

Global myths – local realities?

**(Re)exploring the links between
Environment and Development in Africa**

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Abstracts

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Deforestation and conservation in Madagascar: Grand theories and local realities

The Indian Ocean nation of Madagascar has been identified as one of the world's "biodiversity hotspots" due to a high level of endemic species. It is also one of the world's poorest countries with a high proportion of the population located in rural areas. Many habitats are considered degraded or radically altered, the underlying causes often related to increased population pressure linked to unsustainable local land use and lack of economic development. This presentation questions the productiveness of western conservation paradigms in Madagascar, and argues that local natural, historical and cultural characteristics should have been more influential on conservation policies.

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Forest conservation or forest fragmentation?

- A GIS study to estimate landscape changes and evaluate land-use strategies

Most of Madagascar's flora and fauna have evolved in isolation, and the island exhibits high levels of biodiversity. Despite the unique flora and fauna on this island, a severe forest fragmentation process threatens the ecological units of Madagascar. This process caused mainly by human land-use, can lead to decrease in biodiversity and loss of important natural resources. In this study GIS was used to calculate the changes in forest area in two time periods, the fragmentation process and were the remnant forest occur in the Ambohitantely Special Reserve on Madagascar. The effect of conservation was examined by how landuse practice has affected the Ambohitantely forest and indicates that the management strategy does not attain the forest conservation goals.

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Forest conservation: A scientific or indigenous practice?

The conflicts between conservation objectives and the livelihood needs of the local communities are intricate and difficult to resolve and yet the success of any conservation effort hinges on it. This is particularly true in forest conservation in Third World countries like Zambia where rural masses depend directly on these resources, now protected.

Forest reserves in Zambia have undergone drastic changes over the years due to encroachment by such human activities as agriculture, charcoal burning and even settlements. This has led to the deforestation of most of them including Mwekera National Forest in Kitwe on the Copperbelt province. The Forest Department has attempted to involve the people in the management of these resources in a bid to redress the trend. But the fundamental causes for the encroachment and deforestation are not clear. This study is focused on unearthing these underlying causes of encroachment and the subsequent deforestation of Mwekera National Forest. This was done through a qualitative ethnographic approach employing individual interviews, focused group discussions, observations and pictures of relevant phenomena. The target groups included the forest communities living in and around Mwekera National Forest as well as government forestry officials at both local and national levels. The study was based on the Nature-culture theory, Knowledge Systems theory as well as the Participatory approach.

The study reveals that macro-economic policies such as privatisation of the mines undermined people's livelihoods while the inefficient and bureaucratic land delivery system made "vacant" protected forest land an attractive option. The policy contradictions between the forest sector and other sectors such as energy, agriculture and land has not helped matters. Organisational constraints of the Forest Department such as its inadequate human, Financial and other resources coupled with the delay in its transformation to a more autonomous Forest Commission have not secured protected forests. Its old centralist management approach has made participation of local people difficult to effect despite being provided for under new forestry policy and law. This has meant that decisions made by officials lack meaningful involvement and support of the local people thereby rendering effective forest protection a pipe dream. Herein lies one major cause of encroachment.

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Local Conservation, Global Agendas? New Forms of Nature Tourism in Southern Africa”

This paper sets out to explore the point at which international conservation agendas intersect with local and avowedly ‘community-based’ nature conservation initiatives, particularly in the southern African region. As a globalized industry, international conservationism and ecotourist enterprise have more than passing impacts on the lives of rural people. However the priorities of international funders in the nature business, imbued as they often are with western-derived images of a ‘pristine’ third world, do not necessarily sit easily with local development priorities. Despite current talk about ‘partnerships’ with communities, funders hold most of the power and are often able to dictate priorities. In academic collections like Zerner et al (2000) (*People, Plants and Justice*), commentators have remarked critically on the operation of international conservation funding networks and the ways in which a global political economy of nature conservation (often closely linked with resource extraction) reshapes local priorities, sometimes undermining local tenure rights and certainly dominating conservation ‘partnership’ agendas. Much of this work has, however, concentrated on central and south America and Asia. This paper, drawing on the theoretical insights of Zerner and others, uses case study material to begin to contextualise these debates in the southern Africa region, where ‘new’ forms of ecotourism such as transfrontier parks, cultural tourism, and community game reserves are emerging. The particular examples used are the Great Limpopo Transfrontier Park, ‘community’ conservation projects in KwaZulu-Natal, and community-based ecotourism development projects such as the Amapondo and Amadiba trails along on the eastern Cape coastline. The paper draws together research conducted by myself and an active group of Masters and doctoral students at the University of KwaZulu-Natal around the theme of conservation and society. It is part of a larger project funded by South Africa’s National Research Foundation (NRF) aimed at generating critical insights into contemporary environmental decision-making in the southern African region.

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Transfrontier conservation and local community development in Southern Africa

The paper present a project focussing on the establishment of transfrontier parks in southern Africa. While the prime objective of these parks is to provide a holistic protection of biodiversity, it is anticipated that they will make substantial contribution towards the much-needed regional and local development through tourism and related job creation ventures. For these parks to be established, some local communities will have to be removed. Our concern is with number of local communities that will be affected by the establishment of six transfrontier parks in the region, and the extent to which these communities would benefit from the said parks. To this end, the main aim of the proposed study is to analyse the spatial patterns of transfrontier parks in southern Africa, with a particular focus on the impact of those patterns on local communities. The main focus is initially on the Ai-Ais Richtersveld transfrontier conservation area located on the border of South Africa and Nambibia. The project is carried out in collaboration with Maano Ramutsindela, University of Cape Town, Sør Afrika og Nina Birkeland HINT.

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The Chobe Elephant Problem – myth or reality?

Since the 1960's vegetation along Chobe Riverfront, Chobe National Park, Botswana, has changed from woodland to open shrub. The change is attributed to the large and increasing elephant population, that is claimed to destroy the scenic woodlands, and with them the habitat for itself and other herbivores. However, there is much evidence that the woodlands were an artefact, established after ivory hunting and rinderpest had decimated the populations of elephants and ungulates, respectively. Currently elephant activity seems to favour plant species eaten by ruminants, and there is little evidence up to now of decrease in browsing or grazing herbivore populations.

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An Exercise in conservation and development: Evaluating and contrasting two development metaphors. The case of sustainable tourism development in South Luangwa national park

This paper explores the issue of managing wildlife from inside out rather than from outside in. This is truer in the 1990s when most development and aid efforts are defined and implemented from outside in. From the 1980s to the 1990s, Southern Africa has experienced a proliferation of bottom-up models under the rubrics of community-based conservation (CBC) and community-based natural resource management (CBNRM). However, these models have failed to enhance sustainable tourism development because they are attempted from outside in. For instance, to many Zambians especially those in South Luangwa National Park, conservation is synonymous with excluding local stakeholders from the park. Community participation in resource management for tourism has the potential of increasing incomes and employment, developing skills and institutions thereby empowering local people. Sustainable tourism development can thus fuel economic growth, equitable distribution of resources and in the process alleviate poverty. In addition, community participation could guarantee local support for conservation and natural resource utilization. However, only when rural communities share in the control and management of wildlife and derive economic benefits from sustainable use and management of wildlife do conflicts and competition for resources, which threaten parks, become minimized. Therefore, in the 21st century, there is need to develop shared ownership of development agenda which has to be thought locally and acted upon locally, in other words, managing it from inside out as opposed to outside in.

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The bioeconomics of controlling an African rodent pest species

The paper treats the economy of controlling an African pest rodent, the multimammate rat, causing major damage in maize production. An ecological population model is presented and used as a basis for the economic analyses carried out at the village level using data from Tanzania. The control problem is specified as timing and duration strategies where the dosage of the poison is kept fixed per month whenever poison is used (consistent with recent practice in Tanzania). The most cost-effective control period seems to be just before the planting season. The damage at planting accounts for such a large portion of the total losses due to rodents, that minimising the population during that short period is enough to reduce yield losses. Controlling for a longer period will reduce rodent populations at a time when they do not damage the crop anyhow, and due to the very high reproductive capacity of the rodents, the population will increase fast as soon as control operations are stopped, repressing any long term effects. A combination of control just before the planting season, January and February, combined with a month control towards the end of the previous year in October or November, seems to be the best overall strategy. These economically most rewarding strategies differ significantly from today's practice of symptomatic treatment when heavy rodent damage is noticed. The paper demonstrates that shifting from such practices to more mechanistic control strategies; that is, emphasising the calendar instead of the pest abundance, can substantially improve the economic conditions for the maize producing farmers in the present case of multimammate rats. The best practices compared to today's symptomatic treatment could typically reduce the production costs by half.

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Conservation of plant genetic resources and the challenges to farmers in Africa

In their daily struggle to attain livelihood security, African farmers tend to retain a wide range of plant genetic resources for their food and non-food end uses. Traditionally, farmers manage on-farm diversity in a dynamic fashion by cultivating different crop types and varieties simultaneously every year. Thus, varieties are added and/or discarded from the seed stock of farm households in due course. The local realities are that no single crop species or variety is versatile enough to meet the multiple needs and concerns of African farmers.

Loss of diversity among crop plants mainly landraces became a serious concern both for farmers and researchers involved in crop improvement programs. African farmers rely on diversity to cope with the changes in growing conditions, socio-economic, cultural and policy environments and thereby secure their livelihood. The researchers, on the other hand, needed diversity as reservoirs of genes to incorporate desirable traits to the improved variety(ies) being developed. The global concerns and efforts to curb the loss led to the establishment of *ex situ* conservation facilities in different countries.

Conservation of plant genetic resources, therefore, became an integral part of the overall agricultural development effort. Diversifying conservation strategies became a necessity and on-farm (*in situ*) conservation emerged as a new component to complement *ex situ*. Conservation of plant genetic resources continues to be an area of interest for different actors both at national and international level. Along this line, the paper highlights the challenges involved in *in situ* conservation.

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Indigenous Nature Conservation Practises in Ghana – The Case of the Boabeng-Fiema Monkey Sanctuary in the Brong-Ahafo Region.

Globally, there is an increasing awareness of the need to preserve the integrity and natural resource base of the environment both for the present and future generations.

Ghana is no exception to this line of thinking.

In this presentation, I will attempt a practical but exploratory examination of the theoretical and methodological problems arising in landscape management with regards to nature/ biodiversity conservation in Ghana.

Ghana's nature/biodiversity conservation strategies are in two main categories - introduced and indigenous. Introduced areas reflect western-oriented management strategies whilst the later are pre-colonial resource conservation practices and are thus closely married with cultural practises and traditional life ways.

The aim of this paper is to examine closely, the latter type as an effective way of conservation/sustainable use even though through traditional means. The former category will thus be accorded a brief and broad overview as to its theoretical and methodological problems. The emphasis, however, will be on the problems relating to cultural/ traditional forest management practises. This has to do with indigenous biodiversity conservation in general and sacred grooves in particular. The Buabeng-Fiema Monkey Sanctuary in the Brong-Ahafo region will be presented as a case study. We will then touch briefly on the global relevance of the chosen example.

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Disciplining nature. Land, environment and political coercion in colonial Southern Africa

During the colonial period in most parts of Eastern and Southern Africa environment and conservation issues were intimately related to the fulfilment of the economic and political aims of colonial powers: the control of people and of natural resources.

The paper intends to discuss issues concerning ideas and practices through which the colonial state in Southern Africa transformed African societies and institutions in order to foster the development of an European settler economy. Particularly, in Southern Rhodesia colonial authorities intervened on both indigenous systems of land tenure and techniques of agricultural production by the strengthening of its administrative coercive apparatus, becoming “virtual policemen” prosecuting “agricultural crimes”.

Indeed colonial systems aimed to “modernise” African agricultural systems considered inefficient and backward. In settler colonies the questions of land and of environment degradation were assumed as part of the colonial political discourse based on the relation between science (and ecology was, in a certain way, part of a coercive scientific and technical approach), political control, development strategies expressed through the idea of the “science for development”. Environment protection became the cornerstone of mechanisms of control. African people and African economic systems were victims of an extraordinary level of planning: environmentalism was expressed through the exercise of power.

Therefore, the historical analysis of colonial environmental history in settlers colonies is of particular relevance to understand and re-interpret current development policies still divided among a new environmentalism based on the so-called “Community-based Natural Resources Management”; a revival of colonial images of a “lost African Eden”; and what has been defined as the enduring appeal of “technical development”.

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Food aid and impression management in Wälo, Ethiopia

The Wälo provinces in Ethiopia have been more or less dependent on food aid, classified as emergency relief, for more than 20 years. Food aid has become an integral part of the local economy, to such an extent that it is difficult to assess its relative importance. For individual households it is obviously a resource of great importance, a resource accessed not primarily by labour but by falling into a category of needy recipients, giving prominence to impression management. The paper explores local attitudes to aid and the “art” of being needy in North Wälo, at levels ranging from individuals to regional administration.

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Agricultural Exports and Food Insecurity in Developing Countries: The Case of Tanzania.

It is increasingly common for developing countries to embrace free trade as a strategy for economic development. The belief that increased agricultural exports will help these countries out of poverty is founded on the expectation that trade will lead to greater economic growth. However, there is not much focus on the distribution of these economic gains. Worse, the effect on food availability from increased exports of agricultural products is completely overlooked. Reduced food availability can have grave consequences for the poor. Obviously, this is because an absolute food shortage disproportionately hurts the poor, but it is also because low food availability generally gives higher food prices and thereby lower food security for the poor.

This paper studies the potential effectiveness of this trade-strategy for poverty reduction in the case of Tanzania. It does so along two fronts. First, I try to establish whether the gains of agricultural exports will go to rich farmers or poor peasants. Second, I study how the price of food may be affected by analyzing trade's influence on food availability and (thereby the price that the poor have to pay for their food). Contrary to my expectations, I find that peasants in Tanzania land most of the revenues from agricultural exports. On the other hand, the results show that food exports reduce food availability (increasing food prices) and more than offset the beneficial effects of increased incomes for peasants. The net effect of increased agricultural exports is therefore increased poverty, manifested in the form of higher food insecurity.

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Rainfall variation in Kombolcha (Ethiopia): climate change or natural variation?

There is wide agreement that the emission of greenhouse gases has led to global warming. A number of studies show that African climate has become drier and that drought may be related to complex processes in the Pacific Ocean. There may be a link between our pollution of the atmosphere and drought and famine in Africa. The current paper is a detailed analysis of rainfall data from one of the oldest meteorological stations in Ethiopia. It concludes that there has been a tendency towards drier climate, but not towards more unstable climate.

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About Water, Trees, Environment and Development in Africa

Last year Wangari Maathai was awarded the Nobel Peace Prize for her contribution to sustainable development, democracy and peace. In media a lot of focus was given to her role in the Green Belt movement and in particular her initiative for planting trees, in order to reduce desertification and increase available water in rivers and streams.

Planting trees has without doubt many benefits, but increasing river flow may not be the most important, may be it is not even feasible. In for example South Africa we can today see campaigns to cut down forest in order to increase flow in rivers, and a growing controversy between forestry and river ecology can some places be seen. In Malawi high water levels in Lake Malawi during 1980's have been linked to deforestation and increased runoff from catchments around the lake. In Tanzania the relation between forest cover and river flow was studied in the Pangani project, in cooperation between NTNU and UDSM. Lake Jipe, at the border between Tanzania and Kenya, seems to be drying up, threatening the important wetland area around the lake. In Tanzania this is said to be caused by extensive agriculture and increased water use in the Kenyan rivers that feeds the Lake Jipe system. Will extensive tree planting increase water flow from Kenya to Lake Jipe, or could it give the opposite effect, taking the last drops of water from the lake and killing the entire wetland ecosystem?

In this presentation I will try to summarize some of the many investigations that has been done regarding the connection between forest and water. I will also discuss in some more detail the examples from Malawi, South Africa, Tanzania and Kenya. If what is really needed is more water, one should carefully investigate the water consumption properties of different type of vegetation, and balance the number of trees against the need for water in streams. At a time when there are plans for planting large forest estates for CO₂ capturing, unwanted side effects in rivers could become very serious.

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African Civil Wars, 1970 – 2001. Does geography matter?

Civil wars are sub-national events that mostly occur within a limited geographical area of the country. Still, civil armed conflicts tend to be studied using country-level approximations. Such studies and their conclusions are therefore potentially flawed and may generate global myths. Drawing on preliminary, geo-referenced conflict data from Uppsala/PRIO's conflict database, we use Geographical Information Systems (GIS) to identify regions of peace and conflict and as a tool to generate sub-national measures of key explanatory variables.