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Expanding Biodiversity Conservation Beyond the Official Mandate of the Dwesa-Cwebe Nature Reserve of South Africa: qualitative assessment based on Nqabara administrative area

By

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Expanding Biodiversity Conservation Beyond the Official Mandate of the Dwesa-Cwebe Nature Reserve of South Africa: qualitative assessment based on Nqabara administrative area[1]

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Abstract

This paper addresses the problem of extending biodiversity conservation onto the communal lands of the Dwesa-Cwebe conservation area in the Eastern Cape, South Africa, by investigating the conditions that must be fulfilled for any success to be registered. These conditions were derived based on a qualitative survey conducted in the Nqabara Administrative Area. The study developed a conceptual framework to unravel the complex nature of the whole community conservation initiative. A focus group discussion was adopted as the data collection method; and the underlying factors that have contributed to the success of the initiative in the Nqabara Administrative Area were identified. Appropriate coding was assigned to each distinct and major factor for proper presentation of the results and observations were appropriately indicated to buffer the explanation of the achieved results. Recommendations were subsequently made for the Dwesa-Cwebe in terms of the decision-making instruments that demand critical consideration for any successful community biodiversity conservation to be achieved.

Keywords: Dwesa-Cwebe, Nqabara, biodiversity conservation, communal land

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1 Introduction

The importance of extending biodiversity conservation beyond the boundaries of officially designated protected areas (PAs) has recently been recognized (Scoones et al., 1992; Halladay and Gilmour, 1995; Mc Neely, 1995). The officially designated PAs of the world are found to be providing insufficient representation of the important biodiversity components (ecosystems, species, vegetation types) that are worthy of being conserved (Margules and Pressey, 2000; Pressey et al., 2002; Rodrigues et al., 2004; Chape *et al*., 2005). In a sense, the insufficient representation of biodiversities through the officially designated PAs has been attributed to the fact that large numbers of biodiversity components are sometimes located on lands outside the officially designated PAs (Mulongoy and Chape, 2004). To worsen the case, the level of advancement in technological know-how as we cross the threshold into the 21st century has been ascertained to be resulting in many existing biodiversities on these lands outside the officially designated PAs being in danger of extinction (Pimm et al., 2001). This is because of the threats- ranging from deforestation and habitat fragmentation, encroachment, pollution, invasion of alien species, wild fires, logging and hunting- being faced by these unprotected lands (Mas, 2005; Ervin, 2003b; Carey et al, 2000). Hilton-Taylor (2000) indicated in his study that some 25% of all mammals, 12% of birds, and 20-30% of reptiles and amphibians are endangered. All this perhaps may be as a result of non-alignment of biodiversity conservation with the land use medley that exists in most regions of the world. To salvage the situation, the IUCN has been coming out with several strategies- like the Water and Nature initiative, the Livelihoods and Landscapes strategy, Mangroves for the Future and Global Marine Programme- just to ensure that biodiversity conservation is practiced at its best suited locations (IUCN,). Furthermore, in the same vein, there is a general agreement among the delegates that attended the recent 2003 World Parks Congress held in Durban- South Africa, that the global reserve system need being expanded to cover lands outside officially designated PAs to prevent the disappearance of plants and animals.

With particular reference to South Africa which forms the prime focus of this study, the PAs within the country cover less than 6% of the national territory; whereas the country

is recognized as one of the seventeen mega diversity nations of the world. Although South Africa just covers 2% of the total world's land area, it is a home to not less than 10% of the total world's plants and 7% each of the mammals, reptiles and birds. In fact, three of the world's most categorized hotspots- the Cape Floristic Region, the Succulent Karoo and, Maputaland-Pondoland-Albany- are located within the nation's boundaries. With all these, as at present, the PAs do not give adequate representation of the full range of the biodiversity types that demand conservation. For example, out of 441 vegetation types found in the country, 110 are not protected at all. In addition, 90 vegetation types have less than 5% of their target area for biodiversity conservation protected; and more than 300 vegetation types have less than half their biodiversity target protected within statutory protected areas (National Spatial Biodiversity Assessment [NSBA], 2004). Therefore, the obvious solution to the impending problem of inadequate representation may be to extend biodiversity conservation outside the boundaries of the current designated PAs.

Varying studies have addressed this issue of extending biodiversity conservation onto lands beyond the boundaries of officially designated PAs and involvement of communities in the management and conservation of biodiversity through diversified strategies, namely: (1) Community-based natural resource management [CBNRM] (Goldman, 2003; Gujadhur, 2000), (2) Biodiversity stewardship (Ezemvelo KwaZulu-Natal Wildlife, 2008; Murombedzi, 1999), (3) Collaborative management of protected areas (Borrini-Feyerabend, Farvar, Nguinguiri, and Ndangang, 2000; Borrini-Feyerabend, 1996), (4) Community wildlife management [CWM] (Virtanen, 2003; Songorwa, 1999), (5) Co-management of Contractual National Parks (Reid, Fig, Magome, and Leader-Williams, 2004). However, very few of these strategies have been reported to have met with successful implementation. This may be due to inadequate evaluations of the different target areas based on relevant demographical characteristics prior to the implementation of the conservation programme (Kepe, Cousins, and Turner, 2001). For this purpose, focus need being directed towards investigating the necessary conditions that need to be met in order for extension of biodiversity conservation programmes onto communal lands to be successful.

As it may be perceived, communal land owners do not derive direct benefits from biodiversity conservation on their lands. Given the existence of other income generating land uses, communal land owners usually choose those land uses ahead of biodiversity conservation. If this trend continues, then, biodiversity will be threatened in the areas where it has great potential of existence. There is thus a need to ensure that communal land owners conserve biodiversity but, this will not occur naturally given the existence of competing income generating land uses. Communal land owners need to be given incentives to conserve biodiversity. It follows that the identification of an appealing package of incentives that can inspire and motivate communal land owners to adopt land use practices that are compatible with biodiversity conservation becomes important. Essentially, considering the widely varied cultural and social heterogeneity found in South Africa, an array of different approaches and models need to be developed to make the incorporation of communal lands into conservation estate easy and readily acceptable to the local people. This is a research gap which has to be explored with urgency and, therefore, the focus of this research work. This study, therefore, unravels the principles to guide the crafting of such a package of incentives using the Dwesa-Cwebe area of the Eastern Cape as a case study. The main objective of this paper is identification of land use practices and incentive options, both economic and non-economic, which are consistent with biodiversity conservation and could be used to inform decision making about extending conservation unto the communal lands in the Dwesa-Cwebe community and other areas of the Eastern.

The rest of this paper is organized as follows: section 2 gives detail situational analysis of the environmental condition of the study areas in terms of the economy, social life, biodiversity conservation, policy, land ownership, land-use statues, and the attitudes of the community people towards protected areas and conservation. Section 3 discusses the methodology employed in this study, while section 4 deals with the results and discussions; and finally, the references are provided at the end.

2. Study Area

Dwesa-Cwebe is located in the south-eastern coastal part of South Africa. According to Timmermans and Naicker (2002), the target area of study, Dwesa-Cwebe is bounded in-between two rivers: the Dwesa side is bounded by Nqabara River while, the Cwebe side is bounded by Ntlonyane River. The two rural settlements are also partitioned by a river called Mbashe. Both Nqabara and Ntlonyane, together with the Mbashe, are located parallel to one another and are perpendicularly positioned to the Indian Ocean which could obviously be termed as another boundary for both the Dwesa and the Cwebe settlements. Dwesa-Cwebe has a land area of about 235km^2 in size and consists of both state and communal lands. The inland boundary is formed by the bounds of the villages that abut the fence of the Dwesa-Cwebe Nature and Marine Reserve which occupies the coastal portion of the territory. Among these villages is the Nqabara Administrative Area (NAA), which also shares the same demographical and natural resources characteristics as the Dwesa-Cwebe. For the sake of this study therefore, all references given to the Dwesa-Cwebe in terms of the natural environment profile accommodates the description of the NAA inclusive, except for where threats to resources is discussed.

The Dwesa-Cwebe area consists of a nature reserve called the Dwesa-Cwebe Nature Reserve. The reserve is categorized as a provincial reserve and it contains a marine protected area and two protected state forests. According to the Department of Economic Affairs, Environmental and Tourism (1999), the coverage of the nature reserve boundaries is approximately 57km^2. The Dwesa part of the reserve consists of indigenous forests (80% of the total Dwesa part), coastal grassland and other types of habitats (which altogether covers the remaining 20% of the Dwesa part). The Cwebe part also has same composition as the Dwesa part, but these are in ratio 50:50. Occurring generally in the inland part of the Dwesa-Cwebe nature reserve are varying forest types, and the grasslands are located parallel to the coastline on a strip of land.

Palmer, Timmermans and Fay (2002), indicated that there exists a number of habitat and vegetation types in the Dwesa-Cwebe area. They serve as reservoirs for the rare species of biodiversity that are of concern for conservation in the area. These habitat and

vegetation types range from marine, wetland, estuary, coastal forest, valley thicket, and coastal grassland. In addition, based on a report presented by the ECPB, there are a number of introduced game species in the Dwesa-Cwebe forest areas; these include Red Hartebeest, Cape Buffalo, Eland Blue Wildebeest, Burchell's Zebra, White Rhinoceros and Blesbok; and Crocodiles into the rivers (ECPB, 2006). Palmer *et al.* (2002) further noted that there is a strong relationship between the people of Dwesa-Cwebe, their land, and the natural resources therein.

According to the Dwesa-Cwebe Development Plan (2003), the uses to which these natural resources are put include: land for agriculture, wetlands for drinking water and watering of the flocks, edible wild plants for preparation of Mfino (a traditional wild spinach dish), particular plants for medicinal purposes, woods for construction of structures (such as kraals, homes, fences, and chicken pens), marine animals for food and medicinal use, wild forest animals for food and medicinal concoctions, sand for brick-making and plastering purposes, and reeds for making sleeping mats and beer strainers.

Environmental Impacts and Threats from Resources Use

Dwesa-Cwebe community has a long history of occupation as a settlement. Therefore, human activities that have resulted over time were reported to have got some impacts on the natural habitats in the area. This section relies mainly on the information given in the Dwesa-Cwebe Development Plan (2003) to explain some of the threats posed by such human activities on achieving biodiversity conservation in the Dwesa-Cwebe community of the Eastern Cape; and these include: (1) over-exploitation of the marine resources, (2) overgrazing which gives way to erosion action, (3) land clearing and fragmentation due to agricultural activities, (4) invasive alien species, and (5) unsustainable harvesting of both plants and wild animals.

Over-exploitation of marine and estuarine resources was reported to be taking place in the Dwesa-Cwebe settlements. This could have affected various species through change in population size or biomass, change in body size, sex ratios, age composition, change in community composition and structure and change in life-history strategies. Also, the

sands and shingles found in the area are used in construction works. This has warranted this area being declared a priority conservation zone. Furthermore, to salvage the situation, some parts of the marine area of Dwesa-Cwebe have been declared a Marine Protected Area (MPA). In total, not less than 18 000 hectares have been conserved within the boundaries of the MPA; and no fishing, except line fishing may take place for 6 nautical miles out to the sea. Despite the fact that this mechanism was placed on ground to reduce over-exploitation, the community still finds its way into the nature reserve for illegal poaching of the protected resources (Timmermans, 2002).

In addition, the estuarine habitats at the Dwesa-Cwebe are greatly influenced by the changes in condition of the surrounding habitats; for example, overgrazing by animals. As indicated by Timmermans (2002), one of the most important threats to the estuarine ecology in the study area is silting; this occurs as a result of erosion activities that take place at the upper parts of the catchments. This was reported to be very important as it can lead to irreversible changes in the estuaries. Water flow may also be disturbed when the mouths of the estuaries experience development of sandbars that prevent both entry and exit of water. This situation results in increased temperatures of the estuaries and the salinity levels, especially in the summer periods; and this is quite disastrous to majority of aquatic species.

The Dwesa-Cwebe environment also demonstrates land fragmentation and loss of habitat through land clearing for agriculture and settlements. Areas that were previously noted to be forested near the densely inhabited ridges were consistently undergoing conversions to either grasslands or farmlands; and most of the grasslands were in turn getting converted to settlements with abundant homesteads. In Cwebe side, where there are some suitable dolerite soils, some larger areas have been converted into maize fields. For example, the community is extracting sand for building and brick making at several sites, such as an area on the Mbashe river floodplain where sand has been deposited as a result of flood deposition. Therefore, in connection with the sand mining, the slope near the entrance to the Dwesa Nature Reserve suffers quite severe erosion.

Furthermore, unsustainable harvesting of ornamental and medicinal plants has led to some plant species to become extinct outside of protected areas. For example, some of the medicinal plants that were used to be collected in the grasslands of the Dwesa-Cwebe could no longer be found. However, it was indicated that collection of plant species within the confinement of the Nature reserves have been banned since the signing of the restitution agreement. In addition, collection of wood both for cooking and building of homesteads was also reported to be taking place from two fenced forests located within the nature reserve and also from the pockets of indigenous forests located outside the fences of the nature reserves. Woodlots and acasia Woodlands which have developed from abandoned fields on the Dwesa side of the Mbashe River were also being exploited for the purpose of collecting woods to a lesser extent.

Overgrazing of the grasslands in the Dwesa-Cwebe community has also resulted in habitat degradation. Compensatory burning, which is also done to encourage the growth of new off-shoots for their animals to graze, is as well resulting to degradation of habitats, changes in species composition and decreased productivity. Unsustainable rangeland management employed by the community people has resulted in degradation of most of the grasslands of the Dwesa-Cwebe area and to a loss of floristic diversity.

Invasive alien plants are having an increasingly significant impact on the biodiversity of the Dwesa-Cwebe community. Some of the invasive alien plants reported to be seriously invading the area are *Solanum* species; the like of: *Solanum acanthoideum* and *Solanum incanum* (the Bitter Apples), *Solanum seaforthianum, Solanum geniculatum,* and *Solanum panduriform.* These are found on the forest and thicket margins, and around the homesteads. *Lantana camara,* wild specie, is also *invading* rapidly in the Mbashe river valley. Also found there are two *Senecio* species: *S. tamoides,* the Canary Creeper, is found growing robustly in the forest smothering indigenous forest plants and *S. madagascarensis*, the Canary Weed, is evident widely in unploughed lands, roadside verges and troubled lands. There is also Scotch Thistle (*Cirsium vulgare)* which is found in the same habitats as the *S. madagascarensis*. Guava trees, *Psidium guajava,* are also

alien plant specie and it is widely found growing in the forest and is spread by birds and humans.

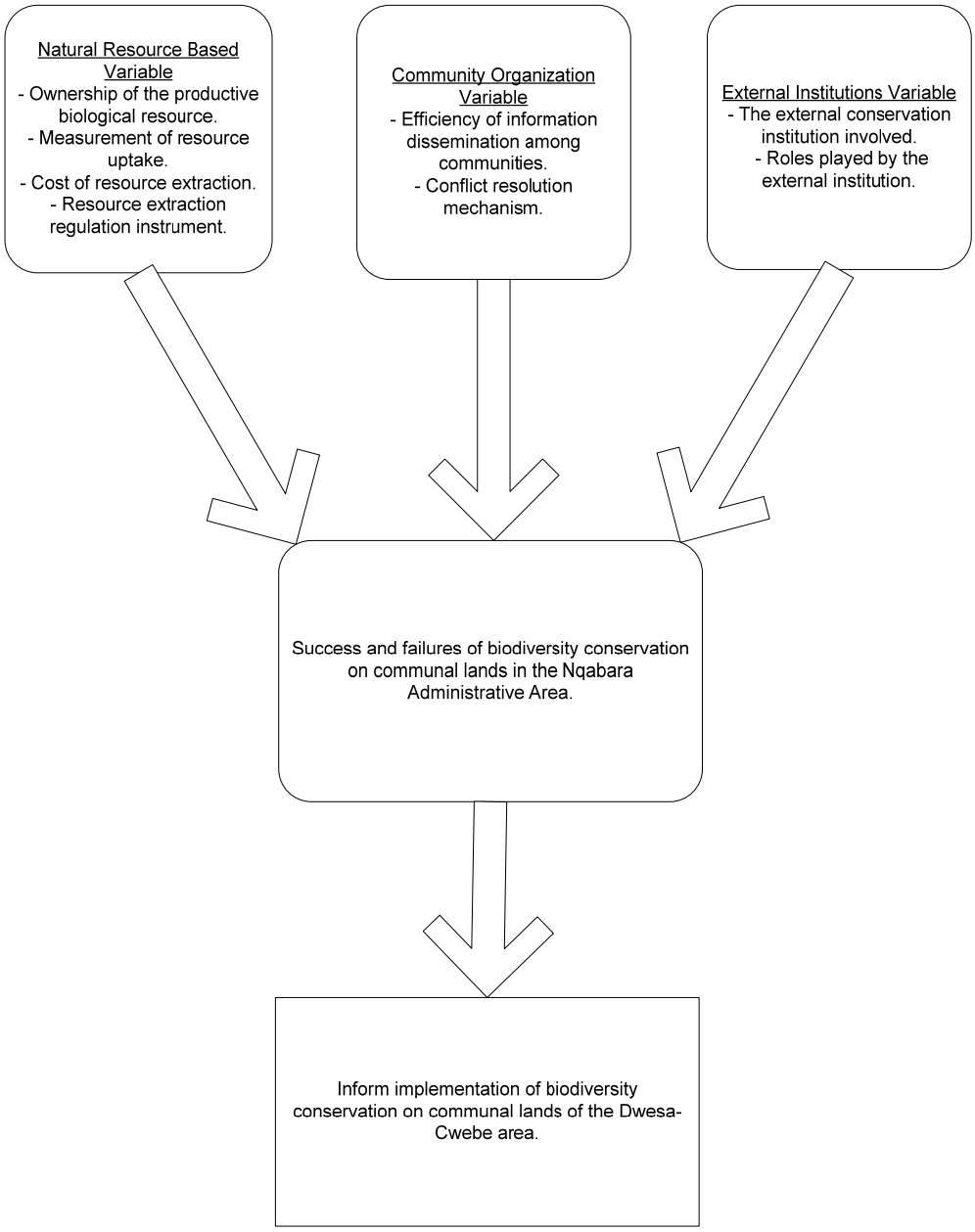
Timmermans, (2002) reported that certain wild animals, the like of bush pig, monkey, jackal, and caracal, are creating problems for the community people farms. Bush pig was indicated to be destroying their farm crops, monkeys eating the immature maize and cobs, and jackal and caracal killing their livestock. Therefore the community members, in order to abate the troubles from the forest animals, dig trenches around their farms for the animals to fall into and then be captured.

The incidence of pollution has also been noticed with the ground water system, the wetlands, forests and rivers. This could potentially cause deterioration in the well-being of the marine resources and possibly their population decline. So many factors have been attributed to contributing to this problem, part of which are: lack of sanitation facility in the residential areas, settlements creation on the watersheds, limited availability and poor quality of arable lands, and increased mortality of livestock animals due to diseases.

3. Approaches and Methods

This section presents the conceptual framework underpinning the methodology used in this study to craft a suitable model towards extending conservation of biodiversity on the communal lands of the Dwesa/Cwebe in South Africa.

The overall objective of this research work is to implement biodiversity conservation on the general communal lands of the Dwesa-Cwebe. To achieve this, the study employs a detail assessment of the Nqabara Administrative Area based on the success and failure of its ongoing biodiversity conservation initiative. The underlying reasoning behind this is to learn some valuable lessons from the Nqabara Administrative Area in order to inform decision making for the implementation of a conservation programme at the general Dwesa-Cwebe area.



Thus, to properly evaluate the community conservation initiative at the Nqabara Administrative Area, this study makes use of some certain constructs which are: (1) the natural resource based variables, (2) the community organization variables, (3) and the external institution variables as presented in the conceptual framework. These constructs are conceived in this research to be of utmost and invaluable importance in understanding the complex model through which the conservation initiative at the Nqabara works. They

are thus considered in detail in this work in order to measure their individual contributions to the overall success or failure of the initiative.

The natural resource based variables consist of the kinds of biodiversity species being conserved at the Nqabara Administrative Area; on which land are these biodiversity species located; who has the access rights to them; how are these resources monitored in terms of quantity that could be harvested at a time; and the regulations put in place against violation of general management rules for their conservation.

The community organization variables are derived from the fact that the natural resources management has to rely with the community if the resources are occurring on the community lands. Based on that, this study considers coherency level within the community in terms of unison of thoughts and ideas, information dissemination methods being adopted to make sure that decisions made on conservation issues are fully aware of throughout the community, and the institutions placed on ground to assist on conflict resolution among the different community stakeholders involved in the conservation exercise.

The external institution variables pointed out in the conceptual framework refers to the outside agencies that are involved in a way or the other, towards making sure that the conservation initiative at the Nqabara Administrative Area is a success. This construct comes about based on the conception that the Nqabara community, being rural and mostly uneducated could not have possessed adequate conservation knowledge and skills that could have enabled them to initiate a conservation programme regardless of ensuring that it does not result to a failure. This study assumes that there must be forces of some external institutions behind the whole initiative. In this respect, the external institution variables encompass factors like; which external bodies are involved in the conservation exercise and which roles they have played to make sure that the community is adequately trained and equipped in order to carry out their conservation role, with regards to the natural resources found on the communal lands.

Data requirements

As observable in the conceptual framework, there are some listed factors under each of the constructs upon which data is to be collected in order to fully gain the understanding intended for the individual construct. In respect to this, a focus group discussion was carried out at the Nqabara Administrative Area with all the local bodies, constituting the key community stakeholders involved in the community biodiversity conservation exercise. The various constructs tackled in the discussion, and the underlying reasons behind each of the factors measured for each of the construct is hereby detailed as below.

(a) Natural resource based variables

The tenure system of the lands with the biodiversity: Understanding the tenure system could be very important in determining either the success or failure of the conservation activities. In fact, this presumption goes in line with the submission of Muchapondwa *et* al. (2009) who reports that various systems of tenure underpin the land use mosaic. For example, state-owned lands, communal lands, private lands, and that for the commons would definitely have different uses to which each could be put.

Resource uptake measurement and monitoring: This was investigated to confirm if the proclaimed conservation initiative which gave reasonable allowance to resource use for the sustenance of livelihood is actually going to stand the test of time. This is because one could actually consider it logical to think that the rate at which resources are being harvested from the conservation area should not by any means outweigh the rate of regeneration of the resources themselves in order for the ecosystem to remain balanced without obvious depletion of biodiversity species.

(b) External institution variables

Roles of the conservation agency involved: Since the level of education and know-how mostly found in local communities is very low and would not in most cases, be adequate to actually carry out conservation activities at a standardized level, most efforts for conservation do involve supports from one conservation agency or more. Therefore, it is imperative to assume that there could have been an external conservation agency in the

case of the NAA which could have contributed so immensely to make the initiative a success.

(c) Community organization variables

Organization and coherency level within the community: The researcher presumes that conservation initiative on a communal land could not have been possible without a reasonable level of understanding among the people in the community. Therefore, the focused group was asked questions relating to how they coordinate themselves and actually see that almost everybody follows the same direction.

Efficiency of information dissemination and conflict resolution structure: Without proper and efficient means of disseminating information among all the villages under the NAA, there could be lots of distortion in information which could possibly lead to chaotic situations at times in the area. Nevertheless, the fact could not as well be ruled out that with good information dissemination system, there is still the possibility of having misunderstandings at times. In situations like this, the researcher wishes to know how the community resolves their differences.

Focus group discussion- the data collection method

Focus group discussions are a form of group interview which rely mainly on guided dialogue among research participants on various aspects of a general topic, for the sole purpose of generating valuable data that could help in arriving at reasonable decision-making results (Krueger and Casey, 2000). In the light of this, this study carried out a focus group discussion at the Nqabara Administrative Area to uncover issues and factors that contributes to the successful implementation of community biodiversity. Eighteen open-ended questions were posed to the respondents which comprised of representatives from the different interest groups that constitute the local stakeholder bodies to the biodiversity conservation initiative.

The researcher could only speak and understand English language and, for that, an interpreter was used to translate the conversation from English language to the local language of the respondents, and also vice versa. A tape recorder was used to capture all

the information generated from the group discussion in alternative to hand-recording on papers by the researcher. The tape recording was later transcribed and merged with the information recorded on papers for critical evaluation to group the information into various meaningful subheadings of contributing factors to the successful implementation of the conservation initiative.

Data analysis

To analyze qualitative data, Henning (2005) proposes the use of content analysis. He notes that content analysis implies that the researcher identifies the main elements from the responses given by the research respondents in order to determine evolving ideas. In this study therefore, focus was directed on all the reactions from the research respondents, both in terms of statements and behavioral expressions as regards the directed questions on the factors that have ensured the successful accomplishment of the conservation programme at the Nqabar community. In this regard, this study was able to identify points with commonalities and differences which were then cautiously articulated under the different sub-headings (Codes) for proper presentation of the results.

4. Results and Discussions

Natural Resources Management in the Nqabara AA

The focus group indicated that the lands on which biodiversity species of conservation importance are found belong to the community as a whole and they are placed under the management of the Chief Head of the Nqabara community. On the basis of this, the whole community has entitlements to access and harvest the resources found in the forest. This factor seems very vital to achieving success in any community conservation management initiative as it agrees with the submission of Kepe *et al.,* (2001) relatively to the underlying factors for community wildlife management initiative for the community that neighbors the Mkambati Nature Reserve on the Wild Coast of the Eastern Cape. Among the resources listed for harvesting are: herbs, fire woods, logs of wood for building homesteads and, hides of animals and their horns for preservation of herbs by the traditional healers. These harvests are made to enhance meeting up with the livelihood needs of the community. This factor also agrees with the points noted by Kepe

et al. (2001) on the observed conditions that contributed to the success achieved in community conservation on the Wild Coast as earlier stated. Regular harvesting of these forest resources was evident as the researcher also observed some displayed products made from hides and thornvelds that claimed to have harvested from the forest.

The community, considering their interest to engage in conservation of the biodiversities on their land through sustainable use, began by listing those species that are mostly harvested for meeting up with their livelihood needs. These species were later ranked to create a priority list in terms of impending possibilities of extinction based on utilization, and consequent management requirements to salvage the situation. Furthermore, the community divided the lands and resources to be managed into three zones based on assumed levels of conservation importance (judging with their local knowledge), species utilization rate, ages and sizes of the species. The different zones are: Red (protected and tourist zones), yellow (controlled use zone), and green (sustainable consumptive use zone). The zones are not fenced-off one another for demarcation but concrete beacons and signage are provided at different points to indicate boundaries.

Moreover, different rules for access and harvesting and penalties were set for the different zones by the Participatory Forest Management (PFM) committee. The focus group indicated that the traditional ruler is in charge of issuing permits to any member of the community who is willing to go into the forest area for harvesting any of its resources; and this is a very strong point worthy of being noted. It agrees with the submission made by Napier *et al.* (2005) that having a full-time leader that spearheads a co-management initiative ranks the third factor which strongly correlates with the perceived biodiversity conservation success observed in the subsistence fisheries initiative in the Kwa-Zulu Natal of South Africa. Furthermore, confiscation of illegally harvested resources and fines of R100 and R150 (relative to the red and yellow zones respectively) are the stipulated penalties for violations.

Relatively to the overall resource conservation exercise, the only cost indicated to be concurrently incurred by the community is improper tree felling methods that some of the

community member practice as against the recommendation within the allowances under good conservation practices. The group indicated that this issue is at the moment being looked into, and that appropriate measures would be laid against it in the nearest future. This type of cost was also reported by Napier *et al*. (2005) when they noted that restriction methods of harvesting based on conservation, form one of the costs that could be considered by a community when juxtaposing the costs and benefits of any conservation initiative in order to consider their stand relatively to its acceptance or rejection.

Community Organization Variables that affect Natural Resources Management in the Nqabara AA

Ten villages are under the umbrella of the Nqabara community. These villages each have representatives in a body termed the Nqabara Tourism Development Trust (NTDT) which was formed in year 2003. This body is charged with the responsibility of assessing and overseeing any development initiative that is to be adopted within the Nqabara community. So far, the body has been praised for a job well-done by creating and maintaining smooth running linkages with some other institutions within the community area as well as with external governmental and non-governmental institutions to bring about development initiatives into the community. They also noted that the members constituting the NTDT each have a membership tag of at least one of the other initiative committees. The focus group noted that this helps them in proper information dissemination among the different groups constituting the management committee for each of the development initiatives created within the community.

Furthermore, the NTDT has made it a point of duty to organize annual general meeting (AGM) with the community members for the purpose of proper accounts reports, information sharing and coherent decision making. And so far, this has been persistent and yielding good results by creating united thoughts and generally acceptable line of action in the whole community.

To conclude with, this study has observed that the level of unity in the Nqabara community is very high as the responses given to almost all the questions are very

homogenous. No obvious discrepancies were observed in their responses and views in relation to the conservation practices. Therefore, unity may perhaps be an important contributing factor to the success of the conservation exercise because it aligns with one of the drivers of success noted by Mburu and Birner (2007) when discussing the underlying factors that enhanced the emergence, adoption and implementation of co-management of wildlife in Kenya.

External Institutions that affect Natural Resources Management in the Nqabara AA

The major external institutions currently in partnership with the NTDT are by names; RuLiv, GTZ Transform and the Department of Water Affairs and Forestry (DWAF). With the help of these actors therefore, the community has been able to establish some projects under the umbrella of a Community Based Natural Resource Management and Local Economic Development initiative. These projects are as follows:

(a) *Construction of a low environmental impact eco-tourism lodge*. Although the community has made a great effort to erect structures for this purpose on their own, they have also resolved to enter into a partnership agreement through the lease of lands to private investors for construction of standardized and low-impact eco-tourism lodges within the community.

(b) *Establishment of a conservancy in the name of Participatory Forest Management*. There has not been any serious progressive action up till moment to bring this to reality apart from the community forestry management plan that was drafted under the guidance of an advisor.

(c) *Development of both medicinal plants and vegetable nurseries*. Both nurseries have been established and, in fact, batches of vegetable seedlings were reported to have been sold out on occasions. Overall, minimal attention was indicated to have been given to the medicinal plants nursery.

(d) *Establishment of a multipurpose centre for arts and crafts production which has been completed.* This helps to make people better understand that much could be achieved from biodiversity conservation in terms of various products that are derivable from biodiversity species for the betterment of livelihood.

(e) *Training the trust members about conflict resolution and management.* This is perceived to be very vital to the success of the community conservation initiative according to this study. In fact, Napier *et al.* (2005) notes that training of the community about conflict management and reduced incidences of conflict is one of the benefits that any community conservation initiative could provide to its adopters.

The focus group indicated that funding supports for these projects were facilitated by the RuLiv and GTZ Transform who consulted with the Mbashe Local Municipality (MLM) on behalf of the community for finances to execute the Medicinal Plants nursery. They also helped the community to approach the Department of Environmental Affairs and Tourism (DEAT) for the Conservancy, forest management and CBNRM preparatory works and for the development of the arts and crafts/ multipurpose centre. DEAT was also reported to have supported the community with grants towards alleviation of poverty and it also organized an awareness programme that sought to inform people of the importance of the forest resources and the unacceptability of unnecessarily destroying them.

In conclusion, the inclusion of external bodies in the conservation initiative at the Nqabara community is very vital to the success achieved based on the different important contributions this study has reported of the external agencies. In fact, incorporating the private sector in any community conservation is a condition that has gained supports from literatures. For example, it has been recommended by Reid *et al.* (2004) as one of the lessons to be learnt by South Africa in order to enhance its conservation and development objectives and goals for its Contractual National Parks.

What the Dwesa-Cwebe Area can learn from the experience in the Nqabara AA

In view of all the results collated from the group interview section, this work recommends that certain conditions be fulfilled for the biodiversity conservation initiative proposed for the general Dwesa/Cwebe area to be successful. These include: (a) ensuring of harmony among the community as regards the election or selection of those that will constitute their Land Trust and represent their interest in development activities and

initiatives; (b) putting in place of well-laid down rules right before the institutionalization of the conservation initiative and must be put to implementation right from the inception of the programme; (c) availability of efficient information dissemination medium right from the planning stage of the initiative; (d) placing on ground good conflict resolution structure which will help resolve any possible misunderstandings in the community in the course of implementing the conservation programme; (e) empowering the community leader to administer permits for resource intake and accordingly measurable punishments for any violation; (f) hiring some of the community members, most especially those that are noted to regularly harvest the resources, as security guards in the sites where conservation is to be practiced; (g) training of the community adequately on relevant issues that will enable them efficiently carry out their conservation responsibilities by the concerned conservation agencies- which is the ECPB in this case; (h) identification and crafting out of alternative livelihood sources (which essentially may depend on the biodiversity resources) for the community which by the conservation agencies. This will alert the community so that they become more conscious as regards excessive harvesting and depletion of the resources as it will bounce back on them; (i) adequate representation of the interest of the community and biodiversity resources by the conservation agencies when laws are being deliberated and enacted by the government; (j) ensuring that smooth relationship exists between the concerned conservation agency and the Trust representing the community so that efficiency conservation could be achieved.

Conclusion and Recommendations

The finding of this study has confirmed that without some basic conditions adequately ensured in any proposed site for community biodiversity conservation initiative, there is bound to be a failure. In the light of this, this study recommends that any research areas proposed for community conservation initiative should be measured against these identified factors for success to be achieved. In addition, this study calls for further research to determine the level of correlation of the factors identified in this work to the success achievable by any community conservation exercise.

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