

The impacts of decentralisation reforms on sustainable forest management in Central Uganda

Convening lead author: Abwoli Y. Banana

*Lead authors: Justine J. Namaalwa, Patrick Byakagaba,
Daniel Waiswa, and Mukadasi Buyinza*

Contributing author: William Gombya-Ssembajwe

Abstract: The goal of decentralisation of forest sector governance under the Local Government Act in Uganda was to shift responsibility for forest management to elected local government councils and to encourage more active participation of local communities in the management of Uganda's forests. The assumption was that decentralisation of governance of forest resources would create an enabling environment for the development of effective local institutions that could limit harvesting levels and set management strategies to achieve sustainable forest management (SFM). In this chapter, we investigate whether the public administration and forest governance reforms that occurred in Uganda in the late 1990s and early 2000s have led to SFM. We monitored changes in mean diameter at breast height (DBH), number of tree stems per hectare, and levels of human disturbance and economic activities in nine forests located in the Lake Victoria Crescent between 1993 and 2012. We found an aggregate decline in mean DBH and number of stems per hectare across the landscape. However forest condition of some individual forest patches were improving and others were stable. We argue that weak enforcement of harvesting laws for forest products, conflicting land use and environmental policies, and corruption as major conditions that have disabled wider introduction and implementation of SFM principles and subsequently caused increased forest degradation in central Uganda.

Keywords: Decentralisation, forests, deforestation, governance, forest rule enforcement

22.1 Decentralisation in Uganda

22.1.1 Introduction

Since 1990, many African countries have embarked on decentralisation in response to demands for better management of natural resources, including forests, and for more equitable sharing of benefits derived from them. It is often argued that decentralisation creates institutions that promote participatory management of natural resources (Ribot 2003). Other authors (Ribot and Peluso 2003, Ribot et al. 2006, Treisman 2007) posit that decentralisation can result into improved efficiency, accountabil-

ity, equity, and sustainability in the management of public service production. Those who argue against decentralisation of forests note that decentralising forest management may lead to high deforestation rates considering the fact that most local governments lack the human, physical, and financial resources to be effective governors of natural resources (Andersson 2003, Gregersen et al. 2005).

Governance reforms have taken slightly different forms in different countries and experience and lessons learned from them are needed to enhance endeavours towards sustainable forest management and improving livelihoods in the future. In this chapter, we investigate whether public administration and forest governance reforms that occurred in Uganda in late 1990s and early 2000s have led to sustainable

forest management (SFM). We assess the outcomes of the reforms on forest governance by analysing forest conditions (as a proxy for SFM) of the adjacent communities in selected forests in six districts of Uganda that are located in the Lake Victoria Crescent: Mpigi, Wakiso, Masaka, Mukono, Kalangala, and Rakai (Figure II 22.1).

22.1.2 Changes in forest policy and governance in Uganda

Forests in Uganda have been scientifically managed since the beginning of the last century when Uganda was still a protectorate. Forest reserves were established in the early 1930s following the formulation of the first Forestry Policy in 1929 (Turyahabwe and Banana 2008). These forest reserves were managed through use of command and control with no involvement of the local communities living near them.

There was an attempt to decentralise the management of forest resources in Uganda between 1939 and 1947 with registration and establishment of local forest reserves under the districts' administration. In the Lake Victoria Crescent, local forest reserves were managed by the Buganda Kingdom administration, which was the *de facto* local government of the time. Forest resources were again recentralised in 1967 after Uganda became a republic and the promulgation of the new constitution of 1967.

Reforms in public administration and governance of the forest sector were initiated once more in 1997 and in 2001. Local governments were established following the implementation of the Local Government Act (1997). An autonomous agency, the National Forest Authority (NFA), was established to manage central forest reserves, and the District Forest Services (DFS) was set up to manage local forest reserves and provide advisory services to private tree farmers with the enactment of the National Forestry and Tree Planting Act, 2003. NFA is a for-profit parastatal that was expected to be financially sustainable within four years of its inception, while the DFS was to be run under the local government structure. These institutional changes implemented the new Forest Policy of 2001 (GoU 2001), the National Forest Plan of 2002 (GoU 2002), and the National Forestry and Tree Planting Act of 2003 (GoU 2003).

New regulations and policy instruments were put into place to encourage the participation of local communities, private companies, and local governments in forest management. Unsustainable forest management under the central government was cited as the major reason for the governance reforms in the forest sector (Banana et al. 2007, Turyahabwe et al. 2007) while improvement in service delivery

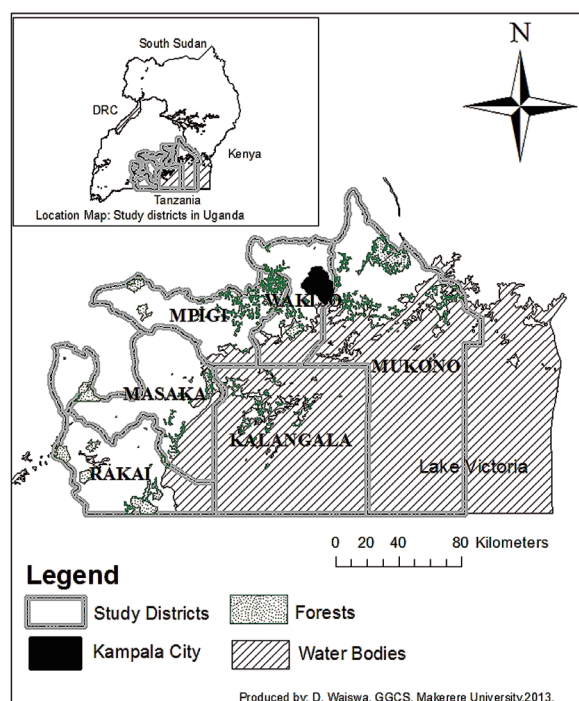


Figure II 22.1 Map showing the distribution of forest resources located along the shores of Lake Victoria in central Uganda.

through devolution of power to lower governments was cited as the major reason for the reforms in public administration (GoU 1997).

The assumption was that involvement and cooperation with all stakeholders in the forest sector – such as local communities, local government, private sector, civil organisations, and development partners – would create an opportunity to manage forests on a sustainable basis due to improvement in policy formulation, decision-making, transparency, and accountability (GoU 2001).

The new regulations and policy instruments also led to changes in land tenure and rights to forests and trees. Forest-adjacent communities were given an opportunity to participate in forest management through collaborative forest management arrangements (CFM) in return for improved access to forest products from central and local forest reserves. Under CFM, communities are engaged in forest management activities such as patrolling and forest maintenance even though they do not own the forest reserve. The statutory authorities responsible for central reserves (NFA for central forest reserves and DFS for local forest reserves) remain the stewards while the community is a management partner.

Under the same rules and regulations, private companies and tree farmers can lease forest reserves for a period of 25 years (subject to renewal) for plantation development as long as the reserves were gazetted for plantation development. In the new forest policy, equity and gender issues are empha-

sised as hallmarks for SFM. For example, the policy states that “government will ensure the integration of gender concerns and issues into the development of the forestry sector.” As such, women forest-user groups are given priority under the community tree-planting programme.

In order to achieve the principle of equity and gender equality, the NFA, as the steward of all central forest reserves in Uganda, demands that community-based organisations that wish to partner with it under CFM have a fair representation of women. The Forest Policy of 2001 emphasises equity in benefit sharing, but there are currently no regulations and guidelines developed by the Forestry Sector Support Department, which plays the overarching role of policy guidance for the entire forestry sector and appraises NFA and DFS, for the relevant lead agencies to implement it. It is still common for local communities to be relegated to accessing forest products at the whims of the lead agencies. Civil society organisations have recently demanded active collaboration where all partners are perceived to be equal.

In situations where communities have encroached on forest reserves, the lead agencies responsible are required to ensure that there is fairness in the processes of evicting encroachers from forests. For instance, grace periods are given before evictions are enforced. Communities are also allowed to access some of the products from forest reserves for subsistence. The Forestry and Tree Planting Act (2003) also provides for ownership of private forests. Landowners with natural forests or planted forests have absolute rights over their forests. It is estimated that about 70% of the natural forest cover in Uganda is on privately owned land. The Land Act (1998) further strengthens tenure rights of forest landowners.

22.2 Forest and livelihoods in the Lake Victoria Crescent

Uganda covers an area of about 24 million ha, of which approximately 4.9 million ha (20%) are under forest cover (GoU 2003). At the beginning of the 19th century, approximately 45% of the land cover in the Lake Victoria Crescent was under forest cover (Howard 1991). The vegetation in this agro-ecological zone is characterised as a tropical moist evergreen forest/savannah mosaic (Barbour et al. 1987, Howard 1991). The topography is characterised by regularly spaced, flat-topped hills. The seasonally inundated valleys support forests and the broad, permanently inundated valleys support papyrus swamps, while the hilltops support short-grassed savannahs (Vogt et al. 2006).

Under the NFA management structure, central forest reserves in the Lake Victoria Crescent, also

commonly known as the lake-shore range, are managed on an ecosystem management approach basis under the authority of one range manager. A group of neighbouring forests are managed by a sector manager while individual forests are under a forest supervisor.

However, the majority (70%) of the forests in this region occur on private land and or clan land under customary land tenure. Consequently, nearly 15% of the total population in the lake-shore range lives in parishes that neighbour forests, which provide forest products and services for their livelihoods. Most of these forests are composed of secondary growth and are highly degraded because this region of Uganda has a long history of human occupancy, cultivation, and selective felling of trees for timber, charcoal, and non-timber forest products (NTFPs) (Banana et al. 2010).

Large-scale wood-processing industries were operating in the region between the 1930s and 1970s, driven by the virgin natural forests that existed then. Today, most of the timber is harvested from forests on private land using hand saws or chainsaws. Timber harvesting is currently mainly carried out by commercial timber dealers who reap the profit margin from this produce. Landowners and subsistence farmers sell the trees to dealers who have the capacity to process and market the timber. In most cases, the interest of the landowners is to clear the land for cultivation of mainly subsistence-level annual crops, occasionally for cultivation at a commercial level. Most of the timber harvested is consumed by the local market, especially by the construction industry, since the forest resource is too small to sustain export trade in timber (Odokonyero 2005). Data on revenues generated from timber are difficult to access because a lot of timber in the market is illegally sawn and therefore not recorded by formal institutions. In the fiscal year 1999–2000, the Forest Department generated revenue amounting to about USD 5 million, mainly from selling concessions for timber harvesting (MWLE 2001).

In addition to timber, the contribution of NTFPs and forest services to livelihoods of local communities in the region is substantial. Most of the population in the study area practice agroforestry subsistence farming systems. The landholdings are small, often less than 2 ha. Hillsides once covered with forests are now dominated by a matrix of bananas, coffee, and fruit trees (Vogt 2005, Vogt et al. 2005, Vogt et al. 2006). Farmers grow a mix of crops including perennials (e.g. bananas and coffee), annuals (e.g. maize, beans, vegetables, etc.), trees (e.g. *Artocarpus heterophyllus*, *Mangifera indica*, *Ficus natalensis*, *Maesopsis eminii*, and *Eucalyptus saligna*), and fodder grasses (e.g. *Pennisetum purpureum*). Trees are grown in the valley and mid-slope portion of the landscape for provision of firewood,

fruits, windbreaks, shade, erosion control, and improvement of soil fertility. About 76% of villages throughout the region were involved in selling some tree products in 2009, mainly poles, fuelwood, and charcoal.

At the national level, forestry contributes about 2% of the GDP. However, most of the contributions are in the informal sector, which if included, would raise the GDP to 6%. In her studies in western Uganda, Jagger (2012) reports that 26% of the total annual household income in that region is derived from the environment, of which forests provide the greatest share. This is mainly from fuelwood, poles, and sawn timber.

According to Bush et al. (2004), the total contribution of forests to local people's livelihoods in Uganda at the national level is approximately USD 190 million. Wealthy households capture most of the financial value. More than 90% of the population uses wood for fuel, which takes 95% of wood production in Uganda. Rural households consume about 97% of the household energy requirements and forestry employs about one million people in the formal and informal sectors, with a high potential for job creation in the firewood, timber, charcoal, plantations, tree nurseries, and other forestry-related activities (NFA 2011/2012).

The Lake Victoria Crescent is characterised by a high population density, with approximately 300 to 400 people per square kilometre (UBOS 2002). Many of the inhabitants rely on forests for their livelihood and this has created immense pressure on natural forestland in this region. More than 80% of the labour force is employed in agriculture, mainly banana/coffee farming systems (UBOS 2008). Because of the coffee wilt disease that has affected many farmers, some are shifting to livestock rearing as an alternative economic activity. Kampala, which is the capital of Uganda, lies in the Lake Victoria Crescent; it provides an immense market for agricultural produce from the farmers because of its high population, estimated to be 1.7 million people (UBOS 2012).

The forests along the lake shore form a ring of protection and act as water catchment area for Lake Victoria, Lake Kyoga, and the Nile River. These forests are a source of many streams that provide local communities with domestic water. Many forest reserves in this range, for example Mabira, Mpanga, and Sango Bay Forest Reserves, are categorised as protected areas of core conservation value and some are characterised as critical biodiversity hotspots in East Africa.

There are several ecotourism sites in the region, attracting more than 50% of tourists visiting forest reserves in Uganda. In addition to having subsistence, economic, and environmental values, forests along the shores of Lake Victoria have important

cultural and traditional significance (Gombya-Ssembajje 2000, Banana et al. 2008).

22.3 Outcomes of the forest governance reforms on SFM

We used data collected over time under the International Forestry Resources and Institutions (IFRI) research programme to analyse the extent to which forest governance reforms contributed to sustainable forest management in the Lake Victoria Crescent. We limit our definition of SFM to managing and using the forest while maintaining and or enhancing its ecological integrity and health. The IFRI database, located in the School of Forestry, Environmental, and Geographical Sciences at Makerere University, has data spanning the period from 1993 to 2012. Nine of the forests in the database are located in the Lake Victoria agro-ecological zone. These include Busowe Central Forest Reserve (CFR), Kabunja Private Forest, Namungo Private Forest, Lwamunda CFR, Butto-Buvuma CFR, Mpanga CFR, Mabira CFR, Malamagambo CFR, and Jubiya CFR.

Forest field data obtained using the IFRI methodology for the database included biophysical data to describe the condition of the forest, forest products harvested, rules in use, and the socio-economic status of the communities using these forests (Ostrom 1998, Banana et al. 2007).

Furthermore, on-site assessments of plot conditions in relation to human and natural disturbances were recorded. Forests were revisited every four to five years. The majority of the forests in this analysis have been revisited two times. For this case study we analysed changes in mean DBH, tree density, and occurrence of human disturbance to determine whether SFM was being achieved in this region. We carried out Analysis of Variance coupled with either two sample t-tests or pairwise comparison tests to ascertain whether any significant differences occurred.

The results of data analysis show that there was an aggregate decline in mean DBH and number of stems per hectare across the landscape (Table II 22.1). Tree density declined by more than 50% in the majority of forests. In Lwamunda and Butto-Buvuma, the forests were severely degraded and encroached by illegal cultivators. Subsequently, the land was leased to private tree farmers and land use was converted from natural tropical high forest to pine and eucalyptus plantations.

Cultivation, timber, and commercial firewood harvesting were found to be the major economic activities in the forests studied (see Table II 22.1 and Figures II 22.2 and II 22.3).

Even though there was an aggregate decline in mean DBH and number of stems per hectare across

Table II 22.1 Biophysical and qualitative assessment of forest monitored in the Lake Victoria Crescent.

Forest name, tenure, and district	Years visited	Tree mean DBH (cm)	Mean DBH pairwise comparisons	Tree density/ha	Mean tree density pairwise comparisons	Major socio-economic activity and contribution to local livelihoods
Busowe CFR-Kalangala	2000 2003 2012	26.3 25.1 29.8	2000 vs 2003: NS ¹ 2000 vs 2012: NS ¹ 2003 vs 2012: *	301 231 214	2000 vs 2003: NS ¹ 2000 vs 2012: * 2003 vs 2012: NS ¹	Nature reserve, firewood harvesting. Relatively stable forest condition with slight decline in tree density. Declared a nature reserve in 2001 and harvesting of forest produce significantly restricted. Dependency on forest for timber and fuelwood declined from 30% to zero.
Kabunja Private Forest-Kalangala	2000 2003 2012	23.9 24.7 21.3	2000 vs 2003: NS ¹ 2000 vs 2012: NS ¹ 2003 vs 2012: *	289 209 192	2000 vs 2003: * 2000 vs 2012: * 2003 vs 2012: NS ¹	Clan members depend 100% on forestland for cultivation of agricultural crops, growing palm oil, harvesting commercial timber and firewood. Forest condition found to be degrading in 2012.
Namungo Private Forest-Mpigi	1993 1997 2004	23.3 23.2 24.9	1993 vs 1997: NS ¹ 1993 vs 2004: NS ¹ 1997 vs 2004: NS ¹	342 315 108	1993 vs 1997: NS ¹ 1993 vs 2004: * 1997 vs 2004: *	Commercial fuelwood and timber harvesting by family members. Family depends 100% on forest for fuelwood and timber. Nearby households allowed to harvest fuelwood and NTFPs for subsistence. Large portion of forest converted to eucalyptus plantation in 2004, hence the decline in number of stems.
Lwamunda CFR-Mpigi	1993 1997 2004 2010	23.25 23.32 24.88 0	1993 vs 1997: NS ¹ 1993 vs 2004: NS ¹ 1997 vs 2004: NS ¹	341.7 315.3 135.4 0	1993 vs 1997: NS ¹ 1993 vs 2004: * 1997 vs 2004: *	In 2004, forest highly degraded and then leased to private tree farmers and converted to eucalyptus plantation. Local communities lost access to forest.
Mabira CFR-Mukono	2006 2012	19.1 17.2	2006 vs 2012: NS ¹	114 83	2006 vs 2012: NS ¹	The eastern part of the forest rapidly degrading due to illegal conversion to agricultural use, firewood, charcoal, and collection of fodder for livestock. Local communities depend 100% on forest for provision of fodder and fuelwood. No timber-size trees available in the reserve.
Butto-Buvuma CFR-Mpigi	1994 2001 2005 2010	22.5 25.6 27.6 0	1994 vs 2001: NS ¹ 1994 vs 2005: * 2001 vs 2005: NS ¹	332 191 111 0	1994 vs 2001: * 1994 vs 2005: * 2001 vs 2005: NS ¹	Illegal timber and commercial firewood harvesting. Local communities depend 100% on forest for provision of timber and fuelwood. In 2005, highly degraded and then leased to private tree farmers and converted to pine and eucalyptus plantations. From 2005, local communities lost access to forest.
Mpanga CFR-Mpigi	1994 2000 2004	25.1 28.1 28.3	1994 vs 2000: NS ¹ 1994 vs 2004: NS ¹ 2000 vs 2004: NS ¹	401 385 348	1994 vs 2000: NS ¹ 1994 vs 2004: NS ¹ 2000 vs 2004: NS ¹	Nature reserve and harvesting of forest products restricted, except widespread timber harvesting for drum-making and crafts. Forest in stable condition.
Maramgambo CFR-Rakai	1998 2001 2007	22.7 23.8 28.3	1998 vs 2001: NS ¹ 1998 vs 2007: NS ¹ 2001 vs 2007: NS ¹	182 199 186	1998 vs 2001: * 1998 vs 2007: NS ¹ 2001 vs 2007: NS ¹	No timber harvesting since 1998, harvesting of NTFPs such as fishing in swamps and river streams and grazing in grassland patches widespread by all pastoralists with payment of fee. These activities controlled by local communities under CFM. Forest condition rapidly improving. Most households with woodlots and practicing agroforestry.
Jubiya CFR-Masaka	1999 2002 2008	24.4 23.2 24.0	1999 vs 2002: * 1999 vs 2008: NS ¹ 2002 vs 2008: NS ¹	239 203 199	1999 vs 2002: * 1999 vs 2008: * 2002 vs 2008: NS ¹	Widespread timber and fuelwood harvesting between 1999 and 2002. Strict forest protection between 2002 and 2008 – only NTFPs harvested in this period. Forest supervisor murdered during this period. Cultivation close to forest boundary but forest condition relatively stable.

NS¹ = Not significant at 0.05%

* = Significant at 0.05%

the landscape, the condition of some individual forest patches were improving and others were stable. Five of the nine sampled forests were in the “degrading” or “rapidly degrading” categories, and four were in the “stable” category. This suggests that some of the forest patches were being managed sustainably while others were not. The outcome of the reforms was also not uniform within and among forest tenures. Some central forest reserves were stable while others were rapidly degrading. Parts of central forest reserves that were managed strictly as nature reserves were found to be in better ecological condition than those managed as exploitation forest reserves. Similarly, some private forest owners were conservation minded and their forests were in good condition, while others cleared their forests for agriculture (see Figures II 22.2 and II 22.3).

Our findings are in agreement with those from another IFRI study undertaken recently using satellite images and remote sensing (Waiswa 2011). According to this study, forest cover declined by 4.5% between 2002 and 2006 and by 32.8% between 2006 and 2009. The overall forest cover decline between 2002 and 2009 was 35.8%. On the other hand, land-cover conversion from non-forest to forest and vice versa also revealed net forest cover loss between 2002 and 2009, from 9% in 1989 to 4.4% in 2009 in comparison with non-forest cover, which increased from 58.7% in 1989 to 63.5% in 2009. The weighted mean annual deforestation rate from 1989 to 2009 was 2.6%. A visual assessment showed a clustered spatial distribution of forest cover loss and fragmentation of large forested areas. FAO in 2000 estimated the deforestation rate in Uganda to be about 0.9% per year based on the change in the amount of bushland and woodlands from 1990 to 1995. Other official estimates of the rate of land clearance range from 70 000 ha to 200 000 ha (MWLE 2003). These figures imply annual deforestation rates of between 1% and 3%, respectively.

22.4 Conditions shaping SFM in the Lake Victoria Crescent

22.4.1 High demand for construction timber and commercial fuelwood

There is high demand for construction timber and commercial fuelwood (e.g. for charcoal, brick burning, and commercial baking needs, Reinikka and Collier 2001) in the region due to presence of major urban centres such as Kampala, Mukono, Jinja, Mpigi, and Masaka towns and increasing rural population, with an estimated population of more than 6



Figure II 22.2 Forest cleared by private forest land-owner for establishment of oil palm plantation in Kalangala district. ©Abwoli Banana

million people (UBOS 2002). The demand for forest produce far exceeds supply. Consequently, there is rampant illegal timber and charcoal harvesting that greatly contributes to unsustainable forest exploitation in this agro-ecological zone. Our study reveals glaring evidence that natural forests on private land were heavily exploited for commercial timber and fuelwood compared to central forest reserves. This is probably because under the current policy and legal regime exploitation and use of forests on private land is at the discretion of the forest owner.

Much as the Forestry and Tree Planting Act, 2003, requires forest owners to sustainably manage and use their forest there are no regulations and guidelines to operationalize that provision, hence it is legally impractical to hold private forest owners who harvest all their trees for timber or fuelwood accountable. This already bad situation has been worsened by the fact that most local governments are financially crippled, so they exploit this “opportunity” as a source of local revenue. Private forest owners are not restricted from commercially harvesting their forests for timber and fuelwood since they pay an array of taxes and duties for local governments (Turyahabwe et al. 2007).

For the past 20 years, there has been a statutory ban on harvesting timber and charcoal from forest reserves; however, this has not stopped illegal harvesting. No efforts have been put in place to integrate local producers into improved market opportunities through the value chain approach or by improving the functioning of marketing channels (Kambugu et al. 2012). As a result, the ban has acted as a disincentive for local communities to participate in SFM because of the limited benefits that accrue to them. The ban has also discouraged investment in technology and



Figure II 22.3 Oil palm plantation by the side of tropical high forest in Kalangala district. ©Abwoli Banana

capacity building by wood-processing enterprises, which are typically small and family-based and have limited investment or technology and low levels of return.

22.4.2 Conversion of forestland to agricultural use

The availability of fertile soils, favourable climate, and markets for agricultural produce in the Lake Victoria Crescent make it more profitable for farmers to convert private forestland to agricultural production (Namaalwa et al. 2001). Encroachment on forest reserves for production of horticultural crops has also increased following the implementation of the economic liberalisation policy that led to improvement in prices for agricultural crops (Vogt et al. 2006, Banana et al. 2007). Government is also promoting commercial farming in the Lake Victoria Crescent. About 20 000 ha of natural tropical high forestland have been allocated to oil palm and sugarcane plantation development in Kalangala and Mukono districts. About 1006 ha of Namanve central forest reserve located near Kampala were degazetted through a statutory instrument in 1997

to create space for an industrial park. The other parts of the reserve (approximately 1294) that were not degazetted have been heavily encroached and mostly turned into settlements. The oil palm plantations are targeting production of vegetable oil for human consumption, while sugarcane plantations are targeting sugar production for domestic and international markets. Again it is more profitable for farmers to convert private forestland to sugar cane and oil palm as contract farmers for the companies involved. These scenarios and many other cases of conflicting government priorities pose a challenge to the forest sector in its quest for SFM.

The Land Act (1998) and Land (Amendment) Act, 2010, give absolute ownership of land to the people of Uganda, including ownership of resources such as the trees and forests on it. This has to a large extent led to loss of most forests on private land since the act allows owners to carry out any activity on the land as long as it is lawful. Many private forest owners have used this act to convert their forest to other land uses, causing unprecedented forest loss. This is despite the National Forestry and Tree Planting Act that requires private forest owners to manage their forests sustainably.

There have been limited efforts to reconcile different land uses and to address competing land uses,

such as agriculture and forestry, energy and forestry, among others. The government developed a National Land Policy to address intersectoral issues and to encourage appropriate and optimal land use; however, this policy is yet to be publicised and implemented. Our study reveals that agricultural encroachment is occurring on both central forest reserves and private forests. This has also been reported in the REDD (Reducing Emissions from Deforestation and Forest Degradation) readiness preparation proposal for Uganda (MWLE 2011). Agricultural encroachment is driven by the high population density and decline in the productivity of land. Use of fertilizers in the Lake Victoria Crescent is low; hence farmers are “forced” to practice shifting cultivation. Clearing forests to cultivate crops gives good yields for the first two rotations, but after that farmers have to clear more forest land.

22.4.3 Corruption and political interference

Corruption and political interference is another major obstacle to achievement of SFM in the study region within the current policy and legal framework. Attempts by forest officials to evict encroachers from Mabira, Lwamunda, and Butto-Buvuma forests are often criticised and frustrated by government officials and politicians: a current presidential ban also disallows the eviction of illegal encroachers in central forest reserves. According to Vedeld (2003), centralised systems tend to be vulnerable to abuse by bureaucrats. There is less accountability and transparency. Jagger (2010) reports that corruption was common in harvesting valuable forest products in both central and local forest reserves in western Uganda. This raises the question whether the reforms in the forestry sector changed the attitude of the leadership and society as a whole to remain committed to promoting SFM in Uganda.

22.4.4 Regional and global forest-related processes

There are few regional and/or global forest-related processes being implemented in the study area because of the reforms that Uganda has undergone and the impact of the reforms on SFM. These include the Clean Development mechanism (CDM); Payments for Ecosystem Services (PES), also known as Payments for Environmental Services; Reducing Emissions from Deforestation and Forest Degradation (REDD); and the Forest Law Enforcement, Governance, and Trade (FLEGT) Support Programme for African, Caribbean, and Pacific countries (ACP-FLEGT Support Programme). Although most of these processes have been implemented in the study area for fewer than five years and there are no measurable outcomes yet on the ground, they have had direct influence on the domestic policy environment and behaviour of the different actors in the public policy arena. There are more civil society organisations pressing relevant government institutions to be accountable when principles of SFM are perceived to be violated. A climate change unit in the ministry of Water and Environment, a REDD focal point, and a REDD working group have been established to stimulate policy discussions on measures that might contribute to mitigation of climate change, including SFM.

Other global processes that have had an impact on SFM in the region include privatisation and liberalisation of the economy. These processes have had a significant impact on development of forest plantations due to increased investment flow into the forest sector by both local and foreign development partners. Farmers have benefited economically from the sale of forest/tree products that may be harvested throughout the year. Thus trees on farms have become an important source of livelihoods for local people. Some central forest reserves in the study area have been licensed to private tree farmers to establish plantations, partly because they were heavily degraded and restoring them through establishing monocrop tree plantations was seen as the only feasible intervention. All these processes have been possible partly due to the reforms in forest governance.

22.4.5 Capacity building and technical assistance

The reforms created a suitable environment for enabling various local and international actors interested in promoting SFM through capacity building and technical assistance. Under a programme titled “Strengthening and Empowering Civil Society for Participatory Forest Management in East Africa (EMPAFORM)” funded through the European Union Tropical Forest initiative, national and international NGOs (non-governmental organisations) focused on strengthening civil society by promoting a pro-poor approach to forest management and conservation centred on individual forest reserves in the study area. By strengthening and empowering communities, the programme aimed at making the implementation of the new forest policy more demand driven and more equitable in addressing the

interests and rights of the poor, women, and children (EMPARFORM 2006).

Several NGOs provide technical assistance to farmers to grow trees on their farms in the study area. For example, Swedish Cooperative Centre Vi Agroforestry, an international NGO, provides technical assistance to farmers. Technical aspects covered include seed collection, tree nursery management, collaborative forest management, lobbying, and advocacy. It has a development objective of contributing to the improved livelihood and empowerment of small-scale farmers in the Lake Victoria basin through sustainable management of natural resources and business development. In its 2007 annual report, the project reported increased adoption of agroforestry practices/technologies leading to increased on-farm tree cover for firewood and wood products (Scc-Vi 2007). The most adopted technologies included planting multiple tree species on cropland (64.4%) and boundary tree planting (47.8%), among others. About 31.8% of households had established woodlots, 57% had at least 32 trees per hectare. A total of 722 farmers (328 females, 394 males) had visited the Agroforestry Training Centre (ATC) where profitable enterprises and best agroforestry practices are demonstrated.

The Saw Log Production Grant Scheme (SPGS), financed by the European Union and the government of Norway, is providing funding to private farmers to establish forest plantations for timber production in highly degraded central forest reserves. They are currently offering financial and technical support to members of Uganda timber growers association. They train their clients regularly on various aspects of tree management and support research in plantation forestry. The SPGS project has been successful and already over 10 000 ha of plantations have been established (NFA Annual Report 2005/2006 and 2009/2010). Mostly large private companies have benefited from this fund since local farmers could not meet the conditions set by the government to access these funds.

Potential clients are required to have at least 25 ha of land and should be able to contribute 50% of the initial costs to establish the intended plantation. They should be a registered company with a well-written technical management plan. The programme also provides funds to small-scale farmers who have to form groups of at least 20 people with land ranging between 0.5 to 5 ha to plant trees on private land and in highly degraded central forest reserves that were formally earmarked for plantation establishment. Between 2005 and 2010, approximately 10 200 ha of forest plantations have been established under contract arrangement between the small-scale tree farmers and SPGS (NFA 2011/2012). Although addressing the need to avert timber shortages in the near future, the programme has been criticised by

local and international communities for marginalising the forest-adjacent communities through reduced access to forestry resources and loss of biodiversity (Banana et al. 2010).

Farm Income Enhancement and Forest Conservation (FIEFOC) is a government project with funds obtained from African Development Bank; it supports communities and private individuals to plant trees on farms and in woodlots and for training in basic silvicultural practices. The FIEFOC project's objective is to alleviate rural poverty through tree planting for poles and firewood production by small-scale farmers, with particular emphasis on empowerment of women (Banana et al. 2012). The project has been fairly successful and aims to produce 472 500 MT of poles and 94 500 MT of fuelwood – it has greatly contributed to increasing tree cover outside forests in the lake shore region. Approximately 5000 ha of woodlots have been established using planting materials provided by the project.

22.4.6 Availability of researched information to support SFM initiatives

There are a number of research initiatives currently being implemented in the study area to promote SFM. This is partly because of the conducive policy and legal regime brought about by the reforms in the forestry sector. The Forest Policy of 2001 and Forestry and Tree Planting Act, 2003, emphasise the importance of research in promoting SFM.

The International Forestry Resources and Institutions (IFRI) researchers at the School of Forestry, Environmental, and Geographical Sciences at Makerere University have collected field data on social and ecological variables from more than 28 tropical forest sites in Uganda since 1994, nine of which are located in the study area. The IFRI research programme is an international, comparative, multidisciplinary, and longitudinal research programme that studies human-forest interrelationships, forest management institutions, and change processes (Ostrom 1998, Wollenberg et al. 2007).

The National Biomass Study project in the Ministry of Water and Environment has been assessing Uganda's woody biomass resources using remote sensing and GIS techniques since 1989. Using the data collected, mean annual increment (or biomass loss) are estimated for various land-cover classes and total sustainable yields calculated. This unit was created with a policy and legal mandate to offer information that can be used to promote SFM in Uganda.

The Lake Victoria Basin Commission (LVBC) based in Kisumu- Kenya promotes a joint approach to improving forest governance and research in

East African Community (EAC) partner states by harmonising policies and research activities. One of the notable initiatives is the Lake Victoria Research (VicRes) Initiative, which is implemented by the Inter-University Council for East Africa and aims at promoting sustainable livelihood and natural resources management in five East African countries in the Lake Victoria basin of Kenya, Tanzania, Uganda, Rwanda, and Burundi. Another important initiative by the LVBC is the study of losses arising from non-compliance to FLEGT principles within EAC partner states.

22.5 Conclusions

Our study has shown that the decentralisation reforms have registered both positive and negative impacts in relation to SFM in central Uganda. Despite the reforms, tree density has generally declined in the forests within central Uganda. Unsustainable practices are dominant in forests that are near urban or peri-urban centres due to population pressure, lack of political support across all levels, lawlessness, and corruption.

Forest fragmentation and the decline in forest cover and quality over the past 10 to 15 years in central Uganda confirm that efforts made to reduce illegal logging and other illicit activities related to forests or to promote legality in the reforms have not been effective. This is probably because of the high demand for timber due to the booming construction industry, agricultural encroachment linked to high population density, and conflicting government priorities. This therefore implies that without eliminating corruption, strengthening forest institutions to enforce forest laws and regulations, and improved political will; SFM is unlikely to be achieved in the foreseeable future and will continue to be elusive for Uganda.

The study also confirms that CFM can foster SFM, especially when there is fairness and equity in benefit sharing. Forest reserves managed by a responsible agency in collaboration with the adjacent communities are more likely to be sustainably managed than where only the responsible agency manages a forest reserve. The reforms created a suitable policy and legal framework for local and international initiatives to implement research and capacity building programmes targeting SFM.

The measures that might be taken to improve the long-term outlook for SFM include putting in place strategies to implement and harmonise environmental legislation and cross-sectoral instruments that impact forest management and support good forest governance. Many of these policies directly or indirectly impinge on forest management and

utilisation. For example, the Leadership Code, the Office of the Inspector General of Government, the Ministry of Ethics and Integrity, Parliamentary and Local Government Accounts Committees, and other routine law enforcement agencies that are relevant to enforcement of forest laws and regulation must be strengthened to reduce corruption and political interference. There is a need to harmonise the energy, environment, population, and environmental laws and policies to ensure that they are in tandem with principles of SFM.

References

- Andersson, K.P. 2003. What motivates municipal governments? Uncovering the institutional incentives for municipal governance of forest resources in Bolivia. *Journal of Environmental Development* 12(1): 5–27.
- Banana, A.Y., Bukenya, M., Arinaitwe, E., Birabwa, B. & Sekindi, S. 2012. Gender, tenure and community forests in Uganda. Working Paper 87. CIFOR, Bogor, Indonesia. 36 p.
- Banana, A.Y., Buyinza, M., Luoga, E. & Ongugo, P. 2010. Emerging local economic and social dynamics shaping East African forest landscapes. In: Mery, G., Katila, P., Alfaro, R., Kanninen, M., Lobovikov, M. & Varjo, J. (eds.). *Forests and society- Responding to global drivers of change. IUFRO World Series vol 25*. Vienna, Austria. p. 315–335.
- Banana, A.Y., Gombya-Ssembajwe, W., Bahati, J. & Vogt, N.D. 2008. Legal recognition of customary forestry in Uganda: An approach to revitalizing ethnoforestry. In: Nyamweru, C. & Sheridan, M.J. (eds.). *African sacred groves: Ecological dynamics and social change*. James Curry and UNISA Press, Ohio, USA. p. 195–207.
- Banana, A.Y., Vogt, N.D., Bahati, J. & Gombya-Ssembajwe, W. 2007. Decentralised governance and ecological health: Why local institutions fail to moderate deforestation in Mpigi district of Uganda. *Scientific Research and Essay* 2(10): 434–445.
- Barbour, M.G., Burk, J.H. & Pitts, W.D. 1987. *Terrestrial plant ecology*. The Benjamin/Cummings Publishing Co., Inc., Menlo Park, California, USA. 604 p.
- Bush, G.K., Nampindo, S., Aguti, C. & Plumptre, A.J. 2004. The value of Uganda's forests: A livelihoods and ecosystems approach. WCS, Albertine Rift Programme, EU FRMCP, National Forest Authority, Kampala, Uganda. 101 p.
- EMPAFORM 2006. Participatory forest management initiatives in Uganda: Key implementation concerns and recommendations for policy actions. EMPAFORM Policy Briefing Paper No. 1. 26 p.
- Gombya-Ssembajwe, W. 2000. Sacred forests: An alternative way of conserving forest resources. In: Gombya-Ssembajwe, W. & Banana, A.Y. (eds.). *Community-based forest resources management in East Africa*. Makerere University Press, Kampala, Uganda. p. 97–110.
- GoU 1997. The local government Act. MLG, Uganda.
- GoU 1998. Land Act of Uganda 1998. Government of Uganda. 83 p.
- GoU 2001. Uganda Forest Policy, Entebbe Uganda.
- GoU 2002. Uganda Forest Plan, Entebbe Uganda.
- GoU 2003. The national forestry and tree planting Act. Government of Uganda. 39 p.
- GoU 2007. The national land use policy. Government of Uganda.
- Gregersen, H.M., Contreras-Hermosilla, A., White, A. & Phillips, L. 2005. Forest governance in federal systems: An overview of experiences and implications for decentralization. In:

- Colfer, C.J.P. & Capistrano, D. (eds.). The politics of decentralization: Forests, power and people. Earthscan Press, London, UK. p. 13–31.
- Howard, P.C. 1991. Nature conservation in Uganda's tropical forest reserves. IUCN, Gland, Switzerland.
- Jagger, P. 2010. Forest Sector Reform, Livelihoods and Sustainability in Western Uganda. In: German, L., Karsenty, A. & Tiani, A.M. (eds.). *Governing Africa's Forests in a Globalized World*. Earthscan Publications Ltd. and CIFOR, London, UK. p. 103–125.
- Jagger, P. 2012. Environmental Income, Rural Livelihoods and Income Inequality in Western Uganda. *Forests, Trees and Livelihoods* 21(2): 1–15.
- Kambugu, R.K., Banana, A.Y. & Odokonyero, G. 2010. Chainsaw milling in Uganda. *ETERN news* 52: 194–202.
- Kambugu, R.K., Banana, A.Y. & Okure, O. 2012. Role of the operating environment in shaping the sawn wood commodity chain in Uganda. Working paper No.1, Department of Forestry, Biodiversity and Tourism, Makerere University.
- MEMD 2002. The energy policy for Uganda. MEMD, Kampala, Uganda. 63 p.
- MWLE 2001. The Uganda forest policy. MWLE, Uganda. 29 p.
- MWLE 2002. Uganda national forest plan. MWLE, Kampala, Uganda.
- MWLE 2003. National biomass study technical report of 1996–2002. Forest Department, MWLE, Kampala, Uganda. 56 p.
- MWLE 2011. REDD readiness preparation proposal for Uganda, R-PP. MWLE. 199 p.
- Namaalwa, J. 2008. When do property rights matter for sustainable forest management? A case for UFRIC sites in Uganda. IFRI Working Paper No. W081-2. School of Natural Resources and Environment, University of Michigan, USA. 21 p.
- Namaalwa, J., Gombya-Ssembajjwe, W. & Hofstad, O. 2001. The profitability of deforestation in Uganda. *The International Forestry Review* 3(4): 299–306.
- NFA 2005/2006. Annual report 2005/2006. NFA. Kampala, Uganda.
- NFA 2009/2010. Annual report 2005/2006. NFA. Kampala, Uganda.
- NFA 2011/2012. Annual report 2011/2012. NFA. Kampala, Uganda.
- Odokonyero, G.G.O. 2005. Pitsawn timber production in the natural forests of Uganda. FAO, Rome, Italy. 48 p.
- Ostrom, E. 1998. The international forestry resources and institutions research program: A methodology for relating human incentives and actions on forest cover and biodiversity. In: Dallmeier, F. & Comiskey, J.A. (eds.). *Forest biodiversity in North, Central and South America, and the Caribbean: Research and monitoring*. Parthenon Pub. Group, New York, USA. p. 1–28.
- Ostrom, E. 1999. Self-governance and forest resources. CIFOR Occasional Paper No.20. CIFOR, Bogor, Indonesia. 15 p.
- Reinikka, R. & Collier, P. 2001. Uganda's recovery: The role of farms, firms, and government. The World Bank, Washington, D.C., United States. 491 p.
- Ribot, J.C. 2001. Local actors, powers and accountability in African decentralizations: A review of issues. Paper prepared for IDRC-Canada and UNRISD, Geneva, Italy. 104 p.
- Ribot, J.C., Agrawal, A. & Larson, A. 2006. Recentralizing while decentralizing: How national governments reappropriate forest resources. *World Development* 34(11): 1864–1886.
- Ribot, J.C. & Peluso, N.L. 2003. A theory of access. *Rural sociology* 68(2): 153–181.
- SCC-Vi-Agroforestry project Uganda 2007. Annual report 2007. SCC-Vi.
- Treisman, D. 2007. The architecture of government: Rethinking political decentralization. Cambridge University Press, New York, USA. 328 p.
- Turyahabwe, N. & Banana, A.Y. 2008. An overview of history and development of forest policy and legislation in Uganda. *International Forestry Review* 10(4): 641–656.
- Turyahabwe, N., Geldenhuys, C.J., Watts, S. & Obua, J. 2007. Local organizations and decentralized forest management in Uganda: Roles, challenges and policy implications. *International Forestry Review* 9(2): 581–596.
- UBOS 2002. Provisional population census results, 2002. MF-PED, Kampala, Uganda.
- UBOS 2008. 2008 Statistical Abstract. UBOS, Kampala, Uganda. 227 p.
- UBOS 2012. 2012 Statistical Abstract. UBOS, Kampala, Uganda. 264 p.
- Vedeld, T. 2003. Democratic decentralization and poverty reduction: Exploring the linkages. *Forum for Development Studies* 2: 159–203.
- Vogt, N.D. 2005. Mechanisms of land-cover change in Uganda: Longer-term analyses of the role of institutional arrangements. Ph.D. dissertation. School of Public and Environmental Affairs, Indiana University, Bloomington, Indiana, USA. 214 p.
- Vogt, N.D., Banana, A.Y., Gombya-Ssembajjwe, W. & Bahati, J. 2006. Understanding the long-term stability of West Mingo forest reserve boundaries. *Ecology and Society* 11(1): 38–48.
- Vogt, N.D., Gombya-Ssembajjwe, W., Banana, A.Y. & Bahati, J. 2005. Explaining change in tree-cover distribution in West Mingo, Uganda: Property regimes, land use, and implications for sustainable environmental governance. CIPEC Working paper CWP-05-01. CIPEC, Indiana University, Bloomington, Indiana, USA.
- Waiswa, D. 2011. Dynamics of forest cover extent, forest fragmentation and their drivers in the L. Victoria Crescent-Uganda from 1989–2009. Ph.D. dissertation. Virginia Tech, Blacksburg, Virginia, USA.
- Wollenberg, E., Merino, L., Agrawal, A. & Ostrom, E. 2007. Fourteen years of monitoring community-managed forests: learning from IFRI's experience. *International Forestry Review* 9(2): 671–684.