



The Road to Sustainable Mahogany Trade in Uganda

With Implications for
Collaborative Forest Management in Budongo Forest



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ABSTRACT

Rainforest protection is often considered as the centrepiece of conservation because of the high species richness of this habitat and the lush tropical image it conjures up of “Nature at its best”. One of the greatest threats currently facing rainforests is unsustainable harvesting of hardwoods such as mahogany.

Hence a variety of methods have been used to tackle this problem at various levels of the timber commodity chain, including “fortress” and participative approaches to forest management, timber certifications, taxation systems and campaigning. However, few cases have been reported where all methods are used in an integrated way to solve the problem of unsustainable timber trade.

Ugandan mahogany trade provides a simple case-study for investigating possibilities of using an integrated approach, because the bulk of Ugandan mahogany originates from a single forest (Budongo Central Forest Reserve) and is mainly consumed within the country. In the past decade, a number of government regulations were imposed on timber harvesting to the extent that it has pushed the entire mahogany trade underground – effectively de-regulating it.

An integrated regulation model of sustainable mahogany trade, based on data collected in interviews in June and July 2002, is recommended so that the issue may be tackled from all angles and at every level. A participative approach built on foundations laid by Collaborative Forest Management would bring all stakeholders into communication and provide them with incentives to keep to regulations by spelling out rights, responsibilities and revenues. It is therefore only through a collaborative, integrated and regulatory system that mahogany trade can be made sustainable and its source, Budongo Forest, protected.

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LIST OF ACRONYMS

4Rs	Rights, Responsibilities, Revenues and Relationships
BCFR	Budongo Central Forest Reserve
BUCODO	Budongo Forests Community Development Organisation
CARPE	Central African Regional Programme for the Environment
CBNRM	Community-based natural resource management
CBO	Community-based organisation
CFM	Collaborative Forest Management
DFID	Department for International Development
DFO	District Forest Officer
DRC	Democratic Republic of Congo (ex-Zaire)
EDF	European Development Fund
EPED	Environmental Protection and Economic Development Project
FD	Forestry Department
FSC	Forest Stewardship Council
IGA	Income-generating activity
LC	Local Council
MPWUA	Masindi Pitsawyers' and Wood Users' Association
NFA	National Forestry Authority
NORAD	Norwegian Agency for Development Cooperation
NTFP	Non-timber forest products
SIDA	Swedish International Development Agency
SMT	Sustainable mahogany trade
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
Ush	Ugandan shillings (Ush 2,750 = £1 on 1 st August 2002)
UWA	Uganda Wildlife Authority
VFC	Village Forest Committee
WRM	World Rainforest Movement

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I TROPICAL TIMBER TRADE

With Johannesburg's World Summit on Sustainable Development still fresh in people's minds, not a day goes by without the media mentioning the current plight of the world's rainforests. Tropical rainforests have captured the Western mind like no other type of environment. Their wealth of species and the images of tropical lushness and paradise they conjure up have also brought their great vulnerability to the forefront of the conservation agenda.

Figures of up to 85% of forest destruction are common in certain areas of West Africa and Brazil (Goldsmith 1998). The pressures on forests in the tropics are numerous. Shifting agriculture, migration of human populations, clear felling for agricultural land use and logging are only some of the immediate causes of deforestation.

Logging in particular is a common threat to most, if not all, rainforests, whether in Latin America, Africa, Asia or the Pacific. In the face of such a widespread issue as tropical timber harvesting, conservationists have adopted a variety of approaches to attempt to stop the "rainforest haemorrhage". There are two main ways of approaching the problem of timber trade and extraction, namely at the level of demand and the level of supply.

I.1 TACKLING TIMBER TRADE AT THE SUPPLY END: SUSTAINABLE FOREST MANAGEMENT

One way of limiting timber trade is by focusing on the geographical root of the problem, i.e., on the management of the forests themselves. In this respect, forestry policy has recently undergone a major "paradigm shift" (Dubois & Lowore 2000). The traditional "fortress forestry" narrative (Dudley *et al.* 1995) has been displaced in the past twenty years by a more participative approach to forestry.

Such a shift entails a fundamental change in thought. Until twenty years ago, forests were largely managed by governments and their specialised agencies for single purpose objectives. Such objectives consisted of timber harvesting for much of the twentieth century, a phase which Kotey *et al.* (1998) refer to as the “timberisation” period. During this phase, timber output was the major concern of foresters, at the expense of other forest values such as conservation and non-timber forest products (NTFPs).

It was only in the 1960s that the West awoke to the fear of environmental degradation in the face of population growth, especially with the publication of works such as Ehrlich’s *The Population Bomb* (1968) and Hardin’s *The Tragedy of the Commons* (1968). From then on, the biggest enemy of the forests was the people themselves, and timberisation gave way to “fortress forestry”.

Although the objective shifted from timber harvesting to conservation (albeit with continued timber exploitation), the theory involved in fortress conservation was very much the same as that of timberisation, in that a single objective was retained, and the forests continued to be managed by a single, usually governmental, authority. Local populations and other potential stakeholders in the forest were actively kept out, often through the use of paramilitary strength (Hulme & Infield 2001).

The fundamental change in forestry management took place in the course of the 1980s. In the face of widespread failure by governmental authorities to solve both the issues of conservation and development, grassroots and bottom-up experiments sprouted up in South America and South Asia (Adams & Hulme 2001). The main differences between traditional and participatory forestry have been summarised by Van Gelder and O’Keefe (1995) as presented in Table I.

Fortress Forestry	Participatory Forestry
Working for the interest of the government	Working for the interest of the rural people
Protecting the forest against rural people	Involving people in forest management
Single-value and -purpose forests (timber extraction)	Multi-value and -purpose forests (e.g., timber, NTFPs, ecotourism, carbon storage)
Standard forestry management systems	Systems that build on locally existing knowledge of tree and forest management

Table I. — Major differences between Fortress and Participatory Forestry (after Van Gelder & O’Keefe 1995).

The first participatory initiatives were based on the belief that excluding local populations from forest management is actually counter-productive in terms of conservation because it gives them no incentive to protect the forests. Instead, it would actually be wiser to allow them to manage the forests themselves, thus providing them with a sense of ownership and responsibility, whilst giving them the opportunity to develop their local economy through forest use. Forest use could be either consumptive, i.e., extraction of timber and NTFPs, or non-consumptive, e.g., ecotourism.

If one takes unsustainable timber extraction as an illustration, local populations in theory are more effective than forest guards (who in many cases are badly paid, unmotivated and understaffed) in policing the forest (Dudley *et al.* 1995; Mayers & Bass 1998). First, they are greater in numbers and more efficient at monitoring forest use since they can control who enters the forest. Secondly, access to forest resources places a marketable value on the forest in the eyes of the local populations, thus creating an incentive to protect the forest against logging. Thirdly, as emphasised by Wily (1999), the people’s sense of ownership places the responsibility of forest protection on them rather than on the government.

Following the 1987 Brundtland Report which coined the term sustainable development, the idea of participation in forestry spread extremely rapidly. Within a few years, it was recognised internationally in agreements such as the Convention on Biological Diversity (1992) and the Tarapoto Declaration of the Amazon (1994). New forestry-related organisations also took up the idea, including the International Tropical Timber Organisation (founded 1985), the Centre for International Forestry Research (1992) and the Intergovernmental Panel on Forests (1995).

Both international agreements and organisations were instrumental in disseminating participatory forestry from the first experiments e.g., in India, Nepal and Zimbabwe to the rest of the tropics. The spread of participatory forestry in Africa took place mostly during the 1990s, as reflected in the large number of countries with new forest laws since 1990 (36 countries out of 56 [Wily 2002]). This was largely encouraged by Northern funding agencies such as EDF, DFID, NORAD and SIDA, as well as UN organisations e.g., UNDP, UNEP and the World Bank.

Such a major shift has not taken place without difficulty. In fact, the initial enthusiasm of solving two problems (conservation and development) in one go soon gave way to disappointment, frustration and scepticism. It is obvious that experiments in participatory forestry have not had the expected results (Leach & Fairhead 2001; Driciru & Langoya 2002). In many cases, progress has been slower than expected; in other instances, participation ended up in outright failure.

Several explanations can be given for this. Participatory forestry has turned out to be much more complex and thus costlier than unilateral forest management. Negotiations to achieve win-win situations are lengthy procedures in themselves that have often failed because of the distrust – if not open conflict – that foresters have inherited from the fortress conservation era. Moreover, Adams & Hulme (2001) and Ahluwalia (1998) among others point out that blueprints for participatory forest management are ineffective. Instead, each management agreement has to be tailor-made to particular situations, which entails considerable socio-economic and ecological research prior to the implementation of participatory forest management.

For these reasons, participatory forestry appears as the “Nirvana” of sustainable forest management rather than an achievable target (Dubois & Lowore 2000). On the ground, several reasons were given for mitigated results. First, many cases illustrate lack of or inequality in benefit-sharing from forest resources. For example, the populations adjacent to Chimaliro Forest Reserve in Malawi were given the right in 1995 to use the forest’s NTFPs in an attempt to put a brake on illegal timber extraction in the forest (Chitila 1999; Lowore & Lowore 1999). However, the people were not given access to firewood without a permit,

despite the fact that they rely primarily on fuelwood for subsistence. Although timber extraction has slowed down, it is likely to remain unsustainable unless the use of timber itself is tackled (Chitila 1999).

Secondly, as Wily (1999, 2001, 2002) explains, participation solely in terms of revenue-sharing is insufficient in protecting the forest against unsustainable timber extraction, because the rural populations are not provided with any sense of responsibility in forest management *per se*. To illustrate her case, she compares two examples in the same country:

- On the one hand, Tanzanian village forest reserves such as Duru-Haitemba and Mgori are effectively owned by the villagers themselves. Such management has turned out to be truly successful, as the villagers have put a stop to the rampant illegal pitting that was taking place prior to the handing over of the forest in 1994;
- On the other hand, progress in limiting illegal activities in Tanzanian government forest reserves (such as Urumwa and Gologolo) has been frustratingly slow. According to Wily, lack of success is due to the fact that Government allowed only local populations to harvest NTFPs, without giving them any sense of responsibility through ownership.

Wily's conclusions in Tanzania are echoed in Cameroon, where Government has been reluctant to devolve forest management to the local communities. Instead, it issued a regulation in 1997 aimed at formalising the portion of benefits logging companies should pay to local communities (Brown 1999, Karsenty & Joiris 1999), which so far has not prevented loggers from causing further widespread deforestation.

Thirdly, participatory forest management has occasionally resulted in open conflict, as in the case of Namatale Forest Reserve in Uganda in 2000 (Driciru, personal communication). Negotiations bringing together two villages over the collaborative management of the reserve sparked off the ethnic tension that had been brewing since settlers from other tribes had arrived in the villages adjacent to the forest in the mid-1980s. The members of the indigenous tribe rejected the Forestry Department's (FD) management agreement on the grounds that it had been reached only with the settlers, and drove FD staff away with weapons. The issue was resolved only once the Commissioner for Forestry and local councils got involved in

mediating the parties. The FD subsequently succeeded in signing an agreement with the villagers.

Despite widespread failures, participatory forest management has continued to spread across the world and has already taken root in forestry policies and laws in many tropical countries (Wily 2002). The reason is simple: as shown in the case-studies above, participation has failed because it was implemented incorrectly (unequal revenue-sharing, reluctance to allow full participation in forest management). Yet the theory itself remains unscathed, and the few successful examples such as the reserves of Duru Haitemba and Mgori are sufficient to prove that when properly carried out, participatory forest management can work to curb unsustainable logging.

I.2 TACKLING THE ISSUE AT THE DEMAND END

The second way of limiting timber trade is reducing demand. Such approaches are based on the assumption that demand is what drives the supply rather than the opposite, and most of these methods fall into a broadly neo-classical theory of environmental economics.

According to environmental economists (Barbier *et al.* 1994, Brown & Pearce 1994; Pearce 2001), all the ecological functions of a forest can be seen in terms of economic functions. Many important forest functions (e.g., watershed protection, carbon storage) have no markets and thus no apparent economic value, which justifies the use of forest land for other purposes such as unsustainable timber harvesting. However, capturing these non-market values would (i) create markets favourable to sustainable forest management and (ii) support the argument for using effective economic instruments to promote conservation of tropical rainforests.

Appropriate taxation of forest products, especially timber, is one way of reflecting the economic value of the forest. The rationale is the following: the lower the price of timber, the more the loggers need to cut to make a profit. Raising the price of timber decreases the pressure on the source, as well as reflecting the management costs of the forest and its non-market values. A redistribution of these taxes could also benefit the local communities who rely on the forests for their well-being. In practice, however, it is often difficult for a national

government of a third world country to effectively impose greater taxes on large transnational logging corporations operating in their forests (e.g. Bikié *et al.* 2000).

A globally more successful approach of tackling the timber market has been that of timber certification (Dudley *et al.* 1995, Glastra 1999, Kotey *et al.* 1998, Bass 2002). Certification is defined as a market mechanism that discriminates between sustainably and unsustainably produced goods. Certification also guarantees that the product has been legally harvested, processed and traded. This concept is based on the choice and influence of consumers – predominantly in the North – who are willing to pay a higher price for timber whose extraction has been guaranteed as sustainable.

The Forest Stewardship Council (FSC) is the major independent organisation, created in 1991, which accredits certifying agencies worldwide. The FSC promotes good management by evaluating and accrediting certifiers, by encouraging the development of national and regional forest management standards and by strengthening national certification capacity (Dudley *et al.* 1995). Ghana is one such case, where national certification is currently being debated (Kotey *et al.* 1998).

The FSC today certifies a large proportion of forest products from across the world, including timber from tropical rainforests. Conservation organisations such as Friends of the Earth (Glastra 1999) and WWF (Dudley *et al.* 1995) have recognised the FSC's success in encouraging sustainable management of numerous forests by governments and companies in search of Northern markets. Yet several problems remain, a couple of which are described below.

First, up to 75% of all hardwood is consumed within Third World countries (Grainger 1993). And whilst consumer choices are favourable to FSC certifications in Northern countries, consumers in southern countries remain largely insensitive to criteria of sustainability (Bass 2002). Reasons for this are twofold: (i) Third World markets tend to be smaller, and the choice of products restricted, and (ii) the limited means of the media does not allow sensitisation to the same extent as has taken place in developed countries. This has prompted Mayers & Bass (1998) to suggest that certification currently does little more than “create islands of good management in seas of bad practice”.

Secondly, the FSC inevitably certifies timber originating from unsustainable harvesting, as pointed out in a UN report recently published (Ba-N'Daw *et al.* 2001). According to research carried out in the Democratic Republic of Congo (DRC), hardwood is being transited through Uganda, where it is certified by SmartWood (an FSC-accredited certifier) before being exported to Europe and North America. Such evidence undermines the basis on which the FSC works, namely its reliability in the eyes of consumers.

Effective campaigning is a third way of attacking unsustainable timber trades at the level of demand. The rainforest campaign agenda originally arose against a backdrop of growing disquiet in the 1970s in the face of increasing deforestation (Juniper 1998). This method has now been adopted by numerous NGOs such as Greenpeace (Greenpeace International 2001), WWF, Friends of the Earth (Juniper 1998) and Global Witness (Global Witness 2002), who regularly expose large-scale unsustainable harvesting.

These organisations have successfully placed a spotlight on numerous destructive activities, the most recent ones being:

- The depletion of Amazonian mahogany (*Swietenia macrophylla*) by key Brazilian timber dealers and Western furniture companies (Greenpeace International 2001), and
- Zimbabwe's current depletion of tropical rainforests in the DRC through the use of their army (Global Witness 2002).

The campaigners' aim is to influence policy-making as well as consumers' choices by relying on the media to get their message to the wider population. This style of campaigning has been met with widespread success both in changing the attitudes of large companies and in bringing unsustainable timber trades to the forefront of the conservation agenda (Juniper 1998). However, it is hampered by the same insensitivity to the issue in Third-World markets, where the bulk of tropical timber is consumed.

Tackling the issue of timber harvesting at the demand end consists not only in seeking market-based solutions. In theory, a collaborative approach to demand could be sought in the same way as bringing stakeholders together in participative forest management.

Unfortunately, few, if any, case-studies relate to this practice. One reason for this is that the actors involved in the later stages of the tropical timber commodity chain – timber dealers, furniture companies and consumers – are numerous and geographically dispersed, which makes negotiation, let alone consultation, difficult.

A second reason for the lack of collaboration or regulation at the demand end of the timber trade is that the companies involved often belong to large-scale transnational corporations. This limits the effect that national, Third World country governments can have on these powerful corporations that are often regarded as “above the law” by virtue of their international character.

It thus appears that there are as many methods for dealing with unsustainable tropical timber harvesting as there are actors in the timber trade itself. In theory, as Barbier *et al.* (1990) point out, attacking the commodity chain at one single point should create a bottleneck sufficient to cause a decrease in activities along the entire chain. In practice, however, results are less than satisfying: deforestation rates worldwide during the 1980s were as high as 15 million hectares per year for tropical forests alone, and the figure is likely to have increased over the 1990s (FAO 1996).

Surprisingly few studies have attempted to look at a single commodity chain in its entirety, from the timber source and sustainable forest management, to the furniture outlets and consumers. So far, tackling a single point in the chain has not proved to be particularly effective. However, integrating all approaches into a holistic and coherent regulatory system of an entire commodity chain has yet to be implemented.

Ugandan mahogany trade provides an ideal case-study for implementing such an approach. The only major source of mahogany in the country, Budongo Forest, is currently being depleted of its hardwood resources at an alarming rate. Research was therefore carried out to identify key issues and elaborate a regulation system integrating different approaches which could contribute to greater sustainability in the mahogany trade.

II THE SETTING

II.1 UGANDA'S HARDWOOD TRADE AND FOREST SECTOR

Despite favourable climatic and soil conditions, Uganda has comparatively few closed or state-managed forests. During the colonial period, this placed Uganda in a worse position than any other territory in the British Empire except for Tanganyika and South and Western Australia (Ofcansky 1996). Timber trade has therefore traditionally held a small position in the Ugandan economy.

Today, Uganda is home to 4.9 million hectares of forests and woodlands (of which 20% is tropical high forest), about 24% of the country's total area (Figure I). The Ugandan hardwood industry is still dwarfed on the international stage by neighbouring countries such as the Democratic Republic of Congo (DRC) and Cameroon, as well as other tropical states including Brazil and Indonesia. However, national indexes of industrial production have shown a sharp increase in the timber industry since the late 1980s, in parallel with the recovery of Ugandan economy (Figure II).

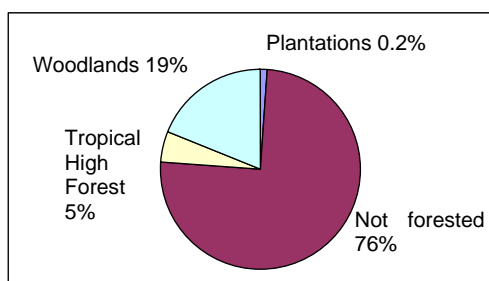


Figure I. — Percentage Forest Cover in Uganda (after Ministry of Water, Lands & Environment 2001).

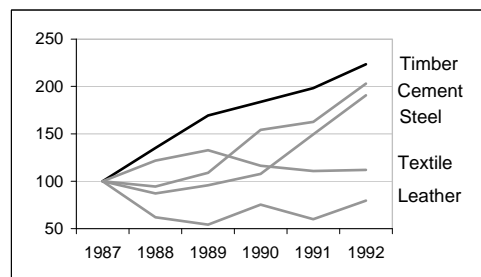


Figure II. — Indices of industrial production for timber, cement, steel, textile and leather (after Ofcansky 1996).

Only 15% of Uganda's forested land is managed by the Forestry Department (FD), a governmental organisation that falls under the Ministry of Water, Lands and Environment – the rest being in game reserves and parks managed by the Uganda Wildlife Authority (UWA) or on private land (Ministry of Water, Lands & Environment 2001). The FD was established in 1917 and had the mandate managing the country's forests to produce a sustained yield of timber, poles and firewood.

Throughout the colonial period until the late 1960s, forest policy and management focused on maximum sustained timber production of hardwood species such as mahogany (*Khaya anthotheca*), utile (*Entandrophragma utile*) and sapele (*E. cylindricum*). During the period of dictatorships and unrest (1971-86), the timber industry ground to a halt through lack of skilled management (Kamugisha & Nsita 1997). Agricultural encroachment, charcoal making and firewood harvesting increased unchecked as population size grew, causing widespread deforestation throughout the country.

After seizing power in 1986, the National Resistance movement implemented a Forestry Rehabilitation Programme funded by UNDP and FAO (Ofcansky 1996). In 1988, the new Forestry Policy placed considerable emphasis on forest conservation, although it remained mute on the level of community participation in forest management.

However, in line with the current spread of participative forest management in Africa, the structure of the Ugandan Forest Sector has been revisited with the help of funding from the UK Department for International Development (DFID). First, a new Forestry Policy was published in 2001 with the aim of introducing sustainability, poverty alleviation and participative forest management (through a programme called Collaborative Forest Management, or CFM) as key principles of the Forest Sector. Its overall goal is “an integrated forest sector that achieves sustainable increases in the economic, social and environmental benefits from forests and trees by all the people of Uganda, especially the poor and vulnerable” (Ministry of Water, Lands & Environment 2001).

Other major changes are still under way. A Forestry Bill is also currently being reviewed in the Ugandan Parliament to supplant the current Forests Act of 1964. Greater emphasis is to be placed on the sustainable management of the forest, with increased penalties for illegal harvesting of forest products, including timber. Moreover, the concept of Collaborative Forest Management will be introduced in Ugandan law for the first time.

The third major change, funded by DFID, will consist of restructuring the FD into a National Forestry Authority (NFA). This will bring about “better standards of accountability and professionalism and (...) a greater focus on the sustainability of the nation’s forestry resources” (Forest Sector Co-ordination Secretariat 2002). The National Forestry Authority

will be organised along corporate lines and will be required to be financially self-sufficient, in contrast with the current FD which is heavily reliant on government financing due to inefficiencies in revenue collection.

The institutions framing the Ugandan Forest Sector are therefore in a state of flux. Although somewhat confusing, this is also a period in forestry where key decisions can be made on the future sustainability of Ugandan forests and livelihoods depending on it.

II.2 BUDONGO FOREST: THE MOTHER SOURCE OF MAHOGANY

Budongo Central Forest Reserve (BCFR) is home to a vast majority of the mahogany stock in Uganda (Kamugisha & Nsita 1997). Until imports began from the DRC, Budongo was virtually the only source of mahogany in the country.

II.2.1 CONSERVATION AND THREATS

BCFR is home to the largest forest in Uganda. It covers the easternmost fragments of the long strip of African equatorial rainforest that stretches from Nigeria to Western Uganda. This reserve is the largest of its type in Uganda and lies in the kingdom of Bunyoro, in the west of the country (Appendix I). It covers 82,530 ha between latitudes 1°35' and 1°55'N and between longitudes 31°18' and 31°42'E, across the districts of Masindi and Hoima. BCFR consists of 44,340 ha of rainforest and 38,190 ha of grassland. The altitude varies between 914 m and 1097 m above sea level.

The forest has been classified as moist semi-deciduous tropical forest (Plumptre & Reynolds 1994). In his 1947 study of Budongo, Eggeling identified four successive ecological stages in the forest, ranging from swamp forest to forest dominated by *Cynometra* species. The majority of Budongo Forest is currently retained in its third stage of mixed forest, where the economically valuable hardwood species are found, including:

- Mahogany (*Khaya anthotheca*);

- Sapele (*Entandrophragma cylindricum*);
- Utile (*Entandrophragma utile*);
- Musizi (*Maesopsis eminii*).

Despite considerable human interference through timber harvesting, Budongo has retained an exceptionally high conservation value. In terms of species richness, Budongo is home to 866 plant species (Synott 1985) and 419 species of butterflies and moths (Kamugisha and Nsita 1997). Birdlife International has labelled the forest an Important Bird Area and WWF classified it among one of the 200 most valuable eco-regions worldwide.

Five species of primates are found in Budongo: eastern black and white colobus monkey (*Colobus guereza occidentalis*), red-tail monkey (*Cercopithecus ascanius*), blue monkey (*Cercopithecus mitis stuhlmannii*), baboon (*Papio anubis*) and the chimpanzee (*Pan troglodytes schweinfurthii*, Endangered) which numbers 600 to 700 individuals across the forest. The chimpanzees in particular have been subject to numerous biological studies under the Budongo Forest Project¹.

Encroachment, especially on the south-western border of the forest (Map I), is currently creating severe fragmentation. This is mainly due to tobacco farming and sugarcane plantations belonging to Kinyara Sugar Works Ltd, the largest sugar producer in the country. However, the greatest threat affecting the forest is unsustainable selective harvesting of hardwood species, in particular *Khaya anthotheca* (labelled as Vulnerable in the IUCN Red List Classification), *Entandrophragma cylindricum*, *E. utile* and *Maesopsis eminii*, which take up to 150 years' maturation to produce valuable timber.

Selective timber harvesting is not a threat in itself to the ecological integrity of Budongo Forest. For example, logging and primate densities failed to show any significant correlation (Plumptre & Reynolds 1994). However, unchecked overharvesting is not only driving the hardwood species of Budongo to local extinction. Evidence from other tropical forests also shows that selective timber overextraction is the first step towards forest clearance (Glastra 1999).

¹ The Budongo Forest Project website (www.budongo.org) provides an extensive bibliography of research in Budongo Forest.

Fearnside (1997) called mahogany in the Amazon (*Swietenia macrophylla*) a “catalytic” species, because its disappearance inevitably leads to deforestation. Logging personnel are frequently involved in poaching and the wildlife trade, resulting in the rapid depletion of wildlife populations. Moreover, pitsawyers create paths in the forest, which facilitates access to other resources such as firewood, timber for charcoal and NTFPs. Finally, forests depleted of their marketable resources may be cleared for crop production.

II.2.2 THE HUMAN DIMENSION

Throughout the second half of the twentieth century, the newly cleared land on the forest edge and the timber industry inside the reserve attracted a steady flow of migrants from across the country. The 1960s and 1970s also witnessed an influx of refugees from the war-torn zones of eastern Congo and southern Sudan. Coupled with this considerable immigration, a fourfold growth in Uganda’s population between 1959 and 2000 (based on data provided by Ofcansky 1996) has also contributed to the important increase in population pressure south of Budongo.

The now densely populated zone on the southern border of Budongo has been dubbed “United Nations” by its inhabitants. The district is known to have 56 different ethnic groups, leaving the original tribe, the Munyoro, in a minority. The area north of the forest is totally uninhabited since the forest lies on the southern edge of Murchison Falls National Park.

Since the collapse of the sawmilling industry in Budongo, data collected in this research shows that much of the local economy has based itself on small-scale farming. Crops include plantain banana, cassava, maize, yam and sweet potato, and cows, pigs, goats and chickens are the main animals reared. Commercial activities are limited to tobacco-growing (encouraged by British-American Tobacco) and pitsawing and timber carrying – both legal and illegal.

Much of the local economy is also heavily reliant on forest products. Apart from timber for carpentry, villagers collect the following items (Akoko, personal communication):

- Ironwood (*Cynometra alexandri*) for charcoal burning and firewood for cooking; on a national level, these two wood-based fuels provide over 90% of the country's supply in energy (Ministry of Water, Lands & Environment 2001);
- Stone, mainly granite, from quarries inside the forest;
- Medicinal plants, such as *Warburgia ugandensis* (for treatment of malaria and vomiting), *Erythrophleum suaveolens* and *Rauvolfia vomitoria*;
- Handcraft materials from plants such as *Delonix regia*, *Cupressus lusitanica*, *Calamus deeratus*, *Euphorbia* spp, *Phoenix* spp. and *Ficus* spp.;
- Building materials, notably poles (any young tree with a small trunk diameter);
- Game; since elephants and buffalo neared local extinction in the late 1970s, hunting has been limited to bushbuck (*Tragelaphus scriptus*) and black and white colobus monkey (*Colobus guereza occidentalis*);
- Food items, including vegetables, mushrooms, white ants and honey.

Given the multi-ethnic makeup of each village, the traditional form of authority, the family clans headed by elders, has almost fully given way to the legally recognised form of authority, local councils. Since the 1993 Decentralisation Act, local government has five tiers of councils, ranging from Local Council 1 (LC1) at village level to LC5 at district level.

Local councils are responsible for everyday running of the villages, including maintaining order and defence, organising community work such as road and well maintenance and revenue allocation. Each local council is elected by universal suffrage and has a secretary for production and environment responsible for conservation issues.

II.2.3 CURRENT MANAGEMENT

Budongo Forest is a gazetted forest, which means that it is owned by the state and under the management of the FD. However, the northern grassland zones belonging to BCFR are in theory managed jointly with the Uganda Wildlife Authority (UWA), a governmental agency under the Ministry of Tourism. UWA also manages the adjacent Murchison Falls Conservation Area, composed of Murchison Falls National Park, Bugungu Game Reserve and Karuma Wildlife Reserve.

BCFR is divided into eight blocks and 78 compartments for management purposes. Each compartment is classified as one of the following:

1. Strict nature reserve, where all human interference and trespassing is forbidden. The aim is to conserve all the species and natural processes maintaining its natural state;
2. Protection or buffer zone, where members of local communities are free to enter and harvest non-timber forest products for domestic use only;
3. Low impact harvesting zone, where licensed pitsawyers are allowed to carry out activities under the supervision of Forestry Department staff, and under certain regulations;
4. Sawmill harvesting zones, allocated to specific sawmill plants for their activities, under the supervision of Forestry Department staff and under certain regulations;
5. Recreational zones, of high conservation value and set aside specifically for the ecotourism projects (notably for chimpanzee viewing);
6. Scientific research zone, around Sonso station, for scientific research carried out by the Budongo Forest Project.

II.2.4 COMMUNITY INITIATIVES BY THE FORESTRY DEPARTMENT

BCFR is the jewel on the crown for the FD. Not only is it the largest forest in Uganda, but it is also home to a large timber stock and one of the two forestry educational institutions (Nyabyeya Forestry College) in the country. It has therefore benefited of several pioneering community initiatives led by the Forest Department under EU funding². The first of these was the Forest Ecotourism Project created in 1994. The aim was to create a non-consumptive income-generating activity, of which 20% of the benefits would be distributed to the local communities.

The second community initiative sparked by the Forestry Department has been the creation of Budongo Forests Community Development Organisation (or Bucodo). This NGO, registered in 2000, advertises itself as an “entirely community-owned, community-managed and

² The initial Natural Forest Management and Conservation Project (1988-1995) was funded by the European Development Fund and was followed by a 7-year interim phase that ended in June 2002. Since 1st July 2002,

community-controlled organisation, [whose mission is] to improve to the livelihood and welfare of the communities [surrounding Budongo Forest] by conserving the environment through development”.

Bucodo is funded by two organisations, DSW (German Foundation for World Population) and GEO (Schützt den Regenwald), although FD also funds specific forestry-related projects. Its patron is the head of the FD’s partnerships and community initiatives, and a memorandum of understanding between Bucodo and the FD is currently being drafted.

The third community initiative carried out by the Forestry Department is that of Collaborative Forest Management (CFM), in line with participative forest management programmes throughout Africa. Two villages bordering BCFR, Hanga and Kidwera I, were designated as one of the seven pilot sites across the country for this programme initiated in late 1998. CFM is defined as a programme whereby “interested parties are genuinely involved in the management of forest resources through a negotiated process in which all share rights, roles, responsibilities and returns for the sustainable management of forest resources” (Driciru 2001).

From the Forestry Department’s point of view, CFM was introduced with the aim of reducing non-licensed pitsawing through effective policing of the forest by local populations. In exchange, local populations would be allowed to use timber and non-timber resources on a domestic and commercial basis in the forest compartment closest to the villages, W38. After an 18-month suspension of CFM activities beginning in March 2001, the FD recently decided to extend the programme across the entire southern border of Budongo Forest.

II.3 METHODS OF DATA COLLECTION

management of BCFR is part of the new EU-funded Natural Resources Management and Conservation Programme.

Data were collected over a period of two months, during June and July 2002. The main method of data collection was the use of semi-structured interviews with stakeholders, representatives of particular interest groups and key informants. A total of 94 interviews were carried out (Appendix III). The majority was recorded with a tape recorder; several interviewees, however, expressed uneasiness at the idea of being recorded, so notes were taken instead.

Interviews were carried out in the following locations:

1. The Forestry Department headquarters in Kampala;
2. Other key organisations in Kampala, such as the Forest Sector Co-ordination Secretariat and the Uganda Wildlife Authority headquarters;
3. The District Forestry Office in Masindi and other key organisations in Masindi District, such as the Masindi Wood Users' and Pitsawyers' Association (MPWUA) office and Nyabyeya Forestry College;
4. The bulk of the interviews were led in Hanga and Kidwera I, the two CFM pilot villages on the border of the forest reserve, and where much of the non-licensed pitsawing in North Budongo still takes place.

Interviewees were selected using several methods. Those in the Forestry Department headquarters or other key organisations in Kampala or Masindi Town were identified using "snowballing" (Richardson 1996), whereby a first interviewee is asked who he or she thinks should also be interviewed. Individuals mentioned by more than one interviewee were generally sought for an interview.

In rural areas, however, this method was insufficient since it resulted in the researcher interviewing only the wealthiest and politically most prominent individuals. As a complementary method, therefore, several meetings were organised at village level under the mango tree used for CFM meetings, which generally attracted CFM enthusiasts and forest users. In order to correct for this bias, individuals not showing any particular interest for CFM were also identified through snowballing and interviewed. Meetings were also organised for specific community-based organisations such as women's groups and craftmaking groups, as

well as resource based interest groups (Morgan 1997) such as non-licensed pitsawyers (Appendices II & III).

Interviews were carried out as informally as possible (Morse 1994). In the villages surrounding the forest, these were generally carried out at the interviewee's household. Given the multi-ethnic makeup of the villages, a total of six languages were used throughout the research, namely English, French (for the older Congolese refugees), Runyoro (the language of the Munyoro), Lugwara, Alur and Kiswahili. For the last four, the same local interpreter assisted in the interviews.

After a brief introduction on the researcher's study and personal background, the researcher explained the principle of anonymity (Kvale 1996). Initial questions were asked on the interviewee's background and family. A small number of questions prepared beforehand were run through until a particular or relevant theme appeared and was developed. Questions generally focused on the following issues:

- Details of the mahogany trade and its stakeholders;
- Attitudes towards and relationship between different forestry stakeholders;
- Attitudes towards the mahogany trade;
- Recommendations for sustainable mahogany extraction and marketing.

Before closing the interview, the interviewee was asked whether he or she had any questions or wished to add anything to the discussion. A copy of the interview transcript or of the entire report will be sent to all interviewees who made specific requests.

Other methods were used to complement the interviews. Participant observation (Richardson 1996) turned out to be extremely useful to place people's words into the cultural, political and socio-economic context. This consisted in living in the villages where most of the interviews were led and attending political or cultural events such as local council meetings, religious events and funerals.

Secondly, villagers' notes from meetings, personal letters, research reports and policy documents were collected whenever available, with permission of authors where necessary.

These proved to be essential in providing information in areas such as the institutional framework of forest management and the licensed timber trade.

Data were analysed by transcribing the interviews verbatim. Data on the mahogany trade were compiled into a cohesive explanation; data on attitudes between stakeholders and towards management practices were analysed through the identification of themes that arose in different interviews. The recommendations made in section III.5 include many points raised by the interviewees themselves.

III MAHOGANY TRADE IN UGANDA

III.1 RECENT DEVELOPMENTS

Given that Budongo Forest is by far the largest producer of mahogany in Uganda, this chapter focuses on the recent history of mahogany extraction in BCFR. Data presented below are based on information collected during the interviews, along with policy reports by the FD.

III.1.1 THE SAWMILLING INDUSTRY:

MAHOGANY EXTRACTION UP TO THE 1980S

The history of mahogany extraction in Budongo Forest stretches back to 1919, when the Forestry Department began pitting in the reserve. Although activities ceased in 1926, the 1935-44 and 1945-54 working plans fixed an annual cut of approximately 15,000 m³ for mahogany in the reserve. In the 1955-74 period, mahogany extraction was stepped up and formed over 80% of all species harvested at the time, the bulk of the timber being exported to Britain (Kamugisha & Nsita 1997).

The mahogany trade changed dramatically with Idi Amin's seizure of power in 1971. His decision to expel Asians from Uganda the following year proved disastrous to the timber industry, most of which was owned and managed by Asian businessmen. All the Budongo sawmills were nationalised under the Wood Industries Corporation, and the Asian labour replaced with Ugandan labour. Unfortunately, the latter lacked adequate managerial and technical skills and mahogany production was reduced dramatically over the 1970s.

In 1982, Government allowed former Asian owners to claim and repossess their properties under the Expropriated Properties Act of 1982. Loans given out by the World Bank and the Uganda Commercial Bank allowed the sawmills to restore their equipment and mahogany production picked up again over the second half of the 1980s (Figure IIIa).

However, the capital created was insufficient for the maintenance of the machinery throughout the 1990s. Moreover, a slow recovery of technical and managerial standards, coupled with sharp increases in royalties in the late 1990s forced sawmilling to come to a halt by the time a mahogany ban was imposed in October 1999 (Forest Sector Co-ordination Secretariat 2001).

III.1.2 LOW IMPACT HARVESTING: MAHOGANY EXTRACTION IN THE 1990S

The downward trend of the sawmilling industry, however, did not reflect the sharp rise in domestic demand for mahogany. The 1978-1979 war against Tanzania resulted in widespread destruction of Ugandan towns and cities, as did the 1986 civil war which resulted in the seizure of power of the National Resistance Movement (NRM). After promising peace and economic recovery for the country, the NRM succeeded in attracting impressive amounts of foreign aid (Ofcansky 1996). As the economy picked up again, so did reconstruction of large cities. Needs in furniture and building materials for doors, window frames and shutters increased as a consequence of the reconstruction of large cities, and the domestic demand in mahogany rose sharply towards the late 1980s and early 1990s.

As the production of the sawmills around Budongo was reduced over the same period, skilled workers specialised in timber extraction were laid off in large numbers. The high demand for mahogany converted many of these to low-impact timber harvesting, i.e., pitsawing. As (i) numbers of pitsawing licenses stagnated, (ii) sawmilling production decreased and (iii) the demand for mahogany grew, pitsawyers began harvesting more timber than their annual allowable cut (of 360 m³ per license) fixed by the Forestry Department.

In response to the excessive timber harvesting by licensed pitsawyers, Government imposed a series of harsh regulations throughout the 1990s. The first of these was the imposition of a total ban on timber exports which was rigorously enforced from March 1990, although the Ministry of Trade exempted companies that had international contractual obligations under barter trade to fulfil commitments already entered into.

Secondly, pitsawing was completely banned in 1992, the official reason being that malpractice by pitsawyers had led to overharvesting and considerable wastage of mahogany.

Under the pressure of the newly formed Masindi Pitsawyers' and Wood Users' Association, the Biiso concession was opened up again in 1993 with a smaller number of licenses available.

Thirdly, timber royalties, transport taxes and license fees levied by the Forestry Department rose steadily over the 1990s. For example, royalties for Class I timber such as mahogany increased from an equivalent of £3 (1987 Ush 36,000) per cubic metre of mahogany in 1987 to an equivalent of over £36 (Ush 100,000) today (Figure IIIb) (conversions take account of currency devaluation as set out in Kamugisha & Nsita 1997). Likewise, the annual license fee rose from Ush 150,000 (£54) to 350,000 (£127) in just three years (Figure IIIId). Lastly, a total ban on mahogany extraction and trade was imposed in June 1999, which became effective in October that year. Extraction and trade of any type of raw mahogany is illegal to this day.

In the face of such restrictions, a new type of illegal pitsawing developed: non-licensed pitsawyers, many of them licensed until 1992, began extracting non-declared mahogany in large quantities. The re-opening of a small concession area in 1993 put a brake to illegal activities, but non-licensed pitsawing mostly grew unchecked throughout the second half of the 1990s.

In villages such as Hanga and Kidwera I, immigrants flowed in and remained a few months at a time as temporary settlers to make quick money on what was known metaphorically as *nyama* ("red meat"). Over two or three years, the population of the villages bordering the forest in East Waibira grew by two- to three-fold. Much of the mahogany extraction was controlled by individuals in Masindi or Kampala, along with local pitsawyers originally licensed until 1992. Both types of pitsawyers employed large numbers of artisans and timber carriers to carry out the physical work.

In the mid-1990s, in an attempt to protect their livelihoods, it is widely believed that the local (and previously licensed) pitsawyers formed an association of a dozen individuals in Hanga, Kidwera I and the neighbouring village of Nyakanika. This association is said to have struck an agreement with FD field staff and UWA park rangers operating nearby, whereby the staff would allow them to carry on pitsawing in the forest in exchange for which the association would have to pay them monthly fees.

DISCUSSION

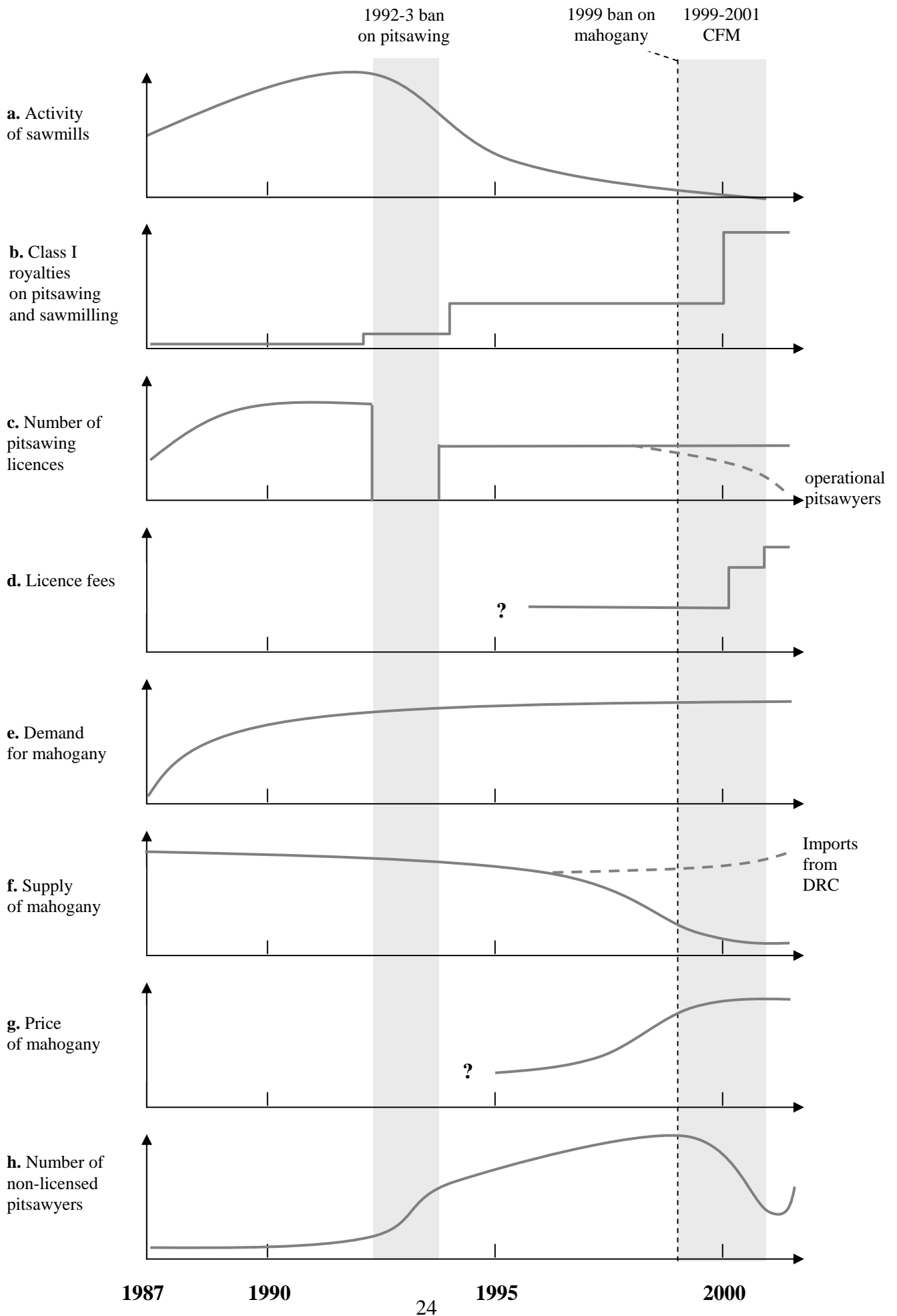


Figure III. — Recent trends in variables related to mahogany extraction in Budongo Forest.

Today, only one licensed pitsawyer is working in the entire forest as a result of the harsh regulations imposed by the FD in the 1990s. Yet the demand for mahogany is still high, keeping the non-licensed pitsawing industry alive despite the waning stock of mahogany in the forest.

By (i) letting the sawmilling industry grind to a halt and (ii) imposing a series of bans and strict regulations on licensed pitsawing, it could be argued that FD has effectively pushed the entire mahogany trade underground. Several informants have claimed that the FD's harsh regulations increased the precariousness of all mahogany-based livelihoods and encouraged depletion of the mahogany stock in Budongo Forest through deregulation.

III.2 THE MAHOGANY COMMODITY CHAIN

III.2.1 LICENSED PITSAWING AND DECLARED TIMBER

This section describes the legal commodity chain for timber originating from pitsawing activities in Budongo Forest. Until its ban in October 1999, declared mahogany followed this commodity chain. A brief description of the stakeholders in the legal mahogany commodity chain is given in Table III.

An individual who wishes to apply for a pitsawing license needs approval from each of the relevant local councils as well as a recommendation from the District Forest Officer (DFO) before being submitted to the national commissioner for Forestry. The number of licenses delivered by the commissioner depends on the size of the existing timber stock and the estimations of regeneration. If delivered, a one-year license costs the pitsawyer Ush 350,000 (£127). Since the creation of the Masindi Pitsawyers' and Wood Users' Association, licenses are delivered to the association before being dispatched to individual members using a rotation system. This year, 13 licenses were made available to a membership of 52.

When a pitsawyer decides to convert trees, he/she pays timber cutters to carry out the physical work in the forest. The FD field staff designate the allocated trees to be pitsawn, based on

stock mapping inventories during which the total volume of standing trees is measured. Once the timber has been converted into planks, it is loaded on a vehicle which takes the timber to be declared by the District Forest Officer.

Declaration consists in keeping a specific amount of a deposit paid to the District Forest Officer by the pitsawyer (prior to pitsawing) for timber royalties. The royalties depend on the volume and class of the timber harvested (Table II). Transport tax (currently fixed at 15% of the value of the timber) needs to be added to these royalties. The FD headquarters returns 40% of the revenues perceived to the Districts as part of the decentralisation policy.

Class	Royalty / m ³	Timber Species
Ia	Ush 100,000 (£36)	<i>Khaya anthotheca</i> (banned) <i>Entandrophragma utile</i> (banned) <i>Entandrophragma cylindricum</i> (banned)
Ib	Ush 100,000 (£36)	<i>Albizzia zygia</i> <i>Cordia millenii</i> <i>Holoptelea grandis</i>
II	Ush 28,000 (£10)	<i>Maesopsis eminii</i> <i>Alstonia boonei</i> <i>Chrysophyllum</i> spp. <i>Erythrophleum suaveolens</i>
III	Ush 17,000 (£6)	<i>Cynometra alexandri</i>

Table II. — Royalty classes of a few timber species found in Budongo Forest (Alomu, personal communication).

Pitsawyers either process the timber themselves or sell it raw to dealers who transport the timber to markets in cities such as Kampala, Gulu, Arua or Kitgum. Once it has been treated and prepared, the majority of the timber extracted from Budongo is used in furniture and building-related items such as doors, window frames and shutters.

Actors	Description
Masindi Pitsawyers' and Wood Users' Association (MPWUA)	<p>The Masindi Wood Users and Pitsawyers' Association was founded in 1994 to represent the interests of the pitsawyers in Masindi District. According to its constitution, the association's objectives include sustainable harvesting and sale of timber from Masindi district, to link up with Government, NGOs and other agencies, and to curb illegal activities in the forest reserves together with Forestry Department staff.</p> <p>Since 2002, The Masindi Pitsawyers' and Wood Users' Association is represented in the newly created Forest Stakeholders Standing Committee. This national committee, which brings together Forestry Department staff and key stakeholders in forestry is due to meet quarterly in the Forestry Department headquarters to discuss regulations and forest management.</p>
<i>Fundis</i> and Timber carriers	<p>The term "pitsawyer" is actually a misnomer since the majority of the individuals with a license for pitsawing do not actually set foot in the forest. Instead, they employ a number of timber cutters to pitsaw the timber in the forest (locally known under the Kiswahili term <i>fundi</i>) and carry the timber to a place which can be reached by vehicle (timber carriers or followers). Most of the <i>fundis</i> and timber carriers live in the villages bordering the forest reserve.</p> <p>Given that (i) neither the <i>fundis</i> nor the timber carriers have an association and (ii) the labour provided is not registered by local council or the Ministry of Labour, the position of <i>fundis</i> and timber carriers is highly precarious. Many claim that they are underpaid by the pitsawyers and frequently harassed by FD field staff.</p>
Forestry Department Field Staff	<p>The FD field staff for Budongo Forest currently number 5 forest and assistant forest officers, 6 forest rangers and 23 forest guards.</p> <p>Forest rangers are the main staff operating in the forest in collaboration with <i>fundis</i> and timber carriers. Their tasks include carrying out foot patrols in areas of illegality, checking on encroachment and illegal quarrying inside the reserve, providing advice to local populations and supervising the activities of the <i>fundis</i> and timber carriers working for licensed pitsawyers.</p> <p>FD field staff is hampered by lack of communication with the headquarters, poor pay, facilitation and motivation. As one staff member puts it, "the chain of hierarchy has not been good to the FD field staff. You'll find that a lot is lacking in the field. Transport in the field is not there, and arresting illegal pitsawyers and timber is difficult because we do not have the resources. You can arrest timber, but because you don't have a mobile to ask your boss to come and pick it up, you cannot do anything (...). Also, motivation is not good. Your salaries are often lower than the minimum wage, and they don't come in time".</p>
Secondary wood processors	<p>Carvalho (2000) lists the stakeholders involved in secondary wood processing as technical and vocational training institutions (e.g., Nyabyeya Forestry College), machine work contractors, micro-sale workshops, small scale and group workshops, contract carpenters and joiners, furniture traders and dealers, medium-scale carpentry workshops and large scale workshops. Some of these are established in the vicinity of BCFR, but most of them are based in Kampala and other large cities, especially in the north, such as Gulu, Kitgum and Arua.</p>

Table III. — The principal stakeholders in the licensed timber trade.

III.2.2 NON-LICENSED PITSAWING AND NON-DECLARED TIMBER

There are two types of pitsawing which are considered illegal in Budongo Forest:

1. Extraction of non-declared timber by *fundis* working for a licensed pitsawyer, i.e., in excess of the pitsawyers' annual allowable cut of 360 m³;
2. Extraction of non-declared timber by non-licensed pitsawyers.

The first type, non-declared but licensed timber extraction, began in the late 1980s and prompted the Forestry Department to place severe restrictions on pitsawing, including the ban on the activity altogether. This in turn encouraged the appearance of non-licensed, non-declared timber extraction. Since the ban was placed on mahogany extraction and trade in October 1999, the entire mahogany now harvest falls into the second category of illegal timber.

In both cases, most of the stakeholders – and individuals – involved are the same as those involved in the licensed and declared timber commodity chain described above. This has come about because the non-licensed timber extraction has effectively replaced the legal commodity chain, rather than developing alongside it. However, three main differences arise when comparing the legal with the non-licensed, non-declared timber commodity chains.

The first difference lies in the proportions of tree species harvested. Although both concentrate on the higher value timbers in royalty classes I and II (Table II), non-licensed pitsawyers focus almost exclusively on musizi (*Maesopsis eminii*) and mahogany (*Khaya anthotheca*). According to Kamugisha & Nsita (1997), mahogany extraction represents over 80% of the non-declared timber. This figure is likely to have increased since the 1999 ban on mahogany.

The second difference between the two commodity chains lies in the identity of the pitsawyers. Although currently non-licensed, the majority of the illegal pitsawyers had licenses until the 1992 ban but never succeeded in recovering them (Figure IIIc). Many of them live in the villages bordering the forest, and some of them have come together to form a non-licensed pitsawyers' association.

The third difference between the legal and the non-licensed, non-declared commodity chains lies in the licensing and taxing system imposed by the Forestry Department. In the case of non-licensed, non-declared timber extraction, informants suggest that monthly fees of approximately Ush 1,000,000 (£364) are levied by the Forest rangers themselves from the association of non-licensed pitsawyers. Forest rangers then stamp the mahogany extracted, thus declaring it.

One informant who lives in the vicinity of Nyabyeya Forestry College (which houses several of the Forestry Department's offices) explains that

Students or casual workers bring the mahogany into the College carpentry workshop at night. It's all quite blatant, because (...) much of the timber is actually obtained through FD staff. They put their stamps on it and clear it. The price for clearing it is negotiable. They might request 15% of the price at which it was bought. But recently the mahogany was bought at a very low price, so the carpentry workshop has ended up paying 20%.

Once the mahogany from Nyabyeya carpentry workshop is cleared, it enters the legal commodity chain and is taken to markets before being transported to secondary wood processors and sold as furniture, doors, window frames or shutters. According to the limited information obtained on the later stages of the mahogany commodity chain, the actors are the same as in the legal chain. Illegal pitsawyers sell one standard mahogany plank (1 inch by 12 inches by 14 feet) for Ush 7,000 to 10,000 (£2.50 - £3.65).

There is evidence that some of the mahogany originating from Budongo is exported to developed countries; however, neither the proportion nor the form under which it is exported (roundwood or finished products) is known. A recent UN report (Safiatou Ba-N'Daw *et al.* 2001) also provided evidence of large-scale illegal imports of mahogany from the DRC since 1997:

DGLI [the company responsible for mahogany extraction in the eastern provinces of the DRC] is in collusion with the Ministry of Water, Lands and the Environment of Uganda in establishing a scheme to facilitate the certification of timber coming from the DRC (...). The new plant in Namanve [Uganda] is responsible for the sawmilling of mahogany, both imported from the DRC

and harvested in Uganda. The distribution of sales of the company is [as follows]: 30% to the Far East, 40% to Europe and 25% to North America.

Illegal timber trade has also caused severe repercussions on the legal timber trade. The steep rise in the availability of non-declared mahogany on the market has caused mahogany prices to drop dramatically over the past decade. The non-declared timber market has therefore not only depressed the declared timber market, but it has also outcompeted it. The focus of the non-declared timber market on the most valuable hardwoods such as mahogany has also pushed the legal timber trade towards marketing coniferous woods, although the returns are considerably lower.

III.3 REACTIONS BY THE AUTHORITIES TO MAHOGANY TRADE

III.3.1 THE FORESTRY DEPARTMENT

Since its ban on mahogany extraction and trade in 1999, the Forestry Department introduced two measures aiming to reduce illegal mahogany trade. The first of these was the creation of a task force called the Timber Tracking and Monitoring Team. It collaborated with FD field staff, MPWUA and local villagers and according to informants was very successful in arresting illegal timber. However, the funding for this team was curtailed in early 2001, and although it has not yet been disbanded, it is no longer operational.

The second and more important measure introduced by the Forestry Department is CFM, initiated in the villages of Hanga and Kidwera I (Pakanyi Subcounty) in 1999 with the aim of reducing illegal mahogany extraction. At the time, Hanga and Kidwera I were at the heart of the illegal mahogany trade and home to a timber market for the mahogany extracted from the nearby forest.

In the first stage of CFM, FD staff successfully established a relationship of trust with the local communities. This phase was initially planned to last six months but turned out to extend to well over a year. The second stage of the programme consisted in sensitising the local communities to the degradation of the forest as well as collecting socio-economic

information about the villages and ecological data on the adjacent forest compartments using participative rural appraisal methods. The third and last phase before the signature of an agreement, the negotiation stage, was never actually launched. Although the CFM staff remained in the field, the Forestry Department suspended all CFM activities in March 2001.

Several reasons were given by the Forestry Department. According to the field staff, activities had to be suspended because funding from the European Union had run out. According to headquarters staff, however, the problem came from the “premises on which CFM was based”. A staff member explained that they felt that the local communities lacked negotiation skills, and that they needed training before CFM could continue with negotiations. However, this does not explain why CFM activities did not resume in the following 18 months.

Despite the fact that CFM stopped short of negotiations, the relationship-building phase was sufficient to reduce non-licensed pitsawing significantly although only temporarily. During this time, the non-licensed pitsawyers’ association suspended their activities. Moreover, a group of village forest guards was created spontaneously and succeeded in arresting pitsawn mahogany and saws on several occasions in the forest. Unfortunately, pitsawing has started up again in the last few months as a result of the loss of trust and confidence in CFM.

However, it is likely that the involvement of Forestry Department staff in the community’s use of the forest has been instrumental in (i) putting an end to the situation of lawlessness that had taken the villages over with the influx of temporary settlers, and (ii) reducing non-licensed pitsawing in the area.

III.3.2 THE UGANDA WILDLIFE AUTHORITY

The Forestry Department was not alone in reacting to the mahogany crisis of the late 1990s. In 1996, the Uganda Wildlife Authority (UWA) moved the entrance gate to Murchison Falls National Park to the southern border of the forest reserve (only 7 km from Hanga and Kidwera I) in an attempt to catch the revenue from tourists visiting the ecotourism site inside the forest. However, this also involved UWA staff in the pitsawing activities operating in the area. Throughout the late 1990s, informants claim that non-licensed pitsawyers also paid fees to UWA staff so that they could pursue their activities in the forest.

In 2001, denunciations lead to a change in UWA staff on the southern border of Murchison Falls Conservation Area. Instead of collaborating with non-licensed pitsawyers, the new staff applied the laws stipulated in the 1996 Uganda Wildlife Statute (which in theory are only applicable to national parks and game reserves), including a complete ban on trespassing within the forest reserve.

In other words, UWA staff – who are armed, unlike Forest rangers and guards – can now arrest any villager who has entered the forest, regardless of the reasons given. Penalties are generally enforced, with up to several years' imprisonment. 20 villagers are currently detained on charges of trespassing. Villagers also claim that a timber carrier from Hanga was shot dead in 2001 by UWA staff. Moreover, UWA's current activities in Budongo Forest have recently even entered in conflict with those of the Forestry Department, as a letter by the DFO of Masindi to the Commissioner for Forestry explains:

This time again in the morning of 27th June 2002, armed [UWA] staff from Murchison Falls National Park attacked the pitsawyers' concession in compartment B5 and arrested some *fundis* of the registered pitsawyers. (...) The Acting Forest Officer for Budongo (...) tried to make a follow-up of the arrested *fundis* but was denied entry to Paraa [the UWA headquarters for Murchison Falls Conservation Area] by the Wildlife staff and ordered to return.

The reason for such conflict is simple. Whereas communication and discussions are frequent between FD and UWA field staff, relations at district and headquarter levels have effectively broken down completely. Although meetings between UWA and FD are supposed to take place quarterly over the management of Murchison Falls Conservation Area, the last official contact dates back to late 2000.

III.4 FAILURES OF THE CURRENT REGULATION SYSTEM

To recapitulate this study's main findings, Uganda is now home to a new Forestry Policy (and to a new Forests Act in the near future) in which sustainable forest management is one of the key principles. In other words, the country has a forest sector framework greatly supportive of sustainable forest management. But as Grainger (1993) put it, however enlightened a policy framework may be, if it is poorly implemented it can result in more, not less, deforestation.

Poor regulation of timber extraction in the field - in particular that of mahogany - is the key problem in Uganda. First, unlike other tropical countries where regulations are lax on paper as well as in the field, Ugandan regulations on paper have tended to be too restrictive, with a series of bans and increases in timber royalties throughout the 1990s. Many claim that this trend has had the opposite effects to those intended: instead of increasing regulation in the field, it has pushed the entire mahogany trade underground, thus de-regulating it in the absence of any effective law enforcement.

Secondly, institutional inertia has been at the root of the failure of regulation implementation in the field. There are two dimensions to institutional inertia.

III.4.1 INERTIA WITHIN THE FORESTRY DEPARTMENT

Informants time and again lamented the poor internal organisation of the FD. This has had two major consequences on mahogany trade. The first one is that it has practically paralysed FD operations in the field, leading to poor revenue collection, weak law enforcement and according to some, corruption.

These factors are probably the most common causes of de-regulation of timber harvesting in tropical countries. Case-studies in Brazil, Paraguay, Ghana, Cameroon, Gabon, Tanzania, Mali, Somalia and Indonesia all echo the Ugandan example (Glastra 1999, Shepherd 1995a & 1995b, Collomb *et al.* 2000, Bikié *et al.* 2000, Dudley *et al.* 1995, Mayers & Bass 1998).

The rationale is simple: a vicious circle has established itself between ineffective revenue collection and underfunding of the government organisation in charge of forestry (Figure IV). The FD lacks the funding to pay field staff even the minimum wage, which often gets delayed by several months. Field staff are also hampered by lack of transport and fuel as well as

infrequent visits from headquarters staff to supervise their work and encourage them. It is believed that the lack of supervision and motivation in turn encourages them to resort to collaboration with illegal pitsawyers who guarantee a better income than the FD.

Insufficient revenue is collected in the field to be re-directed into field staff salaries. This vicious circle therefore perpetuates the breakdown of official regulations and the creation of alternative systems where it is said that corruption replaces regulation and bribes replace royalties, but where the actors (FD field staff and pitsawyers) remain the same.

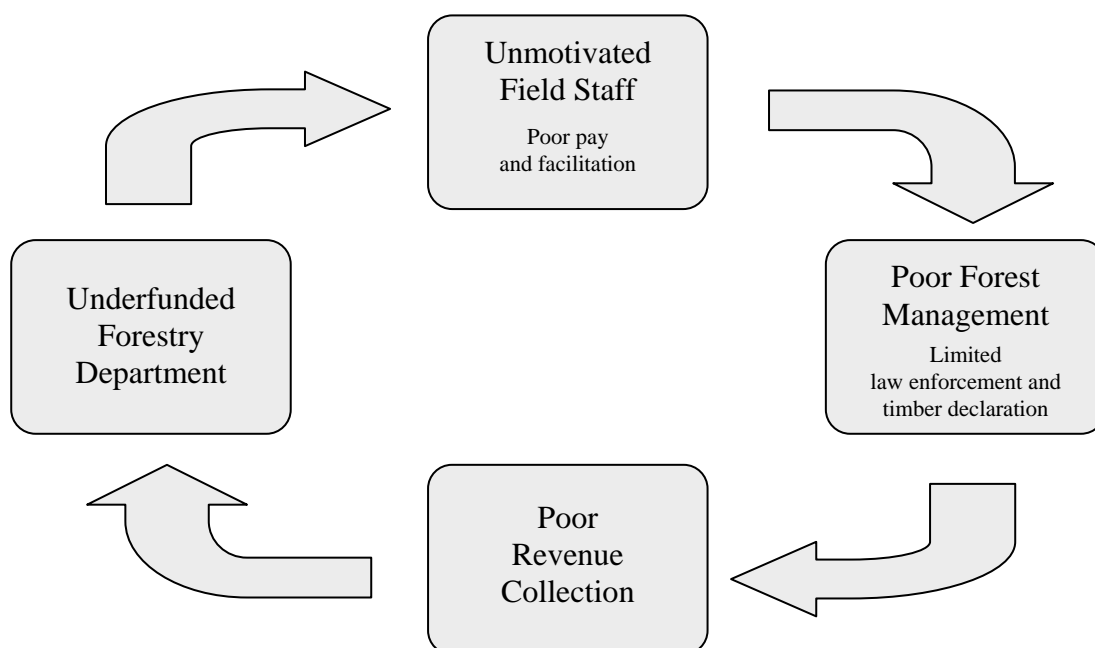


Figure IV. — The vicious circle between underfunding and poor forest management (B. Singer)

The second main consequence of the FD's internal inertia is that CFM in Budongo was never actually "given a chance to prove the sceptics wrong", as CFM staff have complained. Driciru & Langoya (2002) describe the ineffective flow of information as a paralysing factor in CFM. They also mention a lack of will on the part of certain staff in the headquarters to implement CFM, which has both confused and discouraged field staff.

Another common complaint focuses on the funding available to the CFM unit:

Administrative bottlenecks, especially in the disbursement of funds have limited the activities of the unit (...). The CFM co-ordinator who prepared the work plan and budget did not have access to budgetary allocations. It became very difficult to implement the work plan under these circumstances (...). As of [2002] the three officers of the CFM unit have had their services terminated because of lack of funds.

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Such slow progress in participative forest management due to institutional failures is not specific to Uganda and has been found in many other countries, including Ghana and Cameroon (Mayers & Kotey 1996; Dubois & Lowore 2000). As Mayers & Bass (1998) suggest, these delaying tactics could actually reflect reluctance on the part of governmental authorities to devolve power to the local communities.

III.4.2 INERTIA BETWEEN STAKEHOLDERS

Institutional inertia has not only caused communication within the FD to break down. It has also hampered communication between the FD and other stakeholders in the mahogany commodity chain.

At the level of supply in Budongo Forest, communication between the FD headquarters and the local populations was terminated as a result of suspension of CFM activities. Communication has also effectively ceased with UWA who are currently operating in Budongo in contradiction with their mandate and the 2001 Forestry Policy. Likewise, talks between the FD headquarters and the MPWUA are currently limited to the quarterly meetings of the Forest stakeholders' standing committee.

The suspension of communication has created a general atmosphere of distrust between the different stakeholders of Budongo Forest, which in turn has prompted each of them to reject the responsibility of illegal pitsawing and unsustainable mahogany extraction on each other (Table IV). Rejection of responsibilities is common in the absence of communication between forest stakeholders, as illustrated in Cameroon between small-scale timber exploiters, logging companies, civil servants and local villagers (Glastra 1999).

Affiliation of informant	Quote
MPWUA	<p>Some of the foresters are collaborators in these illegal activities (...) and it is done right from Kampala [FD headquarters], not here [in Masindi]. They come here and spend time with the pitsawyers with whom they are intimate. I don't want to single out one person or two, but it has been happening and it has been encouraging illegal pitsawing. It has sabotaged our operations.</p> <p>(...) I would think that the FD is raising royalties and taxes on purpose to phase out licensed pitsawing and encourage illegal pitsawing, because people are now avoiding taxes and going into the forest illegally. [Illegal pitsawing] is their own making: you raise taxes, people can't afford to pay taxes, now what happens? There must be something in the FD which is favourable to illegal pitsawing.</p>
FD	<p>The membership of the MPWUA is officially open to anybody. But in reality, it is impossible for other pitsawyers to join, which forces them into illegality because joining the MPWUA is the only way of getting a license.</p>
FD	<p>The local communities have a bad relationship with [FD] field staff (...). They can hire people to poison and kill us. One of the forest guards was poisoned on 27th December 2000. And they have started attacking staff in their houses (...). These are the ones who are the illegal pitsawyers.</p>
Illegal pitsawyers	<p>Nakawa [the FD headquarters] is responsible for illegal pitsawing today (...). During CFM, illegal pitsawing had stopped: we came out of the forest because CFM staff had asked us to and had promised us part of the forest. But now we have waited and waited and CFM has not come back. Our children have no clothes to wear in school, so we have to return to the forest.</p>

Table IV. — Rejecting responsibilities on other stakeholders.

The breakdown in communication also partly explains the lack of efficiency in the handling and processing of mahogany from its extraction to its sale in the form of furniture. In theory, FD staff in the field is responsible for organising workshops with licensed pitsawyers in timber handling and processing skills, including felling and storage methods. Yet the pitsawyers rarely handle the timber; instead, the felling of the trees and the conversion and processing of the timber is carried out by the pitsawyers' employees who receive no such training. According to certain informants, up to 80% of the timber is wasted between the moment it is felled and the moment it is bought by a customer.

III.5 AN ALTERNATIVE REGULATORY FRAMEWORK

The institutional inertia that caused communication to break down both within the FD and between different stakeholders is at the root of the lack of regulation. De-regulation in turn laid the basis for the creation of alternative, unsustainable systems of regulating mahogany trade which are currently depleting Budongo Forest of its resources in mahogany.

The creation of a watertight, exclusive regulatory system of sustainable mahogany trade is the only way of making sure that parallel, unsustainable systems are not set up. The following characteristics are paramount in setting up such a system:

1. All the stakeholder groups involved in the mahogany trade should be included so that the system can regulate the entire commodity chain;
2. Each stakeholder group should be given more incentives to keep to the regulations framing sustainable mahogany trade, than to establish a parallel, unsustainable mahogany trade; and
3. In order to set up these incentives for each stakeholder and allow flexibility within the system, communication channels should be established and maintained between the stakeholder groups.

In the light of the problems identified in section III.4, the researcher elaborated one such regulatory system, the Sustainable Mahogany Trade (SMT) model, presented in Figure V. The model displays all the stakeholders involved in the mahogany commodity chain, from the villagers adjacent to Budongo Forest to the timber customers. The arrows represent the different types of communication and revenues linking the stakeholders together to form a collaborative approach that integrates CFM with other partnerships into a coherent whole.

The stakeholders are broadly similar to those currently operating in the timber trade originating from Budongo, namely the FD, the MPWUA, secondary wood processors and customers. The main difference with the current situation is at the level of the local communities. In line with the aims of CFM, village forest committees (VFCs) need to be set up by the villagers which would supervise all forest activities. Moreover, the *fundis* and

timber carriers currently employed by legal and illegal pitsawyers could come together to form a group that would contract their labour to pitsawyers who wish to harvest timber.

Figure Va. — The Sustainable Mahogany Trade Model: Revenues

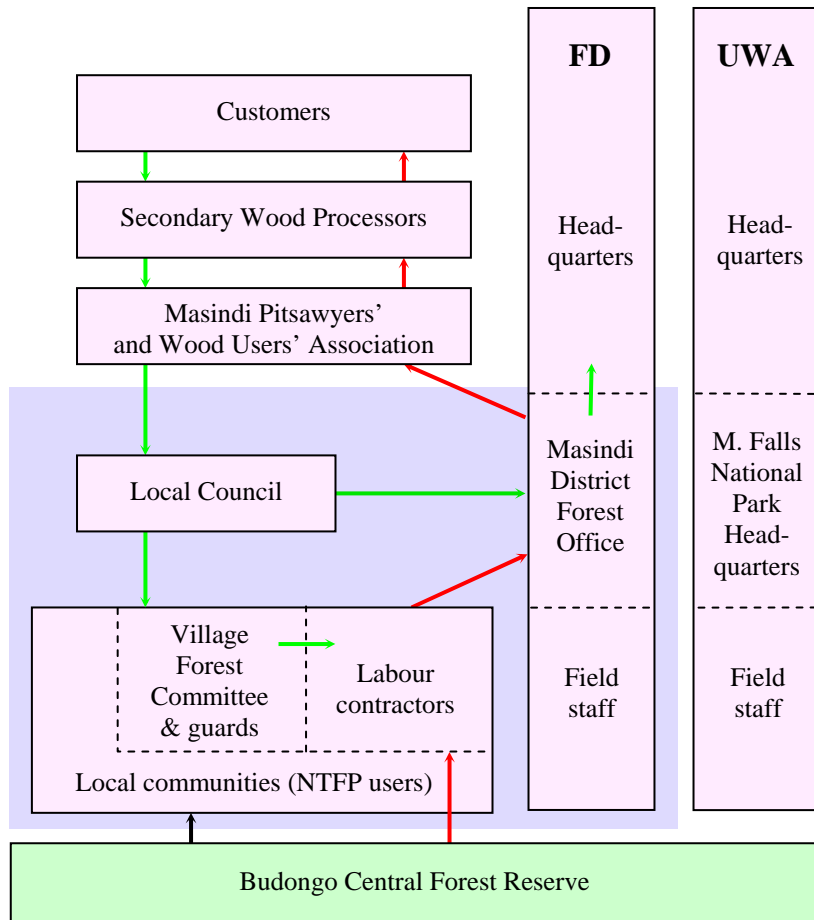
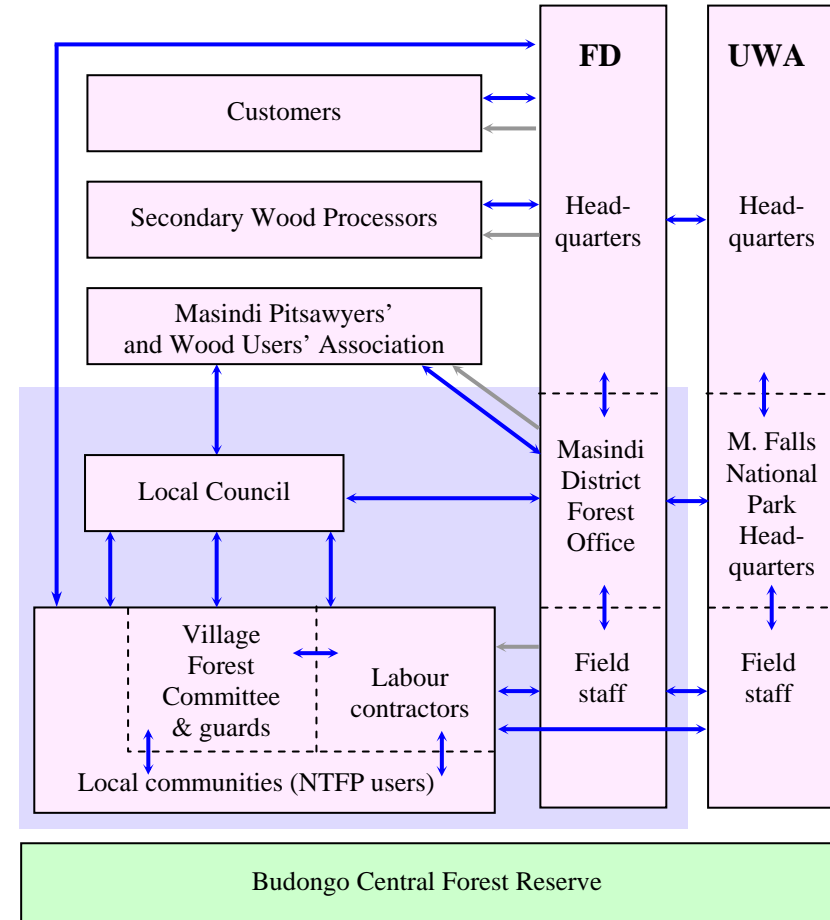


Figure Vb. — The Sustainable Mahogany Trade Model: Relationships



B. Singer



A tool that enables to analyse the roles of the stakeholders in the SMT framework is the “4Rs” concept elaborated by Dubois (1998). The 4Rs break down stakeholders’ roles into four major components, namely revenues, rights, responsibilities and relationships. This helps tease out issues by assessing (i) the relative balance of rights, responsibilities and revenues within and between stakeholder groups; and (ii) the mutual dependence between stakeholders, as a way to characterise their mutual relationships and their relative power (Dubois 1998; Dubois & Lowore 2000).

III.5.1 REVENUES, RIGHTS AND RESPONSIBILITIES

The regulatory framework suggested here is above all a results-oriented system aimed at keeping the mahogany trade sustainable. In this light, the flows of mahogany and revenue within this system are paramount. To begin with, it should go without saying that the present regulatory system (the high taxes, fees and royalties as well as the ban on mahogany extraction) should be repealed to make way for the SMT framework. Any taxes, fees and royalties should be established through collaboration with the stakeholders.

First, the mechanism for timber and revenue flows is as follows. A licensed pitsawyer who wishes to harvest mahogany from Budongo Forest approaches the DFO who contacts his field staff. The field staff accompany labour contractors into the forest to designate the trees for felling. Once the timber has been converted, it is declared by the field staff who transport it to the District Forest Office, where it is removed by the pitsawyers.

Before the pitsawyer receives the mahogany, he/she pays the royalties as well as the labour contractors’ salary, to the local council. The contractors’ salary reaches the contractors themselves through the relevant VFC, whereas the revenue from the royalties is distributed according to agreed percentages between the local council, the VFC and the District Forest Office.

The use of intermediaries between pitsawyers and labour contractors is necessary in order to limit the creation of an alternative system of unsustainable mahogany between labour contractors and pitsawyers. Likewise, the use of the DFO as a step in the timber flow and the local councils as a step in the revenue flow prevents a single intermediary from controlling

both the timber and the revenue. This avoids the pitsawyers and District Forest Office from setting up any alternative regulatory system.

Secondly, the responsibility of forest management and policing is divided among three stakeholder groups: (i) the FD field staff who accompany labour contractors into the forest; (ii) the labour contractors themselves; and (iii) village forest guards paid by the VFCs out of the revenue collected from the local councils.

The rationale for involving entire communities through the VFC and village forest guards is as follows. In the current situation, the FD field staff in collusion with local illegal pitsawyers, timber carriers and *fundis* (the potential labour contractors) are the main actors in the supply of unsustainable timber. If these two stakeholder groups were to police the forest on their own, the situation would be no different from the present. As one informant put it, “you cannot stop illegal pitsawing using illegal pitsawyers”.

On the other hand, the VFC and the village forest guards it employs have a strong incentive in protecting the source of mahogany whose royalties they rely upon financially. The village forest guards are therefore unlikely to collaborate with FD field staff and labour contractors in illegal pitsawing. Moreover, communities are much greater in numbers and therefore more effective in controlling entrance to the forest and pitsawing inside the forest.

The recent (albeit temporary) experience in Hanga and Kidwera I of village forest guards patrolling the reserve shows that this system can work. Its success is echoed in Duru Haitemba and Mgori Forest Reserves in Tanzania (Wily 1999, 2001) and Afram Headwaters Forest Reserve in Ghana (Mayers & Kotey 1996), where illegal forest users were driven out by the local community forest guards.

Thirdly, rights to forest use should be handed over exclusively to the local communities:

- Local communities should be given the right to extract timber for charcoal, firewood and NTFPs for subsistence and commercial means, on condition that quantities extracted remain sustainable;

- Labour contractors should be given exclusive rights to fell and convert timber species, including mahogany, although under the close supervision of FD staff.

Fourthly, law enforcement is an essential way of providing disincentives for stakeholders to set up alternative, unsustainable systems of mahogany extraction. So far, penalties have been particularly low, with fines rarely exceeding Ush 60,000 (the equivalent of three mahogany planks) and jail sentences of up to a month. Penalties are to be much harsher if they are to be any serious disincentive for anyone to act illegally. In the case of illegal timber extraction, both the village labour contractors and the FD field staff should be made answerable. Any repeated infraction should incur the loss of their livelihood.

Last but not least, it is essential to determine which resource quantities and extraction rates can be deemed sustainable before any agreement is reached (Mayers & Bass 1998; Driciru & Langoya 2002). In particular, it must be determined whether mahogany can actually be extracted sustainably, given the recent depletion of its stock. Since these quotas are likely to be decisive in determining revenues, participatory resource assessment is strongly recommended so that all stakeholders involved in forest use may be given partial responsibility in setting the targets of sustainability.

III.5.2 RELATIONSHIPS

Although not as tangible as revenues, rights and responsibilities, relationships still occupy a key position in the proposed regulatory system³. Relationships are *the* factor that enables collaboration and thus form the lynchpin of the system. One major component of relationships is the existence of communication channels.

Communication Channels. “Information flows are vital” (Vodoz 1994). First, the mere creation of communication channels enables the build-up of trust, an essential component of any working relationship (Arrow 1974; Gellner 1988; Millar 1996; Pretty & Ward 2001). Trust refers to the “confidence in the reliability of a person or system, regarding a given set of

³ The importance of relationships has been recognised by the coining of the term “social capital”. Alongside natural capital (ecological value of the natural environment), financial capital (e.g., funding) and political capital

outcomes or events” (Giddens 1990). The best way of building trust is to establish personal relationships. Personal relationships can take place in writing, but especially in situations of limited literacy, face-to-face interaction is key to building trust (Pretty & Ward 2001).

Secondly, communication channels allow for the exchange of knowledge and information, allowing for what Mayers & Bass (1998) refer to as “democracy of knowledge”. Exchange of different types of information is necessary:

1. Communication of regulatory procedures is necessary so that all the stakeholders involved in the proposed regulatory system fully understand and enact their revenues, rights, responsibilities and relationships. Unfortunately, this aspect of collaboration is often overlooked, resulting in manipulation of the procedure by stakeholders withholding information (Bawa & Dayanandan 1998).
2. Training stakeholders in all types of skills is also important, whether these be technical (for improved timber handling and processing) or institutional (how to set up an organisation).
3. Sensitisation of different stakeholders to the consequences of unsustainable timber harvesting is often the first step in establishing a sustainable regulatory framework (Ferreira *et al.* 1996; Glastra 1999; Kemf 1996).

Thirdly, communication channels not only allow sharing but also generation of knowledge. In particular, participatory monitoring and evaluation has proved an essential tool in assessing the effectiveness of regulatory systems of resource use (Estrella 2000; Hamilton *et al.* 2000; Blauert & Quintanar 2000; Lawrence *et al.* 2000; Sidersky & Guijt 2000).

Participatory monitoring and evaluation is paramount in successful regulatory systems, because it provides the system with flexibility to meet the needs of specific situations. As mentioned above, the application of rigid blueprints is one of the main reasons for the failure of numerous community-based natural resource management programmes (Adams & Hulme 2001; Ahluwalia 1998).

(or political will/momentum), social capital is an essential part of the basis of sustainable livelihoods. Its relevance to environmental management is discussed in Pretty & Ward (2001).

Fourthly, communication channels provide an effective forum for checks and balances between and within stakeholder groups so as to avoid the creation of alternative, less sustainable systems of mahogany extraction. This is just a way of maintaining transparency in the stakeholders' activities within the regulatory system. In particular, the VFC should have a direct communication channel with the FD headquarters to report any illegal activities in the forest which the local communities are unable to contain. However, as Figure Vb shows, checks and balances can just about take place between any two stakeholders.

There are several ways of embodying communication channels. As mentioned, in circumstances where literacy is limited (e.g., in a rural community context), face-to-face interaction is optimal. However, alternative, cheaper communication means are possible, such as multi-stakeholder committees (e.g., the newly created Forest stakeholders' standing committee) or written reports. It must be borne in mind that reports on their own are often insufficient in maintaining checks and balances, as experience has shown within the FD.

In order for the communication channels to be effective, there needs to be an equal, two-way exchange of knowledge and information (Figure VI). This is essential in maintaining equality and balance of power between stakeholders. A one-way flow of information generally reflects an imbalance in power which can be detrimental to collaborative relationships.

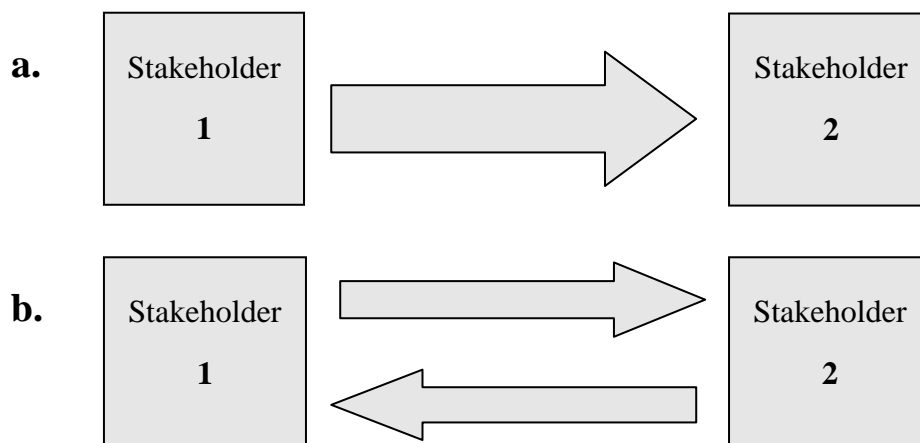


Figure VI. — Static versus dynamic communication. **Figure a** shows one-way, static communication and information sharing. This is typical of unequal power relationships leading to manipulation or coercion by stakeholder 1 of stakeholder 2. **Figure b** displays dynamic, two-way communication with exchange of information. The model in Figure b (i) is characteristic of equal power relationships and (ii) promotes sharing and generation of information/knowledge.

Power in Relationships. A second major component of relationships is power. Relationships between two stakeholders of unequal power can result in coercion or manipulation of one stakeholder by another (Lewis 1996), thus upsetting the balance of rights, responsibilities and revenues. Different measures can be taken to attempt to correct imbalances in power. Examples are given in three types of relationships within the SMT framework: (i) relationships internal to the FD; (ii) relationships within local communities, and (iii) relationships between FD and local communities.

First, relationships internal to governmental agencies such as the FD are too often overlooked when implementing CBNRM (Dubois & Lowore 2000). According to several informants, they have been the core problem in CFM in Budongo Forest.

The lack of facilitation, low pay and low motivation among FD field staff discussed in section III.4.1 all reflect a heavy, top-down structure that the FD has inherited from the colonial period. Much, if not all the power, is retained within the headquarters, and many field staff members expressed their frustration about the lack of two-way information flows. Moreover, the budget for CFM in Budongo is not only set by headquarters staff (albeit in consultation with field staff) but also controlled centrally. Any allowance for field staff needs to be requested on paper and sent to the headquarters, which lengthens the process and causes important delays.

In this light, it is vital for CFM and the proper regulation of timber extraction by the FD to decentralise powers of decision-making and budget control to the District Forest Office. Promoting upward *and* downward accountability between headquarters and District Forest Office is also strongly recommended. This would not only allow greater facilitation and motivation; it would also establish a more equal footing between the headquarters and the District Forest Office, thus allowing for an equal, two-way communication channel.

Secondly, relationships between the villagers themselves are also subject to imbalances in power. The mistaken assumption that relationships within local communities are homogeneous is extremely common and found throughout literature on participation (Leach & Fairhead 2001; Mearns *et al.* 1998; Ahluwalia 1998). In fact, power in villages such as

those surrounding BCFR is generally concentrated among a small number of households that control:

- Economic power, often originating from illegal pitsawing;
- Political power, through involvement in local councils;
- Group power, because wealthier men tend to have more wives and therefore larger families.

In many cases, the same households control all three types of power, and as experience has shown in Hanga and Kidwera I, they are the first to get involved in and dominate CFM activities. Yet such an imbalance in power could have serious consequences for the effectiveness of policing activities in the forest. If the VFC created out of CFM is dominated by pitsawyers, then the VFC cannot fulfil its role as a watchdog of the pitsawing activities of labour contractors and FD field staff, which undermines efficient protection of the forest.

It is therefore essential to make sure that the VFC and organisations created within local communities are truly representative of the villagers. Institutional capacity-building, but also confidence building, are necessary; such measures should reach all levels of the community so that they may empower the poorest strata.

This is where the role of NGOs such as Bucodo is vital. Since its creation in 2000, Bucodo has been building both technical capacity (e.g., workshops on income-generating activities such as beekeeping and vanilla-growing) and institutional capacity (creation of CBOs and resource-oriented interest groups). Bucodo's interventions in villages would therefore level out the effects of power inequalities within villages by facilitating the creation of truly representative VFCs for the benefit of the SMT framework.

Thirdly, the relationship between the FD and the local populations is fraught with power inequalities. For example, the current layout of CFM is dominated by the FD, whose staff lead the entire process by setting out the agenda, structuring the programme, organising the meetings and negotiations and drafting the agreement. Moreover, CFM staff involved in negotiations in the pilot villages of Hanga and Kidwera I strongly felt an imbalance in

negotiation skills, which was worsened by lack of organisation among the villagers and weak CFM institutions at village level (e.g., Driciru & Langoya 2002).

There are several ways of correcting this imbalance. To begin with, a change in the layout of CFM is needed so that the entire agenda and structure becomes genuinely participatory, rather than collaboration being restricted to details such as resource assessment, mapping and negotiations. Another way of tackling the problem is to build technical and institutional capacity among local communities with the intervention of Bucodo. Technical capacity building would build up the negotiation skills necessary to the CFM process, whereas institutional capacity building would enable the VFC to speak in a single voice for more effective communication with key partners in forest management, in particular the FD.

Bucodo's position at crossroads between the FD and the local communities also places it in a favourable mediating position. The advantage of NGOs generally in mediation is that they function independently of governmental bureaucracy, which allows them a more flexible and neutral approach (Ahluwalia 1998; Chilita 1999; Lewis 1996). Mediation is an important way of making sure that communication channels remain two-way and relationships equal in terms of power. One informant compared CFM relationships to a three-legged stool which could only stand if a mediator was present.

Given the overarching role that Bucodo already plays in the relationships between the FD and the local communities, it would also be logical to give it the role of co-ordinator of CFM activities in Budongo. This would move the centre of gravity of CFM away from the FD to allow the aims, structure and evolution of CFM to be fully collaborative.

III.5.3 RELATIONSHIPS AT THE DEMAND END

So far, relationships have focused at the level of supply. However, in order to integrate the entire mahogany commodity chain into a single regulatory system, relationships need to be instigated at the level of demand as well.

First, members of the MPWUA have expressed discontent at the lack of response from the FD to their demands. In particular, frequent reports by the MPWUA on illegal pitsawing go

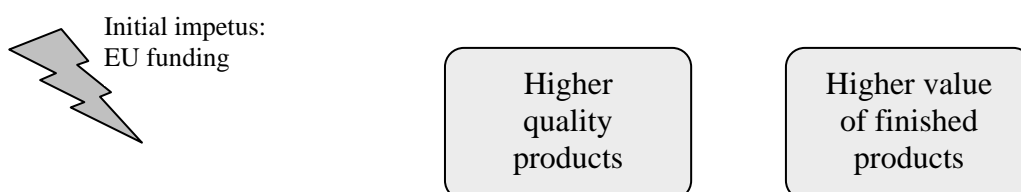
unanswered, as well as complaints on the rise of license fees, taxes and royalties. Since the pitsawyers themselves are the ones who pay the revenue on timber, it is essential to take their views into account when establishing levels of revenue. The Forest Stakeholders' Standing Committee would be an ideal forum for such discussions. This is the only way of avoiding the current situation where licensed pitsawyers are being pushed out of business, to the advantage of illegal pitsawyers.

Additional technical support and training on timber handling, processing (for those pitsawyers involved in secondary wood processing) and market identification is also needed. Training in wood processing skills would include best treatment and storage practices; it would also consist in advising which types of timber are best for which purposes. For the time being, pitsawyers tend to focus on the highest value timbers such as mahogany, thus disregarding other types which actually might prove better suited to particular products.

Such assistance is important in making sure that (i) the regulated supply meets the demand, and (ii) waste of timber during the handling and processing is minimised. Furthermore, the re-established communication channel can provide an opportunity for checks and balances to ensure full transparency in timber handling between the FD and the MPWUA.

Secondly, similar training and technical support could be provided to secondary wood processors. Such assistance is essential in creating a feedback mechanism which would allow greater returns to the FD and more effective conservation of BCFR (Figure VII). The FD should also take advantage of this newly created relationship to ensure that all the mahogany that transits through secondary wood processing plants is of regulated origin.

Thirdly, establishing relationships with customers is also recommended. The most efficient way of targeting the customers at large would be to carry out public education programmes on general environmental awareness. These measures would potentially influence consumer choices, thus providing a market-based mechanism ensuring a more sustainable mahogany trade. Such measures are currently being carried out in Cameroon by governmental authorities and regional conservation NGOs such as CARPE (Glastra 1999).



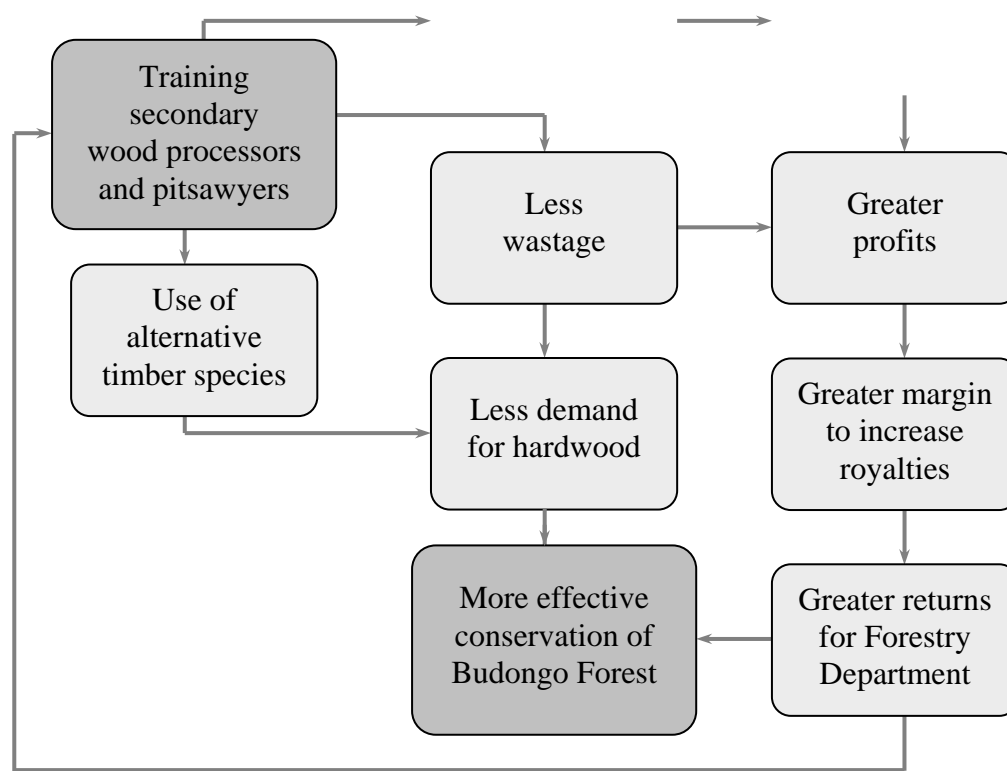


Figure VII. — Advantages of training pitsawyers and secondary wood processors (B. Singer).

The SMT model thus integrates a number of approaches to tackle the issue of unsustainable mahogany trade:

1. The overall approach is a collaborative one, in line with the move towards greater participation in forest management across Africa. It is based on the notion that a win-win situation for all stakeholders (through the use of incentives) will contribute to greater sustainability in mahogany trade;
2. Market-based mechanisms are also used, such as the use of (i) royalties which reflect the non-market values of the forest as well as its management costs, and (ii) education programmes which potentially influence consumer choices to the benefit of sustainable mahogany trade;
3. The SMT not only combines different mechanisms, but it integrates the entire mahogany commodity chain by bringing all stakeholders into a single collaborative system. In so doing, it contributes to sustainable mahogany extraction and thus more effective conservation of Budongo Forest.

IV ALMOST THERE

First, a note of caution must be added to the description of the SMT model. Despite the numerous safety mechanisms that ensure that the system is adhered to by all the stakeholders, the model is actually much more fragile than it appears. A single loophole in the regulations is sufficient to create space for an alternative, less sustainable regulatory system to be set up, which would seriously undermine the proposed framework.

For instance, institutional capacity building provided to local communities only needs to be insufficient for the VFC to be dominated by the wealthy village elite and thus controlled by pitsawyers. If so, then the VFC – and the village forest guards – become less effective in policing activities of labour contractors and FD field staff in the forest. In other words, the security of the forest would be weakened, creating an opportunity for unsustainable mahogany harvesting. Likewise, regulatory mechanisms are needed at every level of the commodity chain, including stakeholders in the later stages of the chain. This is the only way of making sure that secondary wood processors use mahogany from sustainable, Ugandan sources.

Secondly, the sheer effort involved in establishing all the relationships that form SMT make it seem like the road to sustainable mahogany trade is still long and fraught with dangers. However, the stakeholders are much closer to the objective than it might appear. In fact, the vast majority of the ingredients to the sustainable regulation system already exist, such as CFM, an efficient and independent local NGO (Bucodo), a comprehensive policy and legal framework for sustainable mahogany trade and plans for a more decentralised National Forestry Authority.

Although CFM is not yet in place, experiments have already been carried out in Hanga and Kidwera I – one of the most challenging places to carry out CFM given the extent of illegal activities operating there in the late 1990s. And despite its suspension in 2001, it was already proving successful: the communities had been mobilised and illegal activities had been reduced to a minimum in the forest. The effects of CFM are still felt today, notably in the

current creation of CBOs such as youth and women's associations and resource-oriented interest groups such as tree-planting CBOs.

Bucodo is also playing an increasingly successful role in building capacity among local populations. It recently received additional funding from GEO and DSW and is set to extend its activities to the twelve parishes immediately surrounding Budongo Forest. Bucodo's activities and the relationships it has already set up with local populations would thus represent an ideal platform on which to build CFM.

The most promising changes are at the national level. Sustainability and participation are now among the key principles of the 2001 Forestry Policy. Likewise, whereas CFM until 2001 could only operate using a loophole in the legal permit system for forest use, it is now part and parcel of the Forestry Policy. Moreover, CFM will be recognised in the future Forests Act as a legitimate form of management in forest reserves.

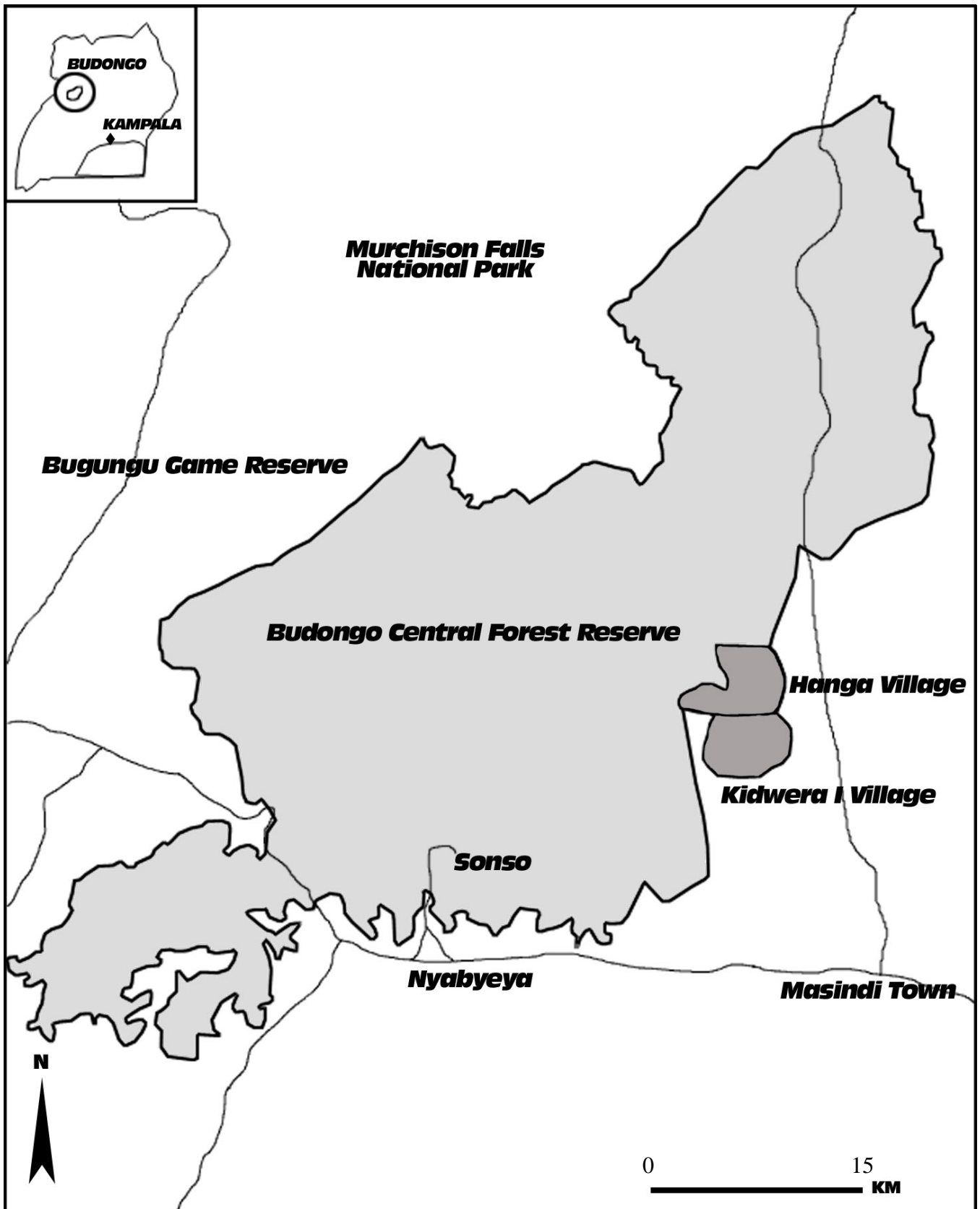
These changes should soon be followed by a restructuring of the FD into the NFA. The restructuring of the FD is also a golden opportunity to implement an integrated approach for a more sustainable mahogany trade.

The SMT framework has yet to be implemented. However, it is based on a number of components, all of which have been tested in previous situations across the tropics. Moreover, mahogany trade in Uganda provides a simple case study for applying the SMT model, because the bulk of Ugandan mahogany originates from a single forest and is mainly consumed within the country.

The pieces of the puzzle of sustainable mahogany trade are virtually all there. The only element missing is vision to unite the pieces into a single, coherent regulatory system. No solution can be found to the problem of unsustainable mahogany trade unless *all* the stakeholders find a tangible benefit in collaborating for sustainability. The road to sustainable mahogany trade in Uganda is now paved – at least in theory.

If the SMT framework turns out to be successful in Uganda, there is no reason why it should not be adapted to similar case-studies elsewhere. This would not only make tropical rainforest conservation appear as a more coherent and integrated discipline; it could also help solve the decades-old problem of tropical deforestation and contribute to more effective conservation of some of the world's greatest natural assets.

APPENDIX I: MAP



Map I. — Budongo Central Forest Reserve and the CFM pilot villages of Hanga and Kidwera I (after Forestry Department Biomass Centre)

APPENDIX II: PLATES



Plate I. — Houses of Hanga village from Kaserere market square. This CFM pilot village used to be a hub for illegal mahogany trade (B.Singer).



Plate II. — A household in Hanga village, with Budongo Forest in the background. In the past few years, migrants have settled within a few dozen yards of the reserve. (B.Singer).

APPENDIX III: LIST OF INTERVIEWS AND MEETINGS

INTERVIEWS

Names and dates have been retained to preserve anonymity; the order is not chronological.

Level	Stakeholder group
Village	Members of Aseera Azooro craftmaking CBO
	Members of Boomu craftmaking CBO
	Members of Gukwatamanzi farmers' association
	Members of Hanga Women's Group
	Members of Hanga Youth Group
	Members of Labongo Vegetable and Tree Planting Association
	Members of Women's Group Agateraine
	Members of Youth Group Mugisa Mpeo
	Illegal pitsawyers and timber carriers
	Charcoal burners
	Tobacco farmers
	Traditional healers
	Clan leader / rainmaker
	Hunter
	medicinal plant collectors
	Pole collectors
	Other villagers
	CFM enthusiasts
	Church Members
	Mosque members
Village Elderly	
School master	
Members of Local Councils 1, 2 and 3	
Masindi	Representatives of Amaply Sawmill
	Members of MPWUA
	Carpenter
	Timber dealer
	Secondary wood processor
	Representative of EPED
	Representatives of British-American Tobacco
	Bucodo Conservation Agents
Masindi	Local Ecotourism Advisory Committee member

(continued)	FD field staff
	UWA field staff
Kampala	FD headquarters staff
	Ministry of Water, Lands and Environment staff
	UWA headquarters staff

Table A. — List of stakeholder groups interviewed.

Interview no.	Themes discussed / Information provided
1	Craftmaking as and income-generating activity
2	Overview of Gukwatamanzi Farmers' Association; contribution to conservation of Budongo Forest
3	Amaply's past activities
4	Technical aspects and economics of charcoal burning; forest use
5	Technical aspects of charcoal burning
6	Forest use and charcoal burning
7	Role of the Church in CFM; the church and forest use
8	Spirits of the forest and traditional forest rituals
9	Technical aspects of hunting in the forest; attitudes towards CFM
10	Recent trends in pitsawing; Attitudes towards CFM
11	Technical aspects and economics of pitsawing
12	Recent trends in pitsawing
13	Recent trends in pitsawing
14	Information on LCs and their role in CFM
15	Role of LCs, in particular in relation to CFM
16	Attitudes towards CFM
17	LCs and the environment
18	Mobilising villagers for CFM meetings
19	Collecting craft materials
20	Collection of craft materials
21	Youth and forest use
22	Overview of tree planting as an income-generating activity; benefit to conservation
23	Tobacco farming and forest use; tribalism within the village
24	Collection of medicinal plants in the forest
25	Attitudes towards and technical aspects of CFM
26	Stone quarrying and wood collecting for charcoal burning
27	Illegal pitsawing

28	Living within yards of the forest: forest resources
29	Illegal pitsawing
30	Mahogany trade in Masindi District
31	Illegal pitsawing in other forest reserves
32	EU-funded Natural Resources Management and Conservation Programme
33	History of FD and CFM
34	CFM scepticism
35	Technical aspects of CFM; CFM in other sites
36	Partnerships and community initiatives
37	Legal and illegal timber markets
38	Attitudes towards and recommendations for CFM
39	Attitudes towards and recommendations for CFM
40	CFM scepticism
41	Financing the EC Natural Resources Management and Conservation Programme
42	The NFA, Forestry Policy and Forestry Bill
43	Overview of Collaborative Management by UWA
44	History of (i) Budongo, (ii) its use and (iii) relations with FD staff
5	Technical aspects and economics of pitsawing
46	Licensed versus illegal pitsawing; effects on forest ecology
47	Attitudes towards and technical aspects of CFM
48	Attitudes towards CFM
49	Role of LCs in conservation and CFM
50	Mobilising villagers for CFM meetings
51	Mobilising villagers for CFM meetings
52	Overview of Women's Group; women's use of the forest
53	Overview of Youth Group
54	Forest use; pole collecting
55	Forest use; pole collecting; attitudes towards CFM
56	Attitudes towards CFM
57	Attitudes towards CFM
58	Relationship with FD field staff
59	The Mosque, social capital and CFM
60	Villagers' sources of income
61	Description of livelihood
62	Description of livelihood
63	The Church, social capital and CFM
64	Relations with FD field staff
65	Pole collecting in the forest
66	Overview of Aseera Azoora craftmaking CBO; collecting of craft materials in the forest

67	Overview of Bucodo and its activities; attitudes towards FD field staff; overview of pitsawing
68	Bucodo's extension services
69	Relationship with local populations
70	Technical aspects of CFM; relations between FD field staff and villagers
71	Law enforcement in the forest; overview of NTFPs
72	Technical aspects of CFM
73	Budongo Ecotourism Project; Relations with villagers
74	Attitudes towards pitsawing and mahogany extraction
75	Role of school in CFM and environmental education
76	Role of Bucodo in CFM: mediating, capacity building and coordinating; recommendations for CFM
77	Relations between FD and villagers
78	Attitudes towards CFM and pitsawing
79	Budongo Ecotourism Project; technical aspects of CFM
80	Relations between FD field staff and FD headquarters
81	Technical aspects of forest management; law enforcement in the forest
82	Relationship between FD and Bucodo; Attitudes towards CFM
83	Licensed pitsawing
84	Timber markets
85	Revenue collection and distribution
86	Overview of MPWUA; relations with FD; illegal versus licensed pitsawing
87	Timber markets
88	Presentation of EPED and its role in relocating villagers from Karuma Wildlife Reserve to Hanga Village
89	Relationship with villagers
90	Timber trades and markets; timber processing
91	Identifying mahogany markets
92	UWA's community conservation schemes
93	Role of LC3 in CFM
94	UWA's mandate in Budongo; UWA's community conservation schemes

Table B. — List of interviews and themes covered.

MEETINGS

Meeting	Discussion
Hanga Introductory Meeting	Presentation of aims of research
Hanga Forest Users' Meeting	Description of forest use by local communities; attitudes towards CFM
Hanga Women's Group Meeting	Foundation of Hanga Women's Group
Kidwera I Introductory Meeting	Presentation of aims of research
Kidwera I Forest Users' Meeting	Description of forest use by local communities; attitudes towards CFM
Agateraine Women's Group Meeting	Foundation of Agateraine Women's Group
Agateraine Women's Group Meeting	Attitudes towards CFM and forest use
Illegal Pitsawyers' Meeting	Attitudes towards illegality, villagers and CFM
Aseera Azoora craftmakers' meeting	Attitudes towards CFM and Bucodo

Table C. — List of meetings organised

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