Continuities in Environmental Narratives: The Case of Kabale, Uganda, 1930–2000*

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ABSTRACT

This article looks at continuities and change around the issue of agricultural sustainability in colonial and post-colonial Kabale. It argues that a series of environmental narratives developed during the colonial period, which have been largely unquestioned since then. It shows how the perception of the district being threatened with environmental degradation has continued from the earliest colonial period up to the present day. Many of the assumptions made by colonial officials remain unquestioned, and with few exceptions the policy rhetoric remains unaltered in the post-colonial period. It argues that recent evidence suggests that these assumptions need to be seriously questioned.

KEY WORDS

Environmental narratives, degradation, agricultural change,Uganda, colonial, post-colonial, development policy, NGOs

Kabale, in the south-western corner of Uganda, is an area of intensive agricultural production with a dense population that has, for decades, been perceived to be at risk from serious environmental degradation. From the time the British first arrived in Kabale (or Kigezi as it was then called), agriculturalists and environmentalists have written extensively about the potential for environmental disaster in the region, perpetuating fears that population pressure on the land will lead to severe environmental degradation.[1] Such concerns continue to inform contemporary policy. Uganda's *State of the Environment Report* for 1998 states that in Kabale

> The high population pressure has pushed people to farm on very steep fragile hillsides, destroying contour bunds and to practise continuous cultivation with

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> very short fallow. As a result, soil fertility has significantly declined, yields are very low, there is a lot of soil erosion and land slides …people are becoming poorer and suffering from chronic food insecurity. [2]

The view that Kabale is on the edge of disaster is firmly entrenched in the minds of outside observers, district officials, and local residents, and frequent reference is made to these environmental problems. Despite being described in apocalyptic terms for over fifty years, however, this densely populated area of Uganda has not succumbed to serious environmental catastrophe, and the extent of environmental degradation in the district remains highly debatable.[3]

As a result of environmental concerns policy makers (colonial officials prior to independence in 1962, and government agencies and NGOs since then) have focused a good deal of attention on the district. During the colonial period a number of policies were implemented including soil conservation measures, a resettlement scheme and swamp reclamation. Since independence, while comparable strategies have been discussed (with a particular focus on soil conservation), the extent to which the government has been able to implement its decisions has been significantly weaker. Civil unrest and insecurity as well as budgetary constraints have meant that Government's capacity to implement development strategies has been much weaker than it was in the colonial period. NGOs, however, have implemented a range of policies (particularly agricultural research and agroforestry), and there has been an increased focus on participation and emphasis on decentralisation, as well as some strategic shifts (notably from land-reclamation to the protection of wetlands). Nevertheless, as this paper will show, the assumptions that underlie contemporary policy bear a remarkable similarity to those informing colonial programmes.

CONCEPTUAL ISSUES

The power of policy narratives in environmental planning in developing countries has been highlighted by a number of scholars in recent years.[4] Roe has explored how 'development narratives' persist through time, often in spite of evidence to the contrary.[5] Like a story, these narratives each have 'a beginning, a middle and end… they tell scenarios not so much about what should happen as about what will happen… if the events or positions are carried out as described.' They are 'more programmatic than myths and have the objective of getting their hearers to believe or do something'.[6] Hoben has stated

> The environmental policies promoted by colonial regimes and later by donors in Africa rest on historically grounded, culturally constructed paradigms that at once describe a problem and prescribe its solution. Many of them are rooted in a narrative that tells us how things were in an earlier time when people lived in

> harmony with nature, how human agency has altered that harmony, and of the calamities that will plague people and nature if dramatic action is not taken soon.[7]

He notes that successful programmes (in terms of mobilising funds) are those that 'depend on a set of more or less naïve, unproven, simplifying and optimistic assumptions about the problem to be addressed and the approach to be taken'. Such a 'cultural script for action' helps donors and aid recipients mobilise and coordinate action in the face of many uncertainties.[8] Adams and Hulme note that such narratives are disseminated by aid donors and media campaigns, and community leaders 'learn what to say to access external resources'. Thus the narratives become 'culturally, institutionally and politically embedded, their influence and longevity related less to their actual economic, social or environmental achievements than to the interests of a complex web of politicians, policy makers, bureaucrats, donors, technical specialists and private sector operators whose needs they serve'.[9] Narratives are replaced only by 'counter-narratives' that tell 'a better story'[10]

Why have such narratives proved to be so long lasting and resilient? Hoben has identified the conditions under which the power of a development narrative is enhanced, which include donor experts being strongly attached to them, there being only a weak data base on the problem, the recipient country relying heavily on expatriate experts for advice and being dependent on foreign assistance, and the government being weak and/ or authoritarian.[11] All these apply (or have applied at some time in the period under review) in the case under analysis. In the case of population-environment relations, the simplicity of the neo-Malthusian narrative certainly adds to its appeal, but it is more than this. Leach and Mearns have observed that 'by making "stabilising" assumptions to facilitate decision–making, narratives serve to standardise, package and label environmental problems so that they appear to be universally applicable and to justify equally standardised, off-the-shelf solutions'.[12] Such 'received wisdoms' have had the effect of promoting external intervention in the control and use of natural resources. For some organisations the existence of such a narrative helps to justify their own existence.[13] Roe has noted that crisis narratives are a way for development experts and the institutions for which they work to 'claim rights to stewardship over land and resources they do not own. By generating and appealing to crisis narratives, technical experts and managers assert rights as "stakeholders" in the land and resources they say are under crisis. …the more crisis narratives generated by an expert elite, the more the elite appears to have established a claim to the resources it says are subject to crisis.'[14] The power of the narrative to help claim rights of stewardship over resources may in part explain the resilience of the narrative in both the colonial and post-colonial eras. Furthermore, in some parts of the colonial world (e.g. Kenya, Zimbabwe and South Africa) one of the reasons for the use of this narrative was to legitimate the alienation of land from Africans into the hands of whites. As the settlement of

whites in Uganda had long been ruled out this did not apply in the Kigezi case. But although this essentially political ingredient was missing in the case of Kigezi this did not prevent the narrative from taking hold.

These received wisdoms are not necessarily modern constructs, and Leach and Mearns note that 'in many cases, the ideas that drive contemporary environmental policy in Africa can be traced back to early colonial times'.[15] This article will do just that, tracing how the idea of Kabale on the edge of crisis developed from the earliest colonial encounters with the district in the1920s and 1930s.[16] The colonial legacy of environmental assumptions and narratives has been inherited by the post-Independence government, and donor agencies have also 'joined the state and national elites in perpetuating received thinking about environment-society relationships'.[17] Kabale is thus an example of an area where there has been 'remarkable historical continuity in received wisdom about environmental change'.[18]

BACKGROUND TO THE AREA

Kabale District covers an area of approximately 1,800 square kilometres, and lies at an altitude of between 1,200m and 2,347m above sea level. The mean annual rainfall is 1,000mm, it is bimodal and precipitation is usually gentle and evenly distributed. Temperatures range between 9˚C to 23˚C. The district is made up of undulating hills with steep slopes. Many of the valley bottoms were once papyrus swamps, although most have been drained during the last 50 years, and are now cultivated or used for pasture.[19]

The area has experienced an extremely long history of human settlement and is densely populated with the most recent census giving a land density of 246 people per square kilometre.[20] This high population density is the result of both in-migration over a sustained period and high natural increase. Whilst statistics produced by early censuses must be treated with some caution (being unreliable extrapolations of very small surveys) they do suggest substantial increases in population. Between 1921 and 1959 it more than doubled.[21] As a result of population density, relatively small acreages of land are available for farming, and the system of inheritance has resulted in the fragmentation of land holdings and widely scattered plots. It was estimated that by the mid-1940s the average acreage under cultivation was less than three acres per taxpayer, or half an acre per resident person.[22]

British administration of Kigezi District was introduced relatively late in comparison with the rest of the Uganda Protectorate. It was not until after the Anglo-German-Belgian Boundary Commission of 1911 had settled the different colonial claims to the area, that civil administration was implemented.[23] The imposition of colonial rule in Kigezi was effected in part through, for example, the collection of tax. Cash to meet these new fiscal demands was earned through

the sale of crops and livestock (mainly small stock) and wage labour. The main crops grown were sorghum, peas, beans and sweet potato, and peas and beans in particular were traded. Kigezi was central to a food production system and market that straddled international boundaries and encompassed Ruanda and Ankole. Attempts to introduce a variety of non-food 'cash crops' were unsuccessful as the British consistently failed to appreciate the vitality of the food crop sector in the district. [24]

COLONIAL MYTHS AND NARRATIVES

From the arrival of the first colonial officials in Kabale in the 1920s the 'dangers' that the densely populated district faced have been continually reiterated. The earliest concerns expressed were about land shortage and over-population. In 1921, it was observed that land in Kabale was intensively cultivated and 'barely suffices for present needs'. Such concerns were repeated throughout the 1920s.[25]

By the mid-1930s the problems focused more specifically on the threat of soil exhaustion and the problem of reduced fallow. Shifting concerns need to be seen in the context of a growing obsession with soil erosion, and the threat of land degradation resulting from high population growth, that was emerging throughout colonial Africa at this time. The process by which policies of agrarian reform, and in particular those related to soil conservation, emerged and evolved during the 1930s have been examined by Anderson.[26] The experiences of the Dust Bowl in the USA in the 1930s demonstrated the dangers of soil erosion, while the realisation that East Africa's population was growing rapidly, and the threat of drought and famine, added to these concerns. The policies that evolved in response to this situation were broadly similar across East Africa, and much of the following discussion occurred on a regional basis. There are a number of case studies from other parts of Eastern and Southern Africa showing how concerns about the environment influenced the formulation of agricultural policy.[27]

In London the question of soil erosion was considered by the Council for Agriculture and Animal Health in February 1930, which felt that the issue was of 'considerable importance' and 'should be viewed as an East African problem'[28] and meetings were held to discuss the issue of soil erosion in the region throughout the 1930s.[29] Meanwhile, in East Africa, annual conferences were held for Directors of Agriculture from British colonies at which policy to coordinate agricultural research (including soil erosion), and the findings of such research were discussed.[30] Information gathered in one colony was disseminated at the conferences,[31] and ideas were also gathered from further afield.[32]

In Uganda the major areas of concern were cash cropping areas. According to a 1935 memo by Tothill, the Director of Agriculture, rising populations, and changing patterns of cultivation and stock rearing were putting increasing strain on the environment in these areas, and the need was identified to modify

traditional forms of cultivation.[33] As cotton producing regions, Eastern Province and Buganda were the most important income generating areas for the Ugandan administration. Up to the early 1940s Kabale, not being a cash crop producing area, was rarely mentioned and it is clear from this emphasis that concerns about cash crops were crucial. Prior to this, initiatives at a national level (such as the Agricultural Survey Committee) appear to have been prompted as much by concerns over cotton yields as by concerns over soil erosion; though it suited the administration to present these initiatives as measures aimed at combating soil erosion.

Although Kabale rarely entered the discussion at a national level, concerns were being expressed within the district itself. In 1935 the District Agricultural Officer (DAO), Wickham, observed that crop yields were falling because of soil exhaustion in a ten mile radius of Kabale. He observed that it was:

> probable, though not yet determined, that all crops in this area are ... deteriorating in yield, or quality. ...The reason for this state of affairs is clearly over-population and soil exhaustion. There is not enough land available for the essential item in the rotation – fallow – to be included at the proper intervals.[34]

Wickham saw the problem as having two related aspects – soil erosion and soil exhaustion, due to cultivation of steep hillsides, and lack of fallow respectively.[35] He warned that 'the position will inevitably and steadily become worse' and the area might cease to be self-supporting in food.[36] Similar warnings were made by subsequent DAOs. Masefield expressed anxiety over the effect falling yields were having on the ability to collect sufficient famine reserves in some areas of Ndorwa. He observed that 'the exhaustion of soil fertility is already becoming a problem in certain overcrowded areas of Kigezi'.[37] As a result of these concerns a number of policies were put into practice at the initiative of local officials. Soil conservation measures included contour planting and elephant grass strips along the contour, which were in fact modifications to indigenous practices. [38]

Although district officials kept Entebbe-based administrators up to date with progress in relation to soil conservation measures these reports made little impact and it was not until the Deputy Director of Agriculture toured the region in July 1941 that the extent to which anti-erosion measures were being carried out in Kigezi was fully appreciated by senior officials. Furthermore, adverse weather conditions in 1943 brought Kigezi's agricultural system under closer colonial scrutiny.[39] These had resulted in food shortages across much of Uganda. Marketing regulations were tightened up, the purchase of African foodstuffs for resale or export was prohibited and migration from Ruanda into Kigezi was banned. 'Famine' conditions were declared to be prevalent in the district. There was an increased awareness of the importance of food production in the area around Kabale town, as well as concern that the district itself might be vulnerable to famine. After a visit to Kigezi in early 1944, the Director of Agriculture spoke

in strong language about the 'devastated area around Kabale' and emphasised the need for soil conservation measures.[40] Thus the lack of attention given to Kigezi changed abruptly in the early 1940s. Shortly afterwards Kigezi's soil conservation measures were being held up as an example to the rest of Uganda, indeed to the colonial world.

The crisis in the early 1940s coincided with Purseglove's arrival in Kigezi as DAO. Purseglove was to exert greater influence over the district than perhaps any other colonial official. He increased attention given to the district, initiating a resettlement scheme and 'stepping up' soil conservation policies, which were 'consolidated' into a programme that became known as *Plani Ensya*, ('New Plan'). Soon after his arrival, Purseglove undertook a land use survey in southern Kigezi to assess whether the area was 'over-populated', and if so to what extent.[41] It is clear that before the study had even begun it had been decided that the area was over-populated, and the study was carried out to provide empirical support for colonial policy. Purseglove reported that 'overcultivation has resulted in soil exhaustion and a deterioration in soil structure, with a consequent reduction in the amount of water absorbed by the soil'.[42] Quoting from Jacks and Whyte's *The Rape of the Earth*, he stated that 'although serious erosion is not yet a problem we cannot afford to be complacent and wait for it to become so'. He concluded that the area around Kabale town could not continue to support an increasing population and that it would be 'most unwise to continue under the present conditions in the hope that further soil deterioration and erosion will not take place'.[43] These findings confirmed earlier fears that serious environmental degradation was likely to occur in the area unless dramatic steps were taken. Although Purseglove played a crucial role in bringing Kigezi to centre stage, his findings were in fact not particularly innovative. On the contrary, many previous officials had discussed the problems arising from high population density, soil erosion and falling yields, and Kigezi's reputation as 'over-populated' was firmly entrenched in the colonial mind by the time Purseglove arrived.

In the case of soil conservation policies, Kabale presents a rather unusual case. In contrast to other parts of the region,[44] soil conservation measures were implemented successfully, with little resistance from the local population. The soil conservation measures included strip cropping and bunding. However, the success of anti-erosion initiatives can best be attributed to the fact that the earliest measures introduced (such as planting of elephant grass along the contour and narrow plots along the contour) were modifications of a system of contour cultivation that was traditionally practised in the area.[45] Opposition to such measures in other parts of the region arose from clashes with indigenous methods of erosion control; the additional labour input required to implement measures; the extent to which local conditions were taken into account in the formulation of these schemes; and the extent to which officials on the ground were able to adapt measures to local conditions. In Kigezi, in addition to the fact that early

initiatives were essentially modifications of the Bakiga agricultural system, measures were also introduced gradually and, in comparison to similar schemes elsewhere, greater effort was put into education, propaganda, and the provision of incentives. By working directly through chiefs, placing responsibility on them, and giving them authority to both judge and punish, the administration was broadly successful in getting conservation measures carried out. Additionally, suspicion of the government's motives, fears of losing land to Europeans and the rise of nationalism were critical ingredients missing in Kigezi, which in other areas facilitated the articulation of discontent.[46] Finally and crucially, the Agriculture Department was flexible enough to drop those parts of the scheme that proved inappropriate; seemingly greater attention was given to local responses to policies than elsewhere.[47]

Resettlement was a key component of the policies introduced as a result of concerns about over-population. Throughout Purseglove's period in Kabale, the target of resettling 20,000 people, as suggested in his original report,[48] was met, and relocation initiatives were presented as a great success. But with Purseglove's departure from the district in 1952, there was some reassessment and King, the new DAO, observed that the value of the scheme was often overstated as it had not even managed to achieve the resettlement of the natural increase of population.[49] By 1953, 22,002 people had been resettled, while there had been an estimated population increase of 64,280. It was 'obvious that the problem had only been scratched'.[50] There followed some discussion as to whether resettlement should continue, and be stepped up, or whether more effort should be put into finding ways for Kigezi to support a greatly increased population.[51] In the event, resettlement continued but without the commitment displayed to it during Purseglove's time. An emphasis on soil conservation was also maintained, which according to one DC had become 'the end all and be all of effort in Kigezi'.[52]

As the 1950s progressed there was an increased emphasis on a 'more rounded' approach. Shifting attitudes towards African land tenure – notably in the years following the publication of the 1955 East African Royal Commission Report – were exerting a growing influence on agricultural policy.[53] Thus, by the latter part of the colonial period, although beliefs about the threats faced by the district were largely unchanged, different policies were put forward as a solution to the problem. The shift in the emphasis of colonial policy towards individual land tenure arose partly from the conviction that concerns about sustainability could be dealt with by giving individual farmers absolute control over their land through the granting of titles. In Kigezi, land was highly fragmented, and titles could only be granted after consolidation. By the late 1950s this had become the main priority for the District's Department of Agriculture. For example, King, the DAO between 1952–58, stressed that 'the first essential step towards increased agricultural productivity in Kigezi is to secure consolidation of fragmented holdings'.[54] However, with inadequate administrative and financial

support the success of these land reform policies (which also included land enclosure, a land titling scheme and the promotion of farm planning) was more mixed than had been the case with soil conservation policies.[55]

The other major late-colonial policy arising from concern about over-population was that of swamp reclamation. This was already occurring on a small scale, being carried out by individual farmers without logistical support from the district office. However, in the latter part of the colonial era reclamation was intensified at the initiation, and with the advice and technical assistance, of the administration. Reclamation of swamps was seen as a relatively cheap and easy way of increasing land for cultivation. Before the mid-1950s reclamation occurred in a somewhat piecemeal fashion. Colonial officials disagreed as to the best way forward and at this time reclamation work was characterised by serious technical difficulties. However, in 1956 a report on water resources in Uganda recommended the drainage and development of over 80 percent of the swamp in the district, [56] and official policy shifted in favour of large-scale reclamation. Reclamation progressed apace in the late-colonial and early post-colonial period until all swamp suitable for drainage and cultivation had been reclaimed.[57]

Thus a number of policies (soil conservation, resettlement, swamp reclamation and land consolidation) developed out of colonial concerns about the threat of over-population and associated environmental degradation, and were implemented with varying degrees of success. Behind the environmental narratives that informed these policies lay an assumption that indigenous methods of cultivation were inadequate to cope with change and the increasing pressure on local resources. With only one or two exceptions there was little recognition or credit given to the ability of the agricultural system, and the people within it, to maintain the natural resource base. As Hoben has argued in the case of Ethiopia 'the neo-Malthusian narrative's denigration of indigenous agriculture… led experts and planners to overlook and filter out much information about the strengths of indigenous resource management practices'.[58] This is perhaps unsurprising in the colonial context, when prejudices about 'primitive' agricultural systems were common currency. But how did this change with the coming of Independence?

POST-COLONIAL NARRATIVES AND POLICY RHETORIC

The reputation gained by Kigezi in the colonial period is one that it has never been able to shake off. Rather, it has been continually reiterated and elaborated upon and the environmental degradation narrative remains little changed. It is striking how little the claims made about the district have changed over the past decades: statements made about Kigezi's problems today could be almost verbatim quotes from colonial reports written 50 or 60 years earlier. In recent years the familiar fears about over-population and soil erosion have been

summed up by the phrase 'environmental sustainability'. The assumptions and fears behind this phrase, and the language used to convey these, have remained constant.

In the immediate post-Independence period influential writers such as William Allan, author of the pathbreaking *The African Husbandman*, commented on the 'very serious congestion' in Kabale, observing how 'all the usual symptoms of over-population' were evident, including 'almost continuous cultivation and consequent soil degradation, subdivision and excessive fragmentation of land'.[59] Studies conducted by Makerere University staff continually reiterated these familiar concerns. Kagambirwe observed soil deterioration in the area, referring to 'an assumption that there is considerable population pressure on the land'.[60] Without questioning this assumption he goes on to adopt the environmental degradation narrative, bemoaning the 'exhausted' hillslopes and 'the cry for land for cultivation'. Langlands, another Makerere researcher, observed that population pressure in some parts of the district was such that 'it is improbable that further increases could take place under existing technological practices'.[61] Kateete complained of the limited fallow resulting from population pressure on the land.[62] Meanwhile, a number of other studies addressed problems associated with land fragmentation.[63]

After a lull in the 1980s, research and publication began again towards the end of the decade. Once again the picture presented is remarkably similar to that of the 1940s and 1950s. Aspects of the neo-Malthusian environmental narrative repeatedly invoked include the assertion that over-population has led to severe land shortage, which in turn has led to reductions in fallow, increasing soil erosion and declining fertility, while deforestation is also frequently cited as a problem. Thus it is noted that erosion is 'particularly severe' in Kabale 'where high altitude mountain slopes have been greatly deforested'.[64] The 'failings' of local people are often implicit in the statements made. Joy Tukahirwa has written that in the highlands of Uganda high population growth has led to heavy pressures on the highland environment, and points in particular to 'indiscriminate cutting and burning of vegetation, over-cultivation and overgrazing, and… lack of attention of soil erosion control measures. …soils are overcultivated with very little fallow'.[65] These observations, however, are not based on any scientific data and no source is cited. Similarly, the 1994 *State of the Environment Report* for Uganda, claims that the major causes of soil erosion and degradation were 'poor farming practices and high population pressure'. The Report notes that in the Rukiga county of Kabale 'soil erosion and degradation has reached alarming proportions on steep slopes due to poor cultivation techniques'.[66] According to such expert counsel, it is, quite simply, the farmers' fault.

Donor agencies have also adopted these beliefs about environmental degradation. CARE International has been involved in work with farmers living in the vicinity of the two National Parks in south-west Uganda attempting to find ways to improve local agricultural techniques.[67] A 1992 CARE report noted that 'with

serious soil degradation from continuous cultivation and soil erosion, crop production is now declining in most areas . . . Traditional fallowing practices could conserve soil and restore fertility but fallowing has largely been abandoned because of increasing land pressure.'[68] African Highlands Initiative (AHI), a research organisation working in the area, has observed that 'the highlands of south-west Uganda are in a crisis, facing severe problems of declining land productivity in a fragile, densely populated agroecosystem'.[69] A study conducted by AHI researchers concluded there was 'increased land degradation as a result of soil fertility decline, an outcome of reduced fallow [and] reduced organic matter use'.[70] The International Centre for Research on Agroforestry (ICRAF), which has a project operating in Kabale District under their Agroforestry Research Networks for Africa (AFRENA) program, has made similar assumptions:

> Permanent cultivation, with short rotation periods, prevails [in this region]. …Soil deterioration and crop yields decline are a common consequence of such farming practices… The sustainability … [of the Kabale system of agriculture] is seriously threatened by the rapid decline in soil fertility… The reduction in farm size long ago resulted in the abandonment of fallowing practices and continuous cultivation is now common in the area.[71]

It is not only outside agencies who have adopted this environmental narrative. The DAO in 1996 observed that 'fields are cropped every season without a rest'.[72] According to the Kabale District Agricultural Work Plan for 1996, major problems arose from the fact that 'population pressure on land [was high], land is over cultivated with short rotation. Most soils are degraded and exhausted resulting in low productivity.'[73] In 1995, the District Environment Profile recorded that:

> The high population density and the nature of the terrain in Kabale district have led to excessive soil erosion. There is continuous cultivation of land without rest leading to soil degradation and exhaustion thus [sic] soils have low values of infiltration and soil water retention capacity. The end result of this has been highly leached soils that have consequently lost fertility. All these problems have been aggravated by land fragmentation and inadequate soil conservation measures such as terracing, mulching, contour strip planting, especially on hillslopes. [74]

Again, the negative impact of the local population is observed: 'soil erosion has also largely been accelerated by human activities. The district experiences continuous cropping of land without ample rest and …continuous cropping is carried out without appropriate soil and water conservation measures.'[75]

In the immediate post-Independence period the rhetoric surrounding environmental sustainability at national government level was little changed. Although much legislation was revised in 1964, this was more 'in form than in substance'.[76] As a consequence, there was a marked continuity in environmental

policy at district level. Although organised resettlement was abandoned, the focus on soil conservation was maintained – implemented through both agricultural extension workers and local chiefs – and the policy of swamp reclamation also persisted.

In more recent years, environmental concerns have become more explicit at a national level, with, for example, the creation in 1966 of the National Environmental Management Authority (NEMA). This umbrella agency advises local and district committees on acceptable ways of managing the environment. Although these committees formulate their own natural resource policies, they are to be developed in conformity with key principles of environmental management as laid down by NEMA. The sustainable utilisation of natural resources receives particular emphasis, and district environmental management plans target areas needing special assistance to ensure that resources are used sustainably.[77] Furthermore, the National Environment Statute of the 1995 Constitution established District Environment Committees, that are supposed to 'co-ordinate the work of the District Local Councils on the environment as well as ensuring that environmental concerns are integrated in all plans and projects approved by the District Local Council'.[78] But, as Mugabe and Tumushabe have noted using case studies from Southern and Eastern African 'there is a disjunction between policy pronouncements and what actually takes place on the ground'.[79] Indeed the government has had limited capacity to enforce environmental objectives throughout much of the 1980s and 1990s. However, official rhetoric continues to stress environmental sustainability as evidenced in the Environmental Action Plans.[80] There is also an increasing effort to 'mainstream' environmental issues in, for example, Uganda's poverty reduction strategy paper.[81] The emphasis on 'environmental sustainability' forms a new expression of old fears about over-population, soil erosion and land degradation. These enduring concerns continue, unquestioned, to have a major influence on policy.

While the capacity of Government to implement official policy has been severely hampered by budgetary and logistical constraints in the past two decades, external agencies such as NGOs have not faced similar limitations. NGOs therefore play an important developmental role in Kabale today, with a huge number of them operational within the district.[82] (See Table 1).

There are two main areas of NGO involvement in the district: agricultural research and agroforestry. These have arisen out of multiple, overlapping concerns, namely: low and falling agricultural productivity, deforestation, threats to food security and threats to biodiversity (both in forests, such as Bwindi and Mgahinga, and in wetlands[83]). The neo-Malthusian narrative continues to drive contemporary policy in Kabale. However, policy is also shaped by wider influences on the development process. Over the past two decades a consensus has been reached over the need for local participation in development projects.[84] Almost all development projects today adopt this rhetoric of participation, taking forms such as 'farmer participatory research' and 'community conservation'.[85]

NGO	Project	Funder	Main concerns, aims, policies	Key assumptions
CARE	Development through conservation (DTC)	Danida (3rd phase) (Phase 1 & 2 by USAID)	Need to increase agricultural productivity in areas around National Parks	Agricultural productivity low and falling; need to protect biodiversity in the Parks
Africare	Uganda Food Security Initiative (UFSI)	USAID	Food security, agroforestry, tree nurseries, road construction and seed multiplication.	District is food insecure; agricultural productivity low and falling
International Centre for Research on Agroforestry (ICRAF)	AFRENA	USAID	Agricultural research and extension, agroforestry, tree nurseries	Deforestation has occurred under population pressure, agricultural productivity low and falling
African Highlands Initiative (AHI)	AHI	DfID, IDRC (Canada), SDC (Switzerland), Rockefeller and others	Agricultural research and extension	Agricultural productivity low and falling
Centre International d'Agricole Tropical (CIAT)	Network on Bean Research in Africa	USAID (and others)	Agricultural research and extension	Agricultural productivity low and falling
Africa 2000	Agroforestry	UNDP	Agroforestry	Agricultural productivity low and falling
Heifer Project International (HPI)	Dairy cattle provision	USAID (and others)	Livestock and fodder	Agricultural productivity low and falling
International Gorilla Conservation Project (IGCP)	Gorilla Conservation	African Wildlife Federation, USAID	Biodiversity	Need to protect biodiversity in the Parks
Mgahinga Bwindi Impenetrable Forest Conservation Trust (MBIFCT)	Conservation and development	USAID, Netherlands	Management of national parks and development support for residents living in close proximity to the Parks.	Need to protect biodiversity in the Parks
IUCN	UgandaNational Wetlands conservation and management project	Netherlands	Biodiversity	Need to protect biodiversity in the wetlands

TABLE 1. Main NGOs working in Kabale

Policy makers involved in natural resource management, such as forests and wildlife, are also increasingly looking to decentralisation (the downward transfer of responsibility from higher decision making levels to ones more accessible to local populations) as a way forward.[86] With these broader influences in mind, the following section will examine the main areas of NGO involvement, exploring the assumptions that drive NGO interventions and their supporting evidence.

AGRICULTURAL PRODUCTIVITY

NGOs in Kabale today are paying much attention to ways of increasing agricultural productivity. Centre International d'Agricole Tropical, for example, has been undertaking research to try to find suitable green manures, fallow legumes and other cover crops, which can be integrated into the cropping system. CARE's goal is to protect the natural resources in and around two national parks by improving the living conditions of local people. Their work has three components: park management, local institution building and sustainable agricultural development. Project activities include the introduction of new crop varieties and improved agricultural practices and on-farm tree planting through a farmer participatory research project. Africare has four components: rural feeder road rehabilitation, soil conservation and agroforestry, agricultural productivity and post-harvest handling, and household level nutrition. They work closely with AFRENA in their natural resource management and agroforestry activities. AFRENA aims to improve agroforestry productivity systems by supporting research and extension – agroforestry is believed to assist in terrace management and help restore soil fertility and reduce soil erosion.

Behind these agricultural projects lie a number of timeworn assumptions concerning falling soil fertility and reduced fallow periods, resulting from population growth. But what is the evidence for reduced fallow? Many of the claims about the declines are made with little or no corroborative evidence. Even Were, who stated that fallows had reduced and were now too short to allow soils to regenerate, found that 77 percent of farms had some land being rested, and provided no evidence that fallow periods had decreased.[87] Other, more recent, studies have also found high prevalence of fallow. Grisley *et al.* conducted a survey of households in the region to examine factors affecting farmers' decisions to rest land, and found that of the farms surveyed 76 percent had some cropland in grass fallow, with 26 percent of the total cropland under fallow. Their research suggested that while increasing population density resulted in a decrease in the amount of land rested, this occurred at a rate significantly lower than the corresponding increase in population density.[88]

Meanwhile, a detailed land use survey conducted in 1996 examining changes in land use patterns over a 51-year period found that the proportion of land left

to fallow actually increased – from 19 percent in 1945 to 32 percent in 1996. Household interviews confirmed the findings, suggested that 29 percent of land was being rested at the time of the interview. Furthermore not only has proportion of land left to fallow increased – but also the length of time that fields are rested has also increased. In 1945 just under 50 percent of fallow land was being rested for less than six months; with just over 50 percent being rested for more than this. By 1996 only five percent of fallowed land was being rested for less than six months; and thus almost all the fallow land was being rested for six months or more. The average time land was left to fallow increased from 9.4 months in 1945, to 14.2 months in 1996. As would be expected these changing patterns of fallow use are not socially undifferentiated, and the evidence suggests that it is the largest landowners, and the smallest landowners, who fallow most.[89] But they do so for very different reasons: while richer households have enough land to be able to fallow as a means of soil fertility maintenance, poorer households are fallowing in part because of labour shortages.[90]

Claims about soil erosion also benefit from closer examination. The one significant published survey to which many reports refer is that by Bagoora, who surveyed four areas within one sub-county of Kabale District. Although a measure of soil erosion was calculated (number of landslide scars per km^2), the hills that were investigated were purposively selected as areas where severe erosion could be visually identified. In addition, although the study area was quite small, results were generalised not only to the region of Kigezi but to all highland areas in Uganda. Despite the limitations of this study, Bagoora concluded that:

> most slopes are seriously affected by all forms of soil erosion and conservation measures are needed to prevent irreversible calamity. . . . [T]he highlands of Kigezi are a particularly noteworthy example of the induced risk of accelerated erosion in Uganda. . . This form of land use [in practice in Kigezi] has done indelible damage to nature in some parts of the highlands.[91]

Bagoora's work is cited by almost every author who writes about soil erosion in south-western Uganda, often being the only source that attempts any objective quantification of the extent of the problem. However, the small, purposively selected sample cannot be assumed to be representative of the district.[92]

In contrast to the prevailing viewpoints, a number of researchers have reported that the soils of Kabale are in fact resilient and resistant to erosion. Laboratory analysis of soil from the area by Magunda found it to be well aggregated with a stable structure and high organic matter levels. He concluded that the soil was particularly resistant to erosion.[93] Another more recent study has examined accelerated erosion using 12 natural runoff plots on which soil loss and erosion features were measured.[94] Once again, the findings contradicted conventional wisdoms, indicating that land cover rather than slope is a more important factor in determining the extent of soil erosion, and that due to low rainfall

intensity and highly permeable soils, erosion is much less than would be expected. Thus, while there are few detailed studies of soil erosion, those that do exist suggest that soil erosion is actually not the problem that might be anticipated in an area with such steep slopes and continuous cultivation over many decades.[95] However, such counter-intuitive studies have failed to break down the dominant discourse. Their findings tend to be ignored by most contemporary observers, who continue to agonise over supposedly high levels of erosion.[96]

Most researchers reiterate colonial perceptions connecting over-population to serious environmental degradation. Policy makers in turn, adopt these beliefs and perpetuate the myth. The conventional wisdom has become so widely believed that it is written into reports without adequate substantiation, commencing a cycle in which such reports are then cited in subsequent documents thereby reinforcing the prevailing perceptions without valid confirmation. The strength of the narrative has ensured that this accepted 'truth' has become self-evident. The few studies that report evidence contrary to the prevailing beliefs of over-population and land degradation either fail to perceive their results as contradicting the conventional wisdom or are simply not noticed amongst the overwhelming body of opinion.

AGROFORESTRY

For over two decades agroforestry has been promoted as a 'practical and beneficial land-use system for smallholders'[97] and a number of developmental agencies working in Kabale today have projects with an agroforestry component, including the International Centre for Research on Agroforestry/AFRENA, Africare and Africa 2000. The overriding assumption that drives such initiatives is that deforestation has occurred in Kabale as a result of population increase, and that it is an ongoing problem. The National Soils Policy for Uganda, for example, has observed that 'erosion… is particularly severe in … Kabale … where high altitude mountain slopes have been greatly deforested'.[98] An Africare survey states (without citing any evidence) that 'deforestation is widely practised'.[99] Meanwhile, the 1998 *State of the Environment Report* noted that 'expansion of agriculture on previously forested steep terrains has led to soil erosion', one of the most seriously affected districts being Kabale.[100] The District Environment Profile blames woodfuel demand: 'The high demand for woodfuel has resulted in destruction of many indigenous forests in the district. Some valuable trees such as black wattle (*Acacia mearnsii*) have been lost and besides this serious soil erosion is already being experienced. Some hills are bare and have exposed rocks.'[101] Thus, not only has deforestation occurred, but it is implicit that this has occurred as a result of relatively recent population pressure.

But what is the history of tree cover in the area? There is evidence that the area has not been deforested over the past century; rather this occurred much longer ago. Palaeoecological research undertaken in the highlands has found evidence of 'prolonged human occupation and in particular agriculture' over the past 2,500 years.[102] While agriculture concomitant with more permanent settlements was probably established around 2,000 years ago,[103] Taylor and Marchant note that forest clearance was highly localised and that lower altitudes were permanently cleared of forest about 1000 years ago, while higher altitudes were cleared before that.[104] As Hamilton et al. have noted 'major degradation of the environment by man occurred early at this locality'. [105] By the time of the arrival of colonial officials, forests had long been cleared and hence the population increase of the past century cannot be blamed for the deforestation of the district.

A second set of assumptions connected to agroforestry posits that the planting of trees by farmers is a new practice introduced from outside. Thus researchers working for ICRAF have noted that 'except for commercial eucalyptus woodlots, very few trees are planted by farmers in Kabale district'.[106] An Africare project document notes that 'agro-forestry as a land management practice [is] new to the majority of farmers in this area'.[107] It has been noted that 'little integration of tree growing in the farming system prevails in the area. Scattered woodlots of eucalyptus (*Eucalyptus spp*) and black wattle (*Acacia mearnsii*) on marginal lands and boundaries are the only common agroforesty activities.'[108] In contradiction to such beliefs, farmers have actually been growing trees for many decades. Evidence from colonial archives suggests that in the 1930s and 1940s woodlots of black wattle were common: 'coppices of wattle trees, planted on the hill-tops, along the roads, and around the homestead', forming 'a marked feature of the landscape'.[109] Furthermore, tree cover more than doubled between 1945 and 1996 (from 4.1 percent in 1945 to 9.2 percent in 1996). Within this increase in cover there has been a change in species type: from black wattle (85 percent of woodlots in 1945) to eucalyptus (74 percent in 1996).[110]

Hoben has similarly observed that in the case of Ethiopia where tree cover has increased: 'the fact that trees have been integrated into highland farming systems spontaneously without government extension programmes calls into question the narrative that says peasants lack the ability or foresight to plant trees without environmental education, training and access to subsidised seedlings from nurseries.'[111] But in Kigezi, as in Ethiopia, the fact that farmers are planting trees is given only scant recognition, while the fact that tree cover has doubled over a fifty-year period is rarely acknowledged.

FOOD SECURITY

In the past five years reference has increasingly been made to the problem of food insecurity in Kabale district.[112] This new discourse seems to have arisen following the commencement of an Africare project in the area. Before this, the 'problem' of food insecurity was not articulated as a major concern.[113] Africare has been running the 'Uganda Food Security Initiative' Project (UFSI) in Kabale since 1997. This project's main objectives are to enhance food security by a) increasing the quantity of food available for home consumption, b) protecting soils from erosion, c) providing improved road access and d) enhancing household utilisation of food, particularly by women and children.[114] Literature produced by the project claims that 'the project started by undertaking a baseline survey in 1997 that revealed the magnitude of food insecurity in Kabale district'.[115] In fact, this survey did not measure food insecurity, nor did it measure rates of nutrition or food production.[116] Rather, the existence of food insecurity in the district was identified as an *assumption* of the survey, as well being one of its main conclusions.[117] The assumption was informed by the prevailing over-population/land degradation narrative. According to the baseline survey: 'due to high population density and intensive land cultivation, soil degradation has continued to threaten food security in the district.'[118] The case serves as a classic example of how data can be misused to support *a priori* policy decisions.

CONCLUSION

This paper has shown that the narratives that were established in the colonial period have continued after Independence. The colonial legacy continues to inform contemporary environmental and agricultural policy in Kabale, although this is rarely acknowledged. On occasions when reference *is* made to colonial efforts around the environment, it is done so to highlight the abandonment since independence of soil conservation measures associated with colonial rule. A 1998 NEMA report, for example, observed the 'strong element of coercion in enforcing conservation programmes in Kabale …district during the colonial era'. 'This policy', the report continued, was 'partly responsible for subsequent neglect of conservation practices after independence, because the local communities did not identify with it, leading to the removal of terrace raisers. Erosion became very intense as a result.'[119] That these measures were in fact modifications of indigenous agricultural practice, and for this reason were not rejected outright by farmers, is neglected.[120] Furthermore, in colonial Kigezi significant efforts were made with regard to education and propaganda, resulting in a high degree of local understanding of the reasons behind such policies. Nevertheless, colonial policy itself arose from a Malthusian environmental degradation narrative, which has gone on to influence local thinking. The very same phrases

and explanations first employed by colonial officials, and later by their post-colonial successors, have been adopted by the local population who are now repeating them to contemporary development workers. Thus, through a process of iteration, the narrative has become deeply embedded in local thought.[121] This has major implications for policy, given the increased focus on farmer participation, as a result of which the perceptions of local people carry more weight. Meanwhile, the understandable desire to be chosen as recipients of development projects may encourage people to both say what they think development workers want to hear[122] and to stress difficulties today compared to the past. The policies of participation and decentralisation therefore reinforce the reproduction of a neo-Malthusian narrative.

While there have been some changes in policy, the underlying assumptions that are made in almost all areas of policy are unchanged, and a clear neo-Malthusian environmental narrative has developed. As colonialists ignored indigenous cultivation systems that maintained soil fertility, and presented their measures as something new (and successfully introduced) so, in the post colonial period, have agencies ignored tree planting practices. It served the colonial authorities well to ignore indigenous practices, as they could present their initiatives as successful, and fail to mention the fact that the very reason that they were successful was that they were adaptations of practices already in place. Using the same environmental degradation narrative, post colonial agencies have implemented agroforestry programmes with little acknowledgement of the extent to which agroforestry is already practised in Kabale.

Concerns over the environment have always been explicit in Kabale. Today the term 'environmental sustainability' is used to encompass the fears and concerns about the threats associated with increasing population, soil erosion and declining soil fertility. But the assumptions and fears behind this phrase, and the language used to convey these, have changed very little. The explicit concerns with environmental issues (specifically soil erosion) date back to the 1930s. The paper has shown that development narratives have been, and indeed continue to be, externally driven: first by colonial regimes and latterly by international organisations and NGOs. The policies espoused have also changed little (although the degree to which post-Independence governments have had the capacity to put them into place has varied.) Those areas of policy where there have been shifts include a reversal in policy around swamps, reflecting an increased concern (originating from outside the region) with biodiversity. The concern to increase agricultural productivity through farmer participatory research represents a shift in development method, while there has been, in NGO circles in particular, increasing focus on agroforestry as a way of increasing agricultural productivity. In Kabale, as in Ethiopia, [123] there has been little discussion of indigenous techniques of soil amelioration and the neo-Malthusian narrative rests on an essentially undynamic view of peasant behaviour. There are signs that amongst some observers this is beginning to change,[124] although this

has not yet fed into the broader narratives about environmental degradation in Kabale. Thus the neo-Malthusian environmental narrative remains largely unchanged and as a result a number of assumptions are made about agricultural productivity and environmental degradation, which in turn drive policy. But there is increasing evidence, as shown by several studies presented above, that these assumptions need to be questioned, the neo-Malthusian narrative that has taken hold in Kabale needs to be reconsidered and to avoid repetition of past mistakes it is essential that a revaluation takes place.

NOTES

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[1] G. Carswell, 'African farmers in colonial Kigezi, Uganda, 1930–1962: Opportunity, Constraint and Sustainability' (PhD, SOAS, 1997).
[2] National Environment Management Authority (NEMA), *State of the Environment Report for Uganda 1998* (Kampala, 1999), 55.
[3] K. Lindblade, J.K. Tumahairwe, G. Carswell, C. Nkwiine and D. Bwamiki, 'More People, More Fallow – Environmentally favorable land-use changes in southwestern Uganda' (Report prepared for the Rockefeller Foundation and CARE International, 1996). See also G. Carswell, 'Farmers and fallowing: agricultural change in Kigezi district, Uganda', *Geographical Journal*, 168.2 (2002), 130–40.
[4] M. Leach and R. Mearns (eds), *Lie of the Land: Challenging Received Wisdom on the African Environment* (London, 1996); J. Fairhead and M. Leach, 'False forest history, complicit social analysis: rethinking some West African environmental narratives', *World Development*, 23.6 (1995), 1023–35; J.C. McCann, 'The plow and the forest: narratives of deforestation in Ethiopia, 1840–1992', *Environmental History*, 2.2 (1997), 138–59; C.A. Kull, 'Deforestation, erosion, and fire: Degradation myths in the environmental history of Madagascar', *Environment and History*, 6.4 (2000), 423–50; H.S. Marcusson, 'Environmental paradigms, knowledge systems and policy. The case of Burkino Faso', *Geografisk Tidsskrift*, 2 (1999), 93–103; L. Mehta 'The manufacture of popular perceptions of scarcity: dams and water-related narratives in Gujarat, India', *World Development*, 29.12 (2001), 2025–41.
[5] E.M. Roe, 'Development narratives, or making the best of blueprint development', *World Development*, 19.4 (1991), 287–300.
[6] Roe, 'Development narratives', 288.
[7] A. Hoben, 'Paradigms and politics: the cultural construction of environmental policy in Ethiopia' *World Development*, 23.6 (1995), 1008.
[8] A. Hoben, 'The cultural construction of environmental policy: paradigms and politics in Ethiopia' in Leach and Mearns, *Lie of the Land*, 187.
[9] For an exploration of how the narrative of 'fortress conservation' has been supplanted by the counter-narrative of 'community conservation' see W.A. Adams and D. Hulme,

'Conservation and Community: Changing narratives, policies and practices in African conservation', in D. Hulme and M. Murphree, eds (2001), *African Wildlife and Livelihoods* (James Currey, Oxford).

[10] Roe, 'Development Narratives', 290.

[11] Hoben, 'Paradigms and politics',1019.

[12] Leach and Mearns, *Lie of the Land*, 8.

[13] See J. Swift. 'Desertification: Narratives, winners and losers', in Leach and Mearns, *Lie of the Land.*

[14] E.M. Roe 'Except Africa: Postscript to a special section on development narratives', *World Development*, 23.6 (1995), 1066.

[15] Leach and Mearns, *Lie of the Land*, 9.

[16] See also A.F.D.Mackenzie, 'Contested ground: colonial narratives and the Kenyan environment, 1920–1945', *Journal of Southern African Studies*, 26.4 (2000), 697–718. For a discussion of the different crises constructed in Ukambani see D.E. Rocheleau, P.E. Steinberg, P.A Benjamin, 'Environment, development, crisis, and crusade: Ukambani, Kenya, 1890–1990', *World Development*, 23.6 (1995), 1037–51.

[17] Leach and Mearns, *Lie of the Land*, 23. For further examination of how 'received wisdoms' get established in policy see J. Keeley and I. Scoones, 'Understanding environmental policy processes: a review', *IDS Working Paper*, 89 (1999).

[18] Leach and Mearns, *Lie of the Land*, 28.

[19] Carswell, 'African farmers'.

[20] Population and Housing Census (1991).

[21] From 206,090 in 1921 to 493,444 in 1959, Kigezi District. Kabale District Archives and Uganda Government Statistical Abstracts, 1966.

[22] J.W. Purseglove, 'Kigezi resettlement', *Uganda Journal*, 14 (1950), 139–52.

[23] See W.R. Louis, *Ruanda-Urundi 1884–1919* (Oxford, 1963), 79–91, 194–9. Also J.M. Coote (with postscript by H.B. Thomas), 'The Kivu Mission 1909–10', *Uganda Journal*, 20 (1956), 105–12. Also H.B. Thomas, 'Kigezi Operations 1914–17', *Uganda Journal*, 30 (1966), 165–73.

[24] Carswell, 'African farmers'.

[25] Letter to PCWP from J.E. Phillips, Acting DC, 26 Jan 1921, Kabale District Archives [KDA] District Commissioner's Office [DC] MP69 ff2. Also Note on 'Land insufficiency around Kabale', 1929, by J.E. Phillips, DC, KDA DC MP69 ff34. See G. Carswell, 'Soil conservation policies in colonial Kigezi, Uganda: successful implementation and an absence of resistance'. Chapter in W. Beinart and J. McGregor, *Social History and African Environments* (Heinemann and James Currey, in press).

[26] D.M. Anderson, 'Depression, dust bowl, demography and drought: The colonial state and soil conservation in East Africa during the 1930s', *African Affairs*, 83 (1984), 321–43. For growth of concerns in Southern Africa context see W. Beinart, 'Soil erosion, conservationism and ideas about development: a southern African exploration, 1900–1960', *Journal of Southern African Studies*, 11.1 (1984), 53–83.

[27] See for example A.F.D. Mackenzie, *Land, Ecology and Resistance in Kenya, 1880–1952* (Edinburgh, 1998); J.L. Giblin, *The Politics of Environmental Control in Northeastern Tanzania 1840–1940* (Philadelphia, 1993); G. Maddox, J.L. Giblin and I. Kimambo (eds), *Custodians of the Land: Ecology and Culture in the History of Tanzania* (London, 1996); W. Beinart and C. Bundy, *Hidden Struggles in Rural South Africa: Politics and Popular Movements in Transkei and Eastern Cape* (London, 1987).

[28] Minute by Stockdale, 27 Feb 1930, Public Records Office [PRO] CO 822 26/9.

[29] See Carswell, 'African farmers'.
[30] See for example PRO CO 822/106/5; PRO CO 822/109/10 1940; PRO CO 822/109/11; PRO CO 822/115/6.
[31] Conference of Directors of Agriculture, May 1940. Memo by the Department of Agriculture Nyasaland 'The Adaptation or Modification of Existing Native Agricultural Practices Towards Better Husbandry, Memo by Department of Agriculture, Nyasaland'. Entebbe National Archives [ENA] H304 ff1.
[32] For example Tothill went to India and South Africa in 1938 (See ENA H280 ff1) and Maher, from Kenya, and Hosking, from Uganda, were sent to the USA in 1938/39 to study erosion control measures. (See PRO CO 892 15/7 and KDA Department of Agriculture [DoA] 19 ff211).
[33] Notes on Preservation of Soil Fertility under conditions of Native Agriculture in Uganda, by Tothill, Director of Agriculture written July 1935, ENA H175/1/II ff5. Also see ENA H218 I ff16(1) and KDA DC AGR-MNTH ff44Enc.
[34] Report for Year 1935 by Wickham, KDA DC AGR-MNTH ff53.
[35] Letter to DC from Wickham, DAO, Kabale, 5 Sept 1935, KDA DoA 009exp-c ff10. Note that soil 'erosion' (e.g. sheet or gulley erosion) and falling soil fertility or soil exhaustion are sometimes used interchangeably.
[36] Report for Year 1935 by Wickham, KDA DC AGR-MNTH ff53.
[37] Letter to DC from Masefield, DAO, 23 Oct 1937, KDA DC AGR6I ff2.
[38] Carswell, 'Soil conservation policies in colonial Kigezi'.
[39] Despite the adverse weather conditions in this year of 'famine' it was not necessary to import food into Kigezi. Furthermore the ban on food exports to Ruanda had to be enforced through a 'strict system of frontier guards'. Western Province Annual Report [WPAR], 1946. The assertion that shortages were 'imminent' justified marketing regulations and attempts to introduce marketing controls over foodstuffs need to be seen in the light of colonial efforts to introduce a range of cash crops. See Carswell, 'African farmers'.
[40] Letter from Maidment, Acting PAO to DAO 10 Feb 1944, KDA DoA 11/A/1 ff9. Quoting notes made by Director of Agriculture following visit to Kigezi.
[41] J.W. Purseglove, 'Report on the Overpopulated Areas of Kigezi', (1945). This unpublished report was not located in any archives. A copy was obtained by the author from the Purseglove family. On the Resettlement Scheme see Carswell, 'African farmers'. On its effects on the family see R.E. Yeld, 'The family and social change: a study among the Kiga of Kigezi, south west Uganda' (PhD, Makerere, 1969).
[42] Ibid., para 13.
[43] Ibid., paras 13 and 93. G.V.Jacks and R.O. Whyte, *The Rape of the Earth: A World Survey of Soil Erosion* (London, 1939).
[44] See Carswell, 'Soil conservation policies in colonial Africa' for comparisons with Uluguru (Tanganyika), Central Province and Machakos (Kenya) and Carswell, 'African farmers' for further comparisons with the Usambara Land Scheme, the Sukumaland Scheme and the Pare Development Plan (Tanganyika). See also R. Young and H. Fosbrooke, *Smoke in the Hills: Land and Politics among the Luguru of Tanganyika* (London, 1960); P.A. Maack, 'We don't want terraces!' Protest and identity under the Uluguru land usage scheme', in G. Maddox (ed.), *Custodians of the Land: Ecology and Culture in the History of Tanzania* (London, 1996), 159; D.W. Throup, *The Economic and Social Origins of Mau Mau, 1945–53* (London, 1988); D.W. Throup, 'The origins of the Mau Mau', *African Affairs*, 84 (1985), 399–433.

[45] Indigenous farming methods include contour cultivation, ridges and mounds for root crops, trash lines, cultivation to form ridges, high use of legumes, continuous plant cover through inter- and serial-cropping. See Carswell, 'Soil conservation policies in colonial Kigezi' and W.R.S. Critchley, C. Reij and T.J. Willcocks, 'Indigenous soil and water conservation: a review of the state of knowledge and prospects for building on traditions', *Land Degradation and Rehabilitation* 5 (1994), 293–314.
[46] In, for example, Machakos and Central Province, Kenya. See Carswell, 'Soil conservation policies in colonial Kigezi'.
[47] Carswell, 'Soil conservation policies in colonial Kigezi'.
[48] Purseglove, 'Report on the Overpopulated Areas of Kigezi', para 96.
[49] Letter to PAO from King, DAO, 7 May 1953, KDA DoA 012-3 ff8.
[50] Memo to Governor on Resettlement by Sub-Committee of Kigezi District Team (1953) KDA DoA 11/A/1 ff115.
[51] Letter to PAO from King, DAO, 7 May 1953, KDA DoA 012-3 ff8. Letter to PCWP from Fraser, DC, 3 Feb 1954 , KDA DoA 11/A/2, ff3.
[52] Letter to DC from Deputy Director of Agriculture, 26 March 1954, KDA DoA 11/A/2 ff10.
[53] East African Royal Commission, *Report of the East African Royal Commission, 1953–55* (London, Cmd 9475, 1955).
[54] Letter to J. King, Director of Agriculture from E.W. King, DAO, 9 April 1957, KDA DoA 17A-2 ff214.
[55] See Carswell, 'African farmers'.
[56] Sir Alexander Gibb and Partners (Africa), *Water Resources Survey in Uganda 1954–55* (Entebbe, 1956). PRO CO/822/886 (57/6/014).
[57] As with other colonial policies the reclamation of swamps provided opportunities for some farmers to increase their land ownership, and this has probably contributed to increased land differentiation in the area. A detailed exploration of the renegotiation of inter- and intra-household politics that was associated with Kabale's incorporation into the colonial economy is beyond the scope of this paper, but see Carswell 'Farmers and fallowing' and Carswell, 'Africa farmers'.
[58] Hoben, 'The cultural construction of environmental policy', 201.
[59] W. Allan, *The African Husbandman*, (Edinburgh, 1965).
[60] E.R. Kagambirwe, 'Causes and consequences of land shortage in Kigezi' (Makerere, Department of Geography, Occasional Paper 23, 1973), 69 and 76.
[61] B.W. Langlands, 'A population geography of Kigezi District' (Makerere, Department of Geography, Occasional Paper 26, 1971).
[62] B.M. Kateete, 'Land tenure and land use in Humurwa parish, Ikumba sub-county, Rubanda County, Kigezi District', in R. Tindituuza and B.M. Kateete, 'Essays on land fragmentation in Kigezi District' (Makerere, Department of Geography, Occasional Paper 22, 1971).
[63] Such as A.R. Kururagire, 'Land fragmentation in Rugarama, Kigezi', *Uganda Journal*, 33 (1969), 59–64.
[64] National Environment Management Authority (NEMA), *The National Soils Policy for Uganda* (Draft, Kampala, 1998).
[65] J.M. Tukahirwa, 'Soil resources in the highlands of Uganda: Prospects and sensitivities', *Mountain Research and Development*, 8.2/3, (1988), 165–72.
[66] Ministry of National Resources, National Environment Information Centre, *State of the Environment Report for Uganda* (Kampala, 1994), 26.

[67] See W. Adams and M. Infield, 'Park outreach and gorilla conservation: Mgahinga', in D. Hulme and M Murphree (eds), *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation* (Oxford, 2001).
[68] CARE *Development Through Conservation project proposal, 1992–1993*. A proposal to USAID. (Kabale, Uganda, 1992).
[69] African Highlands Initiative (AHI), Participatory Agroecosystem Workshop, Kabale Benchmark site. Workshop held in Kabale, (March 1999), 1.
[70] African Highlands Initiative (AHI) C and D Uganda Team 'Natural resource management constraints and prospects in Kabale District: A participatory rural appraisal' (Nov 1998), iii.
[71] Agroforestry Research Networks for Africa Uganda National Taskforce (AFRENA). *Agroforestry Potentials for the Land-use Systems in the Bimodal Highlands of Eastern Africa: Uganda. AFRENA Report No. 4.* International Centre for Research on Agroforestry. (Nairobi, 1992).
[72] Interview with Sunday Mutabazi, District Agricultural Officer, February 1996.
[73] Kabale District, Department of Agriculture, 1996.
[74] Uganda Government, *Kabale District Environment Profile* (National Environment Information Centre, Kampala, 1995), 43.
[75] Uganda Government, *Kabale District Environment Profile* (National Environment Information Centre, Kampala, 1995), 66.
[76] G.W. Tumushabe, 'Environmental governance, political change and constitutional development in Uganda', in H.W. O. Okoth-Ogendo and G.W. Tumushabe (eds), *Governing the Environment: Political Change and Natural Resources Management in Eastern and Southern Africa* (ACTS, Nairobi, 1999), 69.
[77] J. Lind and J. Cappon, *Realities or Rhetoric? Revisiting the Decentralization of Natural Resources Management in Uganda and Zambia* (ACTS, Nairobi, 2001).
[78] Tumushabe, 'Environmental governance, political change and constitutional development in Uganda', 77.
[79] J. Mugabe and G.W. Tumushabe, 'Environmental governance: conceptual and emerging issues', in Okoth-Ogendo and Tumushabe, *Governing the Environment,* 23.
[80] See also T.J. Bassett and K. Bi Zuéli, 'Environmental discourses and Ivorian Savanna', *Annals of the Association of American Geographers*, 90.1 (2000), 67–95.
[81] See S. Browning and P. Driver, 'Uganda's poverty eradication action plan', in 'Sustainable Livelihoods and the Environment: Sharing lessons and Approaches' *mimeo* 2001 [Background paper available on http://www.livelihoods.org].
[82] R. Clausen, 'A landscape approach for reviewing USAID Uganda Activities in the Southwest', *Report prepared for USAID.* (April 2001).
[83] Wetlands are the one area where there has been a complete reversal of policy. While in the colonial (and early independence) period swamps were reclaimed to provide additional land, today they (now called wetlands) are being protected due to concerns about the protection of biodiversity. But such concerns are to a large degree externally driven by international conservation organisations such as IUCN which has been heavily involved in the wetlands programme. Furthermore, the expression of such concerns came too late, as by the time they were being articulated, most of the swamps had already been drained. By 1996 there was very little natural swamp land (that is swamp containing papyrus) remaining in the district. While in 1945 7.4 percent of an area surveyed by transects was natural swamp, this figure was down to 0.05 percent in 1996 (Lindblade et

al., 'More people, more fallow'). Thus almost all the swamp land of Kigezi had been completely reclaimed for cultivation and pasture.

[84] R. Chambers, *Whose Reality Counts? Putting the Last First* (London,1997). R. Chambers, 'The origins and practice of participatory rural appraisal', *World Development*, 22.7 (1994), 953–69. In relation to soil conservation see C. Reij, S.D. Turner and T Kuhlmann, *Soil and Water Conservation in Sub-Saharan Africa: Issues and Options* (IFAD: Rome, 1986). See also M. Green, 'Participatory Development and the Appropriation of Agency in Southern Tanzania', *Critique of Anthropology*, 20.1 (2000), 67–89; R.D. Grillo and R.L Stirrat (eds), *Discourses of Development: Anthropological perspectives* (Berg, Oxford, 1997).

[85] Re farmer participatory research see Critchley, Reij and Willcocks, 'Indigenous soil and water conservation'; W. Critchley, 'Harnessing traditional knowledge for better land husbandry in Kabale District, Uganda', *Mountain Research and Development*, 19.3 (1999), 261–72; D.Miiro, W. Critchley, A van der Wal and A. Lwakuba, 'Innovation and impact: a preliminary assessment in Kabale, Uganda', in C. Reij and A. Waters-Bayer (eds), *Farmer Innovation in Africa: A Source of Inspiration for Agricultural Development* (London, 2001). Re Community conservation see Adams and Infield, 'Park outreach and gorilla conservation'.

[86] See A. Nsibambi, *Decentralization and Civil Society in Uganda* (Kampala, 1998); T. Raussen, G. Ebong and J. Musiime 'More effective natural resource management through democratically elected, decentralised government structures in Uganda', *Development in Practice*, 11.4 (2001) 460–70; A. Namara and X. Nsabagasani, 'Decentralised Governance and the Wildlife Management Sector: Bwindi Impenetrable National Park, Uganda' *mimeo* (Centre For Basic Research, Kampala, 2001). Also J. Ribot, 'Decentralisation, participation and accountability in Sahelian forestry: Legal instruments of political-administrative control', *Africa*, 69.1 (1999), 23–64. Lind and Cappon examine two assumptions associated with decentralisation: firstly, that environments *are* threatened, and secondly, that the establishment of new 'local' institutions may 'curb unwanted changes in the environment and promote more sustainable use of natural resources'. J. Lind and J. Cappon *Realities or Rhetoric? Revisiting the Decentralization of Natural Resources Management in Uganda and Zambia* (ACTS, Nairobi, 2001).

[87] J.M. Were, *Population Pressure, Land Use Changes and Consequences on the Environment in Kabale District* (Makerere University, Department of Geography, 1992). Other studies make similar claims, often without substantiation. See for example E.M. Tukahirwa (ed.), *Environmental and Natural Resource Management Policy and Law: Issues and Options, Summary* (Makerere University Institute of the Environment, Kampala, Uganda, and Natural Resources and World Resources Institute, Washington, 1992); J.Y.K. Zake, *Report of the Soil Fertility Survey of South Western Region Kabale and Rukungiri. South-west Regional Agricultural Rehabilitation Project* (Mbarara, Uganda, 1991); A.B. Cunningham, *People, Park and Plant Use: Research and Recommendations for Multiple-use Zones and Development Alternatives around Bwindi-Impenetrable National Park, Uganda* (Report prepared for CARE-International, Kabale, Uganda, 1992).

[88] W. Grisley and D. Mwesigwa, 'Socio-economic determinants of seasonal cropland fallowing decisions: smallholders in southwestern Uganda', *Journal of Environmental Management*, 42 (1994), 81–89.

[89] Lindblade et al., 'More people, more fallow'.

[90] A detailed exploration into how issues of class, wealth or gender influence, and are influenced by, these changing land use patterns is beyond the scope of this paper, but see Carswell 'Farmers and fallowing'.
[91] F.D.K. Bagoora, 'Soil erosion and mass wasting risk in the highland area of Uganda', *Mountain Research and Development*, 8.2/3 (1988), 173–82.
[92] For further discussion see Lindblade et al., 'More people, more fallow'.
[93] M.K. Magunda, 'Influence of some physico-chemical properties on soil strength, stability of crusts and soil erosion' (Minnesota, PhD, 1992).
[94] J.M. Biteete-Tukahiirwe, 'Measurement, predictions and social ecology of accelerated soil erosion in Kabale District, South-west Uganda' (Makerere, Ph.D. 1995).
[95] See also C.S. Farley, 'Smallholder knowledge, soil resource management and land use changes in the Highlands of southwest Uganda' (Florida, PhD, 1996).
[96] Uganda Government, *Kabale District Environment Profile* (1995).
[97] G.L. Denning, 'Realising the potential of agroforestry: integrating research and development to achieve greater impact', *Development in Practice*, 11.4 (2001), 404–16.
[98] NEMA, 'The National Soils Policy for Uganda' (1998), 16.
[99] Africare Baseline Survey (1997), 45.
[100] NEMA, *State of the Environment Report for Uganda 1998*, 76.
[101] *Kabale District Environment Profile* (1995), 34.
[102] D. Taylor and R. Marchant, 'Human impact in the Interlacustrine region: long-term pollen records from the Rukiga Highlands' *Azania*, XXIX–XXX (1994–95), 293. Earlier research by Hamilton suggested that clearing of forests in the Kabale area started more that 4,800 years ago with further clearing around 2,200 years ago, A. Hamilton et al., 'Early forest clearance and environmental degradation in South West Uganda', *Nature*, 320 (1986), 164–7. Taylor and Marchant suggest, however, that the earlier vegetation change was likely to have had a regional cause, probably a movement towards a drier or more seasonal climate (293).
[103] D. Taylor, 'Late quaternary pollen records from two Uganda mires: Evidence for environmental change in the Rukiga highlands of southwest Uganda', *Palaeogeography, Palaeobotany and Palynology*, 80 (1990), 283–300; D.L. Schoenbrun, 'The contours of vegetation change and human agency in Eastern Africa's Great Lakes region: ca 2000 BC to ca AD 1000', *History in Africa*, 21 (1994), 302. Also see P. Robertshaw and D. Taylor, 'Climate change and the rise of political complexity in western Uganda', *Journal of African History*, 41.1 (2000) 1–28.
[104] Taylor and Marchant, 'Human impact', 294. See also D. Taylor, P. Robertshaw and R.A. Marchant 'Environmental change and political-economic upheaval in precolonial western Uganda', *The Holocene*, 10.4 (2000), 527–36.
[105] Hamilton et al., 'Early forest clearance'.
[106] W.M. Bamwerinde, S.B. Dickens, J. Musiime, and T. Raussen, 'Sharing local knowledge: farmers from Kabale (Uganda) study tree pruning systems and agroforesty in Embu (Kenya)' (Kabale, 1999), 4.
[107] Africare, 'The Status of UFSI', *mimeo* (2000), 2.
[108] D. Miiro et al., 'Participatory Rural Appraisal Report, Bubaale Sub-county, Kabale District', Indigenous Soil and Water Conservation Project (Kabale, 1998), iii.
[109] WPAR, 1932.
[110] Lindblade et al., 'More people, more fallow'.
[111] Hoben, 'The cultural construction of environmental policy', 200.

[112] Interviews with government and NGO policy makers in 1995–96 made little reference to food security. This was in stark contrast to 2000 and 2002, when food security issues were raised on a number of occasions.
[113] Although food security was not a major part of the narrative of the colonial period, concerns were periodically expressed about the threat of famine, and food exports were banned for periods throughout the 1940s and 1950s. This, however, needs to be seen in relation to colonial efforts to encourage a number of non-food cash crops. See Carswell 'African farmers'.
[114] Africare, 'The Status of UFSI', *mimeo* (2000), 2.
[115] Africare, 'The Status of UFSI', *mimeo* (2000), 1.
[116] Africare Baseline Survey (1997), 45. The baseline survey also did not measure – or attempt to assess – changes to forest cover, despite concluding that deforestation 'widely practiced'.
[117] Africare Baseline Survey (1997), 3 and 45.
[118] Africare Baseline Survey (1997), 4.
[119] NEMA, 'The draft National Soils Policy for Uganda' (1998), 13. See also NEMA, *State of the Environment Report for Uganda 1998*.
[120] Carswell, 'Soil conservation policies in colonial Kigezi'.
[121] For a discussion of the 'power and persistence of simple explanatory narratives' in the context of PRA see J. Pottier, 'Towards an ethnography of participatory appraisal and research', in Grillo and Stirrat, *Discourses of Development.*
[122] See also E. Crewe and E. Harrison, *Whose Development?: An Ethnography of Aid* (Zed Books, London, 1998).
[123] Hoben, 'The cultural construction of environmental policy', 201.
[124] See for example Critchley, Reij and Willcocks, 'Indigenous soil and water conservation' and Miiro, Critchley, van der Wal and Lwakuba, 'Innovation and impact'. S.R. Briggs, J.Ellis-Jones and S.J. Twomlow, 'Modern methods from traditional soil and water conservation technologies', Proceedings of a DfID Land management workshop, Kabale, January 1998 (Silsoe, 1998).