings which discussed management issues and avenues of action for the conservation of the antelope. In the wider community, the CNR used other media to raise awareness of villagers such as workshops, television and radio broadcasts.

Generating Revenue From Hunting Activities

Wildlife management must be financially sustainable if a community is to maintain and develop its conservation efforts. Wildlife should be part of a profitable land-use strategy and result in significant benefit flows to the community managing the resource. However, wildlife management can be costly, as evidenced by the frequently high operational expenditures of wildlife protection areas. Whilst these costs can be much reduced at the community level, community members do have to patrol their village area, law-offenders

have to be arrested and their cases pursued by community members, and community patrols need equipment and provisions. Revenue generation from hunting activities (by village and outside hunters) is a potential source for covering community wildlife management costs and maintaining the financial viability of community wildlife management.

The by-laws developed in 17 of the villages include details of community hunting permit fees, the proceeds of which will be directed to the costs of community patrols and antelope management. Community members have had relatively high expectations that such revenues will provide a steady source of income but it has been vital to try to reduce such expectations - especially since many of the village areas are becoming, or have become, marginal wildlife areas and antelope populations will take time to recover. It is envisaged that on recovery of the antelope populations, villages will be able to cover the management costs and derive a small level of surplus revenue for community development activities.

Coping With Constraints

Poor institutional development of participating communities

Often rural and remote communities have poorly developed institutional capabilities, and the participating villages in Zanzibar have been no exception. In addressing resource management issues, the community wildlife management programme has had to facilitate - at village level - the creation of new institutions and help strengthen weak existing institutions. The long term and difficult task of community institutional development is a factor often underestimated in the development of community natural resource management programmes (see Box 2).

Bureaucracy of government institutions

The development of community wildlife management in Zanzibar has been much frustrated by the high degree of government bureaucracy. By-laws which were ready early on in the open hunting season in 1997 had, 16 months later, remained unapproved by central government, despite the continued efforts of the CNR to follow up the approval process. An alternative approval avenue was discovered but this also required the support of the attorney general's office and co-operation was slower than hoped.

The slow approval of the by-laws has hampered the development of the community wildlife programme as villagers have remained unable legally to issue village hunting permits, collect revenue, patrol their village areas and deal with law offenders. A further negative effect of the slow approval of by-laws is that some members of the hunters' associations have become dispirited and disappointed with the CNR, which despite its best intentions is itself constrained by a bureaucratic situation largely beyond its control.

Low levels of law enforcement - Zanzibar is a small island!

Zanzibar is a small island - almost everyone knows of, or is related in some way, to everyone else, especially at the village level. Therefore low levels of law enforcement are, to a fair extent, widely culturally tolerated or accepted. Law enforcement is critical -

whether implemented through customary or informal mechanisms at village level or through more formal Westernised systems of governance. Poor law enforcement poses a substantial problem at all levels, from village to the national, and self-regulation is a challenge that the community wildlife programme will have to overcome. However, in the current cultural and socio-economic situation, achieving high levels of law enforcement will be a substantial accomplishment.

Resource shortages limit follow-up and extension work

The development of the community wildlife programme has been constrained by a lack of availability of personnel and basic resources. This was a constant problem and resulted in sporadic periods of work with participating communities interspersed by relatively long periods of inactivity. Villagers often became frustrated with the slow development of the community wildlife management programme, straining the partnership between the CNR and participating communities. Such a situation is a poor context in which to support partner communities. The lack of resources has become increasingly limiting and critical with declining donor contributions and lack of available funds from central government.

The pressure of poverty

It is contendable that people will opt to use their natural resources sustainably only if such actions constitute part of a socio-economically optimal livelihood strategy (Milner-Gulland and Mace, 1998). However, with high levels of poverty in Zanzibar, the prime concern of many rural and urban people is the need to obtain their basic livelihood requirements. This may often mean that they use the resource base in an unsustainable and frequently highly destructive way. The greatest impact of human poverty on antelope populations arises from firewood cutting, mostly carried out by the poorest of Zanzibari society, which indiscriminately destroys and degrades the antelope's habitat.

The linkage to rural poverty is a highly complicating factor. An important part of the CNR's community management programme was an effort to encourage community-based forest management - as had been promoted with the wildlife programme. This programme was seen as an increasingly key strategy for reducing the amount of forest degradation which continues apace in Zanzibar. Emphasis was placed on community institution strengthening, participatory creation of simple land-use plans and improved resource management practices. While not aiming to achieve sustainable harvest rates in the short-term, it was hoped that the initiative would help participating communities achieve greater control over their declining resource base. This programme singularly failed in its uptake with the exception of two villages. There were a number of likely reasons including the following:

1. The forest/thicket resource is crucial to many poor rural people living in the coral karst villages. Not only is it the key source of domestic fuel but it also plays a critical role in generating rapid income as and when the need arises. Given the importance of the resource base, communities were unable or unwilling (given the likely opportunity costs) to take any steps that might potentially risk or change their access to the resource. Furthermore, it became apparent that in certain villages some poor people were being kept in debt by firewood merchants. It is interesting to note that in the two

villages in which the community forest programmes developed, forest resource use pressure was relatively much lower and the associated village resource management institutions were older.

2. Historical and contemporary social structures and power relations within and between communities were not understood. Indeed, given the lack of the CNR's resources and personnel qualified in this field of inquiry, they were effectively unquantifiable. These considerations were therefore treated as a 'black box' in which there were many unknowns - it was hoped that over time these dynamics would reach their own equilibrium in the participating communities. Evidence of this was provided by the following observation: A new forum was created by the CNR to which all participating communities could send representatives and at which inter-village issues could be debated and resolved. It is interesting to note that the composition of this forum as well as the conservation committees of several participating communities changed radically over a three year period. Undoubtedly power dynamics were beginning to be played out in these new fora. One notable contributory factor in this regard was that these fora were owned entirely by the participating communities themselves.

The most likely way of helping to improve the success of the community forest management initiative would be to carry out a detailed socio-economic and anthropological study to understand better the linkages between forest utilisation and poverty. With a better understanding of these linkages, appropriate interventions could be designed.

Future Programme Development

If the community wildlife management programme is to succeed, it will have to:

- negotiate with higher government to ensure that the by-law ratification process is completed.
- continue to support the villages as they implement their new by-laws by helping them to resolve legal and administrative problems as they arise. A critical area here is the enforcement of by-laws. The police and judiciary need to support fully the hunters' associations in their enforcement actions, if the associations' authority is not to be undermined. The role of the CNR as a facilitator is this regard may be crucial.
- build the management capacity of village hunters' associations through training in permit and revenue management, patrol practices, and participatory wildlife monitoring.
- develop robust ecological sustainability indicators which guide the village hunters' associations in setting off-take levels for Suni and Blue Duikers. This can be achieved through village-based patrols and simple wildlife monitoring measures.
- promote the creation of small village forest reserves - key for the conservation of the Ader's Duiker. Encouraging villages to base their reserves around traditional cultural groves would further promote and strengthen cultural ties to the resource base.
- assess the financial viability of the community-based initiative - especially investigating whether individual village revenues meet implementation costs, and if not, identifying and piloting appropriate solutions.
- continue conservation education work with rural and urban communities.

Some Concluding Remarks

In situations where wildlife harvesting has largely become unregulated, actions to manage or monitor the ecological status of the wildlife population should be out-weighed by the urgent need to develop local institutional capacity to regulate harvesting. This is especially the case where further efforts to enforce the protection of the wildlife resource are likely to fail as a result of the chronic incapacitation of responsible government institutions. Such a priority setting is, in effect, a race against time. It is also a risk, as community institutions may fail to develop sufficiently in time to conserve the wildlife resource.

CNR's initial emphasis on placing hunt registers in villages, whilst potentially generating important information, failed to address the political ecology of the situation. As a result the programme faltered and eventually failed. With the effort which has now been directed at building local institutions, the importance of wildlife monitoring and ecological management has become part of a wider process of change. The emphasis has shifted from a focus on ecological monitoring and regulation to that of re-addressing inequalities in resource ownership, access and management.

Real participation and ownership of resource management processes at the village level may often precipitate challenges to, and rely upon changes upwards through, government power structures. In the absence of facilitatory changes to government policy, power structures and practices, community-based natural resource management is unlikely to succeed in the long-term.

That a high degree of success has not yet been achieved is largely due to the time required to transform a range of institutions' attitudes, structures and processes for new development and governance policies. Such changes will be required for any programmes which wish to encourage community-based management of a resource, be it wildlife, forest or agriculture. Therefore, simple pilots such as the approach described here may be indispensable in revealing the many challenges and lessons to be learnt for more complex and critical community-based management initiatives.

A key approach in the community management programme in Zanzibar was the use of by-laws. While conceptually not entirely alien in the African context (there are historical analogies), there remains a degree of uncertainty as to their potential effectiveness as an innovative form of customary management. Can the by-law bridge the gap between customary resource regulation and formal post-colonial systems of governance? It will be interesting to see how the participating communities in Zanzibar adapt this structure to their context and reality.

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