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Quantifying the potential of restored natural capital to alleviate poverty and help conserve nature: A case study from South Africa

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Summary

Poverty and environmental degradation seem to be endemic in many of the former homeland territories of South Africa. The political legacy of Apartheid might have ceased, but the economic and environmental consequences thereof still have to be dealt with. In one interesting case such a poverty-stricken and environmentally degraded area (Bushbuckridge) lies adjacent to a world conservation icon, the Kruger National Park. Currently, however, the community of Bushbuckridge does not enjoy much benefit from this unique geographic location. On the contrary there seems to be increasing tension between the community in their quest for survival and the national park as a conservation enclave. This tension will not disappear automatically. The situation needs to be managed. It is proposed here that by broadening the conservation corridor through land restoration and by incorporating the Bushbuckridge communal land as an IUCN Category VI protected area (a protected area within which sustainable resource harvesting by communities is permitted) into the Kruger National Park and under the provision that the community remains the land owner, the conservation initiative could benefit the community as much as by a factor of four. For this to be successful a proper managerial and institutional system will have to be in place, including a system that will allow the trade in ecosystem goods and services.

Biological diversity is an intrinsic feature of natural ecosystems supplying people with an array of environmental goods and services upon which society depends Diaz & Cabido 2001; Engelhardt & Ritchie 2001; Ghilarov 2000; (Millennium Ecosystem Assessment 2003). These goods and services include the provision of food resources, water purification

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and cycling, nutrient cycling, the regulation of atmospheric composition and the development and protection of soils (Cervigni 2001; Nunes, Van den Berg, & Nijkamp 2003). Negative impacts on biodiversity are therefore likely to have negative consequences for ecosystem processes and functions.

In South Africa much of the current environmentally degraded land used to be *homelands*, i.e. the reserves for Black African people under the former Apartheid regime (DEAT 1997; Hoffman & Todd 1999). The degradation resulted since people were forced to live on marginal land with little or no infrastructure and/or means for economic survival. This caused overgrazing and high levels of biomass harvesting for energy and construction purposes (Hassan 2002). Notwithstanding the fact that a stable democracy has replaced the Apartheid regime, by far the majority of people who live on these degraded areas are still poor (earning less than $1 a day) (SARPN 2003).

The question addressed in this chapter is whether a community conservation initiative (coupled with the restoration of degraded land) can be considered a feasible alternative land use option compared to subsistence agriculture. This question has been discussed elsewhere (Barnes, Boyd, & Cannon 2003; Luckert & Campbell 2003), but here we will tackle it by presenting alternative economic scenarios for an impoverished rural community living outside a national park in South Africa.

Background

One area where a community conservation initiative would make sense is in a portion of the Bushbuckridge district in the Limpopo Province, South Africa. The area under consideration comprises 234,761 hectares of which 184,301 hectares are communal land not subject to any form of cultivation or habitation, but to which some 500,000 community members have open access for resource harvesting. Of this area, 43% is heavily degraded (CSIR 1996). In 2000, the average income earned per person in the district was estimated at R3400 (= $485) per annum with an unemployment rate of 65% with formal employment declining by 1.2% annually over the period 1995–2000 (Limpopo Government 2002). Thus poverty is entrenched in the area and alternatives to alleviate poverty need to be considered. One of the most noteworthy features of this area is that it borders the Kruger National Park (hereafter referred to as "Park"), a world-renowned conservation region. The adjacent communal area enjoys the same climate and in the past would have had the same vegetation and animal life as the Rooibos Bushveld zone of the Park. Currently, however, the Park area is still intact, and delivers a wide range of ecosystem goods and services, while the communal area is becoming increasingly degraded. This ecological dichotomy reflects different land use practices, and leads to an increase in economic and political tension. Neither the poverty nor the tensions will disappear unless a concerted effort is made to rehabilitate the land and restore the indigenous vegetation. The current land use practice is the result of lack of choice due to the current lack of alternative means of livelihood and of infrastructure and economic activity for local people. We assume that a land use change is possible, that game could replace current livestock and that the area could be managed as a private protected area. Answering the question of whether community conservation in the Bushbuckridge (BBR) area poses a viable alternative land use option to the current subsistence land use implies comparing the total economic value of ecosystem goods and services provided by the Rooibos Bushveld area in the Park with the value of products extracted from the adjacent communal area. We compare both the value of composition and the value of the biodiversity function activities of the Park area with that of the actual return from the current land use in BBR. Using this information a potential communal conservation-based capital stock value and flow of income stream will be calculated. This potential value is based on the premise that one could change the land use practice from subsistence agriculture to community (private) conservation, but allowing sustainable resource harvest from the area. Such a community resource-harvesting regime in a protected area is not uncommon and the area would constitute an IUCN Category VI protected area (see also Mulongoy & Chape 2004). In practice this implies the realignment of the fence between Park and communal area to incorporate part of the latter into a larger conservation area and the local community operating the conservation area as a private nature reserve, though sharing the animals with the National Park, but, based on land tenure, the proceeds (after cost) from the land would be flowing to the community.

Method

Since the Park and communal study areas are adjacent, separated only by a wire fence, they do