Forest Governance and Timber Trade Flows within, to and from Eastern and Southern African Countries

South Africa Study

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Abbreviations

B-BBEE – Broad-Based Black Economic Empowerment

CBD – Convention on Biodiversity

CITES – Convention on Trade in Endangered Species

CSIR - Council for Scientific and Industrial Research

DAFF – Department of Agriculture Forestry and Fisheries

DEA – Department of Environmental Affairs

DFID – Department for International Development (British Government Aid Agency)

DWA – Department of Water Affairs

DWAF – Department of Water Affairs and Forestry (predecessor to DAFF until 2009)

EKZNW - Ezemvelo KwaZulu Natal Wildlife (provincial wildlife service of KwaZulu Natal)

EWT – Endangered Wildlife Trust (conservation NGO)

EIA – Environmental Impact Assessment

EU – European Union

FAO – Food and Agriculture Organisation of the United Nations

FCPF – Forest Carbon Partnership Fund (World Bank managed REDD fund)

FES – Forest Economics Services

FLEGT – Forest Law Enforcement Governance and Trade

FNRM – Forestry and Natural Resources Management (Division of DAFF; aka Forestry Branch).

FPA – Fire Protection Association

FSA – Forest South Africa – national commercial forestry association

FSC – Forest Stewardship Council

GARP – Governance of Africa's Resources Programme

GDP – Gross Domestic Product

GFRA – Global Forest Resources Assessment (of FAO)

GoC – Government of China

IUCN – International Union for the Conservation of Nature and Natural Resources

KZN – KwaZulu Natal Province

NCT – National Timber Growers Cooperative

NEMA – National Environmental Management Act of 1998

NFA – National Forests Act of 1998

NGO – Non-governmental Organisation

NTFP – Non-Timber Forest Product

NWA – National Water Act of 1998

NVFFA – National Veld and Forest Fires Act of 1998

PCI&S – Principles Criteria Indicators and Standards

Pers. Comm. – Personal Communications

PFM – Participative/Participatory Forest Management

REDD – Reduced Emissions from Deforestation and Forest Degradation

RSA – Republic of South Africa

RWE – Roundwood equivalent (volume estimate for processed wood products in terms of original roundwood)

SABS – South African Bureau of Standards

SADC – Southern African Development Community

SAFCOL - South African Forestry Company Limited (public enterprise managing plantations and mills)

SAFRI - South African Forest Research Institute

SAIIA – South African Institute of International Affairs

SANParks – South African National Parks (conservation parastatal)

SAPS – South African Police Service

SARS – South African Revenue Service

TTP – Timber and Timber Products

UNFCCC – United Nations Framework Convention on Climate Change

VPA – Voluntary Partnership Agreement

WWF – World Wide Fund for Nature

ZAR – South African Rand (currency)

Background

This study of timber flows within, to and from South Africa has been prepared as a part of a wider study that covered nine countries in Eastern and Southern Africa, with an identical objective in each to these countries that consisted of two main parts:

1. To provide a baseline of the wood based trade flow information
2. To provide an overview and analysis of the regulatory framework for timber production, processing and trade.

The study is quite timely considering that widespread illegal logging in recent years has had a devastating effect on the valuable forest resources in the countries in this part of Africa, which has had not only environmental consequences but also economic and social ones. The response by the European Commission has been the introduction of FLEGT, the Forest Law Enforcement, Governance and Trade Action Plan, to provide a set of measures to prevent illegally harvested timber from reaching the European markets. With the European Union Timber Regulation, EUTR, the placing of illegal timber on the European market has been prohibited starting from 3 March 2013.

Against this background, it becomes important to understand the dynamics of the timber trade flows not only in South Africa but also in Eastern and Southern Africa, including the volume and value of the trade, within, to and from these countries, and the potential interest that individual countries might have in improving forest management and entering into VPAs. This study has therefore identified many burning issues that need to be addressed to prevent illegal logging and trade in illegally harvested products, in South Africa as well as in the other countries of the study.

The study has produced nine comprehensive country reports, each of 50-60 pages, covering Burundi, Kenya, Madagascar, Mozambique, Rwanda, South Africa, Tanzania, Uganda and Zambia, in addition to one Summary Report. This particular country report, on South Africa, was prepared by Catherine MacKenzie.

Executive Summary

South Africa is forested to about 8%. Forestry in South Africa is very different from that in the other countries in this study in almost every respect. The sector suffers few of the governance and illegal logging problems currently besetting other countries. The forest sector is highly developed, industrialised and sophisticated.

Reforestation with exotic Eucalyptus and Pinus species began in South Africa in the mid-19th century to provide sawn timber and fuelwood for the railways, and the country is now famous for its plantation forestry, which is amongst the most productive in the world. Plantation forestry has high levels of FSC certification. The area under tree plantations covers about 1,27 million ha.

The commercial production of native hardwoods from indigenous forests, which is the focus of illegal activities in other countries in this study, is very limited and currently well-controlled, with the management objective having a focus on conservation. These indigenous forests cover around 500,000 ha, situated along the southern and south-eastern coasts. A key characteristic of these natural forests is their extreme fragmentation.

The man-made plantations of exotic tree species, such as pine, eucalyptus and wattle, are covering an area of 1,275 million ha. The total output from these areas in 2008/09 was close to 19 million m3, with most of the wood going to for the manufacture of pulp and paper, followed by sawn timber. The important saw milling sector consumes about one third of that. Today, an area of around 80,000 ha is clear cut every year, and replanted. Although the area under plantations no longer is expanding, the yields per ha have increased significantly by replanting harvested areas with clonal and high producing seedlings.

Wood chips, pulp and paper account for the great majority of South Africa's exports of wood-based products, as the above figure indicates. A small number of exporters and mills accounts for almost all exports. Over 90% of South Africa's wood chips are exported to Japan, but the weight has declined nearly 60% since 2005. Paper exports are also tending to decline, but South Africa's exports of pulp, particularly chemical cellulose or "dissolving pulp" are increasing. Europe and Indonesia are the main markets for this product. Included in South Africa's export statistics is most of the production from the only pulp mill in Swaziland. South Africa also imports timber from Swaziland.

South Africa exports a substantial quantity of charcoal, almost all to the EU. The EU used to account for most of South Africa's exports of wooden furniture, but these exports declined to almost zero during the middle of last decade. South Africa's exports to the EU of sawn wood, veneer, panels other than plywood, doors and pulp have also reduced considerably since that time.

Paper, of higher quality grades than what South Africa does not produce domestically, comprises most of the wood-based products which South Africa imports, in terms of both RWE volume and trade value. The EU-27 tends to supply about half of that paper. Much of the remainder is supplied from China, Indonesia, South Korea and the USA.

Sawn wood accounts for most of the timber sector products which South Africa imports. This has averaged 361,000 m over the last decade. Each year since the middle of the last decade, Malaysia has supplied between a quarter and a half of this, and timber dealers state that meranti is the most important species. Prior to 2009, Zimbabwe supplied roughly a quarter South Africa's imports of sawn wood, and almost all of this will have derived from plantations. China supplies most of the plywood and wooden furniture that is imported into South Africa.

South Africa's forests are currently administered by the Directorate of Forestry and Natural Resources Management under the Department of Agriculture, Forestry and Fisheries (DAFF). The main role of DAFF in commercial plantation forestry is setting policy and regulation, but need to engage relatively little in compliance and law enforcement now that nearly 100% of private sector

plantations are FSC certified. Their efforts focus more on the small growers that are not certified and the plantations that remain under their own management.

The Forest Policy for the sector has been established by the White Paper on Sustainable Forest Management of 1996. The National Forest Action Plan of 1997 (DWAF 1997) was developed in partnership with other government departments, the forestry industry, local communities and other stakeholders, and elaborated on a programme to implement the White Paper and resulted in two main pieces of legislation that were passed in 1998 to enact it - the National Forests Act and the National Veld and Forest Fire Act.

The system of licences which governs the production, transport and export of timber in South Africa is rather rudimentary and not well enforced, particularly outside the commercial forest estate, but it has been adequate to ensure basic timber legality, and the widespread certification of both plantations and indigenous forests by FSC provides an additional level of confidence in the legality of the operations. Several agencies are involved in the supervision of the export and import of timber and timber products from and into South Africa, including Customs, the Department of Trade and Industry, DAFF and the port/airport authorities. The Department of Trade and Industry licences businesses to engage in export of different merchandise.

FSC certification of plantations in South Africa began in 1997 and by 2003, the three major plantations owners Sappi (501,000 ha), Mondi and SAFCOL had certified their entire areas. As of September 2012, over 1.5 million hectares of plantations and natural forest are certified, under 21 certificates, including two group certificates and one indigenous forest. Overall, 82% of commercial timber plantations are certified, and the remaining 18% include state controlled plantations in the old homelands which are in poor condition. As the plantations and main indigenous forests are FSC certified, timber tracking is in place.

Fuelwood production and consumption is not a big issue in South Africa as its use and reliance is not uniform across geographical areas or within individual communities. With increasing modernity and household income, there is a gradual shift towards more modern fuels such as paraffin, gas and electricity. There is also increasing interest in converting woody biomass into pelleted fuels for electricity production.

While all 500,000 ha of indigenous forests being protected by law, only a relatively small proportion of the total estate, maybe not more than 5% of the total estate, is managed for timber production, and less than 7,000 m3 is produced annually, of all species.

South Africa has a well-developed forest industry sector. There are around 100 sawmills, 16 pulp, paper and board mills and some 50 pole plants. In addition, some wood is used by the mining industry. This industry uses almost 19 million m3 annually, with 4,8 million going to the sawmills and 12 million for the production of pulp and paper. With a plantation area that now is stable and unable to expand, the industry is in the same position, with the number of units also having remained at about the same number over the years.

Illegal logging is not currently an issue for most stakeholders in the forest sector, apart from the small scale theft of timber from commercial plantations and the smaller scale exploitation of indigenous forests and woodlands for subsistence by rural communities. While South Africa is clearly not a significant producer of illegal timber, it is very probably a consumer of illegal timber from other countries in the region – notably Zimbabwe, Zambia and Angola, and to a decreasing extent, Mozambique, due to limited control at the borders.

Forest governance in South Africa is amongst the best in the region. South Africa has the highest level of trade in wood-based products with Europe of the nine countries in this study and most of this is based on products from certified plantations. It is therefore very difficult to see how South Africa

or Europe could benefit from a VPA (or the processes leading to one), and how South Africa could be considered a priority country for an expanded FLEGT programme. Furthermore, it is unlikely that a VPA with South Africa would help propel improvements in forest law enforcement and governance elsewhere, notably in the other countries which are the subject of this study. This is partly because most of the wood-based products imported into South Africa are consumed in South Africa or its neighbouring countries.

1. Introduction

Forestry in South Africa is very different from that in the other countries in this study in almost every way. Reforestation with exotic *Eucalyptus* and *Pinus* species began in South Africa in the mid-19th century to provide sawn timber and fuelwood for the railways, and the country is now famous – though not without its critics - for its plantation forestry, which is amongst the most productive in the world. The forest sector is highly developed, industrialised and sophisticated. Plantation forestry has high levels of FSC certification. The commercial production of native hardwoods from indigenous forests, which is the focus of illegal activities in other countries in this study, is very limited and currently well-controlled.

While the sector suffers relatively few of the governance and illegal logging problems currently besetting other countries, examining the sector through a governance lens serves to identify issues which may lead to challenges in the future.

Although an enormous amount of recent data and other information on South Africa's forest sector is available on-line, there has been no recent review of the forestry sector, particularly from governance perspectives. FAO's profile dates from 2004. The present profile draws on a limited review of the literature and a two-week visit to South Africa in August/September 2012 during which interviews were held with a range of stakeholders around the country.

1.1 General Background

South Africa has a population of 50.58 million and a total land area of 119.3 million ha. The majority of the population is African[1] (79.5%), while Coloured and White groups each account for 9% of the total, and Indian/Asians for 2.5%. The population is very unevenly distributed across South Africa's nine provinces both numerically and racially (see Annex 3). The smallest province, Gauteng (including Johannesburg and Pretoria) has 22% of the population, with 21% in KwaZulu Natal and 13% in the Eastern Cape, while the largest province, the Northern Cape, has only 2.2 % of the population. Apart from the concentration in the industrial areas of Gauteng, population density broadly follows annual rainfall patterns, as does the commercial forestry.

South Africa is classified as an upper-middle income country but as a consequence of apartheid, poverty is still widespread and strongly correlated with race and rural households. An estimated 23% of households live below the national poverty line, down from 38% in 2000 (World Bank, 2011), but a recent UNICEF study, found over 50% of children living in poverty (UNICEF 2011) and reported South Africa as one of the most unequal societies in the world, worse now than it was before independence. As elsewhere in Africa, the majority of the poor are found in rural areas. To some extent the Western Cape Province and main urban centres are first world enclaves within a third world country. Approximately 74% of the poor live in rural areas, 15% live in small towns, 4% live in the secondary cities (e.g. Pietermaritzburg) and 7% live in the major metropolitan centres (namely Durban, Cape Town, Port Elizabeth and Pretoria / Johannesburg). In 2011, South Africa ranked 123rd in the world (of 187 countries) on the Human Development Index.

1.2 Forest sector contribution to the South African economy

South Africa now produces 2.8 million tons of pulp or 1.6% of global supply, 2 million tons of paper or 0.8% of global supply, and 1.3 million m^3 of sawn timber or 0.3% of world supply. This translates into an economic contribution of forestry and the associated processing industries of about ZAR 20 billion (approximately USD 2.5 billion) or 0.9% of GDP (2009 figures). In 2006/7, forest products contributed 5.7% of manufacturing GDP (Godsmark 2008), and in 2009 accounted for 2.4% of all exports,

[1] Amongst the African population, the main ethnic groups are the Zulu, Xhosa, Sotho and Tswana.

excluding gold. An estimated 170,000 jobs (1.4% of total formal employment) are provided in the sector (Forestry South Africa).

The budget of the Forest and Natural Resources Management Branch during 2012 financial year is ZAR 1.2 billion (USD 100 million), out of the Department of Agriculture, Forestry and Fisheries' total budget of ZAR 5.8 billion (USD 672 million), and consolidated government spending of ZAR 1.06 trillion (USD 122 billion) (National Treasury 2012).

Figure 1 Provinces of South Africa

As a consequence of economic and social development under the apartheid era, the situation of rural African population in South Africa is quite different from other countries in the region. Small scale subsistence agriculture contributes only about 10% of income of rural population (DFID 2002); many households, including those comprising the children of economic migrant parents and their grandparents, are supported primarily by remittances, pensions and other social grants (expanded since 1997), with perhaps a small home garden and a few animals. In many places, use of natural resources by the rural population does not have the same imperative as in neighbouring countries.

2. The Forest Sector

While there have been several recent comprehensive studies of the vegetation types of South Africa (refs) and these are now well understood, there has never been a national forest inventory covering all natural forest types and assessing timber stocks[2]. As most commercial forestry relates to plantations, and indigenous forests are managed for conservation and only harvested based on "senility criteria" (see below), there are no notions of standing stock or annual allowable cut from the forest estate. Timber resources are thus only well understood for the plantations, largely in the east of the country, and for the indigenous forests of Knysna (Western Cape, see Map 2). The other indigenous forests in the southern and Eastern Cape, and particularly the extensive woodlands remain poorly understood.

Estimations of South Africa's forest area depend greatly on how "forest" is defined. In the National Forests Act (1998) "forest" includes three distinct vegetation types: woodlands (or savannahs), (indigenous) natural forests and plantations. Thus defined, approximately 41 million ha or 35% of South Africa's total land area of 122 million ha is "forest". However, a "natural forest" is defined in the same Act as a group of indigenous trees whose crowns are largely contiguous[3], or which have been declared by the Minister as such. In 2008, the then Minister declared eight forest groups including 23 forest types and additionally 3 azonal forest types as "Natural Forests" (DWAF 2008), totalling around 500,000 ha. Table 1 presents a breakdown of the area under each of the three main types.

South Africa is predominantly a dry country and vegetation types are closely related to rainfall patterns. As a result, the country is mostly covered by savannah woodland or woodland scrub. Figure 2 shows the distribution of the natural woodland and forest biomes, and Figure 3 also shows the plantations. Most natural evergreen forests are found in areas of higher rainfall, in a narrow broken belt along the southern and eastern seaboard, and in the country's mountainous regions towards the eastern borders with Swaziland and Mozambique – the so called "mist-belt forests" (Low and Rebelo, 1996).

While the vast majority of South Africa's "forest" area is thus of woodland type, this is not managed commercially. What constitutes commercial forestry in South Africa is currently focused almost entirely on plantations, which some critics say should not be considered "forest" at all, and the very small area of indigenous natural forest located primarily in the Western and Eastern Cape provinces.

Plantation forestry represents about 1.1 % of land use in South Africa, compared with 69% for grazing, 14% for arable agriculture and 9% for "nature", including the indigenous forests (Rahlao 2010).

[2] A national forest inventory was initiated by DWAF in 2003, using satellite imagery, but abandoned before completion, apparently because of technical problems.

[3] Elsewhere this is specified as >75% canopy cover.

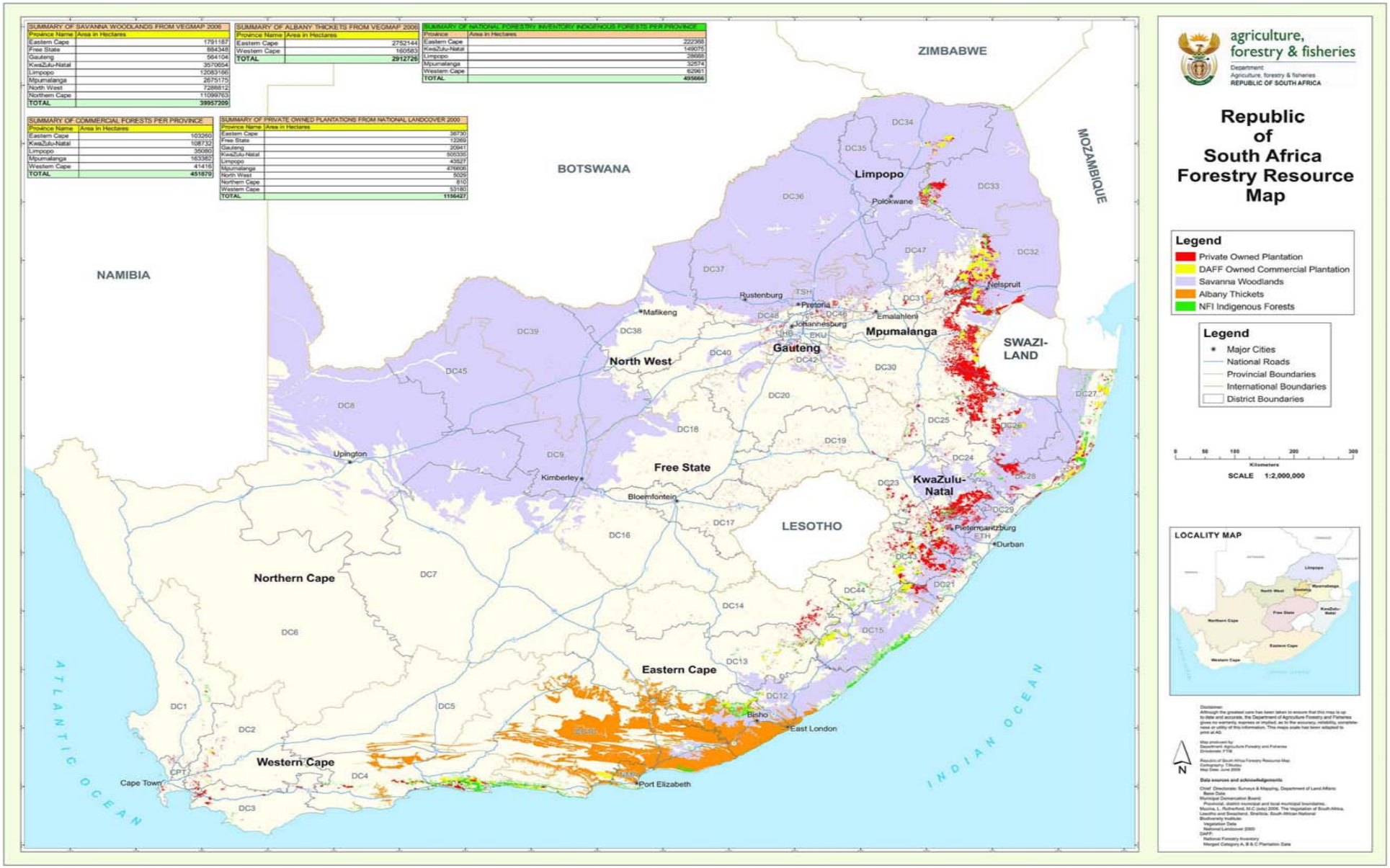

Figure 2 Forestry Resource Map (2009)

Source: DAFF website: http://www2.dwaf.gov.za/webapp/resourcecentre/Documents/Maps/RSAForestryResourceMap.jpg, accessed in August 2012

Table 1: Main forest types of South Africa and their area (2009)

Forest type	Area (hectares)	% land area of SA
Indigenous/Natural Forests	500,000	0.4
Woodlands/Savannahs	40,000,000	33.6
Plantations	1,274,869	1.1
Total	**41,774,869**	**35.12**

Source: DAFF website. [4]

2.1 Indigenous/natural forests

Indigenous forests, as defined above, cover approximately 500,000 ha or around 0.4% of South Africa's total land area, mostly along the southern and south-eastern coasts. They are divided broadly into three broad types: the Afro-temperate (including Mistbelt) Forests, subtropical Indian Ocean Coastal Belt Forests and between the two a band of Scarp Forests, essentially comprising a mix of the other two, with some relict tropical elements. These broad types have several geographical variants, and together with minor forest types are shown on Figure 3 (Mucina and Rutherford 2010). All the indigenous forests are evergreen, but they vary in stand height from 3 m to over 30 m.

Although the Afro-temperate forests are the least species diverse of South Africa's indigenous forests, they hold most of the valuable timber species: the famous yellowwoods (*Podocarpus falcatus* and *P latifolius*), stinkwood (Ocotea bullata), Cape Blackwood (*Maytenus peduncularis*) Candlewood (*Pterocelastrus tricuspidatus*), Cape Beech (*Rapanea melanophloeos*), Black Ironwood (*Olea capensis*) Hard Pear (*Olinia ventosa*), and White Alder (*Platylophus trifoliatus*) amongst others.

A key characteristic of these natural forests is their extreme fragmentation. Of the over 16000 forest patches, only six are in excess of 3200 ha, and the vast majority are between 1 and 50 ha in extent (DAFF, undated). The single largest forest is 25,000 ha of Afro-temperate forest, near Knysna, in the southeast of the Western Cape. This fragmentation is largely a natural phenomenon, an "archipelago of forest islands in a sea of other vegetation types" (Mucina and Geldenhuys, 2010) representing relicts of once more extensive vegetation types, lost to palaeo-ecological climate change and fire, but it is also partly due to conversion to other land uses in more recent times. Many forests are today surrounded by areas of high population density. Partly as a consequence of this fragmentation, the indigenous forests have high biodiversity significance with many restricted range endemic species of both flora and fauna.

Around 44% of the indigenous forests (~215,000 ha) are state owned, while 56% (280,000 ha) are privately owned, including by large corporations and family firms (Table 2). In Western Cape, most of the state-owned forests are managed exclusively for conservation and recreation, and so in 2005, were transferred from DAFF to SANParks. Similarly in KwaZulu Natal, many of the forests were moved over to Ezemvelo KwaZulu Natal Wildlife.

[4] The Global Forest Resource Assessment Country report for South Africa provides slightly different figures. (FAO 2010)

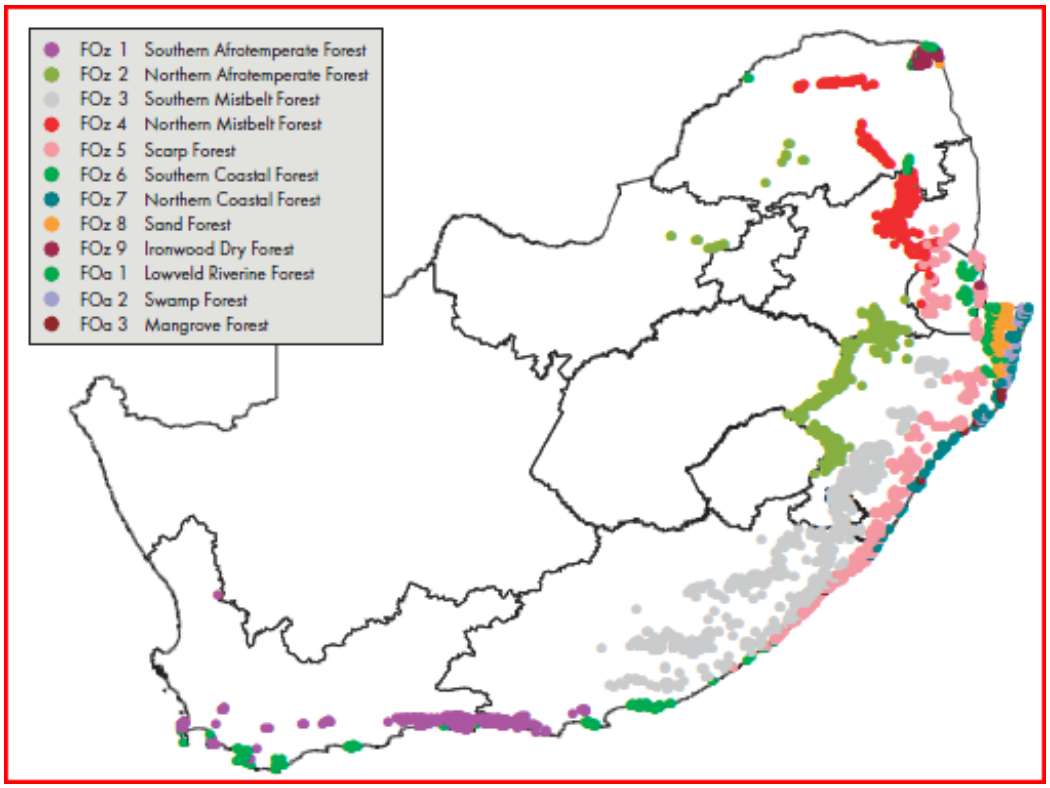

Figure 3 Distribution of the main indigenous forest types of South Africa

Source: Mucina and Rutherford (2010).

Notably excluded from the actual ownership of indigenous forests are the rural communities. However, in many cases they are the *defacto* users, and these forests have been under severe pressure for decades due to heavy dependency of poor rural people on them as their source of energy such as fuel wood and building timber for construction of kraals (animal enclosures), buildings and fencing (Shackleton *et al.*, 2007:558).

Table 2 State and Private Ownership of Indigenous Forests, by Area and Province (2010)

PROVINCE	State Owned (ha)	Privately Owned (ha)	TOTAL (ha)	% State Owned
Eastern Cape	121,762	100,606	222,368	55
Kwazulu- Natal	32,137	116,937	149,074	22
Limpopo	16,122	12,566	28,688	56
Mpumalanga	16,049	16,525	32,574	49
Western Cape	29,858	33,103	62,961	47
TOTAL	**215,928**	**279,737**	**495,665**	**44**

Source: DAFF

2.2 Savannah Woodlands

South Africa's savannah woodlands are diverse and extensive, but not well understood, particularly in terms of their timber values. Of the approximately 40 million ha of woodlands (ref Table 3), about 75% are found in Limpopo, Northern Cape and North West Provinces, away from centres of population.

Shackleton et al (1999) recognise two main woodland groups[5]. Arid woodlands are found in lower rainfall areas on more alkaline soils and dominated by *Acacia* and *Commiphera* species, characterised by small leaves and thorns, or succulent forms. Moist/dystrophic woodlands are found in wetter areas, on more acid soil and dominated by *Combretum*, *Terminalia, Burkea* and *Peltophorum* species with larger leaves, and a well-developed leaf litter.

These two broad groups have been further divided into 7 floristic types, and 12 woodland classes, based on geographic considerations. The most extensive are the high altitude *Acacia* woodlands, which cover some 18 million ha mostly in the North West Province, and the *Combretum* woodlands, which cover 8.4 m ha mostly in the mixed bushveld in the North-West, Limpopo and Mpumalanga Provinces.

Woodlands were only introduced explicitly into forestry policy through their inclusion in the White Paper on Sustainable Forestry Development of 1996, and National Forest Action Programme of 1997 (see below, Section 4.1) with the intention of creating a unified forestry policy. Prior to this, there had been little or no official recognition of value of woodlands and the then Department of Water Affairs and Forestry (DWAF) had had only a very limited involvement in their protection or management[6] (DWAF 2004).

Table 3 Distribution of Woodlands by Province (2010)

Province	Area (ha)
Eastern Cape	1,791,187
Free State	884,348
Gauteng	564,104
KwaZulu Natal	3,570,654
Limpopo	12,083,166
Mpumalanga	2,675,175
North West	7,288,812
Northern Cape	11,099,763
TOTAL	**39,957,209**

Source: DAFF 2010

The State owns 9% of the woodlands – approximately 3.5 million ha. Around 26% of the woodlands, or 10.3 million ha are in communal areas, and the remaining 65% or 26 million ha are in private hands. It is estimated that 5 million ha have some form of protected status in national parks and nature reserves, but outside these areas, they are under considerable pressure from neighbouring communities for fuelwood and other basic needs (DAFF 2011). The rural use of forest resources is extremely important for livelihoods, and has constituted a "hidden economy" that needs further attention. While most of the woodlands are degraded to some extent, in some areas, woodlands are expanding, as a result of climate change. There has been little discussion of the commercial value of the woodlands, although they contain various species of fine heavy hardwoods.

2.3 Plantations

There are several different estimates of the current extent of the plantation sector. According to Forestry South Africa, the commercial sector representative organisation, there are 1.27 million ha (FSA website). However, FAO places the total area at 1.7 m ha (and recent enumeration from DAFF suggests it may be as much as 1.9 m ha. Statistics are complicated by failure to clarify whether they include unplanted areas (conservation set asides, etc.) and temporarily unplanted areas (felled and awaiting replanting).

[5] There have been several classifications of woodland types over recent years (Rutherford and Westfall, 1986; Acocks, 1988; Low and Rebelo, 1996; Shackleton et al, 1999; Fairbanks, 2000; VegMap, 2005).

[6] This was in State Forests where woodlands happen to occur alongside areas of natural forest, and in certain mountain catchment areas.

Taking the figure of 1.27 million ha, while this represents only 1.1% of South Africa's total land area, most of the plantations are concentrated in 3 provinces: Mpumulanga (40.8%), KwaZulu Natal (39.6%), Eastern Cape (11.1%), and to a lesser extent, Limpopo and the Western Cape. Within these provinces, the plantations are further concentrated in areas where rainfall exceeds 800 mm per annum (see Figure 2 and 3). These are also generally the areas with the highest population density.

The main species planted are the pines (*P patula*, *P radiata*) (650,024 ha), Eucalyptus (mainly E grandis) (515,324 ha) and the wattle (Acacia mearnsii) (104,055 ha) with small areas of poplar, cypress and other species (5,467 ha). The principal management objectives for the plantations are pulp (55%, mostly Eucalyptus and wattle), and sawn timber and veneers (36%, primarily pines), followed by mining timbers (5%) and other uses, including matches (4%).

Figure 4 shows the relative proportions of the plantation estate controlled or owned by different stakeholders, in 2008. This is generally indicative of the situation today. The vast majority of plantations - nearly 60% - are controlled by private corporations, including the giants Mondi and SAPPI. Details are provided in Table 4. Around 10% is controlled by the State Corporation, SAFCOL. They previously owned about 20%, but half has already been privatised. Nearly 20% is owned by commercial farmers, and a further 4 % by "small-scale growers", including many African farmers. The national and local governments still control about 7%. Details are provided in Table 5.

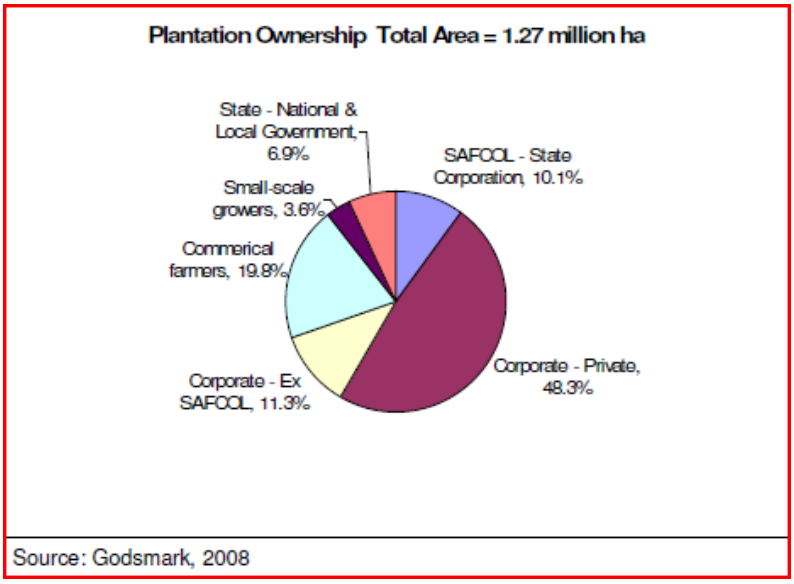

Figure 4 Ownership of South Africa's plantations

The situation is complex due to the history of plantation establishment[7], in which government played an important role, an on-going process of privatisation of previously extensive government holdings, and the original ownership of the land underlying the commercially established plantations - typically by African communities.

Privatisation began in 1985, with the commercialisation of government plantations, and continued in 1992 with the transfer of 250,000 ha (about 45%) of the plantations, along with sawmills into a state corporation, South African Forestry Company Ltd (SAFCOL). However, the state holding increased

[7] The government historically played a major role in plantation establishment. The main period of plantation development came after World War II. Government incentives and guaranteed prices encouraged a lot of private sector investment. The large companies SAPPI and Mondi established at this time, but in many cases obtained land for plantation by evicting and relocating the resident African population. In addition, about 150,000 ha were planted in the homelands (mostly Transkei, Ciskei, KwaZulu and Venda) for economic development, managed by the homeland administrations. Since the early 1970s, the total plantation area in the country has been over 1 million ha[7], of which over 65% has been in private hands. The maximum plantation area was 1.52 million ha, achieved in 1996.

again after the democratic transition in 1994, as all the old homeland plantations (see footnote 7) came back under central government management (see Clarke 2006 for detailed analysis).

In 1997 the government resumed the privatisation process to sell off SAFCOL and divest DWAF of its remaining timber production activities, encourage greater black economic empowerment and focus on policy and oversight. The government's commercial holdings, then totalling around 540,000 ha, were divided into three categories:

Table 4 Plantation Ownership: Main Plantation companies in South Africa and their areas (2012)

Company	Total Area (ha)	Plantable Area (ha)	Notes
New companies emerging from Privatisation of Category A State-owned plantations			
Komatiland Forest	187,320	121,000	Mpumulanga. Still State-Owned (SAFCOL); won't now be privatised
Singisi	76,744	57,179	Eastern Cape Black economic empowerment group in consortium with Hans Merensky Holdings
Mountains To Ocean	112,904	53,608	Southern and Western Cape. In a 20- year transition from SAFCOL ownership; 45,000 to be withdrawn from plantations for other uses
Siyaqhubeka	21,956	20,757	KZN Black empowerment consortium allied with Mondi.
Amatola	25,313	14,771	Eastern Cape
Multi-nationals			
Sappi	567,000	501,000	South African company, but South Africa operations represent only 25% of global sales, and focus on craft paper, chemical cellulose and sawn timber.
MONDI	307,000	307,000	A leading international paper and packaging group with operations across 29 countries and ~ 26,400 employees.
Masonite (Africa) limited	25,000	25,000	US-based company makes doors etc. from its signature hardboard
Medium sized companies			
York Timbers	92,000	64,000	
PG Bison	93,060	40,220	
Bedrock	31,192	20,493	
Rance Timbers	??	??	Eastern Cape
Hans Merensky (Northern Timbers)	??	74,000	South Africa's largest private sawn timber producer. 5 sawmills, 2 veneer mills
Government			
DAFF	62,016	62,016	Mostly B and C category plantations in need of rehabilitation (see Table 5)
TOTAL	**1,601,505**	**1,287,044**	

Source: DAFF Website

A. Commercially viable, producing the best quality timber, to be leased out on long-term contracts to established timber companies, including all the SAFCOL plantations (386,476 ha) and 70,000 ha of associated good plantation in the former homelands.

B. Commercially viable, but less attractive to large-scale timber companies because of size or productivity. These areas were to be leased to new partnerships between black entrepreneurs and private timber companies in an affirmative action programme (70,000 ha)

C. Non-viable plantations (120 small plantations, mainly woodlots planted for fuel and now in a very poor state) to be devolved to local communities, or returned conservation agencies for rehabilitation of the natural vegetation (15,000 ha).

Government plantations were marketed as five geographic business packages and investors were invited to bid for a 75 % shareholding (of which at least 10% needed to be Black owned) per package. Minority shares in each package are held by government (10%), workers (9%) and the National Empowerment Fund (6%) in order to secure Black institutional investment in forestry. As the land associated with the plantations remained in public ownership, investors were long-leases and use rights, rather than land title (Mayers et al., 2001). Many stakeholders have not been happy with the outcomes of the privatisation of these plantations, which generally has not delivered the intended employment and benefits to local communities.

Table 5 Plantation ownership: Summary of the plantation areas managed by DAFF (as at 31 March 2012)

Province	Category B Area (Ha)	Category C Area (Ha)	Total Unplanted (%)	Total Area (ha)
Eastern Cape	18,384.1	9,075.1	31	27,459.2
KZN	26,886.9	398.1	43	27,284.9
Limpopo	2,921.9	1,366.9	4	4,288.8
Mpumalanga	1,955.9	-	31	1,955.9
North West	-	202.9	34	202.9
TOTAL	**50,148.7**	**11,043.0**	**35**	**61,191.7**

Source: DAFF (pers. comm.)

Land claims by indigenous communities against plantation companies, relating to the original seizure of their lands for plantations are now taking place. For example, MONDI has settled 19 claims, representing about 25% of the plantation area, and about 50% of the potential total. Of these, 17 have been organised as leasebacks to MONDI by the communities. In addition to substantial income the agreements provide training and support for business start-up, and appear to be going well.

The Komatiland (SAFCOL) land claims have gone less well. The new owners leased the land from the government, which put funds aside to pay land claims. However, there was confusion over whom to pay. Money accumulated, and to counter negative publicity, some large but unsound payments were made to a few chiefs, causing a lot of upset.

3. CITES

South Africa is party to 33 multilateral environmental agreements, including CITES (ratified 1975), UNFCCC (acceded 1997), CBD (acceded 2004), UNCCD (ratified 1997) and CMS (1991) It has also has enacted a wide range of domestic legislation, backed up by specialist environmental courts, to protect South Africa's environment (Van der Linde 2006 (ed.).

Prunus africana (red stinkwood) is in Annex II of CITES. Found along the south-east coast, it is not a commercial timber and the main pressure on it comes from the extraction of its bark for medicinal purposes. *Diospyros natalensis* is an ebony species that was listed in Annex III of CITES for Madagascar in 2011; in South Africa it is a shrub or small tree of no commercial interest (Palgrave 1983).

The Southern African Development Community (SADC) developed forestry protocol in 2002, which South Africa ratified in 2003, and which came into force in 2009 (DAFF 2011). It covers all activities relating to the development, conservation sustainable management and utilisation of all types of forests and trees, as well as trade in forest products. It provides programmes and the introduction and implementation of national legal and administrative measures to promote sustainable forest management. A draft Regional Forestry Strategy was developed in 2009 to implement the Protocol. A SADC FLEGT process has been initiated (see Section 4.12).

4. The Forest Administration

The South Africa's forests are currently administered by the Directorate of Forestry and Natural Resources Management under the Department of Agriculture, Forestry and Fisheries (DAFF, under a ministry of the same name). This arrangement began under the new government in 2009; forestry was previously, under the Department of Water Affairs and Forestry, reflecting the over-riding importance of water in plantation forest management. Currently, the Department of Water Affairs continues to play a crucial role in the forest sector, issuing water licenses for the establishment of new plantations, but as part of the Ministry of Environmental and Water Affairs (see below).

DAFF's Directorate of Forestry and Natural Resources Management (FNRM) has three divisions: Forestry Operations, Forest Development and Regulation and Natural Resources Management. As shown in the organogram (Figure 5), Forestry Operations deals primarily with the management of DAFF-owned plantations and natural production forests, and is broken down on a regional basis, while Forest Development and Regulation oversees the plantation sector, includes sections for Commercial Forestry, Small-scale forestry and general regulation and oversight. Finally, South Africa's other indigenous forests (and woodlands) are under the Natural Resources Management Division, along with land use and soil management, water use and irrigation management and a newly created section for climate change and disaster management.

National policy has long been to transform the Forest Department into an exclusively regulatory agency. Beginning with the creation of SAFCOL in 1992, and continuing with the privatisation of DWAF plantations, this transformation is still in process, as DAFF gradually divests itself of its commercial activities. In 2005, the management and harvesting of the indigenous forests in the Western Cape was handed to SANParks, and Eastern Cape and KwaZulu Natal were supposed to follow suit but did not. The lower quality Category C plantations (see above), are still owned and managed by DAFF, but this is set to change, as ownership is transferred to communities and tribal authorities.

The main role of DAFF in commercial plantation forestry is setting policy and regulation, but engages in relatively little direct compliance and law enforcement with the companies, particularly now that nearly 100% of private sector plantations are FSC certified. Their efforts focus more on the small growers that are not certified and the plantations that remain under their own management. Once these are privatised, DAFF may take a more active oversight role in commercial forestry. In terms of the National Forests Act (No. 84 of 1998), the management of 215 000 ha of State indigenous forests is a "concurrent competence" between the provincial and national governments.

The FNRM Directorate has some 4,500 staff nationally. In Headquarters, there is about 100 staff, of which 10 are senior professional managers, and 15 are administrators. Forestry is conceived as a national function, and DAFF staff is posted in the regions and provinces, but report to Pretoria, rather than local government. The staffing situation varies from province to province, depending on the extent of DAFF managed plantations and natural forests. In the Western Cape, where all plantations are privatised and indigenous forests run by SANParks (see below, there are two offices, and a total of 14 staff. In Eastern Cape, where there are a lot of DAFF plantations and indigenous forests, there is over 1,300 staff. A freeze on employment has generally constrained DAFF presence in all the provinces and many posts are left vacant. A brain drain of staff to consultancy, to SANParks and other organisations and into retirement has also hurt DAFF capacity.

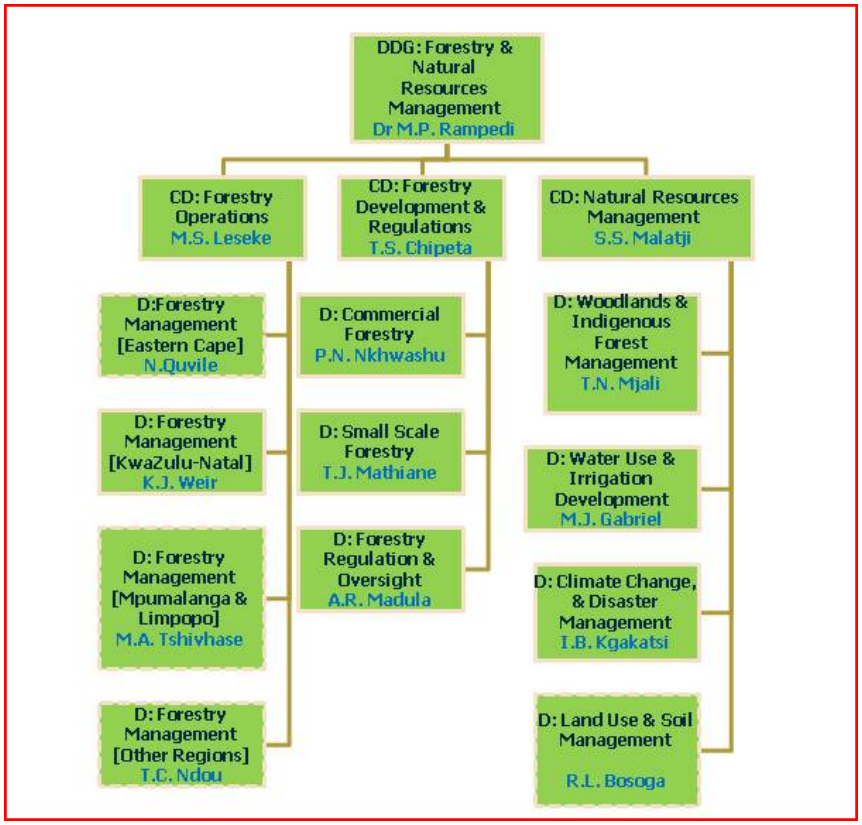

Figure 5 Organogram of the Directorate of Forestry and Natural Resources Management (2011)

Source: DAFF website; names of some post holders have changed

Following democratisation in 1994, there was a period of intense policy work, largely funded by a 10-year support programme of the British Government (DFID). A lot of important work was done, including the White Paper, the National Forestry Action Plan, the new Forest Act, the draft Principles, Criteria and Indicators, and all manner of training. But since the end of project funding in 2006, leadership and much of the enthusiasm has apparently drained away. Similarly, a programme in Participative Forestry under its own Directorate of Community Forestry (in DWAF) was initiated with DANIDA funding, and much interesting work was done, up to 2002, when the Directorate was dissolved and its functions variously transferred to other divisions (DAFF pers comm.).

The new organisational structure is seen by some as problematic. There are three Chief Directors, and the regions are separated from the technical functions, so Forestry is not holding together as a team. Meanwhile, middle management at DAFF is said to be dominated by political appointees, who have a tendency to suppress the younger and technically qualified staff, and stifle development of the institution.

Stakeholders also reflect that under DWAF, water issues drove and dominated forestry. The creation of DAFF (as with many Ministerial reorganisations) is seen as more about politics than technical issues, and now forestry is dominated by agriculture. It might have been better to have kept plantations and community forestry with agriculture, and consigned the indigenous forests to DEA and SANParks.

5. The Regulatory Framework for Timber Production and Harvesting, Processing, Transport and Marketing

5.1 The Legal Framework for the Sector

Forestry is an area of national legislative competence. Policy for the forest sector has been set by the White Paper on Sustainable Forest Management of 1996 (DWAF 1996). The National Forest Action Plan of 1997 (DWAF 1997) was developed in partnership with other government departments, the forestry industry, forestry industry labour, communities and other stakeholders, and elaborated a programme to implement the White Paper and two main pieces of legislation were passed in 1998 to enact it: the National Forests Act (NFA) and the National Veld and Forest Fire Act (NVFFA). More recent policy and strategy initiatives include the Forest Sector Transformation Charter of 2008, dealing with black economic empowerment in forestry, and the "Forestry 2030 Roadmap" for growing and transforming the sector (DAFF 2009).

The broad purposes of the National Forests Act are to:

- promote the sustainable multi-purpose management and development of the forests for the benefit of the nation
- enable the restructuring of forestry in State Forests and promote community forestry and black empowerment in the sector
- provide for the protection of certain forests and trees

Sustainable management is set out in a series of principles to guide all official decisions affecting forests (Section 3). The Minister is given powers to set criteria indicators and standards for assessing and enforcing sustainable forest management. A Committee for Sustainable Forest Management of South Africa oversaw the development of these standards, which were published in 2008 (DAFF 2008).

Under Section 7(1) of the NFA all natural forests (with contiguous canopy) are protected, and the Minister is empowered to declare woodlands or any other area of indigenous vegetation as temporarily or permanently protected. In addition, specific indigenous tree species are protected. The list of protected species is published in the Government Gazette. The latest list, from September 2011, includes 46 species (see Annex 1) and several of these (for example, *Pterocarpus angolensis, Combretum imberbe, Afzelia quanzensis*) are valuable timber species. Protected trees and forests may not be felled, damaged in any way or possessed in any way without a licence or other permission. Regulations may be made to control the collection, removal, transport, and various other activities relating to parts of or products from protected trees.

The NFA makes special provision to clarify land tenure and forest rights, including access rights, and created the instrument of Community Forest Agreements.

Many transgressions of these Acts, including setting of fires, are considered criminal offences, and prison sentences can be applied, although more usually, fines are paid.

To stress the seriousness of damage from wild fires, a separate National Veld and Forest Fires Act was passed in 1998, placing the responsibility to control fires on landowners and promoting the formation of Fire Protection Associations (FPAs). There were 169 FPAs in 2008, covering nearly 40 million ha (DAFF 2011). It is compulsory for all public landowners to be members of a local FPA. Commercial forestry plays a big role in many localities. The Government's role, mandated to DAFF, is amongst other things to facilitate and register the establishment of Fire Protection Associations (FPAs). Audits in 2009 indicated that most of the 169 Fire Protection Associations are not functioning properly, again due to lack of funding (DAFF 2011).

The forest sector operates within other environmental legislation, the most important of which are the National Water Act (NWA) and the National Environmental Management Act (NEMA), both of 1998. The NWA sets out the rules for where plantations can be established, and the National Water Resource Strategy of 2004 looks at how water should be allocated amongst productive and domestic

sectors. Under the NWA, forestry was classified as a "Stream Flow Reducing Activity" - the only land use to be so classified – and water-use licences are required. Prior to 1972, plantation forestry was not regulated and people could plant anything anywhere. At that time, there were already over 1 million ha of plantations and stakeholders had been long aware that plantations affected local water availability. From 1972, an Afforestation Permit System (APS) was introduced, and any existing plantations were required to register their land and water use. This registration still has not been completed. Both Acts now require intensive environmental impact assessments to be conducted for any new planting over 10 ha in extent, and only after it has been determined that the specific catchment has sufficient water available will a licence be granted. The country has been divided into 19 Water Management Areas, each of which has been assessed for water status. Eight of them are considered to have available water (Chamberlain et al 2005), and a total area of ~100,000 ha has been deemed potentially suitable for forestry[8]. Forestry companies also need to pay a water tax based on the estimated amount of water that their plantation holdings use per annum (Ham 2003).

These regulations have made it very difficult to expand plantation forests. The whole country has now been assessed for its water potential, and a very limited area of 100- 200,000 ha has been indicated as having potential for plantation establishment. Timber growers are unhappy with these regulations, as the other agricultural industries are not regulated in the same way. As these regulations are part of forestry legislation, certification bodies audit compliance with permits and licenses during certification inspections (personal observation).

Other relevant legislation, policy and strategy include:

- Conservation of Agricultural Resources Act 1983 – mandated to DAFF, categorises weeds and invasive exotic plants and deals with their control. Plantation eucalyptus, acacias and pines are classed as Category 2 invasive exotics, which must only occur in demarcated areas.
- Broad-based Black Economic Empowerment Act No. 53 of 2003 (B-BBEE Act), which provided the foundation and impetus for the Forest Sector Transformation Charter.
- the Land Act of 2004
- National Sawlog Strategy – to address shortage of timber which it is feared will affect economic growth targets.

Forestry legislation is reviewed regularly, in consultations with stakeholders. Recent reviews have been in 2001, 2005 and a review is began in July 2012 which should be finalised before the end of the year. The 2005 review resulted in the Forestry Laws Amendment Act, No 35 of 2005, providing a few clarifications, and minor but necessary changes. A few definitional changes are envisaged as an outcome of the recent review.

Stakeholders generally report that the legislation is good, but given the capacity constraints in DAFF and other agencies, it is difficult to implement fully. Generally, big companies get what they want, and control is exerted over the smaller players in the system.

5.2 Other Institutional Stakeholders

Ministry of Water and Environmental Affairs (MWEA)

The Department of Water Affairs and the Department of Environmental Affairs, both under MWEA, are important institutional stakeholders, as explained above (Section 4.1). The DEA is responsible for the enforcement of EIA regulations, and also forest related the multi-lateral environmental agreements, CBD, CITES and UNFCCC. EIA regulations are very good, and better enforced than elsewhere in Africa, but there are still problems of corruption. DEA also coordinates several key community based "Working For" programmes: Working for Water, Working for Land, Working for Wetlands, Working on Fire etc. Both these departments suffer some of the same capacity problems as DAFF.

[8] Some NGOs dispute this finding and protest they were not involved in the decision-making process.

Inter-ministerial Institutions

The policies established in the White Paper on Sustainable Management of Forests is being driven by existing institutional arrangements, such as the Cabinet Clusters, the National Planning Commission, the Forum of South African Directors-General, the Parliamentary Portfolio Committee on Water and Environment Affairs, the Inter-Ministerial Committee on Climate Change, the Intergovernmental Committee on Climate Change and the multi-stakeholder National Committee on Climate Change.

Conservation Authorities

As described in Section 3, in 2005, the national parastatal South African National Parks (SANParks) assumed full management of the indigenous forests of Knysna (Western Cape), including the harvesting operations in the designated production blocks. As radically low-impact "senility harvesting" was practised, this was considered fully compatible with SANParks' conservation mandate. However, harvesting is now being tendered out to private companies, to allow SANParks to focus on their core business.

Provincial level conservation authorities, such as Ezemvelo KwaZulu Natal Wildlife (EKZNW), also manage many indigenous forests, under their conservation mandate. EKZNW was supposed to assume harvesting operations in the state-owned indigenous forests, but this transfer of roles was never made Every province has its own conservation legislation and own authority for CITES, etc., and most have excellent conservation plans, identifying biodiversity hot spots and endemic species priorities, but politics and money can interfere with practical conservation. The agencies vary in their capacity and the challenges they face. Eastern Cape has high rural population, many small indigenous forests and less capacity, compared to KwaZulu Natal, with its sizeable EKZNW.

South African Revenue Services (SARS)

The Customs Service is a core function of SARS and maximises revenue collection, protects South Africa's borders and facilitates trade by enforcing customs and related trade laws; collecting duties and taxes; controlling the import and export of prohibited and restricted goods; and ensuring timely clearance of through South African borders. Customs also administers external-trade regulations, including the enforcement of environmental, anti-dumping, consumer-protection, health and agricultural controls. There are Customs branch offices at all major entry and exit points[9].

Forestry Research

Forestry research was traditionally under the South African Forest Research Institute (SAFRI), but in the early 1990s, was brought under the Council for Scientific and Industrial Research (CSIR). Currently CSIR's forestry research focuses on industrial concerns, such as fibre processing, tree improvement and wood science. The universities also carry out research, but there is no coordinated programme of forestry research in South Africa.

5.3 Main Actors

5.3.1 Commercial Plantation Forestry Companies

There are currently 12 private plantation timber companies that have landholdings larger than 5000 ha (see Table 4). All of these companies are FSC certified, and four of the 12 are new companies that were established after 2001 as a result of the Government's privatisation of State forest assets (Frost et al. 2003).

Commercial Timber Farmers

Other forestry landowners include approximately 1,800 timber farmers (Mayers et al. 2001) (commercial farmers with on average between 100 and 200 ha under trees) who supply their timber to cooperatives. Many of these commercial timber farmers were able to obtain certification through group certification schemes managed by the NCT Forestry Co-operative Ltd.

[9] http://www.sars.gov.za/home.asp?pid=200

NCT was established in 1949 as a marketing co-operative catering to the needs of private and independent timber growers. Its membership exceeds 2,000 shareholding members, representing a total area of 316,000 ha - 21% of afforested land in South Africa, and they supply quality round wood timber and hardwood pulp chips. They own three wood chip mills, which export to Japan. As a co-operative, its members who share in profits and own NCT. It also manages plantations on behalf of landowners.

State-owned plantations

Komatiland Forestry manages 18 plantations covering a total area of 187,320.27 ha of which about 121,000 ha is planted. Approximately 91% is under Pine, 7% Eucalyptus and 2% Acacia (website).

Micro-growers

There are nearly 19,000 small or micro growers in South Africa, holding woodlots averaging around two hectares and totalling around 42,000 ha in extent. Just over 12,000 of these growers are participating in company-sponsored outgrower schemes (the companies provide the farmers with loans, seedlings and advice and the farmers sell their trees to the companies) falling under SAPPI (Project Grow), Mondi (Khulanathi) and the South African Wattle Growers Union (SAWGU) (Mayers et al. 2001). Due to the small scale of operations it is difficult for these micro growers to certify their plantations (Ham 2004), but with company support, they are moving towards group certification.

5.3.2 Private Owners of Indigenous Forests

About 30% of indigenous forests are in private hands. Some of these produce timber, but comprehensive data is not available. Geo Parkes and Sons of Knysna is FSC certified and produce around 400 m^3 annually from its 2600 ha of indigenous forest.

5.3.3 Local Communities

As mentioned above, local communities are important *defacto* users of forests and woodlands, but have typically been excluded from the actual ownership. Their status as owners of the lands on which plantations have been established is now being addressed through land claims. Participative forestry was piloted in the first decade after the democratic transition, but the programme has now ended.

5.3.4 Industry Associations

The South African forestry industry is well organised. Current industry associations include:

- Forestry South Africa (FSA, the national forest industry representative body),
- South African Timber Growers' Association (SATGA), representing growers in the farming sector;
- Forest Owners' Association (FOA), representing the large companies;
- South African Wattle Growers' Association (SAWGU)
- South African Lumber Millers' Association (SALMA)
- South African Wood Preservers' Association (SAWPA)
- Paper Manufacturers Association of South Africa (PAMSA).

There is no association of timber importers or merchants.

5.3.5 Timber importers/merchants

A small number of companies effectively control the import of timber into South Africa. These include Ian Fuller Agencies, Betson Pty Ltd, Silvertin Wood Merchants, Country Woods and P&S Timbers, amongst others. The most important imported species are meranti, from Asia, and temperate hardwoods such as oak, cherry and walnut from North America. Hardwoods from elsewhere in southern Africa (notably Mozambique, Zimbabwe, Zambia and Angola), such as kiat (*Pterocarpus angolensis*), teak (*Baikaea plurijuga*) and rosewood (*Guibourtia coleosperma*) constitute a small (<10%), but constant part of their trade.

5.3.6 Indigenous Hardwood Users

Furniture makers and other indigenous hardwood users in the southern Cape have constituted a small but effective lobby in the indigenous forest sector. Felled hardwoods are sold by auction, and by bidding collectively, the users have been able to maintain artificially low prices.

5.3.7 Forest Certification Bodies

As nearly all the commercial plantations in South Africa are Forest Stewardship Council (FSC) certified, the FSC and its auditors SGS, Woodmark, the South African Bureau of Standards (SABS) are important actors in the sector. The importance of the certifiers is heightened by the effective withdrawal of DAFF from direct supervision of the commercial forestry sector.

As these regulations are part of forestry legislation, certification bodies audit compliance with permits and licenses during certification inspections (personal observation).

5.3.8 Civil Society (NGOs, Academia, etc.)

In South Africa, TRAFFIC is helping the government to monitor the timber trade with neighbouring countries, including providing capacity building and training for species identification, enforcement assistance, and advice on how to enhance controls of the trade.

No other South African NGOs are currently active in forest governance and illegal logging. Several NGOs, including Geasphere and Timberwatch, campaign against the environmental and social impacts of plantation silviculture and the role of FSC in "green-washing" the forestry industries (see below). The Endangered Wildlife Trust (EWT) has an environmental governance programme (Law and Policy), and does some work on customs law enforcement to combat illegal trade in wildlife, but does not focus on forests or forest products[10]. The big international conservation NGOs, Conservation International, WWF, IUCN focus on the fate and management of "biodiversity hotspots", but are not active in forest governance per se.

The South African Institute of International Affairs (SAIIA) is long-established and highly respected international think tank, and is currently implementing the Governance of Africa's Resources Programme (GARP), with funding from the Norwegian Embassy. Since 2007, they have conducted one country study per year, examining different natural resource sectors, including fisheries, forestry and petroleum/mining. Amongst the countries studied so far, are Uganda, Mozambique and Tanzania and they will focus on South Africa in the near future. They are interested in, amongst other things, the role of China in resource governance, and how illegal timber gets "cleaned" through regional trade.

The Centre for Chinese Studies of the University of Stellenbosch also researches the political and economic roles of China in Africa. Studies reveal that while China's Africa Policy of 2006 and the Aid Policy of 2011 stress "mutual benefit" between partners, in reality this has to be negotiated and Africa will get cheated if it doesn't actively protect its interests[11]. South Africa has strong regulation and strong NGOs and civil society serving as watchdogs, which protect it from governance abuses in most sectors, but vigilance is considered necessary.

5.4 The Legality Assurance System

There is no integrated legality assurance system operating in South Africa's forestry sector, mainly because there has been no real need or demand for one. Although the system of licences which governs the production, transport and export of timber in South Africa is rather rudimentary and not

[10] http://www.ewt.org.za/index.html

[11] China's Aid Policy is not considered transparent and other international donors are encouraging GoC to adopt international standards of aid practice and effectiveness. In 1999, China began supporting its key domestic industries and particularly state-owned enterprises, including from the forest sector, to look for investment opportunities abroad – the so-called "go out" strategy. South Africa has the largest population of Chinese in all of Africa, with an estimated population of 500,000. Although there has been a long history of Chinese and Taiwanese migration to South Africa, half the current population has arrived since the end of apartheid, often illegally. Since the early 2000s many general stores, have been opened up in rural South Africa by Chinese immigrants from mainland China.

well enforced, particularly outside the commercial forest estate, it has been adequate to ensure basic timber legality, and the widespread certification of both plantations and indigenous forests by FSC provides an additional level of confidence in the legality of the timber (although this and the sustainability of plantations is disputed by several environmental NGOs). The five key elements of a legality system recognised by FLEGT and relating to the three pillars of sustainability (environmental protection, social equity, economic viability) are discussed below.

1. A definition of "legal timber" is embodied in a range of laws and regulations, but because forestry in South Africa is dominated by the plantation sector, and exploitation of indigenous forests is limited and tightly controlled, defining "legality" has not been an issue of any priority.

2. The DAFF and their provincial offices are the government agencies legally responsible for licensing and forest law enforcement. There are two kinds of licences, pertaining to: i) Activities in State Forests and ii) Trees in Natural Forests. The licences are for variable period, as requested by the applicant, and cover a range of different activities from felling, processing trees and NTFPs, to establishing plantations, and transporting and exporting forest products. No fees are charged for either type of licence. Most licences are issued for the felling indigenous trees in the context of property development. Most infractions appear to relate to the illegal felling of indigenous trees for the same reason.

3. Control over the movement of timber is achieved through transport licences, which are issued by DAFF offices, at no charge. They are not required for the transport of plantation timbers. Transport licensing employs the same licence form as harvesting and export, and requires the same information as export (see below 4.7).

4. Most timber and timber product exports are generated from the plantation sector, and DAFF is not involved inspecting and authorising timber exports. Port security may be an issue; smuggling of illegal woodchips through the port at Richards Bay which specialises in bulk cargoes, was mentioned. The Government is piloting on-line customs declarations and "one stop border posts" in Beitbridge (Zimbabwe border) and other places. There is no special collaboration between forestry and the port authorities.

5. The FSC/SGS Qualifor provide independent monitoring of the certified plantation and commercial indigenous forests; although in most cases they substitute rather than complement monitoring by DAFF. Some observers complain that FSC/SGS are too close to industry to be truly independent.

5.5 Timber Tracking

As the plantations and main indigenous forests are FSC certified, timber tracking is in place. Each harvested log is given a unique 6 digit code, indicating the forest, compartment, tree and log.

In the Knysna indigenous forests, the 9,200 ha of productive forest is split up amongst naturally configured compartments of 20-60 ha. Timber cruising takes place annually in a proportion of the blocks. Cut lines 12 m apart are walked and trees are marked - yellow for direct felling and blue for topping then felling. Each tree is numbered and its GPS coordinates recorded. On felling, the stem is cut into logs, each with a unique 6 digit number, including compartment, cutline, tree and log.

5.6 Requirements for the Export and Import of Forest Products

Several agencies are involved in the supervision of the export and import of timber and timber products from and into South Africa, including Customs, the Department of Trade and Industry, DAFF and the port/airport authorities. The Department of Trade and Industry licences businesses to engage in export of different merchandise.

Both the import and export of goods from South Africa require the same basic set of commercial and customs documents[12]:

1) Commercial invoice which shows the price charged to the importer/exporter;

2) Transport documents (bill of lading, air waybill, road manifest, etc.);

[12] http://www.africa-business.com/features/faqs.html

3) Insurance documents

4) Packing list

5) Permits/licences

5) Customs declaration form (Single Administrative Document, SAD 500)

Exports

There are few special requirements for timber export. The same DAFF licence form used for harvesting and transporting forest products is used to license their export. The following information must be given: a) Name the tree/trees; b) Name the produce; c) from where? (Specify forest, property, owner, country, etc.) d) To where? (Specify country, destination, buyer, processor, etc.) e) Estimated mass/volume/bags /loads, etc., and, if applicable, the frequency over a period of time (e.g. 2 10-ton loads once per month within a year). The original harvesting licences should be appended. It appears that no particular inspections are required to obtain the licence or prior to export. Depending on the country of destination, a Phytosanitary Certificate may be required.

Imports

Some goods entering South Africa require import permits, including paper products and some timber. Not all timber species require permits. For instance, the main Southern African timber species *Pterocarpus angolensis*, *Milliettia stuhlmanii*, *Afzelia quanzensis* do not require a permit, but the West African "iroko" *Milicia excelsa* does – probably because the former species are also found in South Africa. When required, these permits can be obtained by email from DAFF in Pretoria, for a small fee (timber importer, pers. comm.). A Phytosanitary certificate should be required, and at ports, DAFF might inspect containers, but this is rarely done. The South African Declaration (or certificate) of Origin, Form DA-59, certifying the country of origin, description of goods, weight, etc., is only required for certain goods, and forest products are not included. All imports must pay VAT on the invoiced price, at 14%, but this is refunded if the goods are subsequently re-exported.

South Africa adheres to the Harmonised Tariff System, and tariffs and import surcharges are assessed on the customs value (f.o.b.). These generally range from 0-45% with some exceptions[13]. The tariffs for selected timber and timber products are shown in Table 6. In the SADC region, only wooden furniture and parts attracts any tariff.

Table 6 Current Import Tariffs for Selected Timber and Timber Products (2012)

Description	General Tariffs	Free Trade Area	
		EU	SADC
Logs	Free	Free	Free
Sawnwood	Free	Free	Free
Plywood	10%	10%	Free
Veneer	10%	10%	Free
Particle Board	15%	15%	Free
Hardboard	15%	15%	Free
Insulating Board	10%	10%	Free
MDF	15%	15%	Free
Doors	15%	15%	Free
Windows	15%	15%	Free
Joinery	15%	15%	Free
Wooden Furniture/Parts	20%	20%	13%

Source: SARS website.

[13] 0% - agricultural products and implements, capital and intermediate goods, manufacturing inputs, essential foods; 15% - aircraft, vehicles, earthmoving equipment, computer software, appliances, etc.;40% - luxury consumer goods, for example, televisions, tape recorders, video machines, antiques, jewellery, etc.

Goods in transit require a different Customs declaration SAD 502, but are basically treated as imports, until they are re-exported.

5.7 Law Enforcement

Forestry laws apply across the entire country, not only in designated forestry reserves. Forest officers have the same powers as police, in respect of the National Forests Act, and may seize goods without warrant and arrest people. The Director General of FNRM is empowered to appoint officers. Offences are categorised 1-5 according to their seriousness. First category offences, liable to up to three years' imprisonment and/or a fine, include cutting or trafficking protected trees and other protected species. Second category offences, liable to up to two years' imprisonment and/or a fine, includes contravening provisions for controlled forest areas, or disturbing any tree in any indigenous forest. A forest officer involved in any illegal or corrupt activity is also guilty of a second category offence (Sections 62 – 64). Up to 25% of the value of a fine should be awarded to the informant (except if a forest officer). Data on the frequency of these offences was not available.

Most field staff is posted to forest reserves and plantations, and FNRM recognises that it lacks the capacity to enforce laws over all indigenous forests and woodlands. Woodlands, in particular, are for practical purposes under the control of the local communities, but subject to serious degradation. Participative Forest Management (PFM), started in 2001 with support from DANIDA, was seen as a strategic alternative to enforcement, but the programme has now stalled and law enforcement has not picked up again.

DAFF collaborates with the Justice College and the DEA in training the South African Police Service (SAPS), the judiciary and other enforcement agencies on the NFA and NVFFA. A study in 2006 recommended the establishment of a Compliance and Enforcement Unit within the FNRM, but because of lack of funds, this still has not happened.

5.8 Information and Monitoring Systems

DAFF has a Forest Technical and Information Service, whose mandate is to ensure sustainable use of the natural resource base through the management of the overall system for forestry data, information, and knowledge, including spatial and non-spatial forestry information. It also ensures access to forestry information by sector stakeholders and the gathering of forestry information by the regions. The very informative DAFF website provides an impressive range of information on forest types, history, policy, legislation, as well as maps of major vegetation types and plantations (e.g. Figure 3). However, coverage of forest issues is not comprehensive. Notable omissions include: timber and NTFP production from indigenous forests and woodlands; forest offences, prosecutions and fines and timber export. Data related to forest industry is assumed the responsibility of FSA (see below).

DAFF contracts the services of a private company Forest Economics Services (FES) to collect and collate industry-related data. Private companies report to FES, which prepares the data, and sends it to DAFF to be checked. This is then shared with Forestry South Africa, the national forest industry representative body, who maintain their own website (www.forestry.co.za) and databases. There is some question regarding the accuracy of some companies' annual reporting. The quality of the maps used by the smaller companies is thought to be low and return errors.

Because there is so little harvesting in the indigenous natural forests, no information system has been developed. Records are apparently maintained at forest management unit level by DAFF, SANPArks and others, and reported annually to DAFF, but the State of the Forests Report does not report on licensing and production from these forests, or from the woodlands.

The NFA obliges the Minister to monitor the management of forests and report to Parliament and to the Public at least every three years (NFA, Part 2, section 6(3). This is done through a "State of the Forests report", which is published on-line and in hardcopy. The second edition for 2007-2009 was published in 2011.

The FSA maintains its own information system for the commercial sector, and makes a very broad range of data relating to the plantation forestry available on its website (www.forestry.co.za).

5.9 Certification

FSC certification of plantations in South Africa began in 1997 and by 2003, the three major plantations owners Sappi (501,000 ha), Mondi and SAFCOL had certified their entire areas. As of September 2012, over 1.5 million hectares of plantations and natural forest are certified, under 21 certificates, including two group certificates and one indigenous forest. Overall, 82% of commercial timber plantations are certified, and the remaining 18% include state controlled Class C plantations in the old homelands which are in poor condition, and the 19,000 micro-growers who lack the capacity to cope with the administrative demands of group certificates. Despite having the highest proportion of certified plantations of any country in the world, there is still not a national FSC standard for South Africa – perhaps because of the potentially contentious land tenure and labour issues.

The NCT Forestry Cooperative has been FSC-certified as a group manager since November 1999. Approximately 85 000ha of plantations (24% of the total area registered) are certified under the NCT FSC Group Certification Scheme, including farms owned by members and the Co-operative itself. Private indigenous forests are also included under the certificate.

The main auditors for FSC in South Africa are SGS Qualifor and Soil Association Woodmark, and the South African Bureau of Standards (SABS) also plays a role.

Although the big companies have had all their own plantations certified, they still have outside supply agreements from producers, not all of whom are certified. They therefore rely on FSC's "mixed sources" and "controlled wood" labels, which can be 25% non-FSC. Sappi pays a 2% premium for certified timber, but for its own final products seeks market access rather than any price premium.

There are also 81 FSC Chain of Custody certificates for timber processing centres. These track FSC-certified material through the production process – from the forest to the consumer, including all successive stages of processing, transformation, manufacturing and distribution.

The NGOs Geasphere and Timberwatch, and numerous academics and civil society observers are critical of FSC's certification of South Africa's plantations from ecological, social and procedural perspectives (Geasphere, Timberwatch). The main complaints regard:

- the conversion of native grasslands and natural forests and the consequent impacts on biodiversity, landscape and tourism
- the impact on stream flows[14] and reduced availability of water to surrounding communities
- clear-felling and consequent erosion
- inappropriate fire management (burning too early, with negative impact on biodiversity)
- control of baboon pests in plantations by shooting
- spread of invasive alien plants (all the main plantation species are alien species with invasive tendencies)
- labour relations (corporations subcontracting labour in order to externalise their labour obligations)
- loss of communities' access to natural resources
- historical evictions of local communities to make way for plantations

Some consider the whole FSC process to be a "greenwash" and that FSC and the auditors SGS, Soil Association Woodmark and SABS (amongst others) are in the pockets of the big corporations. Certification is awarded at the company level, rather than the forest management unit, even when

14 Commercial, plantation forestry activities are restricted to the higher rainfall areas of the country that include environmentally very sensitive mountain catchments, responsible for 85% of South Africa's stream runoff.

the FMUs are widely scattered. For the larger companies (i.e. Mondi, with >350,000 ha of plantations in four provinces), one audit takes place annually, in a randomly-selected FMU[15].

The industry would counter that:

- Water use by plantations is efficient and previous high estimates made in the 1970s have been revised downwards by 70% in recent years (Chamberlain et al 2005).
- Unplanted areas within their estates are some of the best conserved grassland and woodland habitats in the country (Paper Manufacturers Association of South Africa, PAMSA website).
- their members provide a lot of employment
- Subcontracting encourages the establishment of small enterprises.
- Problems of land claims and invasive species are being addressed.

In 2001 the Committee for Sustainable Forest Management (sub-committee of the National Forestry Advisory Council, which advises the Minister on forestry matters) appointed a group of consultants to develop a national set of Principles, Criteria, Indicators and Standards (PCI&S) for sustainable forest management in South Africa. The process, funded by the UK Department for International Development (DFID), centred on very intensive stakeholder consultations, involving forestry, environmental groups, labour unions and the general public. The process was completed in 2002 (Ham 2004). The PCI&S were published in 2008. It was intended for them to be applied throughout the plantation sector, but industry is resisting as it is already FSC and doesn't want the duplication of effort. So, the standards have the status of a guideline rather than a regulation, and will only apply to the 61,000 ha of DAFF managed plantations.

5.10 Transparency in the Sector

DAFF appears to engage very well with forest sector stakeholders. In addition to providing a lot of information on their website (see 4.9), they produce the State of the Forests Report every three years, which is explicitly made available to Parliament and the public. Although reporting is not comprehensive (see above) this is unique in the region, and a model for other countries to follow. DAFF also convenes various symposia, such as the biennial Natural Forests and Woodlands Symposia.

The Customs Service of SARS provides all its data on request, however it charges ZAR 15-20 (USD 1.7 to 2.3) for each item (HS code/year), putting comprehensive study of trade patterns beyond the means of most studies, including this one. The statistics for South Africa's bilateral trade that is provided to UN Comtrade is in turn provided by the South African Revenue Service.

Stakeholders in the forestry sector generally find the present system transparent and sufficiently effective. There are concerns, however, about the capacity of DAFF to perform its supervisory role, and therefore to provide information to stakeholders on emerging issues in a timely way. Importantly, no lack of political will is reported. On the indigenous forests of Knysna, there are specific concerns regarding the proposed new harvesting arrangements, as information on the progress of the tender has not been forthcoming, and no timber has been available for over two years.

5.11 FLEGT activities to date

South Africa is an important partner in the SADC FLEGT process and DAFF is the local focal point. The SADC FLEGT initiative is attempting to develop a protocol for trade in wood-based products within and outside the region, including regional customs bonds for goods in transit. There is a lot of interest amongst SADC countries in obtaining timber from DRC, and also in encouraging processing prior to export, in order to add value. A meeting held 30-31 July 2012 in Johannesburg debated the draft of a SADC FLEGT strategy, which will be finalised and published soon. No draft was available for review, but it should be noted that as an intergovernmental initiative, many of those involved in

[15] The largest single FSC certificate is in Canada and covers over 5.5 million ha (FSC 2012).

drafting and ultimately implementing the strategy, are the same people who are currently benefiting from illegal logging and weak forest governance.

South Africa has not conducted any specific FLEGT projects. FNRM staff worry that FLEGT deals only with legality of timber and not its sustainability.

A representative of the timber industry felt they were generally exceeding legal compliance in South Africa, and would be well-positioned to meet any requirements of the European Union Timber Regulation.

5.12 REDD+

South Africa is a signatory to UNFCCC and also the twelfth highest carbon emitter in the world, responsible for over half of Africa's GHG emissions. In 2009 the Government pledged to reduce national greenhouse gas emissions by 34% below business as usual by 2020 and by 40% by 2025. The Ministry for Water and Environmental Affairs is the responsible authority, has lead on the preparation of a White Paper on the National Response to Climate Change (2011) and is leading on the development of the national MRV system. DAFF is responsible for forests and has a Directorate for Climate Change and Disaster Management, but as yet, it is not very active. As in many countries, there is a tension between forestry and environmental authorities over control of REDD+.

South Africa does not currently participate in any of the international REDD+ programmes (FCPF, UN-REDD) and the White Paper makes no mention at all of REDD+. This lack of interest is partly due to South Africa's low forest cover and national rates of deforestation, and its extensive woodlands subject to serious degradation, making carbon assessments problematic. Other issues presenting challenges for REDD+ include complex land tenure systems, other conflicting environmental and institutional issues and the lack of comprehensive national forest inventories (see above) now and in the past, which makes calculations of deforestation and forest degradation, carbon accounting and the calculation of baseline scenarios difficult. Further, initial greenhouse gas accounting suggests that Agriculture Forestry and Land Use accounts for only 6% of South Africa's emissions, compared with 78% for energy (particularly from coal-fired electricity plants), 14% for industrial processes and 2% for waste.

Despite the practical concerns and current lack of government commitment, many stakeholders feel that REDD+ remains a practical strategy to contribute to climate change mitigation for South Africa and will provide a platform to enhance policy, institutional and technical stakeholder capacities to access financial incentives that may lead to sound environmental practices (Rahlao et al 2012). The Government is considered very consultative and participatory, but slow to make decisions and take action.

South Africa appears to be putting more emphasis on adaptation to climate change, which it is hoped will bring greater developmental benefits to more people.

6. The Fuel wood Market

There is no comprehensive data on the fuelwood market in South Africa.

6.1 Domestic Fuel Sources

The energy sector in South Africa has elements of both the first and third world (Shackleton et al 2004). While South Africa produces and consumes over 60% of the electricity on the African continent, well over half of South Africa's rural households and numerous urban households use fuelwood energy to some extent.

Despite this, fuelwood production and consumption is not a big issue, nationally. The most recent studies for South Africa date from the mid-1990s. In 2002, IUCN South Africa estimated that one-third of households in South Africa rely on fuelwood and harvest about 11 m tons of wood per year, of which 6.6million tons is harvested from natural woodlands (IUCN-SA 2002). However, FAO (2011) reports that in 2008 South Africa produced 20 million m^3 of wood-fuel, all for local consumption. Studies of fuelwood production and consumption in southern Africa (Biggs et al 2004) estimated that 60 % of energy comes from fuelwood or charcoal, and the absolute number of people using biomass fuels in southern Africa is expected to increase by as much as 50 % within the next 25 years.

Another reason that fuelwood is not a prominent issue, is because the use of and reliance on fuelwood is not uniform across geographical areas or within individual communities. Typically the poorest and most vulnerable communities and households make most use of fuelwood with only limited use of other energy forms. Remote rural communities in particular still rely extensively on fuelwood, or in grassland areas, on cattle dung. Woodlots for firewood were established years ago in homeland areas, and are now the Category C plantations, managed by DAFF. People have to buy polewood, but offcuts for fuel are generally available free of charge. There are management problems, though, and fuelwood is often only accessible on certain days. Detailed case studies of fuelwood use in the eight homelands revealed that 67 different woody species were used, and many of the most popular species are valuable and in some cases legally protected heavy hardwood timbers, like Kiat, stinkwood, Mopane, leadwood and camelthorn. In these areas the planting of alternative species for fuelwood should be encouraged and the high-value indigenous trees utilised more effectively. In communities near plantations, exotic species are used almost exclusively (Dyer 1996).

Furthermore, with increasing modernity and household income, there is a gradual shift towards more modern fuels such as paraffin, gas and electricity. Paraffin brings substantial health risks, with some 45000 paraffin shack fires a year, claiming 2500-3000 lives[16]. The last is only available to those households and communities on the national grid. Although in 2011, 83% of households were connected to the electricity grid, and poor households receive a Free Basic Allowance of 50 Kwh/month, many of them cannot afford the necessary appliances or monthly bills to cook with electricity, and continue to rely on other fuels. South Africa is experiencing serious electricity shortages, and prices are set to rise steeply. There is increasing interest in solar power – including a government project to install solar water heaters in 1 million homes by 2015.

Nationally, there is also increasing interest in converting woody biomass into pelleted fuels for electricity production. Should the Japanese market for wood chips decline, as supplies from plantations in Vietnam and elsewhere in Asia expand, it is likely production of pellets will increase. South Africa exported roughly 100,000 tonnes of wood pellets as fuel to the EU during each of 2010 and 2011.

Geldenhuys (2011) has documented how native species can regenerate under exotic plantations, enabling the re-establishment of natural forests after the exotics are harvested. Some commentators thus see rural fuelwood supply as way to rid exotic species from the landscape.

[16] http://www.thenewage.co.za/Detail.aspx?blog_id=2428&blog_cat_id=1077

6.2 Charcoal

Unlike much of southern Africa, domestic demand for charcoal in South Africa is confined to wealthier middle-income households who use charcoal for cooking as part of social events (the Sunday “braai”). Charcoal use is not common in low income urban households (NL Agency 2010).

Charcoal is primarily made from the waste wood of tree plantations. Production is concentrated in the general area of Dalton, Ahrens and Greytown in the Natal Midlands, in the Northern Kwazulu-Natal, and south-eastern parts of Mpumalanga. These areas have good railway connections with the port of Durban. Much of the local charcoal production is exported to high value markets in Europe and the Middle East. South Africa needs, in turn, to import charcoal from neighbouring countries to meet domestic demand, which is high, generally for the local barbeque market. For example, part of the charcoal marketed in South Africa is produced in Namibia. By value, the total import of charcoal in 2012 was only 21 million Rand, which the export was worth 181 million Rand.

According to the FSA, in 2008/2009 South Africa produced 44,000 tons of charcoal. Detailed breakdown of these statistics for this sector were not available, but one company, E&C Charcoal, of Durban, has been producing Charcoal since the 1930's, and exporting to Europe (and to a lesser extent the Middle East) since 1977. They are the biggest charcoal producer in South Africa, with current annual production of 20,000 tons of lump and 12,000 tons of briquettes. They claim to use only timber from FSC certified plantations, but do not have a Chain of Custody certificate. They have, however, been endorsed by WWF. The vast majority of the Company's production is exported across the EU-27.

7. Forest Utilization

7.1 Indigenous Forest

As discussed above (Section 4.1) all natural forests (with contiguous canopies) are protected, as are 46 tree species found anywhere in the country (see Annex 1). As indigenous forests mostly have contiguous canopies, they are regarded as natural forests, and therefore protected. A licence is needed to fell, otherwise disturb or possess any tree or part of a tree in a natural forest. The application form for a licence is 15 pages long and obtainable from DAFF offices. It requires the applicant to identify themselves, specify the nature, location and reason for the intended activity, and the number, condition and species of tree involved. If the activity involves timber already harvested, then the relevant, stamped licence for that harvesting must be appended. The licence itself is a simple four page document, setting out these details, and establishing a period of validity. The licence and a valid identity document must be produced on demand of a forest or police officer. Surprisingly, there are no charges at all for these licences.

While all 500,000 ha indigenous forests are protected by law, only a relatively small proportion of the total estate, perhaps 20%[17], is under any kind of management, and not all of that is effective. The objective of management in most cases is conservation and/or recreation and carried out by SANParks or provincial conservation authorities. Commercial timber production takes place only in the Afro-temperate forests of the southern and Eastern Cape, where exploitation is extremely limited to a small number of blocks and tightly controlled. Despite this tight control, DAFF does not actually report on the levels of utilisation of the indigenous forests (areas, species, volumes), so little detailed quantitative data is available. From initial enquiries, it would seem that less than 15,000 ha of indigenous forest (3% of the total 500,000 ha) is managed for timber production, and less than 7,000 m^3 is produced annually, of all species. The proportion of different species harvested is difficult to determine, but interestingly, in Knysna, sales of the exotic Australian blackwood *Acacia melanoxylon*[18] typically contributes 40-60% of the annual revenue.

As discussed above, the indigenous forests are highly fragmented. There are two main largely forested areas, the Garden Route National Park in the southern Cape, and the Amatole Forest in Eastern Cape, though neither is contiguous.

The indigenous forests in the southern Cape total over 60,000 ha, of which 41,000 ha are former state forests, managed by SANParks since 2005, and incorporated as part of the Garden Route National Park (see Section 3) since 2011. These former state forests are in three separate estates: Wilderness, Knysna and Tsitsikama, and even when managed by DWAF (now DAFF), most of the area was managed for conservation. DWAF used to perform the harvesting operations here on a non-commercial basis, almost as a public service. All the timber was auctioned locally to furniture producers and others.

Under the newly developed Garden Route National Park Management Plan (SANParks 2012), the Knysna forests are zoned A-E for different uses: Production, Protection, Research and Recreation. Most of the area is managed for conservation, and only 9,200 ha are in production blocks and produce only about 3,500 m^3 of timber annually – amounting to about 1 stem per hectare every 10 years. Reduced impact logging, involving topping the trees prior to felling where necessary, has been practised here since the 1960s, and the same practices have continued under SANParks. Harvesting takes place on about 600-900 ha of forest each year. A "Senility Criteria Harvesting" system is used, under which only moribund trees can be felled[19]. SANParks foresters (mostly ex-DWAF) are

[17] Actual figures could not be found, but it appears that around 41,000 ha are managed by SANParks in the Garden Route National Park (including the State Forests of the Western Cape) and another 42,000 ha of fragmented forest managed by DAFF in Amatole, Eastern Cape, and an unknown area in KwaZulu Natal.

[18] Blackwood was introduced in the early 20th century, as indigenous species were becoming exhausted. Some are now of enormous size, and the timber produced is very attractive and sought after, commanding a higher price than Rhodesian teak, rosewood or meranti

[19] The actual criteria are specific to individual species.

responsible for marking the trees and also supervise the felling. Felled trees are utilised as fully as possible, with branch wood used for turning and carving, and barks of some species for medicine. There is also a scheme for the sustainable harvesting of various NTFPs. The three state forests were certified by FSC in 2002 (SANParks 2012b).

Since mid-2010, SANParks has been in the process of contracting out the harvesting and sale of the timber to a private company, so they can focus more on their core conservation business, and also so that harvesting and sale can be put on a more commercial footing. SANParks staff will continue to mark trees for felling and supervise the harvest. Meanwhile, in the two years since the tender process began no harvesting has taken place. In future, it is planned that 20% of production can be exported. A Chinese forestry delegation visited Knysna eight years ago and some observers believe they will move in on the timber if these plans are realised.

The remaining 19,000 ha of indigenous forest is in private hands. Geo Parkes and Sons, a private timber firm in Knysna, harvests from 2800 ha, making it the largest privately-owned indigenous production forest in the country. Their operation is FSC certified, under the NCT cooperative group certificate. They work to a management plan prepared in 1992 by DWAF. The company marks its own trees, but SANParks checks and issues licences. They usually to harvest to order, and each year fell about 400 m^3, mostly yellowwood, stinkwood and hard pear. All of their timber is sold locally or to Cape Town. They have never exported timber.

The Amatole indigenous forest in Eastern Cape is about 40,000 ha in extent and remains under DAFF management. It is not clear what proportion of the area is in production blocks, but the annual harvest is about 300 m^3. Since the apartheid era, harvesting has been contracted out in perpetuity (a so-called "evergreen" contract) to two private companies. As these companies are entirely white owned, there are equity/black economic empowerment issues, and there have been moves to cancel the contracts.

Informal harvesting of the bark of certain indigenous species (most importantly *Ocotea bullata, Curtisia dentate*, *Rapanea melanophloeos*, *Ilex mitis*, *Rhus chirindensis* and *Prunus Africana*) for traditional medicines (muti) is a big problem in some areas, contributing to the death of trees (SANParks 2012b).

Building on the NFA of 1998, which established the bases for community forest management, in 2001, DWAF published guiding principles for the management of indigenous state forests, which elaborated the participatory management approach, but since the ending of Danish funding for PFM in 2005, the programme has stalled.

While the indigenous forests under active management for conservation or production are managed well, this leaves possibly 80% of the indigenous forests unmanaged, and thus at risk of illegal logging and deforestation. Fortunately, there is a major constraint on illegal logging, and indeed any harvesting in indigenous forests: the difficult topography which makes extraction expensive and problematic – something encountered by very first settlers in 17th century (Britton, 2006).

7.2 Savannah Woodlands

As woodlands do not have contiguous canopies, they are not defined as "natural forests" under the NFA and therefore are not legally protected (unless they fall in a national park or other protected area). Licences are therefore not required to harvest from them, unless the species in question is one of the 46 legally protected species (see Section 4.1 and Annex 1). A licence to cut a protected tree species from a woodland is free of charge, but given the distances to the DAFF offices, and the lack of DAFF presence in most rural areas to monitor activities, it is unlikely that many people bother to get them.

Woodlands are primarily used by poor rural communities for subsistence products, such as building poles and firewood. As with the indigenous forests, there is no monitoring and very little hard data at the national level on the nature and level of this utilisation. There are, however, numerous case studies, from Limpopo, KwaZulu Natal and Eastern Cape, and Northern Province, that illustrate the

importance of woodland resources in selected communities (Lahiff 1997; Shackleton and Shackleton 2000, 2003; Shackleton et al 1999). The woodcarving industry has also been utilising increasing volumes of indigenous woodland timbers (esp. *Dalbergia melanoxylon* and *Pterocarpus angolensis*), since the re-establishment of the tourist industry in South Africa after 1994 (Shackleton and Steencamp 2004). An estimated 10% of woodlands are degraded from such uses (DAFF 2011) and "Working for Woodlands" is a DEA programme aimed at rehabilitating degraded areas.

DWAF developed a Woodland Management Strategy in 2005, but because of financial and capacity limitations it has not yet been operationalised (DAFF 2011). DAFF has started an integrated land use assessment with a view to documenting the extent, distribution and quality of all woodland types in the country, but due to the same constraints, progress is slow. There are obvious links between this and REDD+, but the government is not currently pursuing them (see above 4.13).

7.3 Plantations

The man-made plantations of exotic tree species, made up of pine, eucalyptus and wattle, today cover an area of 1,275 million ha. The output from these areas in 2008/09 is summarized in Table 7 below.

As can be seen, most of the wood from the plantations goes to for the manufacture of pulp and paper, followed by sawn timber. The important saw milling sector consumes about one third of that.

Today, an area of around 80,000 ha is clear cut every year, and replanted. Although the area under plantations no longer is expanding, the yields per ha have increased significantly by replanting harvested areas with clonal and high producing seedlings. At the same time, the forest companies of South Africa have become international players by exporting forest products and by the acquisition of assets in neighbouring countries.

Table 7 Roundwood Sales from plantations in 2008/2009; m^3:

Product Species	Sawlogs	Poles	Mining Timber	Pulp wood	Fuelwood	Other	Total
Softwoods	4,145,537	62 919	0	3 421 600	38 669	31 531	7,700 256
E. grandis	199 721	367 084	570 905	5 650 452	105 093	49 319	6 942 574
Other eucalypts	24 758	87 059	53 021	2 959 548	43 624	788	3 168 798
Wattle	0	1 920	0	802 946	123 065	33 590	1 051 521
Other hardwood	4 784	660	0	16 153	1 894	1 000	24 491
TOTAL	**4,374,800**	**519,582**	**623,926**	**12,940,699**	**312,345**	**116,228**	**18,887,640**

Source: Forestry South Africa, 2010 (website accessed September 2012)

The success of the industrial tree plantations in South Africa has been due to a strong demand for forest products from local industries. In addition, the government mobilized a sizeable proportion of the overall resource base necessary for the development of the processing industries.

Plantation development in South Africa has benefitted from research findings. The country has been committed to research and the development of tree improvement and management techniques. Through research, the country has developed genetically improved germplasm, the matching of species to sites and the establishment of proper management techniques, which have boosted the productivity and output of different tree species used for various purposes.

The industrial tree plantations support a multi-billion Rand industry that provides more than one hundred thousand job opportunities.

With around 29% of its plantation wood products destined for the export market, South Africa quickly adopted certification requirements and stands out as the one African country having most of its forest certified, which ensures sustainable production (see above Section 4.10).

8. The Forest Industry Sector and Domestic Timber Market

South Africa has a very well developed forest industries sector. The location of the main commercial plantations and processing mills is shown on Figure 6. The industry produces close to 19 million m^3 (cubic meters) of commercial roundwood per year (see Table 7), translating into 2.8 million tons of pulp or 1.6% of global supply, 2 million tons of paper or 0.8% of global supply, and 1.3 million m^3 of sawn timber or 0.3% of world supply. In terms of South Africa's GDP, the forestry and associated processing industries generate US$ 1 billion annually or 1.5% of GDP.

Almost all structural timber and wood fibre for pulp, paper and wood-based panels used in South Africa is derived from the domestic plantations of pines, eucalypts and wattle (*Acacia mearnsii*).With its indigenous forests serving conservation objectives, almost all hardwoods for veneer, furniture and flooring are imported. Meranti from Malaysia and Indonesia is the dominant species group imported (Howard 2009).

There is a clear trend within the large companies to focus on their core business – in the main, producing pulp and turning it into paper products – and to withdraw from activities that are not essential or peripheral (but nonetheless still vital) to this core. The implication of this is that timber is bought from outside producers and labour is out-sourced labour through intermediate forest service companies. In both areas, significant changes are taking place in the way companies are doing their business, in response to changing circumstances (Mayers 2001:26).

The industry is well developed. There are around 100 sawmills, 16 pulp and paper mills, a few mills for the production of wood-based panels plus some 50 pole plants. In addition, some wood is used by the mining industry. This industry uses almost 19 million m^3 annually, with 4,8 million going to the sawmills and 12 million for the production of pulp, paper and with a plantation area that now is stable and unable to expand; the industry is in the same position, with the number of units also having remained at about the same number over the years.

Figure 6 Map showing the location of industrial tree plantations, indigenous forests and the major processing mills

Source: FSA website (accessed October 2012)

The forest industry is a healthy balance in that the export of forest products from South Africa is greater than the importation of such products. This is particular so for pulp, but also the figures for paper and solid wood shows a positive balance. In 2009, forest products for a value of 12. 5 billion Rand were exported, while the import was valued at 9,6 billion.

There is chipping capacity believed to be of the magnitude of 4-5 million tons, although only around 2 million tons have been produced per year recently, for export to Japan for power generation purposes.

Table 8 Structure of South African Wood Processing Industry 2000-2009

Type of Plant	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Sawmills and Veneer Mills	98	103	109	113	115	104	102	102	108
Pulp, Paper and Board Mills	17	20	22	24	25	22	20	19	16
Mining Timber Mills	14	12	15	15	16	13	13	13	16
Pole treating plants	32	41	42	45	49	38	38	44	47
Match factories	2	1	1	1	1	1	1	1	1
Charcoal Plants	4	5	5	5	5	4	4	4	4
TOTAL	**167**	**182**	**194**	**203**	**211**	**182**	**178**	**183**	**192**

Source: FSA website (accessed October 2012)

Table 9 Species Composition in the Industrial Tree Plantations 2000-2009

Species/Year	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Softwood Species	705,221	705,216	709,194	681,940	721,358	688,314	677,079	660,265	650,024
Eucalyptus grandis	287,804	295,876	311,096	314,517	317,315	301,671	269,192	290,157	314,549
Other Eucalypts	238,476	229,255	230,347	217,331	179,206	176,519	208,511	201,777	200,774
Wattle	107,943	112,496	113,265	113,138	108,549	104,822	103,018	95,572	104,055
Other Species	12,316	8,558	7,726	12,356	7,134	10,193	8,393	9,572	5,467
Total All Species	**1,351,760**	**1,351,401**	**1,371,628**	**1,339,282**	**1,333,562**	**1,281,519**	**1,266,193**	**1,257,343**	**1,274,869**

Source: FSA website (accessed October 2012)

The South African forestry industry is well organized. Current industry associations are:

- the South African Timber Growers' Association (SATGA), representing growers in the farming sector;
- Forest Owners' Association (FOA), representing the large companies;
- South African Wattle Growers' Association (SAWGU), representing growers with wattle bark quotas;
- South African Lumber Millers' Association (SALMA), representing the organised sawmilling industry;
- South African Wood Preservers' Association (SAWPA), representing the wood preservation industry;
- The Paper Manufacturers Association of South Africa (PAMSA)

With an increasing economy and increasing demand for wood products, there is likely to be a shortage of wood products in the near future, which might lead to industrial producers looking to secure raw material supplies from outside of RSA.

9. The Timber Trade

Although the South Africa Revenue Service (SARS) is said to maintain a detailed customs database, they charge a substantial fee for preparing data for external clients and have not provided samples of relevant output. This analysis is therefore restricted to data obtained from the UN Comtrade Database (whose source is itself the South Africa Revenue Service). In this analysis, anomalies in the source data have been replaced by estimates.

Accounting for approximately 2% of the total value of South Africa's exports during 2011, wood-based products do not enter in to the top 10 trade commodities in South Africa (SARS website).

Figures 7 and 8 illustrate that South Africa's trade in wood-based products is substantial, and largely dominated by the paper sector. In terms of RWE volume of trade, exports greatly exceed imports. In contrast, by trade value, the two are much closer. This reflects the high proportion of low-value, high-volume products such as wood chips and pulp in South Africa's exports. In 2011, the total export value was approximately USD two billion and imports at approximately USD 1.6 billion.

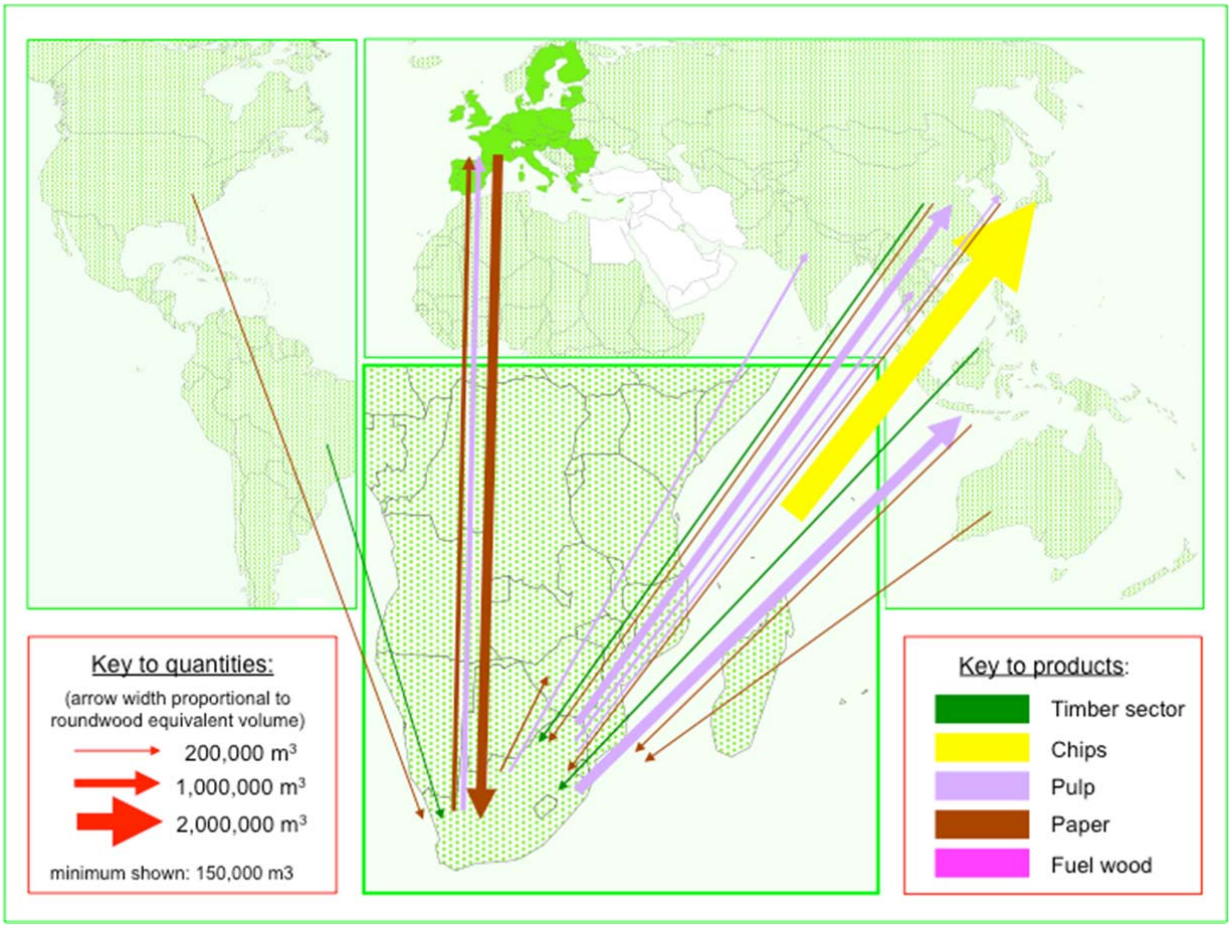

Figure 7 Map of South Africa's trade in wood-based products, by RWE volume (2011)[20]

[20] The volume of charcoal export to Europe is not sufficiently high relative to the export of other wood-based products to show up on this map.

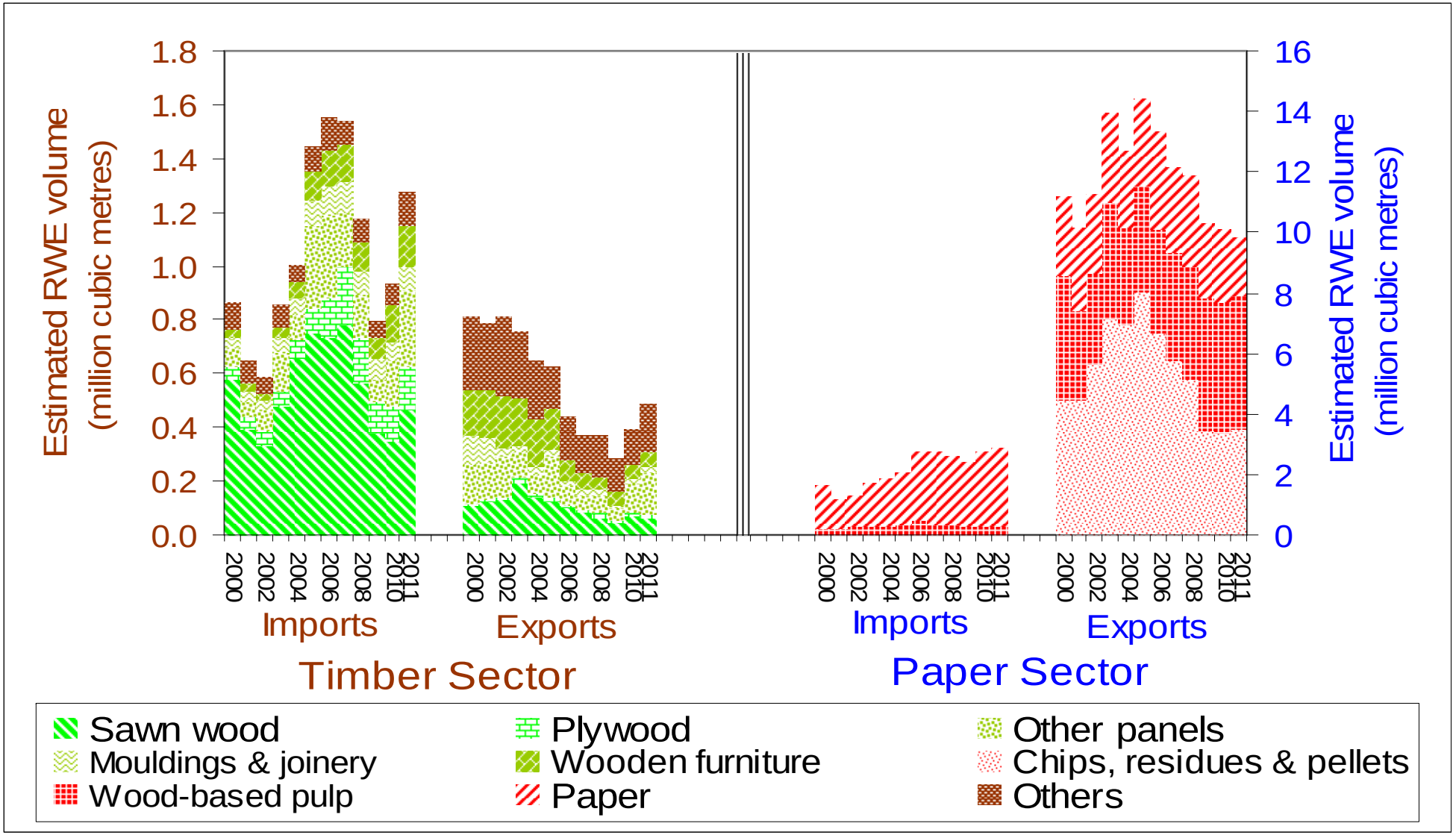

Figure 8 Overview of South Africa's Trade in Wood-based Products, 2000-2011 (by RWE volume)

Source: UNComtrade, 2012

9.1 Exports

As Figure 7 illustrates, wood chips, pulp and paper account for the great majority of South Africa's exports of wood-based products. A small number of exporters/mills accounts for almost all exports, notably Mondi, Sappi, and NCT (see above).

South Africa exports wood chips to Japan, but in recent years this has declined from 5 million tons annually to around 3 million tons. Main reasons are a decrease in demand from Japan and secondly Mondi has diverted chips from their SilvaCel chipping export business to their paper mill in Richards bay. At the same time, a new chipping plant is under construction in Mozambique, with support from the Japanese trading house Sojitz.

Paper exports are also tending to decline, but South Africa's exports of pulp, particularly chemical cellulose or "dissolving pulp" are increasing. Europe and Indonesia are the main markets for this product. Judging by statistics for the EU's imports, most of the wood chips which South Africa exports to the EU comprise pellets (for power generation). South Africa also exports a substantial quantity of charcoal, almost all to the EU. Together wood pellets and charcoal comprise the "Fuel Sector" shown in Figure 7.

Included in South Africa's export statistics is most or all of the output of the only pulp mill in Swaziland[21]. Judging by the import statistics of importing countries, China and South Korea were the ultimate destination for about 60% of the approximately 100,000 tonnes per year which was exported via South Africa.

Based on statistics for Swaziland's exports, South Africa (including its mining sector) is the destination for most of the timber that is exported from Swaziland. During the middle of last decade, these amounted on average to approximately 25,000 m^3 each for logs, sawn wood, and mouldings.

Exports of sawn timber and veneer to most countries have declined steeply since about 2003. Increased exports of logs (primarily poles) and sawn wood to Mozambique have partially offset that decline. The Indian Ocean Islands remain a traditional market for South Africa's market for sawn wood.

The EU used to account for most of South Africa's exports of wooden furniture, but these exports declined to almost zero during the middle of last decade. South Africa's exports to the EU of sawn wood, veneer, panels other than plywood, doors and pulp have also reduced considerably since that time.

Doors made from particleboard or fibre board comprise the great majority of the "mouldings & joinery" which South Africa exports. The UK is the destination for most of this and the company Masonite is likely to account for most of the doors which South Africa exports.

As with exports to the paper and fuel sectors, South Africa's exports to the timber sector derive from plantations, not forest. It is argued that South Africa's forests (all of which is protected by law) cannot currently meet domestic demand, so there is no reason to use timber from those forests in making products for export. However, prices of indigenous hardwoods in South Africa are artificially low because of buying cartels, and export at world prices would attract much higher profits.

9.2 Imports

Paper, of the higher quality grades that South Africa does not produce domestically, comprises most of the wood-based products which South Africa imports, in terms of both RWE volume and trade value. The EU-27 tends to supply about half of that paper. Much of the remainder is supplied from China, Indonesia, South Korea and the USA (see Annex 2).

Sawn wood accounts for most of the timber sector products which South Africa imports; this has averaged 361,000 m^3 over the last decade. Each year since the middle of last decade, Malaysia has

[21] The mill was finally closed during 2012.

supplied between a quarter and a half of this, and timber dealers state that meranti is the most important species. Prior to 2009, Zimbabwe supplied roughly a quarter South Africa's imports of sawn wood, and almost all of this will have derived from soft wood plantations. South Africa also imports sawn soft wood from South Amrica. China supplies most of the plywood and wooden furniture that is imported into South Africa.

It is likely that at least some of the wood-based products which are imported into South Africa is either subsequently re-exported or exported after further transformation in South Africa – South Africa has historically been a hub for regional trade for finished products in general, presumably including wood-based products.

Timber dealers report that about 5% of their sales (by volume) were of regional hardwoods. Hardwoods are also imported from Gabon, mainly as sawn wood and, to a lesser extent, veneer. One merchant commented that he uses less regional hardwood timber, because regularity and quality of supply is too unreliable. All indigenous hardwood imports are sawn timber, as it is too expensive to transport raw logs or rough sawn wood and many countries now prohibit export of logs. The import of tropical hardwood timber into South Africa is controlled by a few big companies (see Section 4.3).

The important regional species on South Africa's timber market include: *Pterocarpus angolensis* (kiat, mukwa, umbila*), Guibourtia conjugata, G coleosperma* (rosewood, false mopane) and *Baikea plurijuga* (Rhodesian teak), and are sourced from Zimbabwe, Zambia, Mozambique and Angola. Given the prevalence of illegal logging in these countries, it is likely that some or a lot of this timber is illegal. Within SADC, there is considerable interest in timber from the Democratic Republic of Congo. However, little currently seems to be entering South Africa.

The legality of timber imported into South Africa is not currently perceived as an issue. However, it is very likely that much of the timber imported from countries in the region, such as Mozambique and Zimbabwe and to a lesser extent, Zambia, Botswana and Angola is actually illegal. South African authorities consider that they have neither responsibility not the technology to check the legality of timber presented at their border, as long as the basic papers from the exporting country appear to be in order. Reflecting international law, irrespective of how illegal the timber might have been in the producing country, once it has entered South Africa, it is effectively clean.

Timber merchants reported being approached by people with truckloads of cheap timber from other African countries, but refusing it if the paper work did not look authentic. However, some regional timber producers accused South African timber merchants of driving down the price of timber they buy to that of illegal timber (including by threatening to either renege on contracts or to reject shipments) Consequently, it is almost impossible to profit from supplying fully legal timber to South Africa.

10. Trends and Key issues

10.1 Continuing transformation of DAFF into policy and regulation agency

The process of transforming the government forestry agency, which began in the 1980s with the first preparations to privatise the state-owned plantations, continues today. If DAFF is able to fully divest itself of its implementation and commercial activities, and enabled to focus more on a policy, regulation and compliance, more attention and resources might be applied to improving the management of indigenous forests and woodlands, and to taking a greater hand in oversight of the plantation sector, which is currently largely self-regulated.

10.2 Increasing attention to land and labour rights in the plantation sector

There is considerable and increasing controversy around FSC certification of South Africa's extensive plantations – in South Africa and internationally (see World Rainforest Movement www.wrm.org). Key issues include the indigenous land claims on areas under plantation, the deteriorating labour conditions since the plantations began out-sourcing labour management and various problems relating to biodiversity conservation.

Currently, DAFF relies heavily on FSC and the industry itself for compliance monitoring. The industry is looking to its FSC certification to provide the basis for any necessary due diligence to enable access to European markets when the European Union Timber Regulation comes into effect. Should certification become discredited, this market access could be affected.

10.3 Lack of human and financial resources for the management of indigenous forests and woodland

Most of the indigenous forests and woodlands are unmanaged and unmonitored. This is largely a consequence of low staffing and resourcing and leaves the forests very vulnerable to degradation and potentially, to illegal logging for export. Enhancing sustainable benefits from forests and woodlands for local communities is important for countering illegal activities. DAFF fully recognises this, but without more funding, these capacity problems cannot be addressed and it means that many of the policies for these forests cannot be implemented. The challenges of governance of a fragmented resource over such a wide area remain.

In other countries in the region, participatory forest management is seen as an important strategy against illegal logging and forest degradation. The NFA reflected an underlying belief in the importance of PFM for South Africa, but since the end of Danish funding in 2005, the PFM programme appears to have virtually collapsed. The same lack of resources that affects staffing for forest law enforcement also affects PFM.

10.4 Lack of capacity in other Government agencies for oversight and law enforcement

Department of Water Affairs and Department of Environmental Affairs have similar capacity problems as DAFF, which make their roles in the forestry sector – enforcing water use and EIA regulations – increasingly difficult to perform.

10.5 Impending introduction of export of indigenous hardwoods

The TOR for the tender for the contract to harvest and sell timber from the Knysna indigenous forest includes a provision for the export of up to 20% of the production. This will be the first time significant volumes have been offered for export and the Chinese are said to already be interested in buying it. This may presage a new period of exploitation of South Africa's native hardwoods and could lead to illegal logging for export, from both indigenous forests and woodlands.

10.6 Reporting of forestry statistics

The annual collection of plantation sector data and the three-yearly publication of the "State of the Forests" Report are commendable, but this study demonstrates that reporting is far from comprehensive and in some cases may not be accurate. Major gaps include the stocks and production of timber from indigenous forests and woodlands (areas, species, volumes), demand and production of fuelwood, licensing of removals of protected species, forest offences and prosecutions, import and export of TTP (particularly native hardwoods) and forest degradation. Inconsistencies exist in the data for forest areas (plantation, indigenous and woodland). Good governance depends on good reporting; without it problems cannot be identified and resolved (as DAFF clearly recognises).

10.7 Lack of controls for import and export of timber

Existing regulations and procedures for the import and export of timber are very lax, involving little in the way of documentation or inspection. Responsible authorities lack the capacity to identify protected species and the commitment to forestry (and wildlife) issues to pursue cases.

10.8 South Africa as a consumer of illegal timber

While South Africa is clearly not a significant producer of illegal timber, it is very probably a consumer of illegal timber from other countries in the region – notably Zimbabwe, Zambia and Angola, and to a decreasing extent, Mozambique. *Pterocarpus angolensis* (kiat, mukwa, umbila*), Guibourtia conjugata, G coleosperma* (rosewood, false mopane) and *Baikea plurijuga* (Rhodesian teak), are the main regional species marketed in South Africa. Illegal timber is typically cheap, and so attractive to South African timber dealers, who can easily plead ignorance regarding the authenticity of documentation from the producer country, while making greater profits. South Africa could play an important role in cracking down on the import and consumption of illegal timber, to start with, by training its customs officers on timber identification and the timber export requirements of neighbouring countries. Corruption amongst customs officers also needs to be addressed.

10.9 South Africa as a conduit for illegal timber

The Chinese market for dark heavy hardwoods is driving logging (legal and illegal) in southern Africa. Zimbabwe and Zambia are land locked and their timber must be routed through ports in neighbouring countries, notably Durban and Beira (Mozambique). At the moment, it appears that illegal timber crossing into South Africa effectively becomes legal – it is "laundered". The extent to which South Africa is acting as conduit for illegal timber needs to be investigated.

11. Anecdotal information on volumes of undocumented and illegal harvesting and trade, major types of illegal logging cases

Illegal logging is not currently a significant problem in South Africa and there is very little documentation.

The main type of illegal logging that does occur is timber theft from commercial plantations. This is mostly for subsistence use by neighbouring communities, but some people also sell the trees to independent wood chip mills, and there have been cases of organised syndicates coming armed and clearing several hectares of timber. A SAPPI representative estimated that theft affected 2- 2.5% of production, and was a less important source of loss than fire, disease and drought. Nevertheless, since the late 1990s, Industry Timber Theft Forums have been established in key areas. There is a worry that now a new wood chip mill has opened in Maputo, there will be increased thieving from plantations in the north-east to feed it. As this theft does not affect the legality of the forest products from the private plantations, and as the wood chips are primarily exported to Japan, this kind of illegal logging has little relevance to FLEGT[22].

Indigenous forests are generally well-protected and informants could only relate one or two recent cases of timber theft from indigenous forest. Occasionally, individual logs are stolen from roadside loading areas in the Knysna forests, but no data was available. More dramatically, in 2001, a sawmill owner and his two sons forged permits, paid off a local chief and cut down 86 protected yellowwood trees hundreds of years old and valued at R400,000, in the Gongqo Gongqo State Forest in the Eastern Cape. They were sentenced to prison, without the option of paying fines. This was seen to reflect the failure to adequately support PFM and forest law enforcement, and the breakdown of tribal authority (de Villiers 2004).

While all informants suspected that some very low level of illegal logging probably goes on, they stressed the timber remains in the domestic market, and does not reach Europe, or indeed any other international market.

Woodlands are much more extensive and a lot less well protected than the indigenous forests, but little has been documented about illegal logging in them. A study in Mpumulanga Province examined the feasibility of harvesting *Pterocarpus angolensis* (kiat, mukwa, umbila) from the Mawewe Nature Reserve, following a request by community members. The study found 26 stems/ ha of the species inside the reserve, and 60 stems/ha outside the reserve, 45 % of which were of harvestable size (over 35 cm dbh). The conclusion that illegal logging must already be taking place inside the reserve was confirmed by direct observations of felled and barked trees (Krynauw 2004). The study assumed that the timber was only used locally (possibly for woodcarving), but perhaps this possibility needs to be explored more closely.

There are valuable species all over the woodlands – such as cottonwoods along river courses, wild olive, milkwood and tambouti, and there is no real control over their harvest. Farmers can clear trees on the simplest pretence – and are rarely checked. Many protected species get cut without a licence – people are willing to pay the fines if necessary.

Certain species of cycads, for example, are currently being poached to extinction in the wild, including from National Parks, for the ornamental plant trade. The market in this case is largely domestic – and the cycads can fetch up to ZAR 500,000 (USD 57,942). Although their conservation is supported by excellent science and legislation, there are enormous capacity problems (unfilled posts and inadequate training), little enforcement and if a case of theft, or unlicensed possession gets to

[22] Paper is the only wood-based product which Japan exports in substantial quantity. Africa (i.e. South Africa) account for about 10% of Japan's imports of wood chips and about 5% of the paper sector products which Japan imports. The EU accounts for about 3% of Japan's exports of paper

court, the fines are too low[23]. Corruption and political involvement are also cited. This demonstrates that the conditions and behaviours for illegal exploitation of natural resources already exist in South Africa, and it may only be a matter of time before they spread into the forestry sector.

In some Category B State plantations in the Eastern Cape , illegal bush mills, run primarily by small black saw-millers have recently begun operating , ousting the old established coloured family businesses. Harvesting is said to be unsustainable.

[23] http://www.timeslive.co.za/local/2012/03/05/sa-cycads-are-facing-extinction

12. Stakeholder perceptions of illegal logging, challenges and the way forward

Apart from the small-scale theft of timber from commercial plantations and the smaller scale unlicensed exploitation of indigenous forests and woodlands for subsistence by rural communities, illegal logging is not currently an issue for most stakeholders in the forest sector. Indeed, some people feel that accommodating community needs through improved woodland management needs to be made a priority.

Stakeholders are more concerned with other issues, which have been touched on above:

- the impending saw-log shortage
- lack of suitable land /water for future plantation expansion
- negative impacts of commercial plantations
    - water conflicts
    - loss of biodiversity
- questionable legitimacy of FSC certification of plantations
    - land claims on commercial plantations
    - labour relations,
    - spread of invasive species
- black economic empowerment (see above 4.1),
- unsustainable bark harvesting for traditional medicine; trampling of woodlands and plantations by cattle
- the supply of forest products for the rural poor.
- establishing a fair domestic market price for indigenous hardwoods that pays for management, without resorting to export markets

Some stakeholders recognise that the lack of DAFF control over most indigenous forests and woodlands and lax export procedures makes these areas potentially vulnerable to commercial illegal logging, but point out those significant additional resources would be required to address the problem.

Only the NGO TRAFFIC appears to have recognised South Africa's role as a consumer and conduit for illegal timber, and they are said to be attempting to address the issue (anonymous, pers. comm.) (See Section 4.3).

13. Conclusions and Recommendations

Conclusions

Forestry in South Africa is very different from forestry in the other countries in this study in almost every way, presenting relatively few of the governance and illegal logging problems currently besetting these other countries. The forest sector is highly developed and sophisticated. Plantation forestry has high levels of FSC certification, and commercial production from indigenous forests is very limited and currently well-controlled. Although there are issues relating to the sustainability of plantation forestry and the legitimacy of its FSC certification, there is currently very little actual illegality in these areas.

The governance of the other indigenous forests and the very extensive woodlands is another story. There is very little understanding of exploitation, supervision or monitoring of what is happening in these areas, and in addition to uncontrolled subsistence use, there are indications that illegal logging for commercial purposes is taking place. It is unlikely, however, that much of this timber is reaching international markets. Asian timber traders, who drive illegal logging elsewhere in the region, do not yet have a presence in South Africa. Stronger civil society and overall governance and less accessible and abundant hardwood resources are probably keeping them at bay, but they have a strong presence in other sectors, so it may just be a matter of time and opportunity. The current plan to permit export of 20% of the production from the Knysna forests may provide that opportunity.

The legality of timber imported into South Africa is not currently perceived as an issue. However, it is very likely that much of the timber imported from countries in the region, such as Mozambique and Zimbabwe and to a lesser extent, Zambia, Botswana and Angola is actually illegal. South African authorities consider that they have neither responsibility not the technology to check the legality of timber presented at their border, as long as the basic papers from the exporting country appear to be in order.

Although South Africa has the highest level of trade in wood-based products with Europe of the nine countries in this study, most of this is based on products from certified plantations, and forest governance in South Africa is amongst the best in the region, probably in all of Africa. It is therefore very difficult to see how South Africa or Europe could benefit from a VPA (or the processes leading to one), and how South Africa could be considered a priority country for an expanded FLEGT programme.

Furthermore, it is unlikely that a VPA with South Africa would help propel improvements in forest law enforcement and governance elsewhere, notably in the other countries which are the subject of this study. This is partly because most of the wood-based products imported into South Africa are consumed in South Africa or its neighbouring countries. In addition, South Africa is unlikely to become a hub for the import and subsequent export-oriented manufacture of wood-based products, particularly given competition from East Asia.

While a VPA is probably not justified, the EU FLEGT programme might offer other forms of support for forest governance in South Africa. Further studies and workshops exploring the seriousness of the issues raised above could be supported, perhaps under the auspices of the South African Institute of International Affairs Governance of Africa's Resources Programme (GARP, see Section 4.3.7) particularly their planned study of resource governance in South Africa, or of the Center for Chinese Studies of Stellenbosch University. A review of the SADC FLEGT process, projects and outcomes to date would also be useful, and scope for a South African research institute to play a more active facilitation role in the process and help uplift regional standards and accountability could be explored.

The FNRM Directorate of DAFF does not currently receive any donor funding, but is meanwhile strapped for resources to carry out its basic functions. Support could be targeted strategically at key

problems in forest governance as perceived by DAFF and revealed in the studies, such as piloting cost effective ways to improve the monitoring and management of indigenous forests and woodlands, a further phase of PFM, licensing (and perhaps revenue collection), the tightening import and export controls for timber and wood products and data management.

As an upper-middle income country, South Africa might take a lead in the region in requiring strict due diligence of its own timber imports, and promoting further management and certification of indigenous hardwood forests and their products.

Finally, while illegal logging of indigenous forests and woodlands is not currently seen as an issue in South Africa, there should be no complacency. Many of the pre-conditions for illegal logging do exist – a large rural population, under-employed and poor, some available and high value resources, very weak governance of woodland resources, a history of corruption related to other resources and generally lax control of timber licensing and export. Illegal logging may be a problem waiting to happen. EU FLEGT support might be provided to ensure that it does not, but that rather governance of South Africa's indigenous forests and woodlands becomes a positive model for the whole region.

Recommendations

To the Government of RSA/DAFF

- Tighten up procedures for licensing and supervision of indigenous timber harvesting and export.
- Commission a proper national forest timber inventory.
- Require due diligence for imports of hardwood timber from the region and indeed the world.
- Resume "participative forestry" (community based forest management) programmes, building on experience of the previous DANIDA programme, to revise policy and approaches.
- Avoid or proceed with utmost care in opening up RSA's indigenous forests and woodlands to Asian business interests, be it trade, harvesting or processing.

To the EU and other donors

- Resume support for community based forest management, to enable rural groups to benefit from sustainable forest management and to preclude the growth of illegal logging.
- Consider resumption of support to FNRM of DAFF to address other strategic problems
- Support review of SADC FLEGT initiatives to date

To NGOs, academia and civil society

- Form and or mobilise networks of NGOs, academia, and civil society to obtain data on actual indigenous forest and woodland timber exploitation, destinations and end uses and possible illegal activities. Identify hot-spots and establish "forest watch" to alert authorities and communities if illegal actions are discovered, particularly if related to export.
- Work with communities and DAFF to develop policy for and promote community-based forestry.
- Develop academic courses in forest governance and illegal logging and include South African issues
- Monitor and analyse timber imports from the region, at key entry points.

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Annexes

Annex 1: List of Protected Trees Species under the National Forests Act 1998 (ACT NO 84 OF 1998).

Botanical Name	English Common Names	Other Common Names Afrikaans (A), Northern Sotho (NS), Southern Sotho (S), Tswana (T), Venda (V), Xhosa (X), Zulu (Z)	National Tree Number
Acacia erioloba	Camel thorn	Kameeldoring (A) / Mogohlo (NS) / Mogôtlhô (T)	168
Acacia haematoxylon	Grey camel thorn	Vaalkameeldoring (A) / Mokholo (T)	169
Adansonia digitata	Baobab	Kremetart (A) /Seboi (NS)/ Mowana (T)	467
Afzelia quanzensis	Pod mahogany	Peulmahonie (A) / Mutokota (V) / Inkehli (Z)	207
Balanites subsp. *maughamii*	Torchwood	Groendoring (A) / Ugobandlovu (Z)	251
Barringtonia racemosa	Powder-puff tree	Poeierkwasboom (A) / Iboqo (Z)	524
Boscia albitrunca	Shepherd's tree	Witgat (A) / Mohlôpi (NS) / Motlhôpi (T) / Muvhombwe (V) / Umgqomogqomo (X) / Umvithi (Z)	122
Brachystegia spiciformis	Msasa	Msasa (A)	198.1
Breonadia salicina	Matumi	Mingerhout (A) /Mohlomê (NS) / Mutu-lume (V) / Umfomfo (Z)	684
Bruguiera gymnorrhiza	Black mangrove	Swart-wortelboom (A) / Isikhangati (X) / Isihlobane (Z)	527
Cassipourea swaziensis	Swazi onionwood	Swazi-uiehout (A)	531.1
Catha edulis	Bushman's tea	Boesmanstee (A) / Mohlatse (NS) / Igqwaka (X) / Umhlwazi (Z)	404
Ceriops tagal	Indian mangrove	Indiese wortelboom (A) / Isinkaha (Z)	525
Cleistanthus schlechteri var. *schlechteri*	False tamboti	Vals-tambotie (A) / Umzithi (Z)	320
Colubrina nicholsonii	Pondo weeping thorn	Pondo-treurdoring (A)	453.8
Combretum imberbe	Leadwood	Hardekool (A) / Mohwelere-tšhipi (NS) / Motswiri (T) / Impondondlovu (Z)	539
Curtisia dentata	Assegai	Assegaai (A) / Umgxina (X) / Umagunda (Z)	570
Elaeodendron transvaalensis	Bushveld saffron	Bosveld-saffraan (A) / Monomane (T) / Ingwavuma (Z)	416
Erythrophysa transvaalensis	Bushveld red balloon	Bosveld-rooiklapperbos (A) / Mofalatsane (T)	436.2
Euclea pseudebenus	Ebony guarri	Ebbehout -ghwarrie (A)	598
Ficus trichopoda	Swamp fig	Moerasvy (A) / Umvubu (Z)	54
Leucadendron argenteum	Silver tree	Silwerboom (A)	77
Lumnitzera racemosa var. *racemosa*	Tonga mangrove	Tonga-wortelboom (A) / Isikhaha-esibomvu (Z)	552
Lydenburgia abbottii	Pondo bushman's Tea	Pondo-boesmanstee (A)	407
Lydenburgia cassinoides	Sekhukhuni bushman's tea	Sekhukhuni-boesmanstee (A)	406
Mimusops caffra	Coastal red milkwood	Kusrooimelkhout (A) / Umthunzi (X) / Umkhakhayi (Z)	583
Newtonia hildebrandtii var. *hildebrandtii*	Lebombo wattle	Lebombo-wattel (A) /Umfomothi (Z)	191
Ocotea bullata	Stinkwood	Stinkhout (A) / Umhlungulu (X) / Umnukane (Z)	118
Ozoroa namaquensis	Gariep resin tree	Gariep-harpuisboom (A)	373.2
Philenoptera violacea	Apple-leaf	Appelblaar (A) / Mphata (NS) / Mohata (T) / Isihomohomo (Z)	238
Pittosporum viridiflorum	Cheesewood	Kasuur (A) / Kgalagangwe (NS) / Umkhwenkwe (X) / Umfusamvu (Z)	139
Podocarpus elongatus	Breede River yellowwood	Breederivier-geelhout (A)	15

Podocarpus falcatus (Afrocarpus falcatus)	Outeniqua yellowwood	Outniekwa-geelhout (A)/ Mogôbagôba (NS)/ Umkhoba (X)/ Umsonti (Z)	16
Podocarpus henkelii	Henkel's yellowwood	Henkel-se-geelhout (A) / Umsonti (X) / Umsonti (Z)	17
Podocarpus latifolius	Real yellowwood	Opregte-geelhout (A) / Mogôbagôba (NS)/ Umcheya (X) / Umkhoba (Z)	18
Protea comptonii	Saddleback sugarbush	Barberton-suikerbos (A)	88
Protea curvata	Serpentine sugarbush	Serpentynsuikerbos (A)	88.1
Prunus africana	Red stinkwood	Rooi-stinkhout (A) / Umkhakhase (X) / Umdumezulu (Z)	147
Pterocarpus angolensis	Wild teak	Kiaat (A) / Morôtô (NS) / Mokwa (T) / Mutondo (V) Umvangazi (Z)	236
Rhizophora mucronata	Red mangrove	Rooi-wortelboom (A) / Isikhangathi (X)/ Umhlume (Z)	526
Sclerocarya birrea subsp. *caffra*	Marula	Maroela (A) / Morula (NS) / Morula (T) / Umganu (Z)	360
Securidaca longepedunculata	Violet tree	Krinkhout (A) / Mmaba (T)	303
Sideroxylon inerme subsp. *inerme*	White milkwood	Wit-melkhout (A) / Ximafana (X) / Umakhwelafingqane (Z)	579
Tephrosia pondoensis	Pondo poison pea	Pondo-gifertjie (A)	226.1
Warburgia salutaris	Pepper-bark tree	Peperbasboom (A)/ Molaka (NS)/ Mulanga (V)/ Isibaha (Z)	488
Widdringtonia cedarbergensis	Clanwilliam cedar	Clanwilliam-seder (A)	19
Widdringtonia schwarzii	Willowmore cedar	Baviaanskloof-seder (A)	21

Source: Government Gazette DAFF Notice No 835 of 2010.

Annex 2: South Africa's trade in selected groups of wood-based product (2000-2011, by partner country)

Source: UN Comrade, 2013

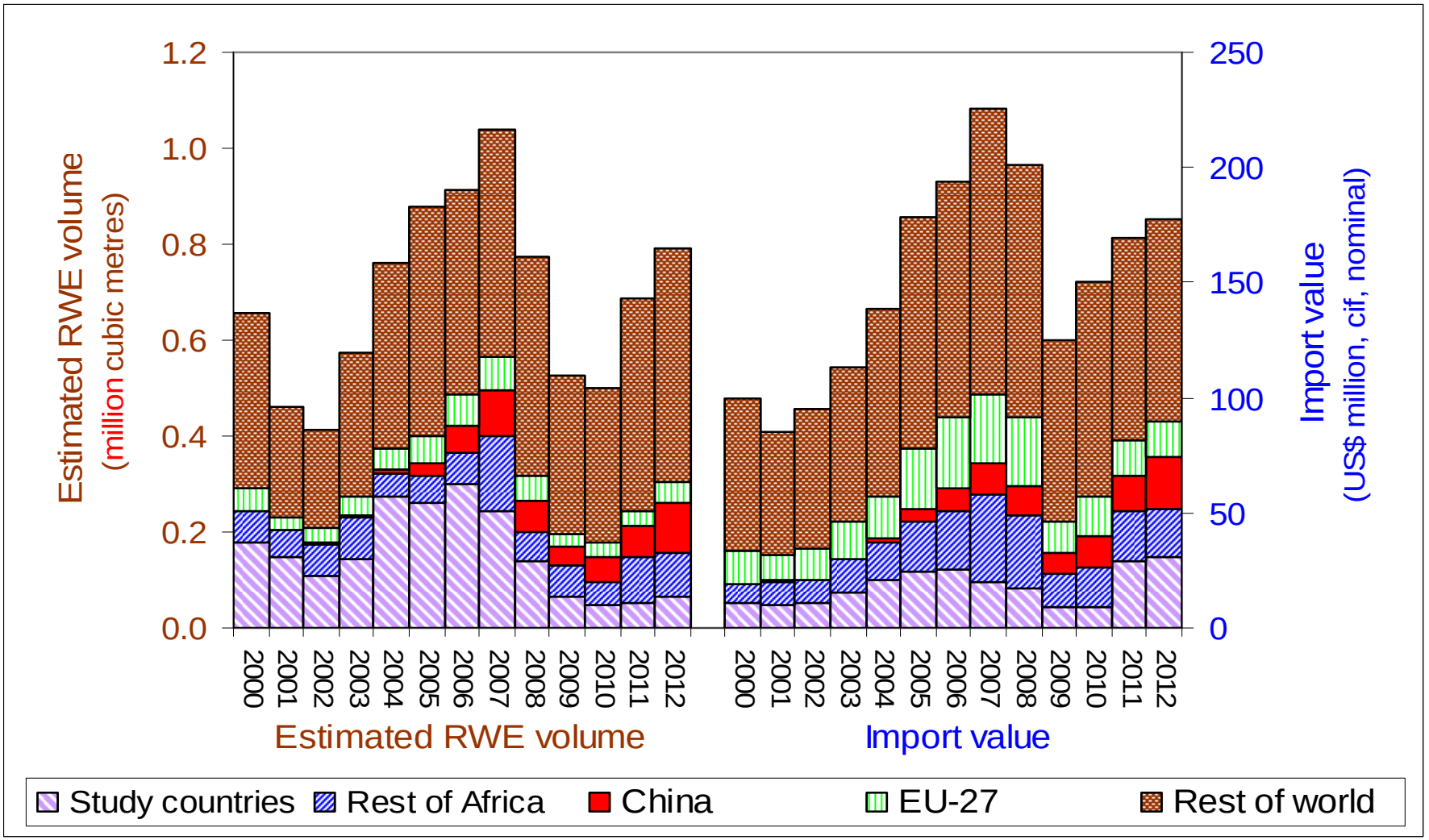

Figure 9 Imports of VPA core products

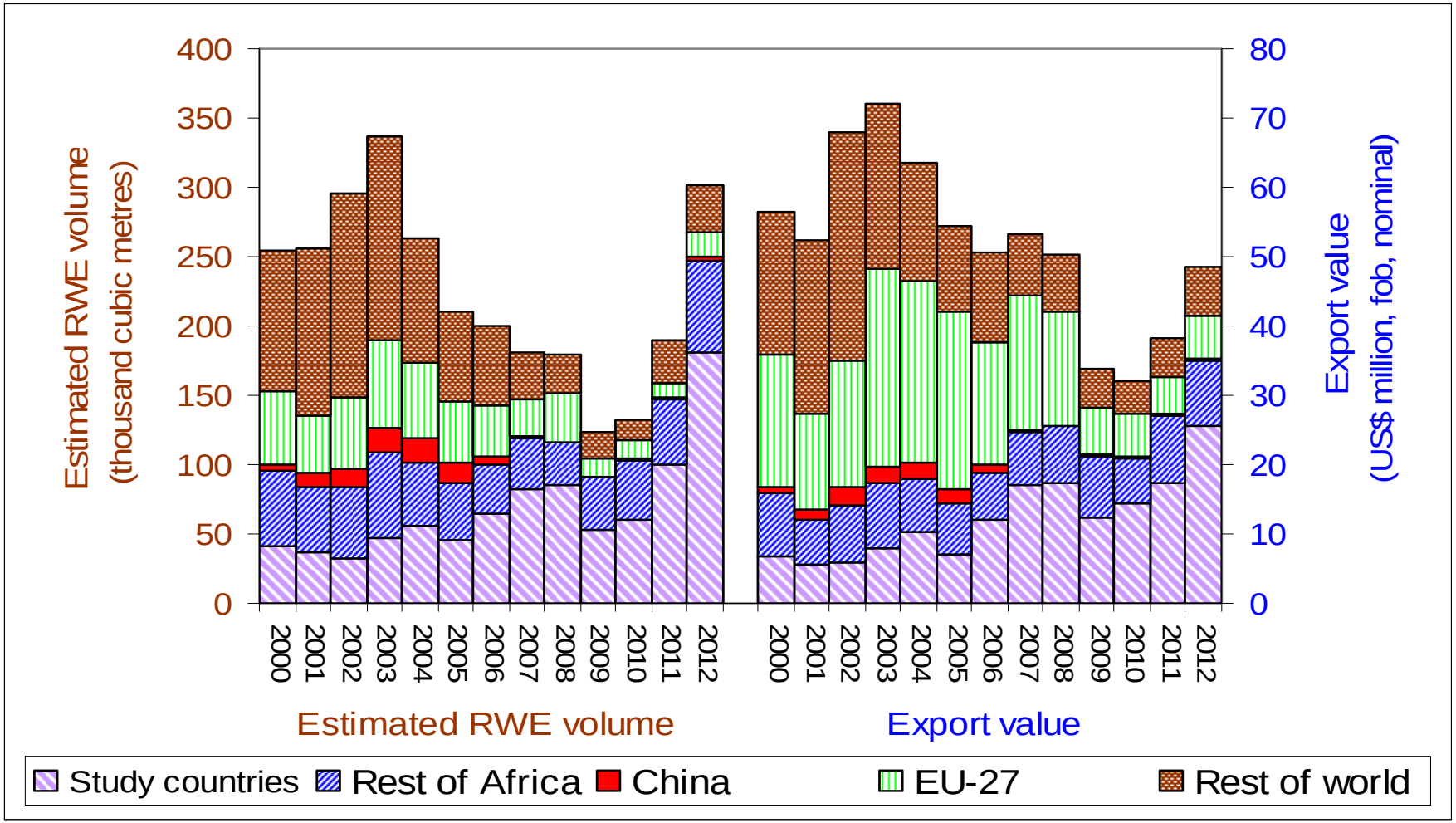

Figure 10 Exports of VPA core products

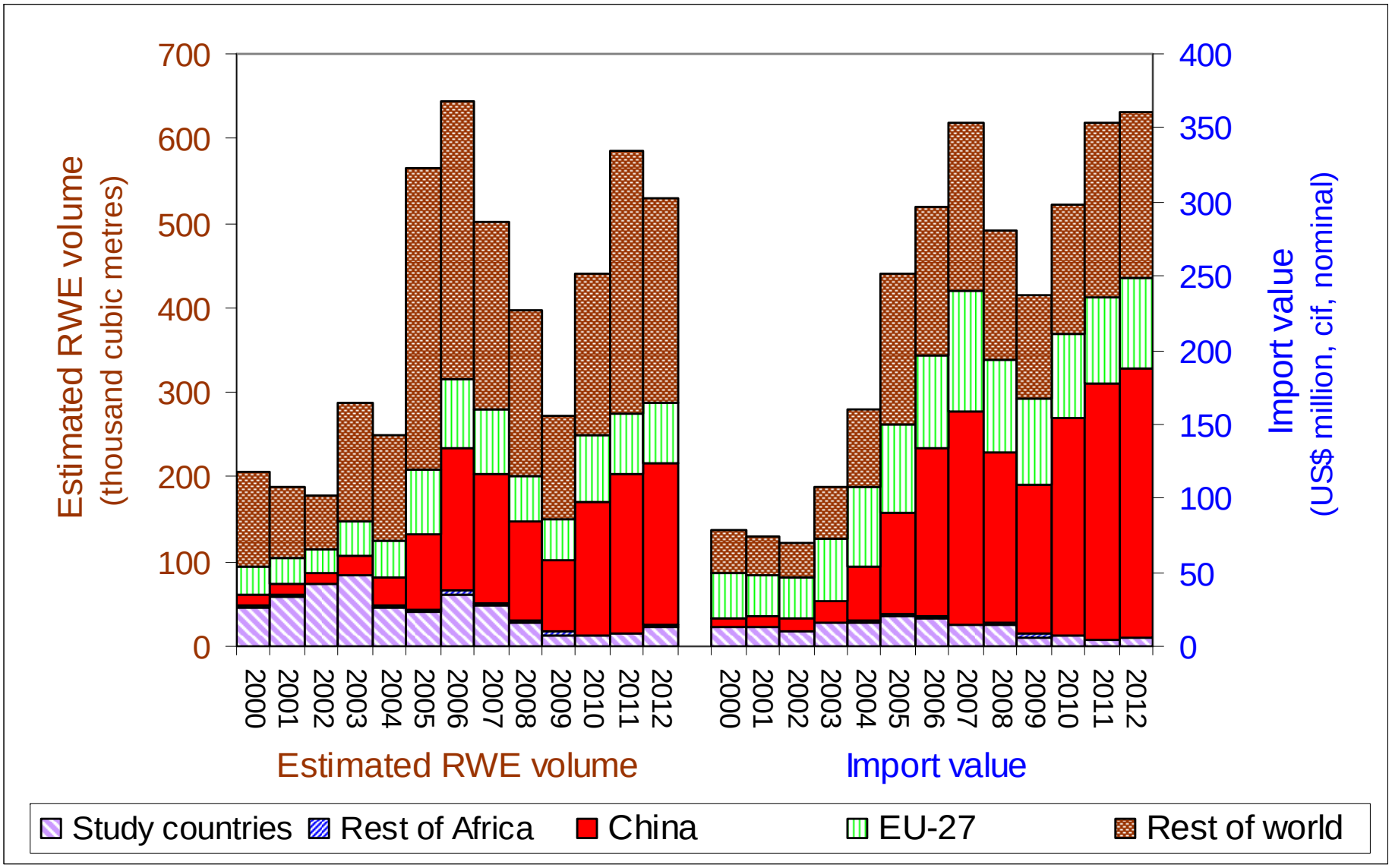

Figure 11 Imports of other timber sector products

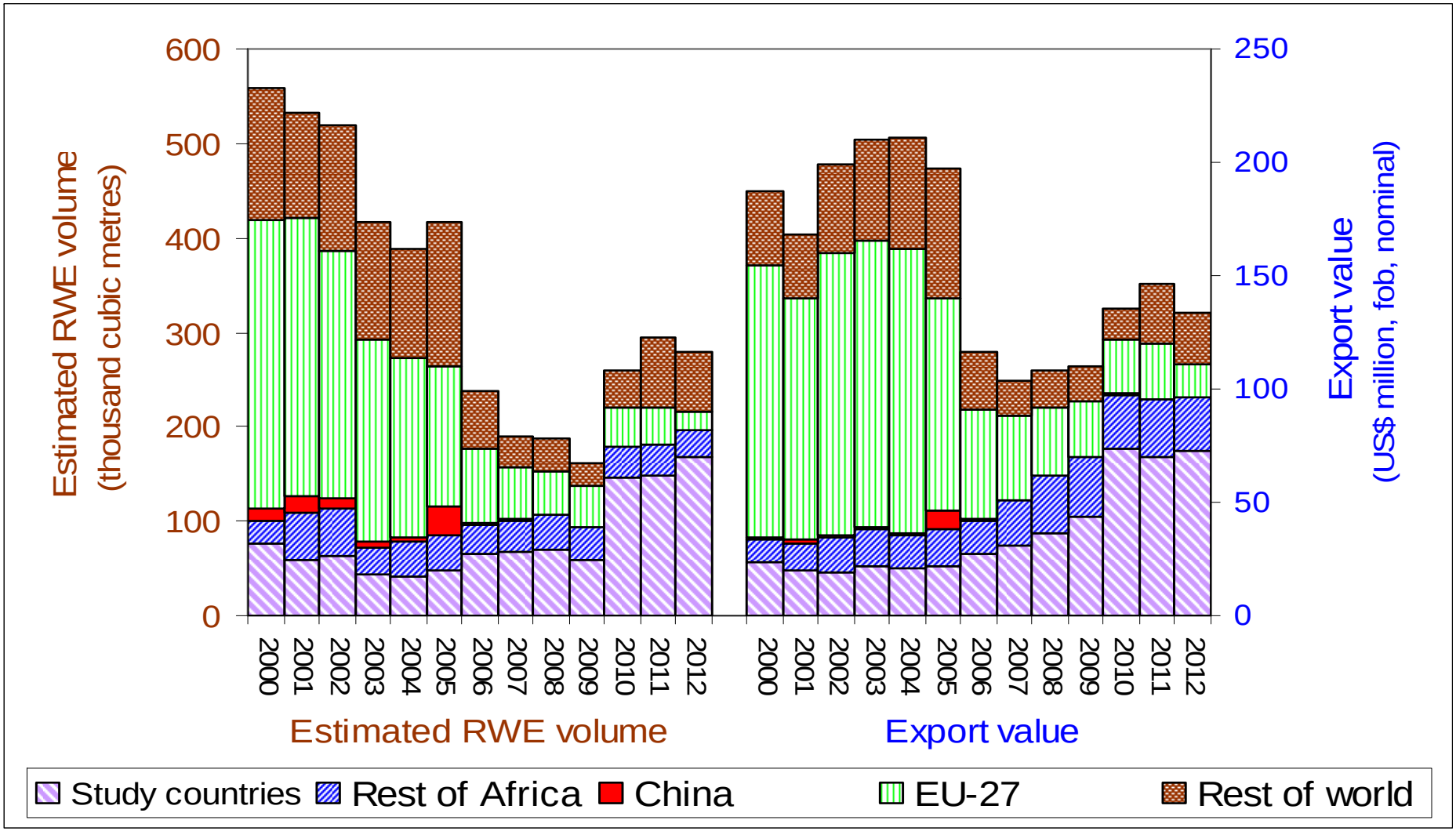

Figure 12 Exports of other timber sector products

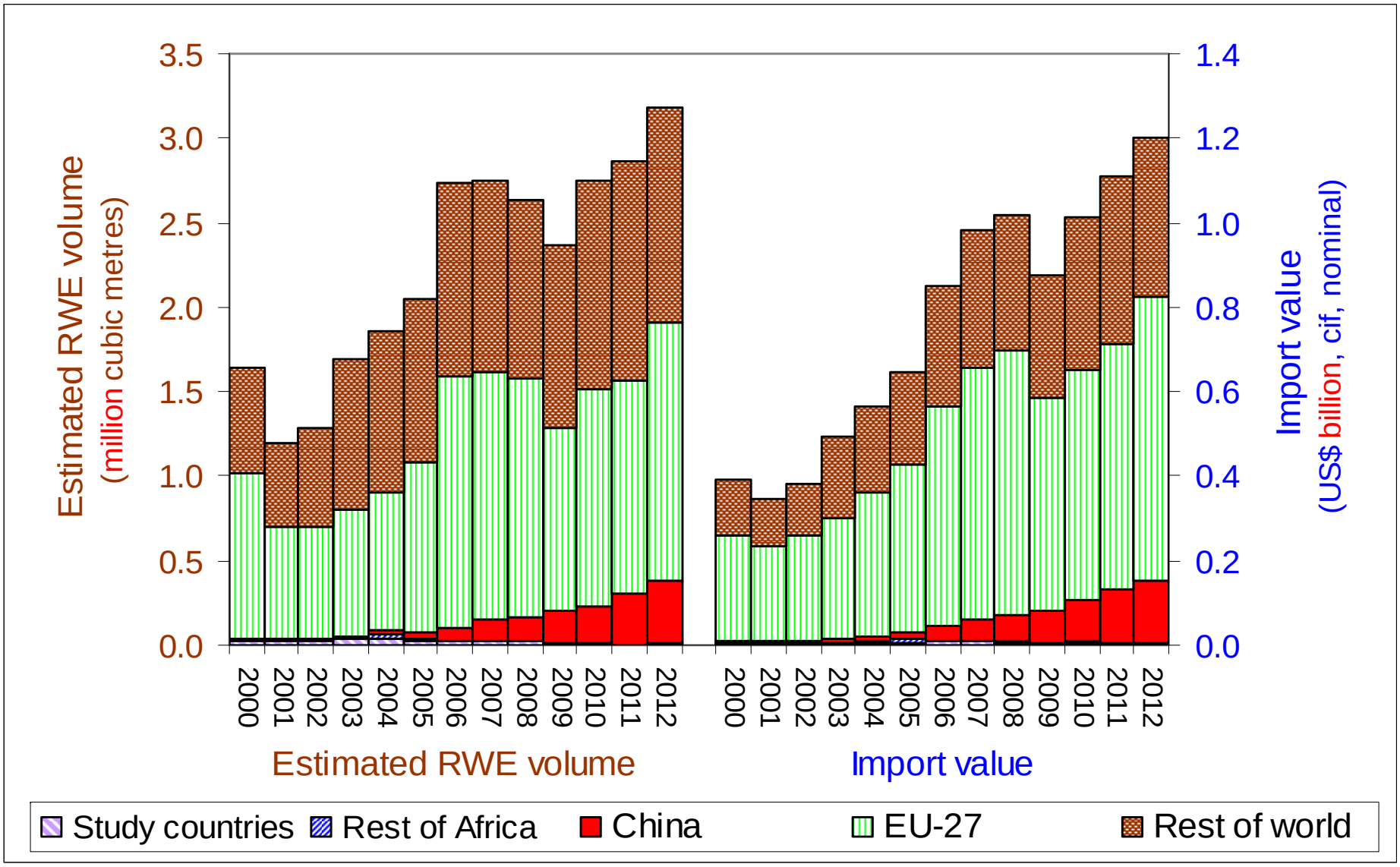

Figure 13 Imports of paper sector products

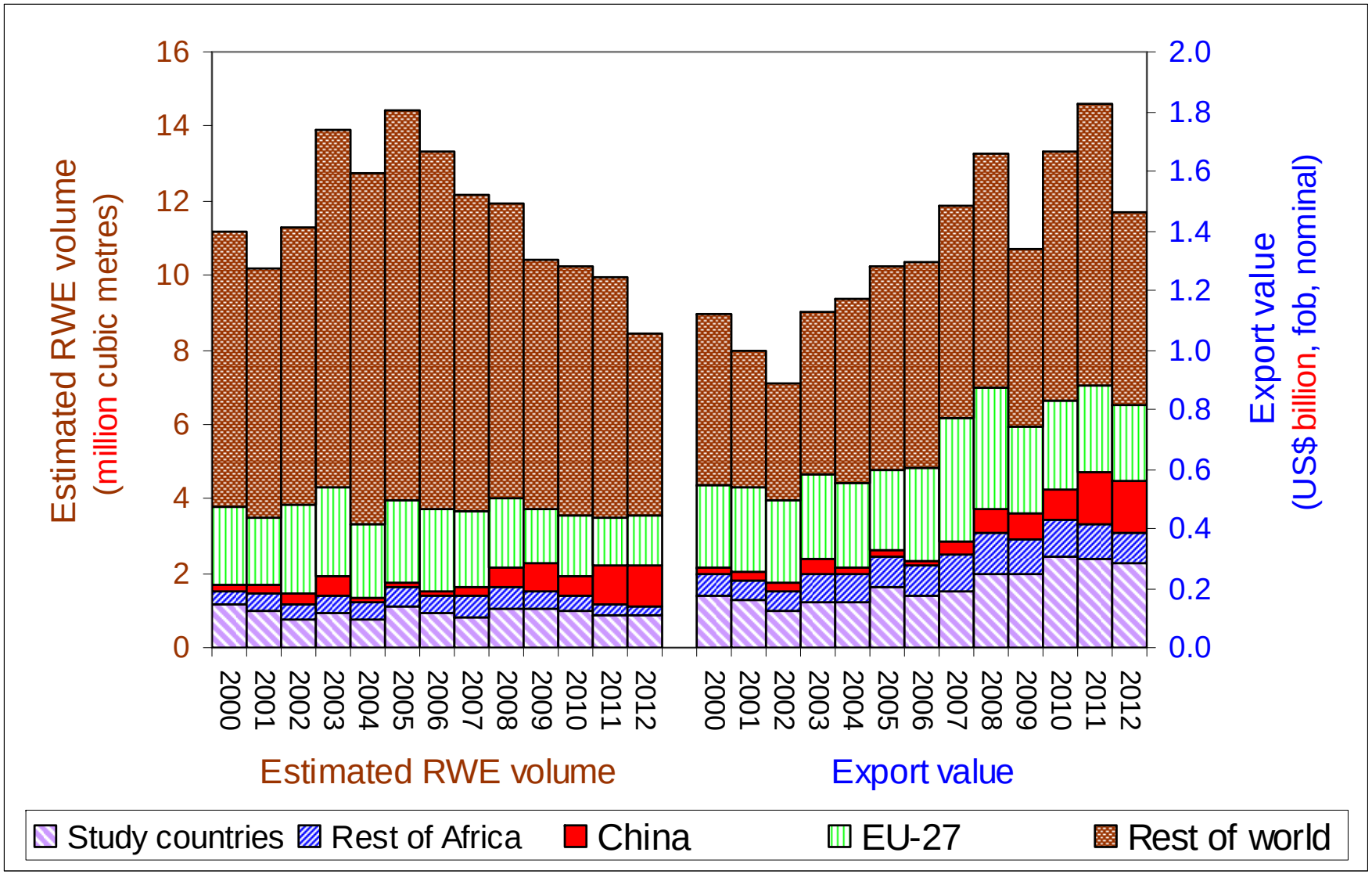

Figure 14 Exports of paper sector products

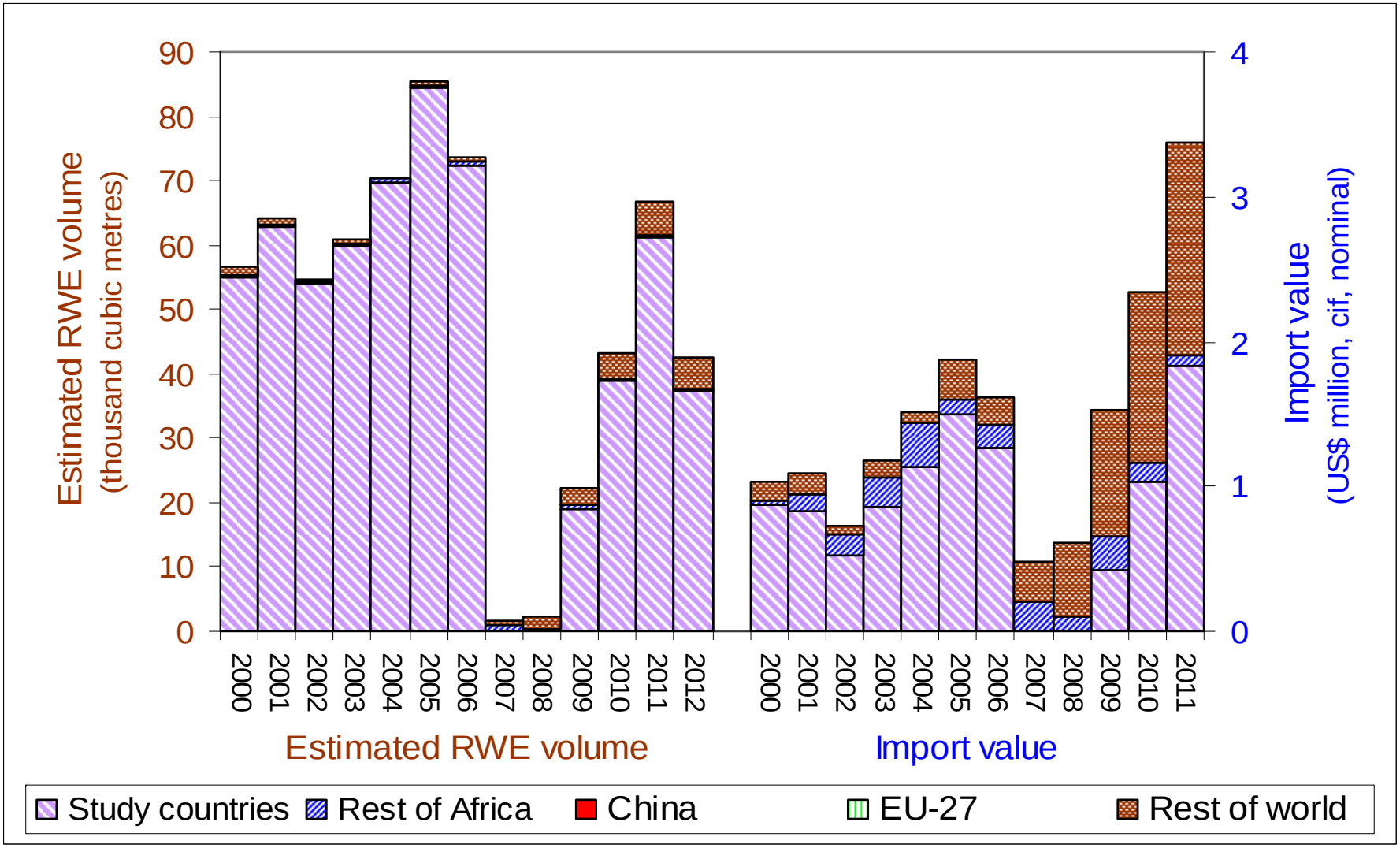

Figure 15 Exports of logs

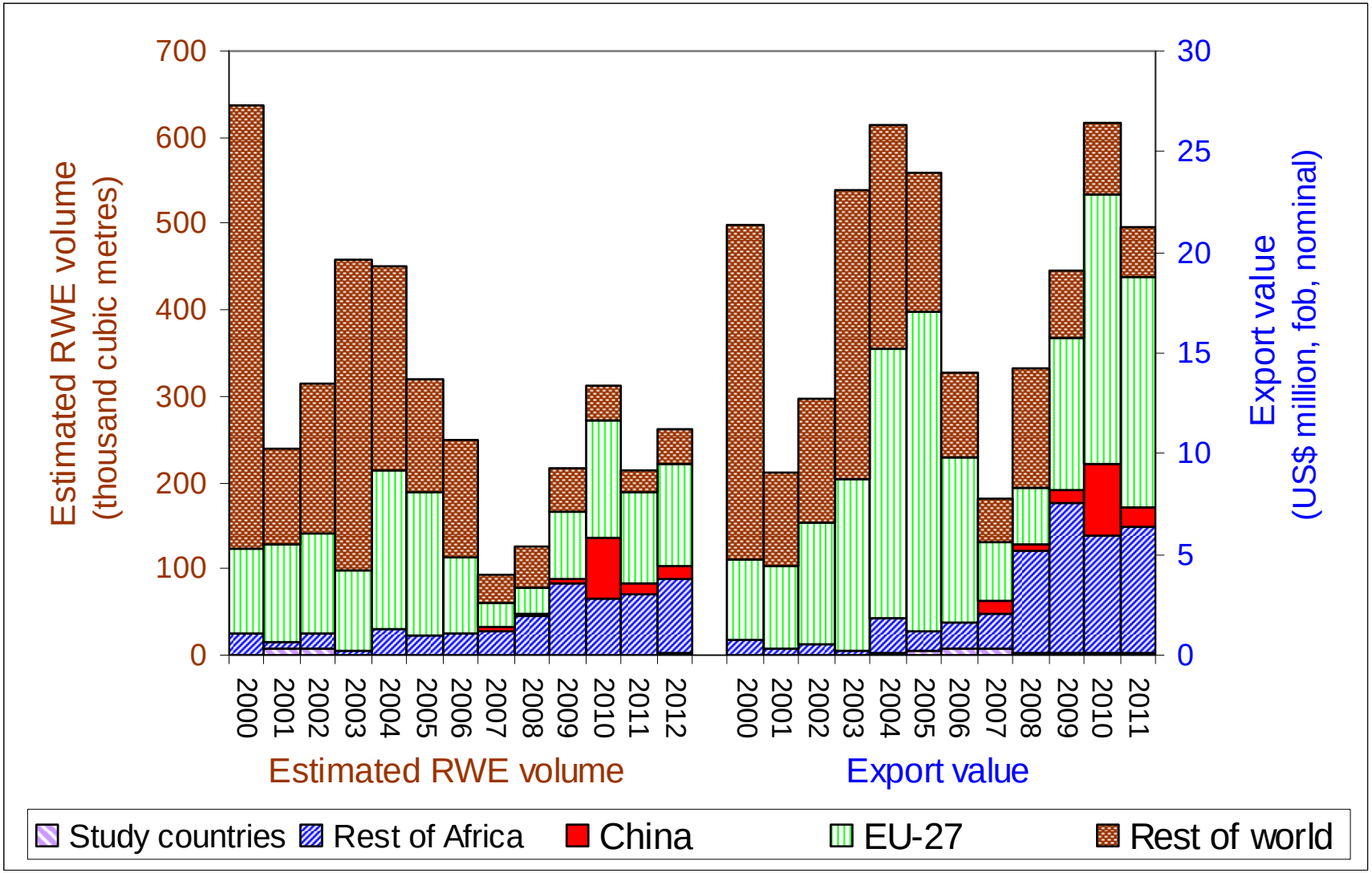

Figure 16 Exports of fuel sector products