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

Tanzania Study

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Abbreviations

AAC	Annual Allowable Cut
CBFM	Community Based Forest Management
CDC	Commonwealth Development Corporation
CDM	Clean Development Mechanism
CE	Chief Executive
COC	Chain of Custody
CSO	Civil Society Organisation
CSO	Civic Society Organisation
DC	District Commissioner
DED	District Executive Director
DFHC	District Forest Harvesting Committee
DFO	District Forest Officer
EAC	East African Community
EU	European Union
FAO	Food and Agriculture Organisation
FBD	Forest and Beekeeping Division
FLEGT	Forest Law Enforcement, Governance and Trade
FMP	Forest Management Plan
FR	Forest Reserve
FSC	Forest Stewardship Council
FSU	Forest Surveillance Unit
FTI	Forestry Training Institute
GDP	Gross Domestic Product
GO	Governmental Organisation
GoT	Government of Tanzania
GRL	Green Resources Limited
IGO	Inter-governmental Organisation
ISSMI	Integrated Stock Survey Management Information
LGA	Local Government Authority
MAB	Management Advisory Board
MDF	Medium Density Fiberboard
MEAs	Multilateral Environmental Agreements
MNRT	Ministry of Natural Resources and Tourism
MPM	Mufindi Paper Mills
NBS	National Bureau of Standards

NEMC	National Environment Management Council
NFP	National Forest Programme
NGO	Non-Governmental Organisation
NTFP	Non- Timber Forest Products
PA	Protected Area
PERS. COM.	Personal Communication
PMO	Prime Minister's Office
RA	Regional Administration
REDD	Reduction of Emissions From Deforestation and Forest Degradation
RNRO	Regional Natural Resources Officer
SFM	Sustainable Forest Management
TAFORI	Tanzania Forest Research Institute
TANAWAT	Tanganyika Wattle Company
TFS	Tanzania Forest Service
TFWG	Tanzania Forestry Working Group
TIN	Tax Identification Number
TRA	Tanzania Revenue Authority
VAT	Value Added Tax
VCS	Voluntary Carbon Standard

Background

This study of timber flows within, to and from Tanzania 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 Tanzania 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 Kenya 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 Tanzania, was prepared by Jones Ruhombe.

Executive Summary

Tanzania has about 33 million ha of forests and woodlands, or almost 40% of the total land area of the mainland. About 13 million ha of the forests are gazetted as forest reserves including 85,000 ha of industrial plantations and 1,6 million ha of strategic forests that serve important water catchment functions. Mangrove forests cover some 115,000 ha.

There are 223 gazetted forest reserves, protective as well as productive, under the management of the central government while 168 forest reserves are under local governments. The latter reserves are a major source of income generation for the districts, covering 1.5 million ha.

Major species in the plantations include pines, cypress, eucalypts and teak. The Sao Hill Forest Plantation covers about 50% of the total planted area and dominates the wood supply in the country, currently supplying over 85% of the raw material consumed by the forest industries.

Forests on general land, covering 19 million ha, are outside of the protected areas. Most production of timber and fuelwood takes place in these forests which the rural population depend on for livelihoods and survival. The general land's forests are poorly managed and prone to constant pressure from conversion to other land uses especially agriculture, shifting cultivation and settlements.

There are also hundreds of smaller so called village land forest reserves, a most unique concept whereby villages and villagers now are managing their own forest resources, working through village forest management plans and village bylaw in such a cost effective and sustainable manner that it has become an example to other countries when it comes to participatory forest management.

Tanzania's trade in wood based products is on the increase with timber exports being at the level of 250,000 m3. Export of sawn wood has increased while the export of logs has ceased. Kenya is a major export market for sawn timber coming from the plantations. Other export destinations include the EU, Japan and China. India has traditionally been the destination for most of Tanzania's exports of sawn wood, mostly teak. Much hardwood timber is being produced from the natural forests, by pit sawyers, and the illegal harvesting is a major issue in the utilization of the indigenous forests.

Tanzania's imports of timber primarily comprise sawn wood from Malawi and Mozambique and plywood, other panels and furniture from China. The bulk of sawn wood from Mozambique comes from natural forests, most of it illegally across the Ravama River, forming the southern border. South Africa and the EU account for most of the paper which Tanzania imports. EU does not import a substantial quantity of wood based products from Tanzania, i.e. a round-wood equivalent volume smaller than 3,000 m3 each year.

Until 2011, the mandate for forest management and administration was under the Forest and Beekeeping Division, a line department in the Ministry of Natural Resources and Tourism. The Forest and Beekeeping Division was also responsible for technical training, research and deployment of staff to manage central government forests. In 2011 there was a sector reform which created a semi-autonomous agency, the Tanzania Forest Service with functions to manage central government forest reserves and forest resources on general land. The Forest and Beekeeping Division remains with responsibilities of policy development and legislation and the supervision of their implementation.

The current forest policy came into force in 1998. The policy was given legal force by the Forest Act of 2002 and was operationalized through the Forest Regulations of 2004 which vests the responsibility of managing forest resources into various stakeholders. The policy emphasises participatory management and decentralization. These are radical changes from the earlier forest policy and legislation that focused on preservation and control under centralized management.

The Tanzania Forest Act of 2002 and the Forest Regulations of 2004 provide the principal legislation for management of all forests in Tanzania. The Act is a comprehensive and enabling law that captures all the tenets of contemporary principles of forest management.

A number of sections in the Forest Act of 2002 apply to the harvesting and trade in forest products. It prohibits anyone from removing any forest produce within a national or local forest reserve without the necessary concession, license or permit. The procedures for applying for, screening, granting and revoking such permits are also specified by the Act. The Forest Regulations of 2004 outline procedures and conditions for the application, grant, variation, refusal, extension or cancellation of licenses, permits or concessions. The regulation of felling, removal and transportation of forest produce is also well covered.

To control the utilization of forest products and to ensure that harvesting and transportation are done in accordance with regulations and procedures laid down in Forest Act, the Forest Surveillance Unit (FSU) was established in 2005/2006. During patrols and at checkpoints, documents are examined for authenticity and logs inspected for hammer-marks. The FSU staff can stop any truck on any road for inspection, they can mount temporary checkpoints, visit harvesting areas and stores for forest produce. Any forest produce that is non-compliant is impounded.

According to the Forest Act (2002) timber exporters are required to possess a valid export certificate issued by the Director of Forestry and Beekeeping for each shipment. Applications for the permission to export forest products are to be accompanied by a range of documents including a valid trading license, tax clearance certificates etc. Export certificates may only apply to graded timber whose origin and grade tallies with the timber markings. Timber inspection before export, including grading and marking, can only be conducted by those authorized by the Director. An authorized timber grader must conduct grading before the shipment is made. It should be noted that export of logs of any tree species is prohibited by law.

Forest certification in Tanzania is confined mainly to a handful of commercial forest plantations in the southern highlands of the country. One estate of around 30,000 ha is certified, some have stopped and some others are interested.

Prior to commencement the privatization policy in the 1990s, the forest industry in Tanzania was dominated and owned by the government through Tanzania Wood Industry Corporation, TWICO. Activities at the time revolved around mechanical wood processing through sawmilling, furniture making and joinery but also other forest-based industries including small-scale paper and board production, match making, poles production, chipboard, fibreboard and blackboard manufacturing and tannin extraction. Industrial wood consumption stood at an average 750,000 m3 a year.

Currently, the wood-based forest industry in Tanzania is dominated by sawmilling and furniture making. The number of registered sawmills is now almost 400, most of which are small-scale with an annual log input not exceeding 5,000 m3 and employing about 5-8 persons. The total utilization capacity of these mills is, however, less than 50% of the theoretical capacity. The government plantations are supplying 80% of the industrial round-wood, most of them found at the Sao Hill forest plantation. One pulp and paper mill at Mufindi produces 40,000 ton of kraft paper annually, for domestic and international markets. There are several pole treatment plants producing good quality poles.

There are reportedly far reaching problems of corruption in Tanzania. Illegal activities take the form of logging without documentation, logging in unauthorized areas, under-declaration of volumes leading to undervaluation and the use of invalid export documentation. One result is a considerable shortfall in revenue collection.

Although the forestry sector of Tanzania has gone through a substantial sector reform which has given communities wide and unique responsibilities when it comes to forest management and protection as well as access to forestry products, the institutional capacity in law enforcement needs substantial strengthening in order to curb illegal harvesting and trade in forest products.

1. Introduction

The National Bureau of Standards (NBS) estimates the population of Tanzania at 34.6 million growing at a rate of 2.8% per annum. Over 80% of Tanzanians live in rural areas depending on land and natural resources for their subsistence. Agriculture is the mainstay of economy, contributing 45-50% of Gross Domestic Product (GDP) and employing 80% of the work force. With the second largest deposits in Africa, gold accounts for 60% of exports and is replacing agriculture in terms of export value (Khan *et al.*, 2005).

Forests are important in Tanzania due to the many goods and services they provide, including wood and wood products, water catchment protection, food security, fodder, medicine, fuel, shelter, employment, recreation, habitats for wildlife, landscape diversity and carbon sinks and reservoirs. The forests contain unique natural ecosystems, biological diversity and genetic resources and generate revenue from various products and services, especially timber and non-timber products, export earnings and tourism.

On average, the sector contributes over 3.3% of GDP per annum and employs about 3% of paid labour and even a bigger proportion of people in informal forestry related activities. Forests are also important safety nets for both rural and urban livelihoods. Total economic value of forest goods and services is estimated at USD 2.2 billion per year, equivalent to 20% of the GDP (Ministry of Natural Resources and Tourism - MNRT, 2008).

2. The Forest Sector

2.1 Types, Use and Ownership Status

Tanzania has about 33.6 million ha of forests (defined as land with at least 10 % tree crown cover, naturally grown or planted, and/or 50 % or more of a shrub and tree regeneration cover including all forest reserves of whatever kind declared under the law) and woodlands (having 5-10% canopy cover) constituting almost 40% of the total land area of the mainland. About 13 million ha of the forests are gazetted as Forest Reserves (FRs) (forest area, either for production of forest products or for the protection of water catchments and biodiversity values and controlled under the Forest Act of 2002.), including 85,000 ha of industrial plantations and 1.6 million ha of strategic forests for water catchment protection in addition to coastal mangroves. Gazetted forests are owned and managed by the central and local governments through the Ministry of Natural Resources and Tourism. About 600,000 ha are owned and managed by local governments. Forests on the general lands (non-reserved forests) cover 19 million ha. Private and community forests include farm forests, natural forests on leasehold land and traditional forests/trees and are estimated to cover 70,000-150,000 ha. Forest distribution is given in Table 1. Mean yield rates for plantations at 13m^3/ha/year (Pine) and 16m^3/ha/year (Eucalypts). Forest loss, or deforestation, is estimated at over 400,000 ha per year (about 1%) and main causes for this are charcoal production and pressure from other land uses.

Table 1 Forest Distribution by Type, Use and Legal Status (000ha)

Forest Type	
Forests (other than mangrove forests)	1,141 (3.4%)
Mangrove forests	115 (0.3%)
Woodlands	32,299 (96.2%)
Use of forest land	
Production forest area	23,810 (71%)
Protection forest area (mostly catchment areas)	9,745 (29%)
Legal status	
Forest Reserves (public)	12,517 (37.3%)
Forests/woodlands in National Parks (public)	2,000 (6%)
Non-reserved forest on general land (on private and public land)	19,038 (56.7%)

Source: National Forest Programme (2001)

2.2 Government Industrial Plantations

Government of Tanzania (GoT) - owned industrial plantations cover 85,000 ha. Major species include pines (most dominant), cypress, eucalypts and teak. Annual allowable cut (AAC) potential is estimated at about 1 million m^3. Sao Hill Forest Plantation covers about 50% of the total planted area and dominates the wood supply. It is currently supplying over 85% of raw material consumed by industries. Geographic distribution of the government forest plantations in Tanzania is shown in Table 2. Each plantation has a forest management plan covering 5 years.

Table 2 Distribution of Government Forest Plantations

Plantation	Location	Area (ha)	Growing Stock (m3)	AAC 2009 (m3)
Sao Hill	Iringa	41 604	10 231 598	1 034 765
Meru/Usa	Arusha	5 710	419 089	14 423
North Kilimanjaro	Kilimanjaro	6 200	394 068	25 000
West Kilimanjaro	Kilimanjaro	6 019	302 987	17 931
Buhindi	Mwanza	3 210	246 669	30 360
Kiwira	Mbeya	2 637	118 735	1 738
Rondo	Lindi	2 599	28 105	660
Kawetire	Mbeya	1 956	128 243	7 585
Rubya	Mwanza	1 906	125 933	4 964
Shume/Magamba	Tanga	3 804	317 423	15 000
Longuza	Tanga	2 450	155 892	18 459
Ukaguru	Morogoro	1 700	18 897	-
Mtibwa	Morogoro	1 410	87 271	24 155
Matogoro	Songea	868	22 833	5 217
Ruvu-Woodfuel	Coast	633	-	-
Rubare	Kagera	285	36 649	-
Total		**82 991**	**12 634 392**	**1 200 257**

Source: Forestry and Beekeeping Division (FBD, (2010)

2.3 Forests on General Lands

Forests on general land are outside of Protected Areas (PAs), which include national, local authority and village land forests and National Parks and Game Reserves, where the latter two are managed by "Tanzania National Parks". Most timber, wood-fuel and non-timber forest products (NTFPs) harvesting takes place on general land. Rural people depend on them for livelihoods. These forests are poorly managed and prone to pressures from conversion to agriculture, livestock grazing, settlements and industrial development and also periodic fires. There has been no incentive for systematic management of these forests leading to their degradation (30,000 - 500,000 ha per year). The Draft Forest Policy (2011) proposes to promote sustainable forest management (SFM) in these forests by establishing village forest reserves (VFRs) with surveyed boundaries and management plans and managed under Community Based Forest Management (CBFM). To-date, 2,345,000 ha of VFRs are successfully being managed under CBFM, representing 11.6% of unreserved forests (Axberg G. et al., 2011). There is no information on how existing VFR are distributed in the country and it is not clear whether more VFR are being created.

2.4 Private Company and Local Community Plantations

Forest plantation development by the private sector is a new development in Tanzania, following enunciation of the National Forest Programme (NFP) in 2001. Table 3 shows the key private companies operating industrial plantations in the country. Privately-owned forest plantations are some of the best-managed in Tanzania with some, as shall be seen later, qualifying for international certification. Tree planting by local communities is taking place all over Tanzania and the area planted is estimated at 70,000 - 150,000 ha.

Table 3 Private Company Industrial Forest Plantations

	Planted Area (ha)	Available Land (ha)
Mufindi Paper Mill	3 600	40 000
Tanganyika Wattle Company	14 500	Not known
Green Resources As	12 000	70 000
Kilombero Valley Teak Company	8 148	28 132
The New Forests Company	1 400	4 000
TOTAL	39 648	~142 000

Sources: Tanzania Market Study (Indufor, 2011)

2.5 Production Natural Forests

Total production area is estimated at 23.8 million ha with 9.3 million ha in 223 government FRs and 169 local governments FRs with a total area of 1.58 million. These produce about 4.5 - 5.3 m^3/ha of wood annually (Forest and Bee-Keeping Division – FBD, 2003) and are a major source of revenue for the districts. The remaining 12.9 million ha is general land which also supplies most of wood-fuel and some of the timber. The forests on general land are relatively less stocked and are assumed to produce between 0.58 – 3 m^3/ha of wood annually (GoT, 2008). AAC in the forests is estimated at 87.7 million m^3. The main species exploited include *Brachystegia* spp in the "Miombo Woodlands", *Dalbergia melanoxylon*, *Pterocarpus angolensis*, *Khaya anthotheca*, *Melicia excelsa* and *Afzelia quanzensis.*

3. CITES

Tanzania has been and continues to participate in the international forest policy dialogue and has internalised most of the decisions into numerous national forest management instruments. The country participated in the 1992 Earth Summit and is a signatory to all the three "*multilateral environment agreements*" (MEAs) that were agreed. It "paid attention" to the MEAs and the '*Non-Legally Binding Authoritative Forest Principles*" that were also agreed to at Rio, as it reformed forest sector governance. Tanzania was active in the subsequent dialogues under the Inter-governmental Panel on Forests, Inter-governmental Forum on Forests and the United Nations Forum on Forests and is signatory to the Convention on Trade in Endangered Species (CITES), the World Trade Organisation, International Tropical Timber Organisation, African Tropical Timber Organisation, Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African region and related Protocols and the Montreal Process. The country associates with the Committee on Forestry of the FAO and African Forestry and Wildlife Commission, World Forestry Congress and Economic Commission for Africa. There are also regional agreements such as the East African Community (EAC) and Southern African Development Community and similar initiatives relating to forests to which Tanzania is signatory.

Tanzania ratified CITES in 1979 and the Convention entered into force in that country in 1980. Tanzania has submitted annual reports every year since 1982. According to UNEP (2007), Tanzania does not report export of any timber from species listed under CITES except "bark and extract" from *Prunus Africana*, which is listed by IUCN as "vulnerable". During 1998 - 2005, exports reportedly amounted to 40,519 kg of bark, mostly exported for commercial purposes (94%) or scientific purposes (6%). The EU was a significant importer of the bark. EU countries, however, reported import of 76,335kg of the bark during 1998-2005 from Tanzania. The variance is as a result of Tanzania failing to gather accurate information (*ibid*). There is no up-to-date information regarding this trade.

4. Forest Administration

4.1 Central Government

FRs (about 13 million ha) fall under authority of the GoT (National FRs), District Councils (Local Authority FRs), village government (Village Land FRs), Private forests and Community FRs and are either designated for production (managed for forest products) or protection (managed for water catchment and/or biodiversity conservation functions). The remaining 19 million ha of forests, found outside the reserve network, are on village and general lands. Forest management institutions include:

(i) Forest and Beekeeping Division (FBD);

(ii) Tanzania Forest Service (TFS);

(iii) National Environment Management Council (NEMC);

(iv) Tanzania Forestry Research Institute (TAFORI);

(v) Forestry Training Institute, Olmotonyi (FTI);

(vi) Local Government Authorities;

(vii) Tanzania National Parks; and

(viii) Ngorongoro Conservation Area Authority.

Until 2011, the mandate for forest management and administration was under FBD, a line department in the MNRT. FBD was also responsible for technical training, research and deployment of staff to manage central government forests. In 2011 there was sector reform with FBD remaining with the responsibilities of policy development and legislation and supervising their implementation. In tandem, there was created a semi-autonomous agency, the TFS, with functions to, *inter alia*, to:

(i) Establish and manage central government natural forests, forest plantations and bee reserves;

(ii) Manage forest and bee resources in general land;

(iii) Enforce forest a and beekeeping legislation in areas of TFS jurisdiction;

(iv) Provide forest and beekeeping extension services in areas of TFS jurisdiction;

(v) Develop TFS human resources;

(vi) Collect forestry and beekeeping revenue;

(vii) Market forest and bee products and services; and

(viii) Ensure ecosystem stability through conservation of forest biodiversity, water catchments and soil conservation.

The Minister of MNRT appoints the Chief Executive (CE) of TFS. The Chief Executive is directly answerable to the Permanent Secretary of MNRT, the latter being responsible for overseeing the interests of GoT in general. There is a Ministerial Advisory Board (MAB) that advises the Minister on the performance of TFS. In addition to the CE, the senior management team comprises of 3 “Directors”, 4 “Heads of Unit” and eight “Zonal Managers” (**Eastern** - Coast, Morogoro and Dar es Salaam, **Western** - Tabora, Rukwa and Kigoma, **Southern** - Mtwara, Lindi and Ruvuma, **Central** - Dodoma, Manyara and Singida, **Northern** - Arusha, Kilimanjaro and Tanga, **Southern Highlands** - Mbeya and Iringa and **Lake** - Mwanza, Shinyanga, Kagera and Mara). Zonal Managers are responsible for, *inter alia*, law enforcement. TFS employs over 1700 professional, technical and support staff but while TFS is off to a good start, it is

still hampered by severe shortage of competent staff and the necessary logistics in view of the vast size of the country.

4.2 Local Government Authorities (LGA)

There are 30 administrative "Regions" in Tanzania each with a Regional Administration (RA) office. These are field offices of the Prime Minister's Office (PMO). As such they are parts of the central government administration tasked with linking line ministries such as the FBD and TFS of MNRT and the independent District government authorities. The Regional Natural Resources Officer (RNRO) from the respective RA is supposed to advise and facilitate the implementation of Tanzania's forest policy and strategy downwards to district level. The RNRO is a central government employee reporting to PMO and not to MNRT.

LGAs in Tanzania fall under the PMO, which is responsible for the development and delivery of services to districts and villages. LGA is led by the District Executive Director (DED), reporting to the District Council Chairman. Councillors make all decisions and set the policy direction for the district. Another important figure is the District Commissioner (DC), directly appointed by the President and in charge of the police and security services. At all sub-national levels, forest management and administration is under the PMO, save for central government FRs. MNRT and PMO are not structurally or functionally linked to work together, which makes forest management and administration problematic. Departments and LGAs tend to report to their line ministries and horizontal collaboration across ministries is not an obligation.

Each of the 99 districts in Tanzania has a District Forest Harvesting Committee (DFHC) comprising of (i) DC (Chairperson), (ii) DED (Secretary), (iii) District Water Engineer, (iv) District Forest Officer (DFO), (v) District Natural Resources Officer, (vi) Village Executive Officers of adjacent villages and (vii) Village chairpersons of adjacent villages. The functions of the committee include the following: (i) to receive and process applications, (ii) to coordinate harvesting activities, (iii) to update harvesting plans for the district, determine royalty for natural forests, and (iv) to receive quarterly reports on the harvesting activities from the District Forest Officer (DFO). The committee meets four times a year in its ordinary scheduled time. These functions together with other directives contained in the guidelines have been gazetted as *Government Notices No. 69 and 70*. The main objective of creating the DFHC in 2006 was to promote transparency and empower local communities to manage forest resources. The District Forestry Officer is appointed by the elected District Council and is solely responsible for all technical aspects of the work of the DFHC. In general, LGAs are plagued by unclear lines of command and political interference of all kinds. They are also hampered by inadequate funding, corruption, poor downward accountability and limited technical capacity.

Under the Environmental Management Act (2004), every village in Tanzania should have a Village Environmental Committee. The Village Natural Resources Committee is a sub-committee of the Village Environment Committee. The principal functions of this latter committee are to oversee and manage the harvesting of natural resources products, including forest products, from village forest, including firewood, charcoal, logs, timber and poles. The committee determines harvesting areas within the village forest and then prepares and coordinates harvesting plans and reviews quarterly reports on harvesting activities with the Ward and District Forest Officers.

4.3 Police, Judiciary and Tanzania Revenue Authority (TRA)

Laws and policies on forest resources require the TFS, police and judiciary to administer and enforce them. TRA collects all the dues on forest products and bring to book the non-compliant in accordance

with relevant laws. There is limited coordination between these four and accordingly many of the illegal activities will persist.

4.4 Village Governments

Village Governments have elected leaders in the Village Council headed by the Village Chair and supported by a Village Executive Officer reporting to the LGA. At village level, the full Village Assembly (every person above age of 18), the Village Chair, Village Executive Officer and subject matter specialists (the latter appointed by the district) make all decisions, including those related to forestry. Village communities live in and around forests which provide resources that are often a major asset and input to their livelihoods. They want more ownership rights to the forests. They are both custodians and a threat to forest resources depending on what incentives are driving their actions. Where agriculture provides a more secure income and controls are weak, communities expand agricultural land into forests. When livelihoods cannot be sustained by agriculture due to drought, marketing problems or poor prices, people fall back to forests to provide an income. Also where and when the selling of forest products provides greater incentives than conserving them, people fall back on exploiting them. Village governments have no capacity whatsoever to administer and manage forests under their jurisdiction.

4.5 The Public, Parliament & Political Parties

The general public in Tanzania is exposed to information about illegal logging and rampant corruption in the forestry sector mainly through the media. Headlines in the print media such as "*Corruption Cause of Illegal Logs Trade*" (Daily Times, 2nd November 2004), "*Illegal Logging: Minister Admits Staff Involvement*" (The Guardian, 10th May 2006) and "*Mayor's Son in Wrangle over Illegal Logs Export*" (This Day, 1st December 2006) are quite common. The plunder of resources is seen as a loss to the nation and the connection is made regularly between the loss of resources and the loss of revenue that could have been used to improve social services in the country. Opposition parties are growing in strength on the promise of dealing with corruption and mal-practice, and the incumbent political party is trying to resolve issues of corruption and poor governance in its own ranks. The parties still need to develop their identity as current manifestos are not clear on policy on natural resources. However all parties are currently mainly focussing on the overarching issue of corruption which is seen as requiring urgent attention. Parliament has had heated debates on this issue and there is a new spirit of investigative criticism and preparedness to identify the possible perpetrators of corruption. Ministers have had to resign their posts due to the renewed interest.

4.6 Civil Society Organisations (CSO)

Tanzania Forest Working Group (TFWG), a voluntary network of over 45 CSOs, is working on forestry issues including forest law enforcement, governance and trade (FLEGT). TFWG membership includes both local and international non-governmental organisations (NGO). These organisations have access to a broad range of stakeholders in their extensive networks. Eighteen TFWG member organizations are collaborating on improving FLEGT and this collaboration has proved to be helpful. In this regard, the work done by TRAFFIC on illegal logging in southern Tanzania in 2007 and the planned "*Mama Misitu*" (*mother forest*) on FLEGT are of specific reference (Milledge, S. Et al., 2007).

4.7 Developments Partners

Several development partners including, governmental (GOs), inter-governmental (IGOs) and NGOs have been and are still active in Tanzania's forestry sector. GOs and IGOs have organised themselves into the "Tanzania Development Partners Group" (DPG) in the belief that collective actions and coordinated

efforts should lead to significant improvement in effectiveness and quality of development assistance while concurrently reducing transaction costs. DPG members supporting forestry include, *inter alia*, Belgian Technical Cooperation, Canadian International Development Agency, Danish International Development Agency, Norwegian Agency for International Development, (Africa Development Bank, FAO, Finnish International Development Agency, Japan International Cooperation Agency, EU, United States Agency for International Development, United Nations Development Programme, Ireland, Netherlands, Swedish International Development Agency, Department for International Development of the UK and the World Bank. Many international NGOs are also active in Tanzania's forestry including TRAFFIC, International Union for Conservation of Nature, World Wildlife Fund for Nature and CARE International. The foregoing indicates that forestry in Tanzania is not short of "official development assistance".

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

5.1 Forest Policy

The current Forest Policy came into force in 1998. The policy was given legal force by the Forest Act No. 14 of 2002 (Cap. 323) and is operationalized through the Forest Regulations of 2004. It vests the responsibility for managing forest resources into various stakeholders. The policy emphasises participatory management and decentralization. These are radical changes from the earlier forest policy and legislation that focused on preservation and control under centralized management. The overall goal of the policy is "to enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of her natural resources for the benefit of present and future generations". Its objectives include to:

(i) Ensure sustainable supply of forest products and services by maintaining sufficient forest area under effective management;

(ii) Increase employment and foreign exchange earnings through sustainable forest-based industrial development and trade;

(iii) Ensure ecosystem stability through conservation of forest biodiversity, water catchments and soil fertility; and

(iv) Enhance national capacity to manage the forest sector in collaboration with other stakeholders.

Since its enunciation in 1998, there have been changes in national macro-economic and environmental frameworks and global obligations, which have necessitated its revision. A final draft of an updated policy was issued in November 2011, emphasising the same broad objectives but with a few innovations. Although GoT is portrayed as an omnipotent actor in charge of almost everything in the sector and other stakeholders are left with marginal and/or supportive tasks, current state of forest degradation convincingly indicates that GoT does not have the requisite capacity. For example, experience from existing community based forest management projects has shown that communities can play a positive role in FLEGT if given the full authority to manage the forests, yet there is no mechanism to link the non-governmental stakeholders to participate in planning for SFM.

5.2 National Forest Programme (NFP) (2001 – 2010)

NFP was formulated and adopted as an instrument in 2001 for implementing the Forest Policy. The objectives of the NFP are:

(i) Sustainable supply of forest and bee services to meet the needs at the local and national levels;

(ii) Enhanced national capacity to manage and develop the forest and beekeeping sector in a collaborative manner;

(iii) Enabling legal and regulatory framework for the sectors in place; and

(iv) Increase economic contribution, employment and foreign exchange earnings through sustainable forest and beekeeping based industry development and trade of forest and bee products.

NFP has four sub-programmes including one on "*Legal and Regulatory Framework*". It focuses on the development of regulatory issues including the *Forest Act*, rules, regulations and guidelines to facilitate

operations of the private sector and participatory management. Implementation of the NFP has had mixed results, especially in the area of FLEGT.

5.3 Forest Legislation

The Tanzania Forest Act (No. 14 of 2002) and Forest Regulations (2004) provide the principal legislation for management of all types of forests in Tanzania, irrespective of tenure or type. Revisions to forest legislation have included the Forest Amendment Regulations (2006) and Charcoal Preparation, Transportation and Selling Regulations (2006). The Act is a comprehensive enabling law that captures all the tenets of contemporary principles forest management, providing for, among others:

(i) "Result-based management" of forests through forest management plans (FMP);

(ii) Establishment and management of private forests;

(iii) Declaration and management of FRs;

(iv) Granting and administration of permits and licenses;

(v) Trade in forest products;

(vi) Conservation of trees and wild flora and fauna;

(vii) Management of forest fires;

(viii) Financing and establishment of the "Forest Fund";

(ix) Offences and penalties thereof; and

(x) Miscellaneous sections on a wide range of issues.

While the Act is the "first call", actual management of forests in Tanzania is supposed to reflect on a number of other relevant laws, including (i) Local Government Authorities Act – 1982, (ii) Land Act – 1999, (iii) Village Land Act – 1999, (iv) Mining Act – 1998, and (v) National Environment Management Council Act – 1983. These are the main laws anyone engaged in forest-based business in Tanzania needs to take into account. Tanzania is widely recognised as having a good policy and legal framework for the forest sector. The forest management instruments are modern and well harmonised. The main problem is inadequate implementation at all levels.

5.4 Licensing Procedures for Forest Harvesting

A number of Sections of the Forest Act (2002) apply to harvesting of, and trade in, all forest products irrespective of source. Section 26 prohibits anyone from removing any forest products within a national or sub-national forest without the necessary permission. The procedure for applying for, screening, granting and revoking such permission is specified in Section 49 of the Act. Part V of the Forest Regulations (2004) outlines procedures and conditions for the application, grant, variation, refusal, extension or cancellation of the permission. Regulation of felling, removal and transportation of forest products is covered in Part II of the regulations. All permissions are supposed to be governed by relevant FMPs, and specify the forest, fees/royalties, commencement and expiry dates and other conditions. Three types of harvest permissions are available (i) harvesting trees, logs and poles (FD1), (ii) firewood collection (FD2), (iii) commercial charcoal and firewood collection (FD3).

Box 1: Procedure and Conditions for Forest Harvesting

- ✓ Any person wishing to deal in forest product business must obtain a license from the GoT, specifying the species and volume to be harvested;
- ✓ Clients submit license applications to the DFHC;
- ✓ Documents required to be attached with applications for a harvesting license include a valid trading license, "Tax Identification Number (TIN) certificate, letter from the forest officer or village government and valid license to trade in forest products;
- ✓ DFHC receives and processes applications. It meets quarterly to receive and determine applications for harvesting of forest products, coordinating harvesting activities and preparing a district harvesting plan;
- ✓ After receiving the license, harvesters are required to report to the respective village government and to present their felling license showing that all duties have been fully paid. Felling license indicates the harvest area, species and volume and only marked trees are felled;
- ✓ GoT forest officer has to first go to into the forest, measure the standing or felled trees to be harvested, and mark them. Measurements taken must include the standing volume (in the case of standing trees) or log volume (felled trees);
- ✓ Harvestable trees must exceed the minimum girth, which is defined for each species (e.g. 75 cm for *Dalbergia melanoxylon*, 165 cm for *Afzelia quanzensis*);
- ✓ After felling at least 15 cm above ground and cross cutting, the stump should be marked with the licensee's registered property mark and stump number, whilst both ends of all logs should be marked with the property mark, tree number and log number;
- ✓ The harvester will obtain a transit pass from the forest office in order to move the products;
- ✓ Traders should stop at all checkpoints named on the Transit Pass for inspection (the designation of forest products and wood product checkpoints for enforcement and monitoring purposes is given in the Forest (Amendment) Regulations (2006)
- ✓ Traders are also expected to maintain a "Forest Products Stock Register", and to maintain books and permits for any future inspections;
- ✓ It is an offence to remove forest products from the harvesting area without these documents;
- ✓ Conditions pertaining timber felling include the volume, type, specification and quality of timber to be felled, for sawmills, the operational hours of the day and for forest products exports, the quality, quantity, specification controls and exit points.
- ✓ Use of chainsaws for ripping is prohibited. It is allowed only for felling. Only manual saws and sawmills are allowed for ripping;
- ✓ License fees should be charged for standing trees or felled trees, and not on logs or planks removed from the forest (e.g. in store, at landing site, or on lorry);
- ✓ Village government, in collaboration with District Forest Officers, are supposed to supervise harvesting to ensure that the harvesters are following the volumes, species and harvest areas specified on their license.

5.5 Law Enforcement

During the peak of timber trade activity in southern Tanzania up to mid-2004, collected revenue represented barely 4% of what should actually have accrued from the timber harvested and transported. In the last decade and in response to the foregoing and visible forest degradation, GoT has implemented wide-ranging measures to regulate the timber trade, to increase the financial benefits to legitimate players and to control corruption. The measures introduced management tools and systems but they are yet to bring under control trade in illegally acquired forest products. The measures include:

(i) Review of procedure for issuing licences for harvesting and transporting forest products;

(ii) Empowerment of village governments to manage forests;

(iii) Ban of exportation of all types of logs since July 2004;

(iv) Issuance of guidelines on forest harvesting and formation of and gazetting DFHC in 2006;

(v) Establishment of Forest Surveillance Unit (FSU) within TFS in 2006 with over 100 staff to elicit compliance with the law;

(vi) Strengthening of checkpoints and improved security of documents used for harvesting;

(vii) Introduction of scanning of forest product exports at ports of exit;

(viii) Countrywide assessment of sawmills in 2005;

(ix) Establishment of a forest resources database in TFS; and

(x) Development and implementation of an improved forest revenue collection strategy.

TFS has had a "strategic plan" for the period July 2010-June 2013 in which one of the objectives was to reduce illegal activities to 20%, through strengthening law enforcement. In this regard, the following have been done by the FSU:

(i) Eight FSU sub-units in the 8 zones have been facilitated to carry out 65,000 patrol days;

(ii) A total of 100 staff have been trained on terrestrial surveillance techniques and 15 staff trained on marine techniques;

(iii) Mangrove areas have increased by 16% from 115,500 ha to 133,480 ha;

(iv) "Water-mark" documents for licensing have been introduced to control forgeries;

(v) 15 forest staff were trained on timber grading and inspection; and

(vi) Imposed a ban on export of all types of timber more than 4 inch thickness since July 2008 except for value added products.

The objective of establishing the FSU is to control the utilization of forest products by ensuring that harvesting and transportation are done in accordance with regulations and procedures laid down in *Forest Act*. Each of the eight Zonal Offices has an FSU crew of 15 Forest Offices in addition to support staff that is on stand-by "twenty four/seven". They compile and maintain a database relating to all aspects of law enforcement for the particular Zone. Two marine units equipped with speedboats have also been established, one to patrol Dar-es-Salaam to Tanga and the other Dar-es-Salaam to Mtwara on the Indian Ocean. The specific duties of the FSU include, among others, to:

(i) Make sure that rules, regulations and procedures of harvesting and transporting forest products are adhered to;

(ii) Carry out patrols;

(iii) File monthly reports;

(iv) Control illegal harvesting of forest products;

(v) Control transportation of forest products;

(vi) Prosecute and handle cases in the court of law;

(vii) Protect forest and bee resources;

(viii) Collaborate with other patrols units from other sub-sectors of the Ministry in protecting illegal harvesting and transportation of forest products; and

(ix) Liaise with both the urban and local communities in the protection and control of harvesting of forests products.

During patrols and at checkpoints, documents are examined for authenticity and logs inspected for hammer-marks. The FSU staff can stop any truck on any road for inspection; they can mount temporary checkpoints, visit harvesting areas and stores containing forest products. Any forest products that are

non-compliant are supposed to be impounded. Impounded forest products are auctioned. FSU, however, faces a number of operational challenges including:

(i) Shortage of necessary logistics;

(ii) High demand for timber, which entices many to take risk because of the high profits;

(iii) Culprits transport illicit timber in closed trucks (box-bodies) that are difficult to detect;

(iv) Political interference;

(v) Some of the culprits carry firearms which compromises the security of FSU crews;

(vi) Language barrier regarding imports from Mozambique as documents are in Portuguese and FSU crew do not know the language;

(vii) Mixing of species and sizes of timber which makes inspection time-consuming;

(viii) Un-manned crossing points along rivers;

(ix) Timber products are shipped from places away from official ports;

(x) Low cooperation with the Zanzibar government. Timber is reported entering Zanzibar from the mainland illegally. Whenever requested to stop allowing illegal forest products into Zanzibar from the mainland, they retort "what does Zanzibar benefit from the Union" (Tanganyika and Zanzibar forms the United Republic of Tanzania). This is reportedly politically sensitive;

(xi) Over-dependence on forests by some districts for their revenue which often makes them lax when handling law enforcement.

At the sub-national level, where most of the licensing for harvesting occurs, the system is compromised. According to the guidelines for sustainable harvesting and trade in forest products, DFOs are on the frontline of regulating forest management. They are advisors to the DFHC, issue harvesting licenses and are required to assess harvesting inside the forest before hammer-marking logs and stumps. Forest products are transported within the District according to permits issued by DFOs, who are responsible to the District Council and not to FBD or TFS. In this context, they are often under pressure to optimize collection of revenues at the expense of sustaining forests and yet the share of forest royalties collected is skewed 95% to 5% in favour of GoT. Thus DFOs may not be allocated a fair share of the District's budget since they are perceived to generate little benefit to the District. In many cases, DFOs do not send data to FBD and TFS on licensed harvesting, fines and transit passes issued. The ability of TFS to enforce this requirement is largely hampered by the fact that DFOs have no administrative link and responsibility to MNRT but to PMO.

5.6 Information and Monitoring System

Zonal Offices are supposed to maintain databases on law enforcement and these should feed into the mega-database at TFS headquarters (Selewin, R., per. com.). This mega-database stores information on exports, imports, domestic production, dates, species, volume, payments (in US$ and Tanzania Shillings), products and licensees and can provide information depending on the query. FSU crews also prepare monthly, quarterly and annual reports and briefs on special operations. The officer in charge of the database was unwilling to divulge more information regarding the database and access to it. There is a permanent unit responsible for forest inventory and is about to complete a forest inventory covering the country for the first time ever.

5.7 Certification Systems

Forest certification in Tanzania is not widespread and is confined mainly to commercial forest plantations in the southern highlands of the country. Tanganyika Wattle Company (TANWAT) in Njombe, originally owned by Commonwealth Development Corporation (CDC) was the first company to be certified under the Forest Stewardship Council (FSC). The company manages close to 15,000 ha of forest plantations composed mainly of *Acacia mensii,* pine and eucalypts. The company changed ownership five years ago and the new owners are not keen on certification and FSC certification for TANWAT has, therefore, been withdrawn due to the company's failure to demonstrate willingness to manage their forests according to the FSC principles, as the cost is high.

The second company to be certified under FSC in Tanzania is Green Resources Limited (GRL). Three afforestation projects with a total area of 32,000 ha have been certified. The company has been able to demonstrate the use of good practices in the management of their forests and this has resulted in renewal of their FSC certification for the last 4 years consecutively. Kilombero Valley Teak Company owned by CDC and FINFUND has attempted to be certified on several occasions without success. The company with over 10,000 ha of high quality teak plantations has failed on account of not adhering to the FSC principles and criteria in forest management. There have been issues related to land ownership and conversion of natural forests into teak plantations.

Mpingo Project in Kilwa, has recently been FSC certified. The project deals with sustainable management of African Blackwood (*Dalbergia melanoxylon*), a species threatened by over-harvesting on the coastal forests of Southern Tanzania. The project has assisted households in forming an association for managing their natural forests on a sustainable basis. The focus is on management of the African Blackwood, a valuable species famed for wood carvings. The project also involves controlled harvesting and encouragement of natural regeneration and enrichment planting. As a result of FSC certification, members of the association have gained recognition by the GoT and have accessed overseas markets for FSC certified "African Blackwood".

State forest plantations are not certified. GoT does not regard certification as a priority for its plantations despite the fact that they continue to face management challenges due to shortage of funds, occurrence of forest fires, attack by pests and diseases, illegal settlement and uncontrolled harvesting, issues that can though be addressed through a proper management system guided by FCS principles. The following features characterise forest certification in Tanzania:

(i) There is general ignorance on forest certification as a tool for good forest management;

(ii) Many forest companies reject certification because economic benefits are not obvious;

(iii) Certification costs are prohibitive. Only large forest owners can afford the fees; and

(iv) GoT is apathetic towards forest certification, yet as a custodian of public trust it has to take the lead, which includes having state forests certified, in order inculcate a sense of confidence in this effort. The recently-formed national certification group is a positive step in the right direction.

6. The Fuelwood Market

The energy balance in Tanzania is dominated by biomass particularly wood-fuel and this accounts for about 90% of energy supply. Petroleum and electricity account for about 8% and 1% respectively while solar, wind, and coal account for less than 1% of the energy consumed. For the foreseeable future, wood-fuel will continue to be the major source of energy in Tanzania. Total wood consumption was estimated at 42 million m^3 in 1999, of which 40.4 million m^3 or 95% was consumed as wood-fuel. Out of this 26 million m^3 was consumed in rural areas as fuel-wood and 13.4 million m^3 in the urban areas, mainly as charcoal. Main rural industries using wood-fuel in priority order are tobacco curing, fish smoking, salt production, brick making, bread baking, tea drying, pottery, lime production and processing of beeswax. Main sources of wood-fuel for household domestic use in rural areas are trees in farmland and unreserved village forest areas. Wood-fuel supply in most of the rural areas is regarded as a free good, and only cost input being labour spent to collect it. In the predominantly surplus rural areas, the opportunity cost of such labour is almost zero. In urban and peri-urban areas, however, supply sources of fuel-wood are relatively few because of depleted forests in their vicinity. Increasing demand of charcoal in urban area has increased deforestation in the production areas mainly in unreserved forestland and in some FR. The Tanzania public is becoming increasingly aware of the potential damage to environment and livelihoods posed by uncontrolled tree harvesting. Many CSOs have been formed and are fighting this scourge, an example of which is “Mama Msitu” public campaign.

The basic problem related to high dependence on wood-fuel is lack of affordable alternative sources of energy and shortage of wood energy conserving technologies. The fact that wood-fuel is almost a free good works as a disincentive for development of new technologies and utilization. Efforts to enhance sustainable supply of wood-fuel fall far short of the growing demand. It will remain difficult to alleviate poverty in the country without ensuring sustainable and affordable energy supplies to the majority of the people. This notwithstanding, 98 per cent of the Tanzania national budget on energy is directed to development of electricity and fossil fuels, which account for only 9% of the total energy consumed and is accessible to less than five per cent of the total population. The budget needs to reflect on the reality on the ground.

7. Forest Utilisation

7.1 Wood and Non-wood Products

Use of forests in Tanzania is both extractive and non-extractive. The former includes production of timber, poles, panel products, paper and wood-fuel while the latter is mainly tourism and forest carbon trade (refer to Chapters 5 and 6 above for details on extractive use).

7.2 Ecotourism

Eco-tourism is considered as one of the alternative uses of natural forests, which has low negative impacts to the ecosystem. It is a potential source of income and revenue for the government and communities living adjacent to natural forests, as well as to private sector (tour operators, hotels etc.) that could render services to tourism. Especially natural forests with high biodiversity values and scenic beauty are considered to provide potential for ecotourism. The potential of eco-tourism as an income-generating activity in forestry is still to be assessed and a strategy developed. Some issues, which will slow down the development of this area, are poor infrastructure and lack of services and marketing.

7.3 Forest Carbon Trade

Green Resources is the only company fully certified for carbon trade. Two of their projects have been certified under the Voluntary Carbon Standard (VCS) while one project which started after the year 2000 has been certified as a "Clean Development Mechanism (CDM) project. In order for the projects to improve on eligibility and quality of carbon offsets and attract good buyers, the forests have also been certified under the Community, Carbon, and Biodiversity Alliance. This standard ensures that community interests are safeguarded by companies seeking to sell carbon offsets in the market and that biodiversity is not threatened in pursuit of generating carbon offsets.

Apart from the large planters like GRL, small scale tree planting by farmers is on the increase in the southern highlands of Tanzania. Farmers are keen to access carbon funds but the process of getting into carbon trade is not only complicated but expensive. Certification for carbon costs more than USD 20,000 per visit by overseas consultants and several visits are required before certification is concluded. Small scale tree planters cannot afford such high expenses. Attempts are being made to form tree grower associations in order to bring many small scale planters together and aggregate their potential credits and hence lower the transaction costs.

Tanzania is one of the pilot countries for "Reduction of Emissions from Deforestation and Forest Degradation (REDD+). With the assistance of the Norwegian government, nine pilot projects have been started all covering natural forests and woodlands in the country. The pilot projects aim at collecting data on the current status of forests in the country including an estimate of the growing stock. The REDD+ process will be based on the VCS and it is expected that the government and the communities will be compensated for protecting natural forests from destruction, which leads to release of carbon from such forests. Not much information is available from the National REDD process at the moment.

8. The Forest Industry Sector and Domestic Timber Market

8.1 General

Prior to commencement of the privatization policy in the 1990s, the forest industry in Tanzania was owned by the government through Tanzania Wood Industry Corporation (TWICO). Activities included mechanical wood processing through sawmilling, furniture making and joinery. The other forest-based industries were small-scale paper and board production, match making, poles production, panel products manufacturing and tannin extraction. Industrial wood consumption stood at an average 750,000 m^3 a year distributed as follows - industrial sawmilling 51%, pitsawing 20%, wood-based products 3%, pulp and paper mills 21% and joinery and furniture industry 5%. In 2001, industrial wood consumption *per capita* was estimated at 1 - 1.5 m^3 per annum. Demand for sawn wood in the domestic markets was expected to grow between 4 - 6% per annum during the following ten years, i.e., 12,000 to 16,000 m^3 a year and sustainable supply of saw-logs from industrial plantations is estimated at 540,000-600,000 m^3 a year. Most of the hardwood round-wood is sourced from "*general lands*". The formal forest industry employs over 8000 skilled and non-skilled workers (Milledge, S. Et al., 2007).

8.2 Timber

Currently, the wood-based forest industry in Tanzania is dominated by sawmilling, furniture and other processed wood products. The number of mills has increased from about 140 in 1998 to 367 registered in 2005 (Indufor, 2011). Most of these mills, however, are small-scale with annual log input not exceeding 5,000 m^3 and employing about 5 - 8 persons. The total installed capacity of the mills is

2,662,185 m^3 per year of which 2,203,703 m^3 is softwoods and 458,482 m^3 is hardwood representing 83% and 17% respectively (FBD 2005), up from 750,000 m^3 in 2001. The total utilization capacity of these mills is, however, less than 50% of the installed capacity mainly due to shortage of saw-logs. Current saw log supply is estimated at 1.46 million m^3, with government plantations supplying 79% of the industrial round wood. In addition, there are over 400 small-scale wood processing machinery (locally fabricated circular saw or roller bench with rails), most of them operating at the Sao Hill forest plantation, processing saw logs.

8.3 Pole Treatment Plants

There are several pole treatment plants in the country and many of them produce good quality poles, especially those using standard pole treatment plants. However, many are also producing poor quality poles, especially those using local treatment by soaking or dipping poles into chemicals. These poles are also found in the market causing consumers to be confused by poor quality products. In the poles sector there are also numerous smaller operators as the business has been lucrative. Sourcing is done on village level from family woodlots, only purchasing a few raw poles at a time. The poles are then often treated in the local facilities and sold to larger operators. The largest treatment plants are listed in Table 4. It is noted that all have proper operating equipment. Total capacity is 350,000 annually, although production is currently estimated at much less.

Table 4 Pole Treatment Plants in Iringa Region of Tanzania (2010)

Company	District	Capacity
Sheda	Mafinga	15 000
TANSCAN	Mafinga	15 000
Sao Hill Industries	Mafinga	160 000
Tanwat	Njombe	40 000
Lesheya	Mufindi	30 000
MWPT	Mufindi	70 000
Mwijage	Makambako	15 000
TOTAL		345 000

Source: NFP (2001)

8.4 Wood Based Panels Industries

Production of wood based panels in Tanzania is fairly small and there are about 3 factories only (plywood and block-board). TANWAT plans to build a new plywood mill in Tanzania and is also considering an MDF investment. Raw material for an MDF plant is available but the economics of sourcing have not been analysed yet. TANWAT has currently 14,000 ha of plantations, and is willing to expand them, but has not been able to acquire suitable land for this purpose.

8.5 Pulp and Paper

Mufindi Paper Mills (MPM) produces 40,000 tons of kraft paper annually. It sells its products to both domestic and international markets, the latter including Kenya, Uganda, Malawi, Zambia, India, Sri Lanka, Bangladesh, Malaysia, Vietnam, Iran, Egypt and Saudi Arabia. Plans are to increase the production capacity to 100,000 tons and this will raise pulp wood consumption to 750,000 m^3. Additionally, annual fuel wood consumption at MPM will increase to 300,000 m^3. Total round wood consumption of the MPM would therefore exceed 1 million m^3 annually. MPM is investing into its own

plantations. The company has a land bank of 30,000 – 40,000 ha and is planting annually 2,000 ha and has in recent years planted a total of 4,000 – 5,000 ha.

8.6 Artisanal Wood Industry

There are no reliable data to assess the supply and demand potentials and income generation opportunities in this industry yet the products play a key role in improving rural livelihoods and alleviating poverty. The major products are black-wood pieces, carvings and *curios*. In 1999 the export earnings from these products amounted to US$ 1.1 million or 30% of the total export value of forest products including bee products. Development of artisanal wood-based products is hampered by a narrow and declining resource base (e.g. *Muhuhu* and *Mpingo*), lack of efficient production technologies and poor marketing systems. Wood carving skills are also disappearing due to lack of prestige and attractiveness of this profession.

8.7 Non-Timber Forest Industry

There is a large variety of NTFPs in Tanzania namely food, fruit, nuts, medicinal plants, gums, resins, barks, natural dyes, aromatics and fibres. Some of these products have a significant positive impact on rural households in terms of generating cash income and supplementing every day's diet. Production of NTFPs suffers from decline of forest cover, inadequate information on location and types of products, non-existence of local processing capacity to produce value-added products. In addition the marketing chain is inadequate , in terms of lack of organized marketing channels and availability of market information. There is also poor awareness as regards the income-generation and food security potentials of NTFPs.

Only 3.5% of the production potential of the beekeeping sector is realized, with the national honey and beeswax production being 4860 tons and 324 tons yearly, respectively. In 1999/2000 the export value of bee products (i.e. beeswax and honey) was US$ 1.3 million or 35% or the total export value of the forest products.

9. Timber Trade

9.1 Export and Import of Processed Wood Products and Logs

TRA keeps a record of all trade, including forest products, for purposes of tax collection. It works independently of line ministries and has a database. TFS itself maintains a registry for trade data of forest products but these data are not well managed to generate regular information. Zonal Offices also collect export data. TRA records show that there were large amounts of sawn timber passing through Tanzania in 2007-2008 – and sawn timber was imported from Malawi and then later exported to Kenya. Figures 2 and 3 respectively show the volumes of export of assorted wood products and the destination of the exports.

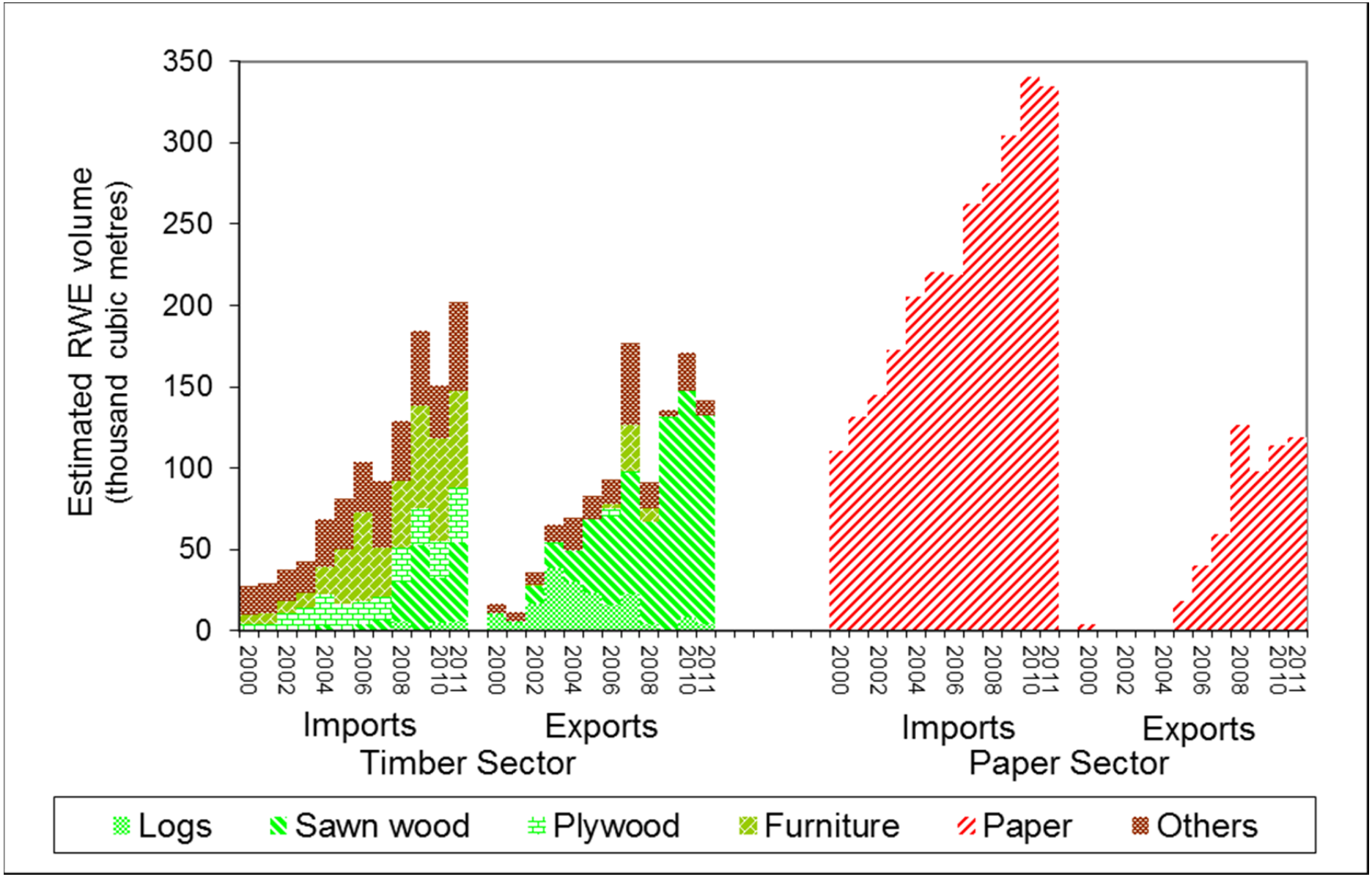

Figure 1 Tanzania's Trade in wood-based products (RWE volume basis)

Source: UN Comtrade, 2012

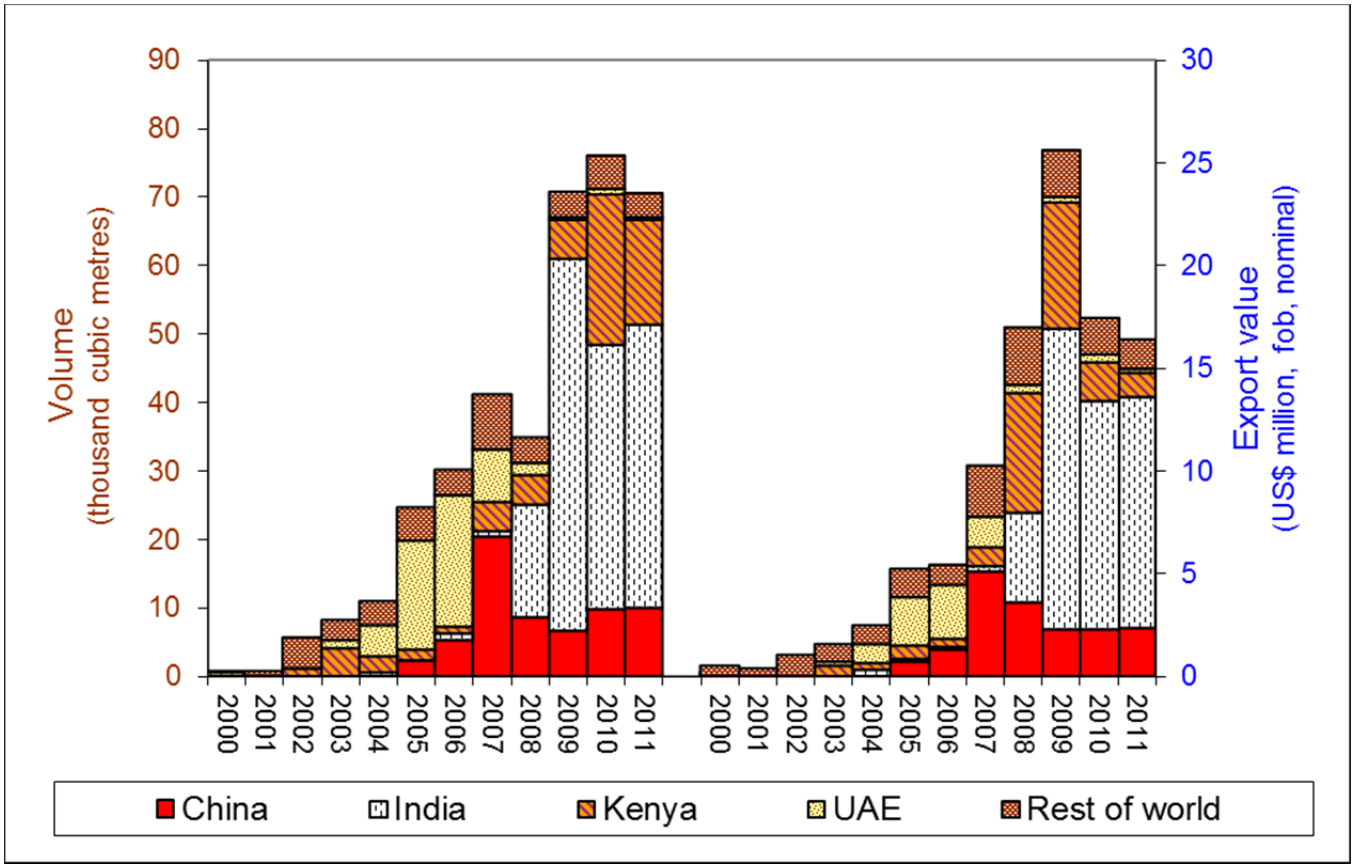

Figure 2 Tanzania's Sawn wood experts (by destination country)

Source: UN Comtrade, 2012

According to Comtrade, Tanzania's trade in wood-based products has been increasing and timber exports increased from 511 m^3 in 2001 to 310,600 m^3 in 2007. For the year 2010, Kenya imported 67% of all timber exports from Tanzania, making it the single largest export market for Tanzania's sawn timber (TRA, 2010). According to Figure 3, however, India was the largest importer of Tanzania's sawn timber in the same year. FAO estimates the exports of hardwood sawn timber are less than 10,000 m^3 annually while TRA reports exports of 1.5 million in 2005, rising to 3.4 million m^3 in 2010. This would be over 100 times higher. TRA indicates India alone represents over 55% of this trade, importing over 2.5 million m^3 in 2010. A recent study (Milledge, S., et al, 2007) indicates that timber exports to all destinations during 2003 – 2005 totalled 19,300 m^3 and yet imports into China alone from Tanzania were 108,500 m^3 for the same period! Export statistics need to be treated with caution. Hardwood sawn timber export data is much more fragmented than the softwood timber data. The bulk of hardwood timber is produced from the natural forests and, with the exception of teak, illegal harvesting is a major issue here. The discrepancies may thus be arising from the possibility that TRA is able to tax and hence record even illegal timber.

Other export destinations include European Union (EU), Japan and China (Figure 3). South Africa and the EU account for most of the paper which Tanzania imports. EU does not import a substantial quantity of wood-based products from Tanzania, or a round- wood equivalent volume less than 3,000 cubic metres each year. The round-wood equivalent volume of products made at least partly with timber exported from Tanzania but supplied to the EU from other countries is likely to be small. While export of sawn

wood has increased, export of logs is supposed to have ceased having been banned in 1993. As Figure 1 shows, however, it is still going on *albeit* at a reducing scale. "*Wood flour*" has accounted for a substantial share of Tanzania's exports of wood-based products during recent years. Tanzania's increasing exports of paper are destined mainly to Kenya (Figure 4).

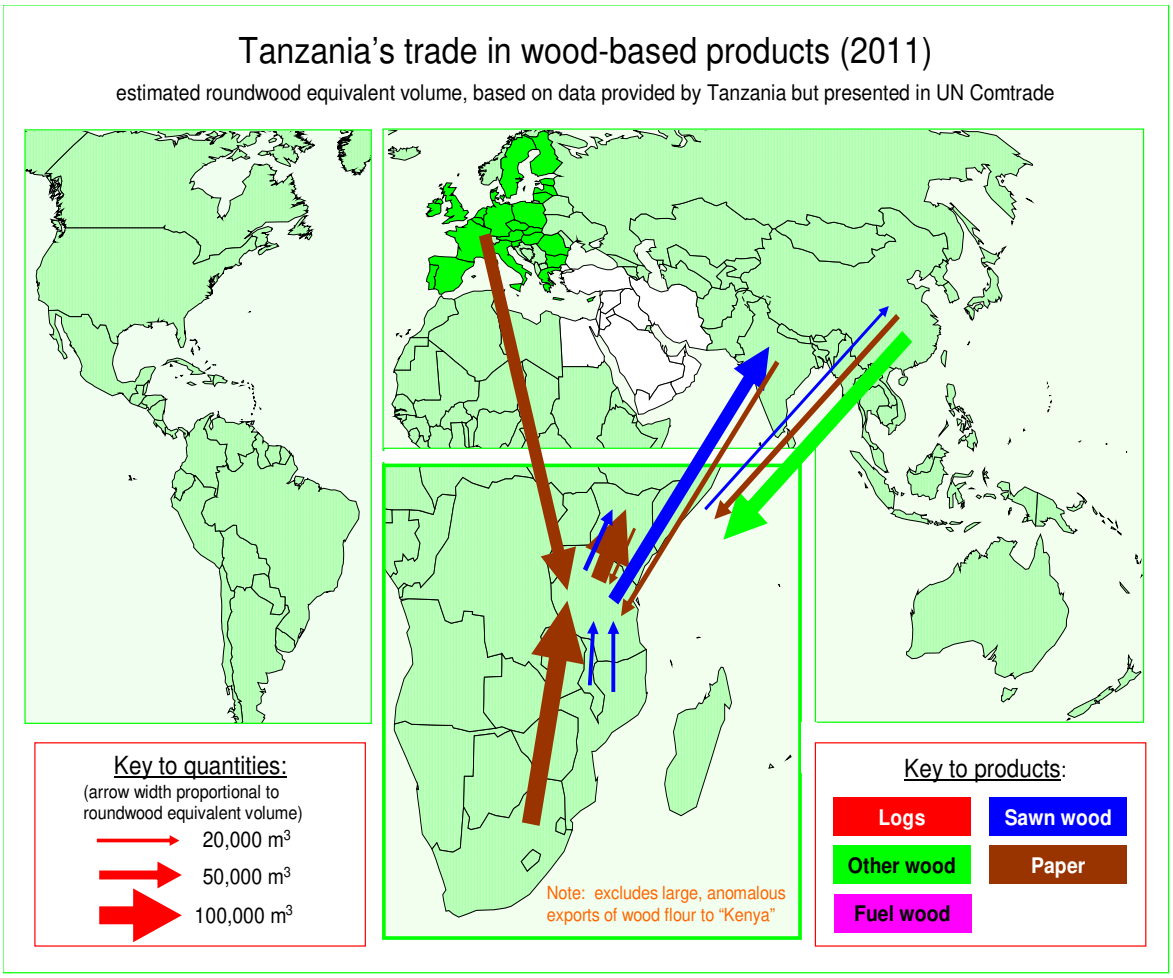

Figure 3 Tanzania's Trade in wood-based products (2011)

Source: UN Comtrade, 2012

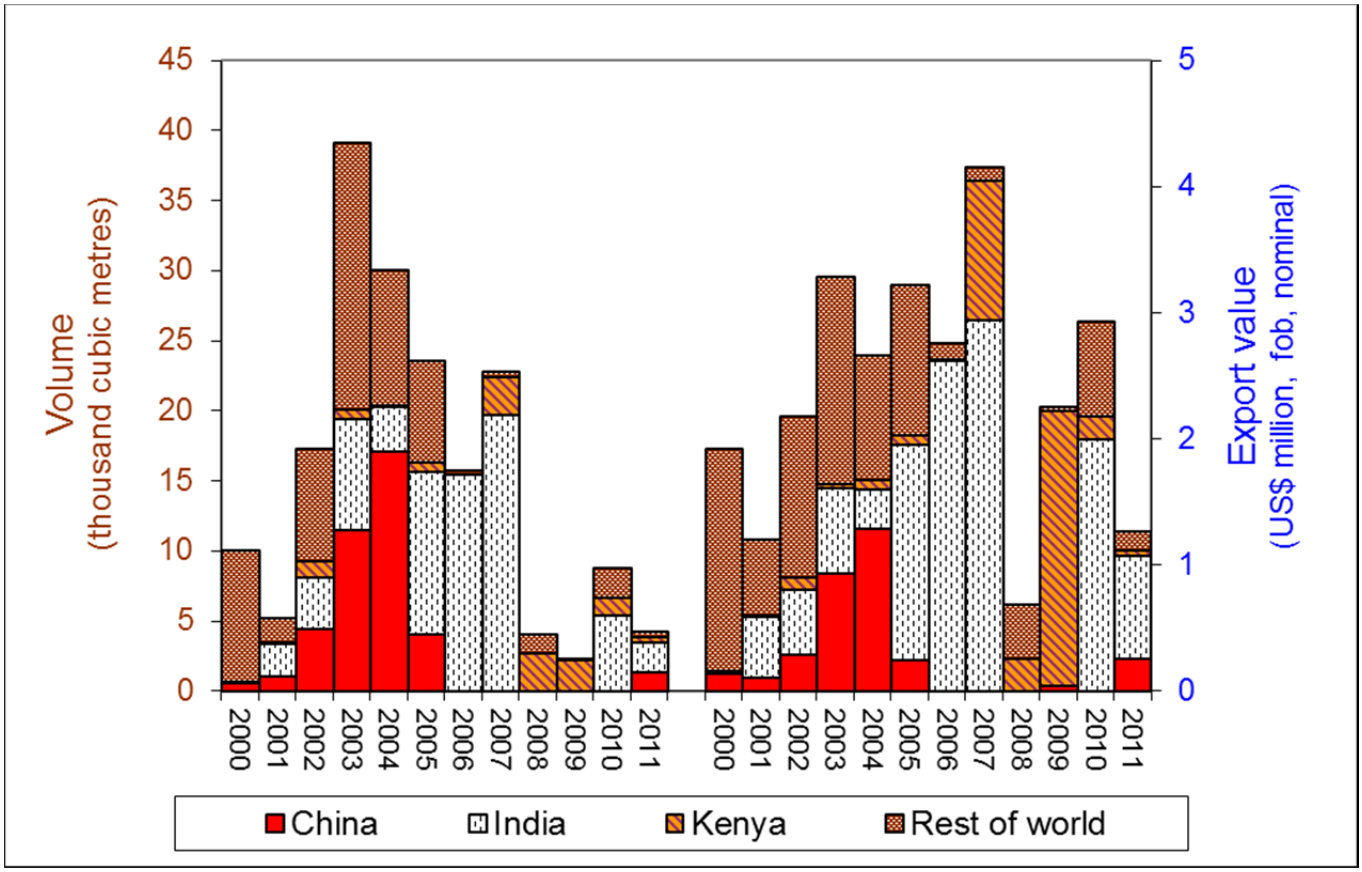

Figure 4 Tanzania's exports of logs (by destination country)

Source: UN Comtrade, 2012

Tanzania's imports of timber primarily comprise sawn wood from Malawi and Mozambique and plywood, other panels and furniture from China. The bulk of sawn wood from Mozambique comes from natural forests and very little of that wood is reported as exports by Mozambique (tending to confirm that it is illegal). It is unclear how much of the timber from Malawi originates from Mozambique, and how much is subsequently exported to Kenya and elsewhere.

Based on data collected from the road checkpoint at Kibiti in 2007, approximately 12,000 m^3 of sawn timber was imported from Mozambique annually, worth around US $6 million. TRA estimated the value of the timber at US $0.5 million in import tax and VAT and yet the amount actually may be as high as US $2 million/yr. The amount of timber being imported from Mozambique has been steadily increasing since 2006, as Tanzanian traders have been moving to Mozambique due to a combination of factors including increased royalty rates, reduced issuance of harvesting licenses and increased enforcement in S. Tanzania.

Timber enters Tanzania from Mozambique at four official entry points – by dhow at Mtwara port (Shangani beach) and by canoe or boat across the R. Ravuma at Mwambo, Newala and Mtambaswala. The bulk of the timber (around 90%) enters at Mtambaswala, about 250km inland from the coast and at three unofficial entry points downriver between Mtambaswala and Newala. FSU visits the inland import locations twice a month, on the 15th and 30th of each month and over the course of 2-3 days, officials travel to the official and unofficial entry points, check origin paperwork, hammer-stamp the timber which has built up at collection points in nearby villages, and issue letters to Tanzanian Customs (Mtwara, TRA) confirming the legal origin of the wood and the quantity. Traders are then required to visit the Mtwara TRA office to pay import duties before FSU issues transit pass to move the timber to

Dar es Salaam. Officials allow timber to enter the country at unofficial entry points although this is prohibited.

Tanzania's Auditor General considers the bulk of Tanzanian wood supplied for end use within Tanzania is associated with at least some illegality. Much of this seems attributable to undocumented production. However, others consider that there has been a substantial improvement in legality overall, particularly since an exposé by TRAFFIC (Milledge, S. Et al, 2007). The failure of GoT to effectively minimise trade in illegal timber has prompted at least one independent initiative to make it attractive for local peoples in some parts of Tanzania to manage their high value trees through a fair trade scheme (which includes some FSC-certified products). The programme by "Mpingo Conservation Development Initiative" known as "Sound and Fair" focuses on species of interest to the music industry and is a response to the declining availability of suitable timber.

Eight further charts are presented in Annex 1. Six of these illustrate trends in the imports and exports of three specific groups of product – "VPA core products" (defined as the products which must be included in a VPA - namely, logs, sawn wood, veneer and plywood), other products for the timber sector, and products for the paper sector. The other two illustrate trends in products of particular relevance, for example, in some cases, charcoal.

9.2 Utility Poles

Utility poles export increased from 905 poles in 2004 to 31,200 in 2008. Kenya is the main market by far, the market share ranging between 55% and 98% of exports. Kenya reports to be importing some 45,000 poles annually from Tanzania while the TRA information shows a similar level, ranging from 50,000 poles to 150,000 poles annually. Accounting for the trade in utility poles is hard as practices vary, some register units, some cubic meters and some running meters.

9.3 Procedure for Export of Forest Products

Exporting logs of any tree species is prohibited by law in Tanzania. Permission to export forest products is obtained from the GoT and is to be renewed annually. Applications are to be accompanied by a range of documentation including (i) valid trading license, (ii) TIN and certificate, (iii) VAT certificate, (iv) tax clearance certificate, (v) company certificate of incorporation, (vi) contracts, (vii) list of workers, and (viii) previous year's earnings. According to the Section 58 of the *Forest Act (2002)* (Part VII Trade in Forest Products), timber exporters are required to possess a valid export certificate issued by the Director of FBD (now CE of TFS) for each shipment.

Export certificates are valid for three months and may only apply to graded timber whose origin and grade tallies with the timber markings. Timber inspection before export, including grading and marking, may only be conducted by those authorized by the Director FBD (now CE of TFS). All exporters are required to give notice of at least one month prior to shipment for the timber to be inspected for grading. An authorized timber grader must conduct grading within two weeks before the shipment is made. Acquisition of CITES export documentation where appropriate is covered under Regulation 50(14). Exporting companies are further required to submit to FBD monthly and annual export returns indicating quantity exported (m^3), destination and total foreign currency earnings for each consignment exported. It should be recalled that this procedure existed prior to establishment of TFS and was thus being implemented by FBD. TFS has now taken over all the functions.

9.4 Customs Procedures

The EAC countries have modernised their Customs Services in the past five years as part of a trade facilitation programme. This and other measures such as improvement of Customs infrastructure, adoption of computerised systems (such as *Asycuda*), adoption of the 2009 Customs Management Act and the Common External Tariff, and adoption of standard internationally used codes (HS codes) for commodities traded, have greatly improved the quality of information being collected across the EAC. Timber is handled like any other commodity that crosses the Tanzania borders. Customs officials are not trained on the uniqueness of this commodity nor are they exposed to technical terms necessary to authenticate documentation, species and values. At the border, therefore, timber is just declared, valued according to what is presented, verified, dues paid and released. Normally Customs will require the following documents from the exporter:

(i) Registration as a timber dealer and as exporter of forest products from the FBD;

(ii) Letter of approval for export of forest products from MNR;

(iii) Export License from MNR (TFS) following inspection, grading and payment of fees ;

(iv) Grading Certificate from a FBD timber grader;

(v) Transit pass for wood products from FBD;

(vi) Business License with a TIN number;

(vii) Copy of “Letter of Credit”; and

(viii) Phytosanitary certificate.

At Customs, two documents are prepared namely Form “C12” and “Bill of Entry”. These forms contain details of the forest products being exported (species, volumes, value). Once Customs is satisfied with the details provided, they seal the containers of the wood products in the presence of (i) a Forest Officer, (ii) Customs Officer, and (iii) officer from “Intelligence” service. The containers will then be transported to the harbour or point of exit. The complete set of export documents will be presented to Customs again at point of exit for authorisation of the cargo to leave the country.

10. Trends and Key Issues

There has been a sharp increase in the demand for wood products in the local and international markets, with especially exports going to the Middle East, Kenya, Rwanda, Burundi and Uganda. Sawn timber import is also growing especially from Mozambique and Malawi. There is, however, very little information regarding movement of timber in the region, including prices and demand in importing countries. This makes it difficult for individuals as well as big private companies to tap into this market potential.

Although, the volume of sawn timber exports has increased, most of the timber is consumed in local markets as the quality is low and the products cannot compete in advanced international markets. A recent study (FBD, 2009) indicated that trade in forest products in Tanzania is affected by a number of factors including distance from production to markets, weak transport infrastructure, poor quality of forest products, inadequate export financing, lack of appropriate trade policy, trade barriers and cumbersome bureaucracy. Private sector operators in particular suffer from distorted incentive structure and weak enforcement of basically good legal frameworks. In the processing industry, a key problem is lack of incentives. Instead of using performance criteria based on contribution to national economy, efficient use of raw materials, quality of products and compliance with environmental and human safety regulations. The current practice favours essentially illegal small mobile sawmills, which

do not meet the above criteria while efficient medium- and large-scale operators fail to get enough raw materials on a regular basis. Thus the conditions for creating a viable and sustainable forest industry are being undermined systemically.

Illegalities in the sector have been reported on extensively (see Milledge, S. et al; 2007). They emanate from (i) corruption, (ii) low awareness of citizens' rights (iii) poor implementation of forest and other relevant laws and (iv) a "business sector" that is informal and inadequately regulated. Illegalities manifest in a number of features that currently characterise the forest sector including (i) underpayment or no payment at all of royalties and taxes, (ii) undervaluation through false and/or inaccurate declarations, (iii) setting of royalty rates administratively instead of allowing market forces, (iv) deception, and (iv) collusion. Some actors involved in the trade of illegal timber and other wood products are able to operate through normal channels, which is indicates collusion by some GoT officials, a few of whom may even have a stake in the business. Today, there are no incentives that can appeal to law-abiding investors to engage in the forest industry in a transparent and accountable manner.

Generally, governance of the sector is inadequate and GoT institutions responsible for forestry have low capacity to manage the forests. In addition to the foregoing, there are problems emanating from poor coordination between MNRT and PMO, but also between the Ministry of Finance and the other GoT ministries, particularly with regard to financial management. TFS "strategic plan" has an objective to enhance "*good governance*", among other things. Indeed Tanzania is undertaking measures to ensure that good governance prevails throughout all its agencies, all of which are required to internalize good governance principles in their management including, among others, transparency, accountability, ethics and rule of law. The narratives and rhetoric are excellent but implementation is still poor.

11. Anecdotal Information and Stakeholder Perceptions on Illegal Logging and Trade

11.1 General

While FSU has impounded large quantities of illegal forest products including timber, charcoal and poles since its inception and despite the elaborate system of surveillance and regulations aforementioned, there are still high levels of non-compliance. The guidelines, laws and regulations are not fully implemented or evenly applied. In 2004, before creation of the FSU, for instance, the bulk of timber products traded in from Southern Tanzania was harvested in an irregular or illegal manner. According to Regie S. (TFS staff – pers. Com.), it is estimated that 40% and 20% of hardwood timber respectively on the domestic and export markets is illegal while Anyemike, G. (TFS – pers. com.) puts corresponding figures at 60% and 40%. Of the 28,000 bags of charcoal that are sold in Dar-es-Salaam each day, only 7000 bags (25%) are legal. It has been noted that larger and well-connected companies continue operating illegally, while small scale timber traders disproportionately bear the brunt of enforcement. There is still widespread corruption (normally in the form of small-scale bribery both for need and greed) and highly organised patronage by senior public officials.

Trade in timber to Zanzibar from Southern Tanzania takes place via a network of more than 30 places that serve as ports along the coast, mostly in Rufiji and Kilwa districts. Although TFS officials are aware of the locations, resources do not allow regular monitoring. Dhows can only load timber during rare high tides (2-3 times per month) and can only transport the wood to Zanzibar when winds are also favourable. Aware of these facts, FSU officials are targeting enforcement efforts during these times.

Zanzibar buyers normally visit the major coastal towns (such as Kilwa Masoko, Kilwa Kivinje and Somanga), where they do deals with local middlemen – normally licensed timber harvesters. Middlemen in turn visit villages in the cutting areas (principally in Liwale, Kilwa and Rufiji districts), either purchasing planks which have been cut already or arranging timber to be cut to order. Timber is slowly collected together over a period of weeks in a house or yard at a village some distance from the coast, then trucked down to the coast and loaded on the dhow in the space of a few hours. The few land-based seizures that occur are normally a result of tip-offs at the point where the timber is being transported by truck to the coast.

Though the illegal timber is not hammer-stamped and cannot easily be laundered, middlemen nevertheless benefit from being registered and also handling some legal timber. This is because 'excess' illegal timber found in shipments of legally harvested wood are treated more leniently by officials, provided a small fine and harvesting duties are paid. Traders are allowed to keep such excess where it is less than 5 per cent of the timber in transit. This enables legal traders to transport illegal wood alongside legal wood with little risk. The FSU marine unit, established in December 2008, had during its first three months of existence already seized around 3000 pieces of timber from dhows heading to Zanzibar from Southern Tanzania. Zanzibar official figures suggest around 4000 pieces of timber are arriving each month, while FSU officials estimate that around 5000 pieces a month are being exported from the 30 illegal landing sites spread along the coast. The figures also suggest that the FSU marine unit is intercepting around one in every five shipments.

It does not appear that significant quantities of illegal Tanzanian timber are being laundered as originating in Mozambique at or near the border itself. The FBD have gone to considerable lengths to ensure the legal origin of the timber being imported, requiring presentation of a range of Mozambique documents including harvesting licenses, transit permits and phyto-sanitary certificates, samples of which are often taken to the Mozambique embassy in Dar es Salaam for translation and verification. Such requirements go beyond Tanzanian law (which requires only that import duties are proven to have been paid), and are significantly more stringent than official checks on legal origin of timber imports conducted elsewhere. Variations in the forms received suggest that forgery may be occurring, however, and it is impossible in many cases to reconcile quantities on harvest and transit permits with actual imports.

Indeed there are large discrepancies between the amount of timber being recorded as legally imported from Mozambique by the FSU and the amount of timber passing the Kibiti checkpoint near Dar es Salaam which is recorded as originating in Mozambique. FSU at Lindi recorded 167,000 pieces of Mozambique timber entering Tanzania in 2006, while Kibiti records show that 54,000 pieces were passing in *just one month* in October 2008. This suggests that illegally imported Mozambique timber or illegally logged Tanzanian timber is being laundered as legal Mozambique wood using false or corruptly issued paperwork.

11.2 Systemic Manipulation of Volumes

One of the ways to estimate the difference between licensed harvesting and actual harvesting has been to compare the transit passes given for transport of timber to the felling licenses. Study by Milledge and Kaale (2005) suggests the actual harvesting level could be 5 times larger in certain areas than the recorded or official harvesting. Another way to compare the licensed and actual harvesting is to look at the industry structure and registered production capacity. Another study (FBD, 2005) gives a registered hardwood sawmilling capacity of some 473,000 m^3 while the registered production was only 55,000 m^3, i.e. 12% capacity utilization rate. Anecdotal evidence seems to suggest that sawmillers usually manage

to get more raw materials from the black markets but this cannot naturally be reported as actual production. The capacity utilization rate is most likely much higher and, therefore, the production of hardwood sawn timber is most likely much higher than reported in the official statistics. According to Milledge and Elibariki (2005), actual harvest volume in Rufiji district would have been some 500,000 m^3 in year 2003 while licenses were issued only for harvesting of 21,000 m^3. The data supplied by TFS shows harvesting level of 1,500 m^3 in year 2003! Estimate for firewood was 2.1 million m^3 while the commercial harvesting volume was recorded at 42,000 m^3, i.e. 50 times higher.

11.3 Corruption

There are complex and far reaching problems of corruption and patrimony in Tanzania. Illegal activities take the form of logging without documentation, logging in unauthorized areas, under-declaration of volumes leading to undervaluation and the use of invalid export documentation. Bribery reportedly occurs at all levels, even where timber has been harvested legally. At central and district levels, there are examples of patrimony and cronyism between government and private sector actors. According to Milledge, S. et.al. (2007), there is a network of high-ranking officials in the timber trade that negatively affects transparency, fair decision making and impartiality. This in turn allows over-exploitation of valuable timber species, loss of revenue, and loss of control over the management of the resource itself. Local people are becoming increasingly powerless as deals are made without their involvement, by-passing the rule of law and local governance institutions.

11.4 Low Levels of Awareness

There is limited understanding of the economic value of timber and that harvesting regulations need to be followed. Timber species represent a valuable resource, which if utilised properly, could contribute significantly toward sustainable development of Tanzania. Timber values and markets are not well understood and dealers are prepared to fell and transport timber at a fraction of its real economic value. Awareness of citizens' rights to natural resources and land remains generally low at all levels of society. Communities are completely unaware of their rights as caretakers under the Village Land Act and the Constitution. This translates into limited capacity to voice concerns or articulate demands on virtually anything.

11.5 Shortfalls in Revenue

There are considerable shortfalls in revenue from the trade in forest products at all levels, from village and district to export revenues. According to TRAFFIC (*ibid)*, only 4% of potential revenue due is collected, and annual losses of revenue to the country could be at the level of $60 million.

11.6 Low Levels of Enforcement of Laws

Currently forest crime is not systematically reported or tracked. The FSU cannot always follow up reported incidents, leading to frustration of those who report forest crimes and others doing legitimate business. There is generally a distrust of the relevant law enforcement authorities at community level, as well as of forestry staff who are suspected of working with illegal harvesters.

11.7 Unfair Business Practices

The current allocation system for permits severely distorts markets. The number of "customers" has increased in the past years although the number of sawmills has not increased that rapidly. Increasing

share of wood allocation is, therefore, going to "brief case saw-millers". These do not have sawmills but sell the licenses/permits. Also a share of licenses (about 20%) goes as social welfare to a variety of institutions (for example schools) that again sell their licenses/permits to saw-millers. There is thus an illegal wood market in the country, developed by those who have wood allocation permits but do not have sawmills. This market pays a higher price for logs than the license fees set by GoT, clearly indicating possibility of official under pricing. GoT has no control over this market. Under pricing of logs attracts middlemen, who corruptly acquire permits that they resell. This makes it difficult for legitimate owners of sawmills to access reliable supplies of saw logs. The lack of transparent markets and level playing ground for the operators has led to a situation where the forest resource is being finished and there are no high quality products in the markets. Serious saw-millers have suffered from the situation and will continue to suffer for years to come as forest resources have been wasted.

12. Conclusions and Recommendations

12.1 Conclusions

Growing demand for forest products in the country and her neighbours has generated functional challenges that have stretched the ability of the GoT institutions responsible for forestry to deliver on their mandate. Also, forests are generally viewed as a common resource, and even in FRs, mechanisms to control forest use is inadequate. Below are some of the challenges specific to FLEGT;

(i) Weak institutional capacities in terms of human and financial resources to curb illegal trade in forest products;

(ii) Uncontrolled deforestation and forest degradation due to encroachment and over-utilization;

(iii) Unclear FR boundaries;

(iv) Haphazard management;

(v) Illegal and uncontrolled commercial timber harvesting;

(vi) Inefficient revenue collection;

(vii) Lengthy licensing processes that encourage unethical behaviour;

(viii) Parallel administrative systems/authorities in the management of forests;

(ix) Unclear tree and land tenure which does not encourage investment in forests;

(x) Restricted access and benefit sharing mechanisms in FRs;

(xi) Politically/ commercially motivated forest excisions; and

(xii) Open access to public lands that is resulting to unregulated use of forests.

12.2 Recommendations

National Level

(i) Responsibility for forest management in Tanzania needs to be brought under one bureaucratic Authority. The sector needs a more coordinated institutional framework that will enable implementation of the NFP to ensure sustainable sector development. In this context, only MNRT, FBD and TFS should be the institutions responsible for forestry in order to reduce administrative overlaps and hence conflicts, curtail the currently excessive bureaucracy, lower transaction costs, streamline revenue collection systems and enhance FLEGT;

(ii) Categories of forest tenure regimes need to be reduced to one (FRs) for ease of control, accompanied by structural and functional reconfiguration of the various stakeholders in the forest sector. Outside of the TFS, all the other stakeholders (PMO, Regional and District Administrations) lack the technical capacity to manage forests. The DFHC should be abolished and its role taken over by TFS in tandem with establishing a mechanism for sharing revenue with the district and village governments;

(iii) It is necessary to strengthen institutional capacity in law enforcement, monitoring and administration in order to curb, especially, illegal forest harvesting. In this regard, FSU needs to be beefed up with more people and logistics. In this context, TFS must work closely with LGAs and other government institutions (TRA and security agencies) to curb illegal forest utilisation and improve revenue collection and sharing.

(iv) Awarding licenses/permits should be through "competitive bidding" to free market forces so that the various products fetch a price the market is "willing" to pay instead of the current practice of fixing royalty rates administratively;

(v) Business people need to be encouraged to appreciate the role of better Forest Law Enforcement and Governance (FLEG) as this will reduce current high transactions costs and improve long term sustainability of their business. They should not be seen as "criminals" on the receiving end and to be beaten into line. Instead, they should be viewed by GoT as partners in the business and be able to actively participate in FLEG. In this context, possibilities of self-regulation coupled with a set of incentives for compliant business people should be explored;

(vi) There is need to develop country FSC standards against which to certify forests in Tanzania. Also, as most of the forest certifiers come from Europe and South Africa, a pool of locally trained certifiers is required as a means to create national capacity and to reduce certification costs;

(vii) There is a severe paucity of up-to-date reliable data on almost all aspects of forestry in Tanzania. While the ongoing countrywide biometric inventory is a step in the right direction, there is urgent need for biodiversity inventories and to establish computerized and user-friendly databases for trade (export, import, consumption) and impounded forest products and licenses. The Norwegian grant of USD100 for REDD^{+} "readiness" could partly address the issue of comprehensive and integrated inventories and the accompanying databases;

(viii) Effective tracking requires individual identification of each log/timber piece being traded. Hammer branding of logs, the current method of labeling in Tanzania, has the disadvantage of being easily forged. It is used in Tanzania to identify logs to district level, not to an individual stump. Whilst no one would call this technique ideal (most secure techniques are prohibitively costly), experimentation with bar-coded plastic labels and the "Integrated Stock Survey and Management Inventory" (ISSMI) developed and used in Uganda are recommended. In this regard, EU may wish to consider supporting TFS to develop a more robust CoC system; and

(ix) Deforestation and forest degradation are partly triggered and driven by overwhelming dependency on wood-fuel. While it may not be practically feasible to significantly reduce the dependency, rigorous promotion of wood-fuel saving technologies and establishment of sources outside natural forests could be sustainable coping mechanisms.

Regional Level

(x) Affected Customs and FSU officials should be trained in the Portuguese, French, English and Swahili languages to enable them handle import/export documents effectively. The EU could sponsor a regional programme in this regard, in which case relevant documents relating to timber harvesting and movement could be harmonised and training in their use undertaken. In this context, the work started by WWF/Tanzania to collaborate with WWF/Mozambique, WWF/Kenya and WWF/China is quite instructive and should be enhanced;

International

(xi) The EU does not import a substantial quantity of wood-based products from Tanzania (a round-wood equivalent volume smaller than 3,000 m^3 per year). Also, the round-wood equivalent volume of products made at least partly with timber exported from Tanzania but supplied to the EU from other countries is likely to be small. In view of the foregoing, therefore, negotiating a VPA with Tanzania would not be a viable option.

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Annex 1 Tanzania's trade in selected groups of wood-based products (2000-2011, by partner country)

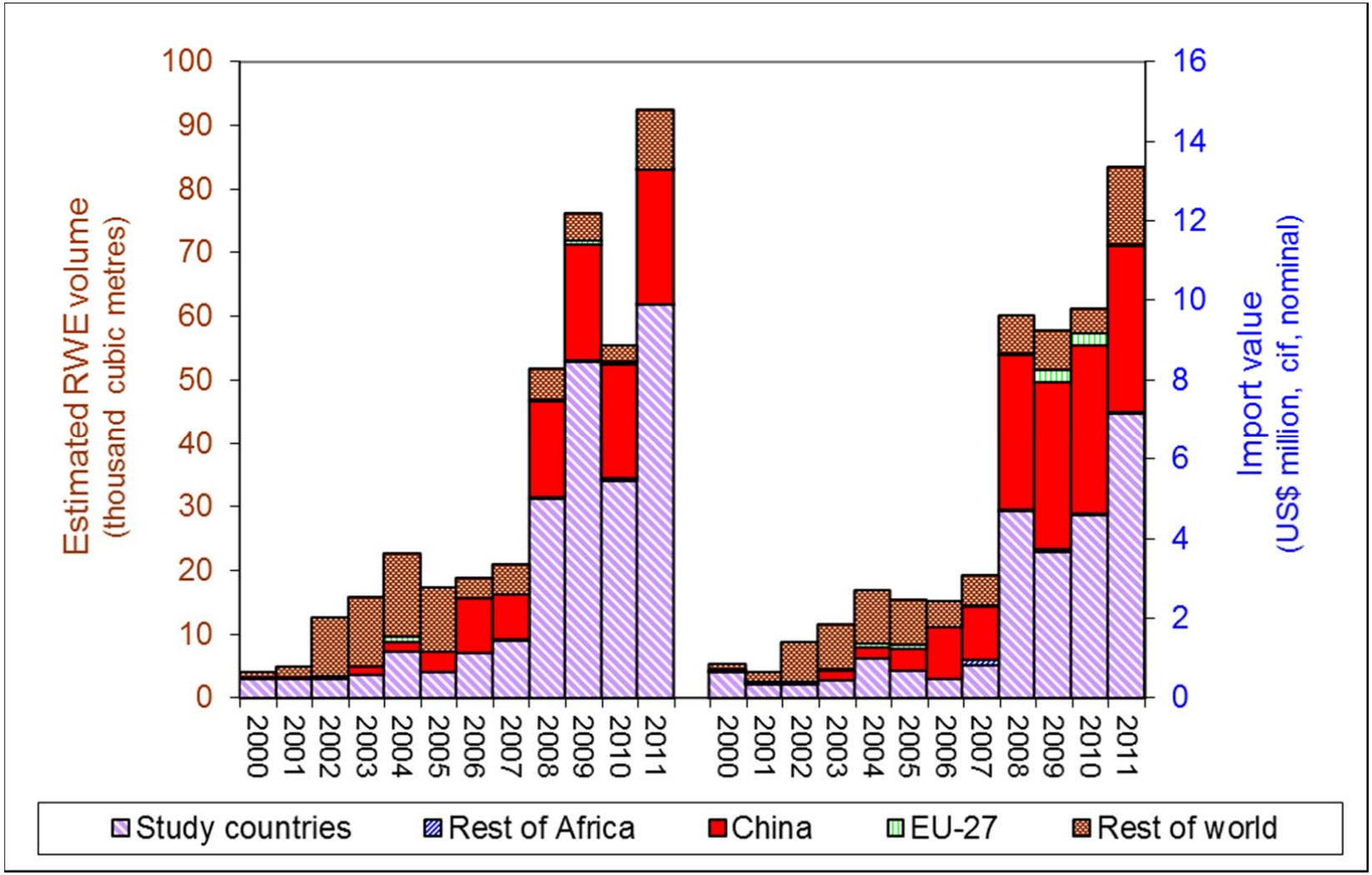

Figure 5 Tanzania's imports of VPA core products

Source: UN Comtrade; 2012

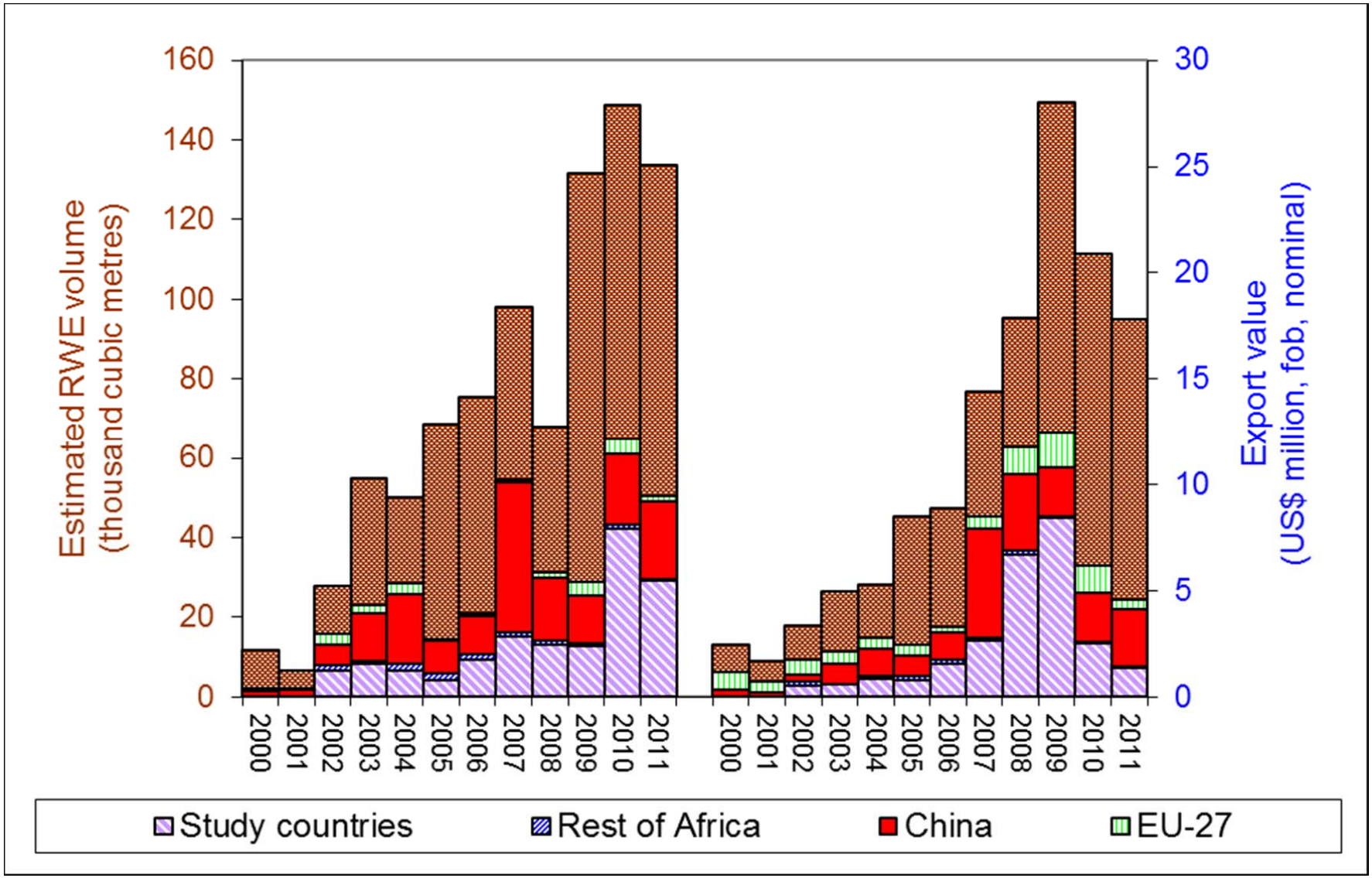

Figure 6 Tanzania's exports of VPA core products

Source: UN Comtrade; 2012

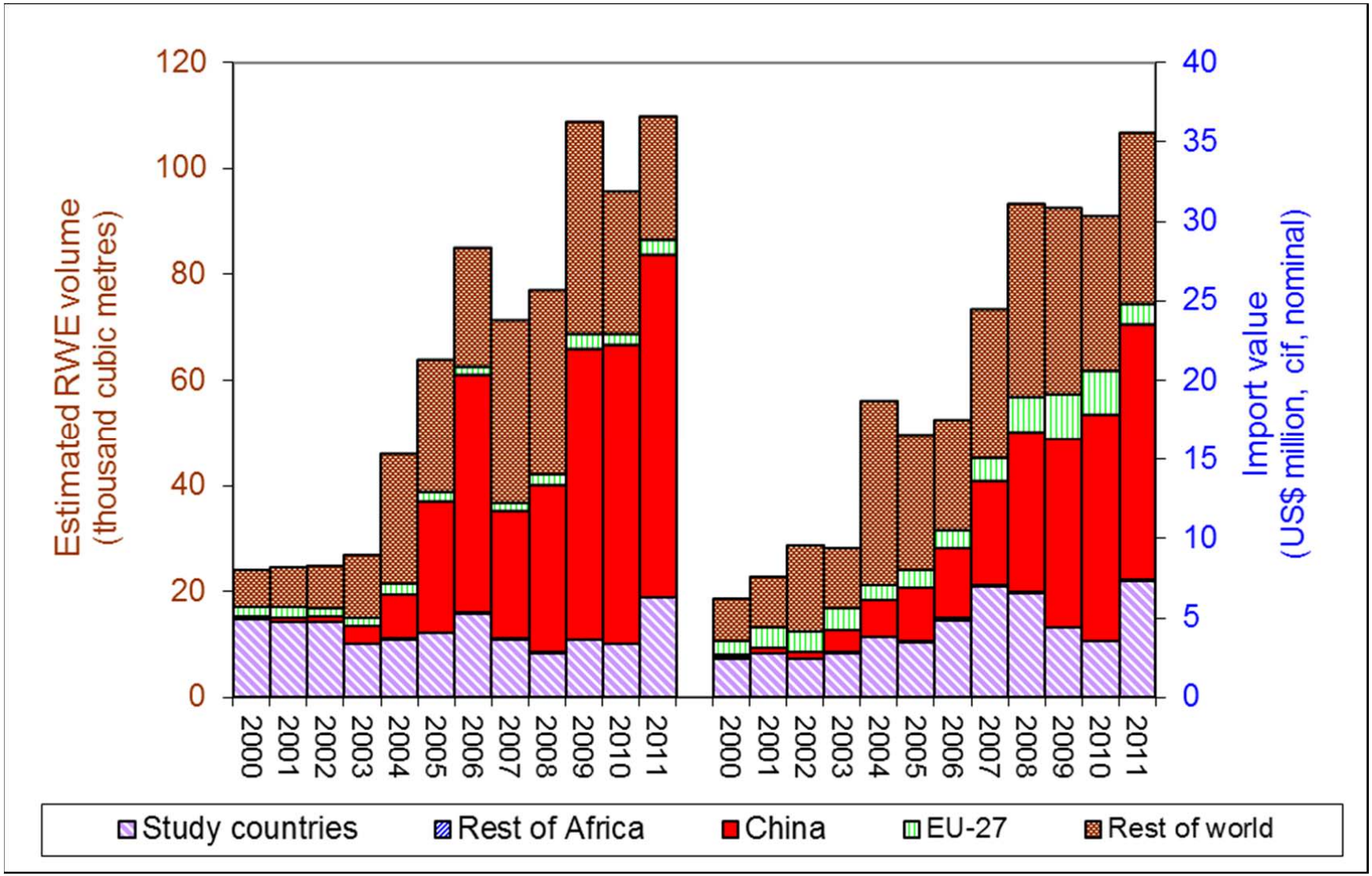

Figure 7 Tanzania's imports of other timber sector products

Source: UN Comtrade; 2012

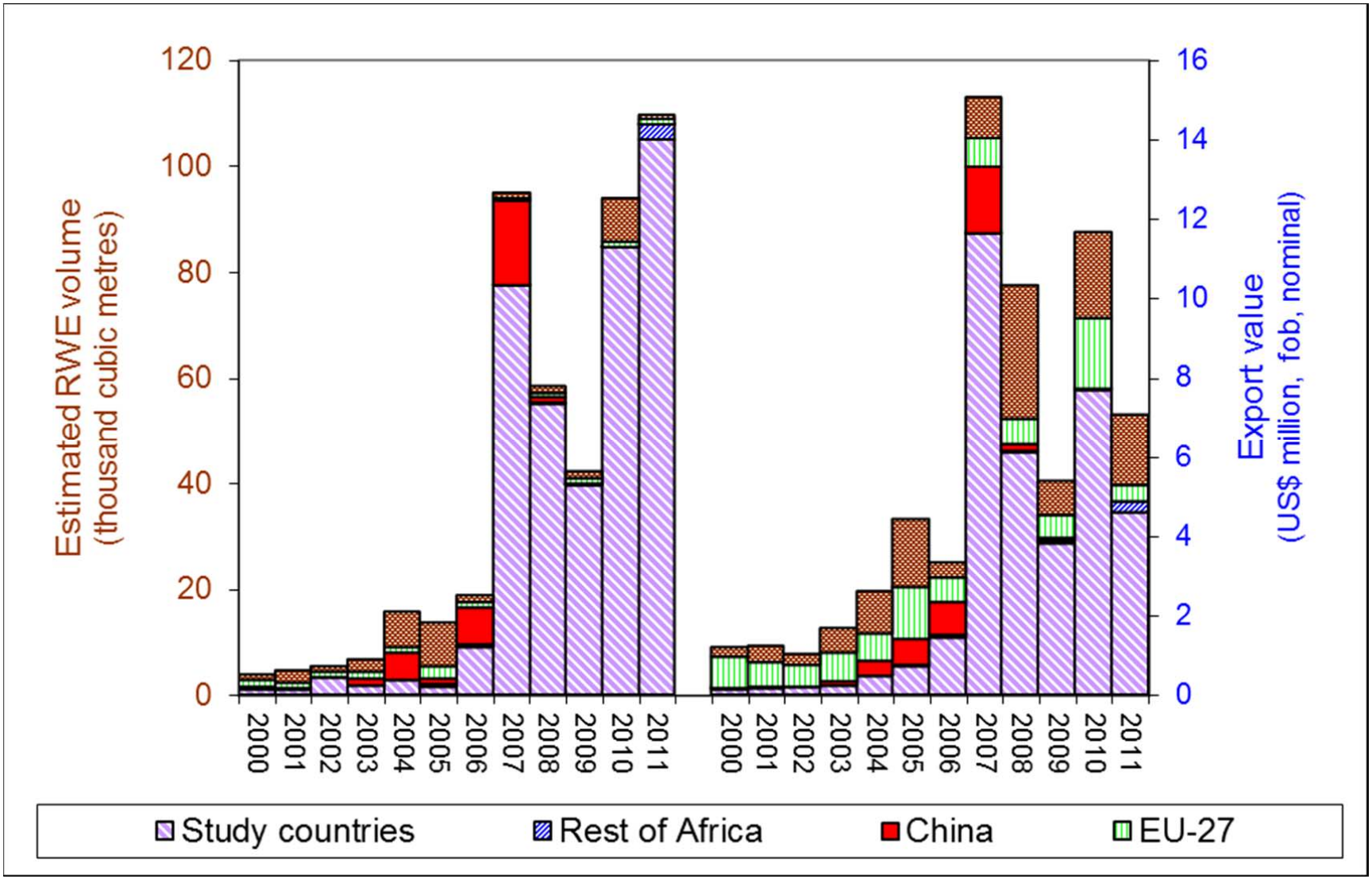

Figure 8 Tanzania's exports of other timber sector products

Source: UN Comtrade; 2012

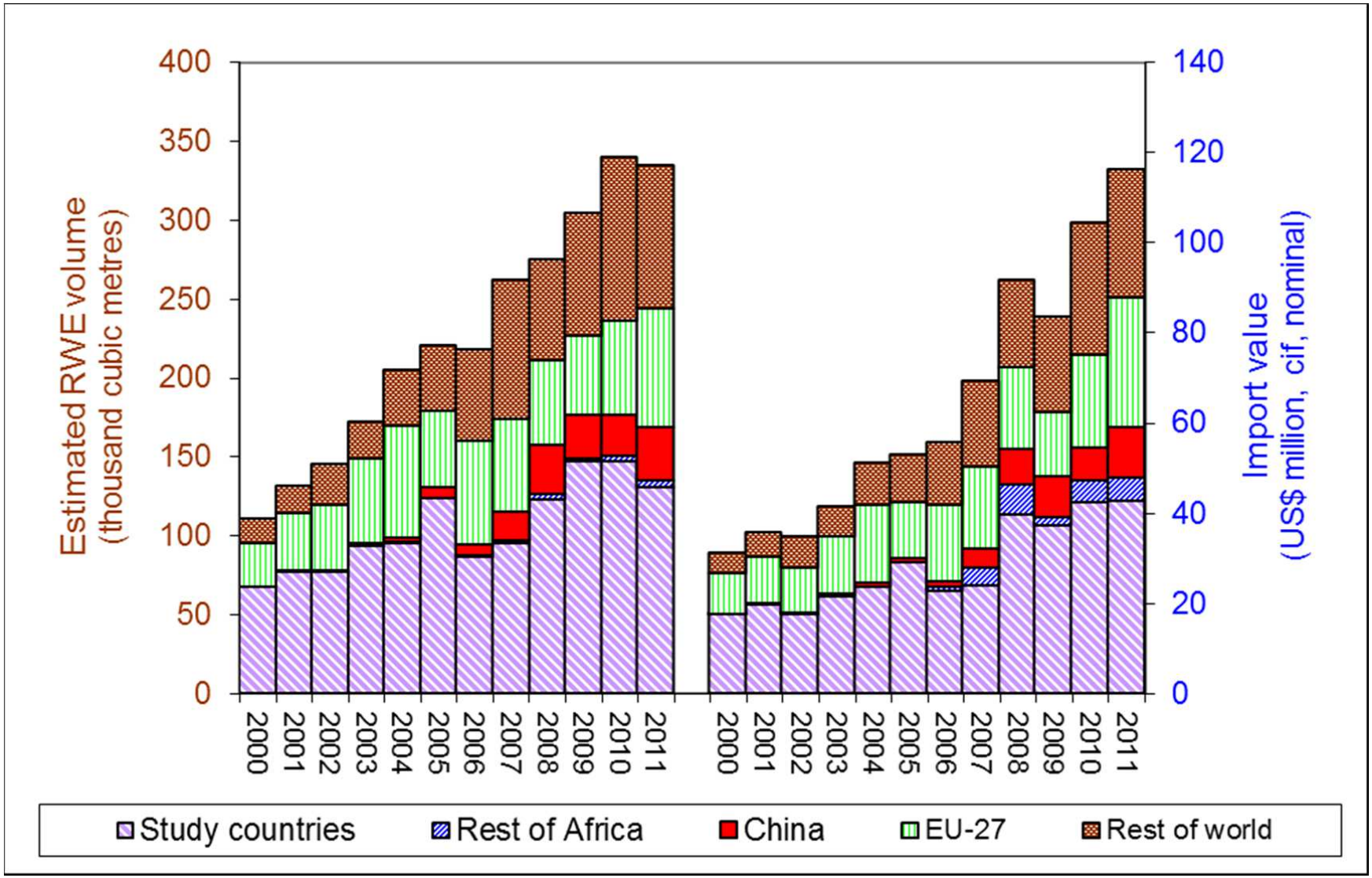

Figure 9 Tanzania's imports of paper sector products

Source: UN Comtrade; 2012

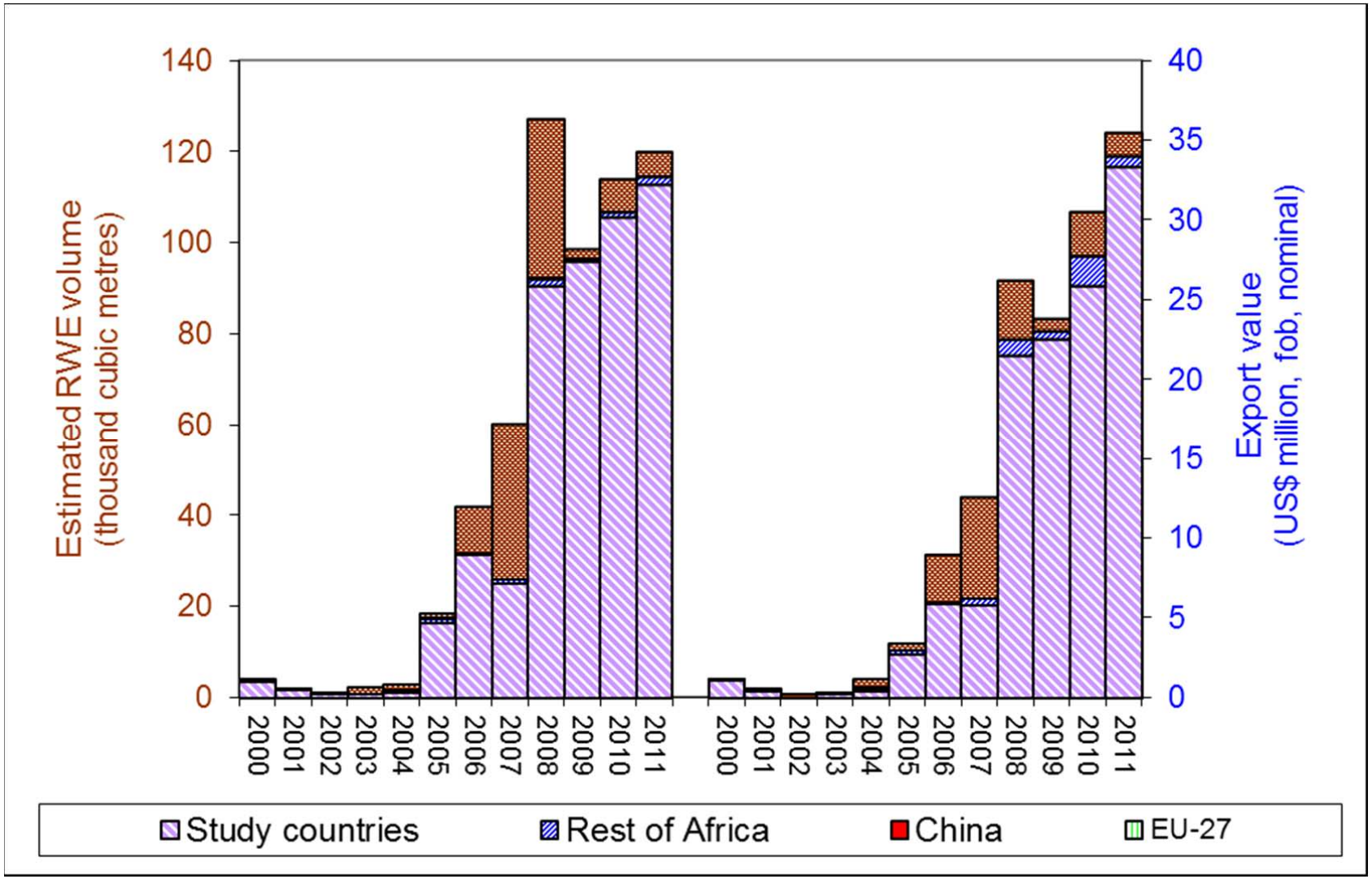

Figure 10 Tanzania's exports of paper sector products

Source: UN Comtrade; 2012

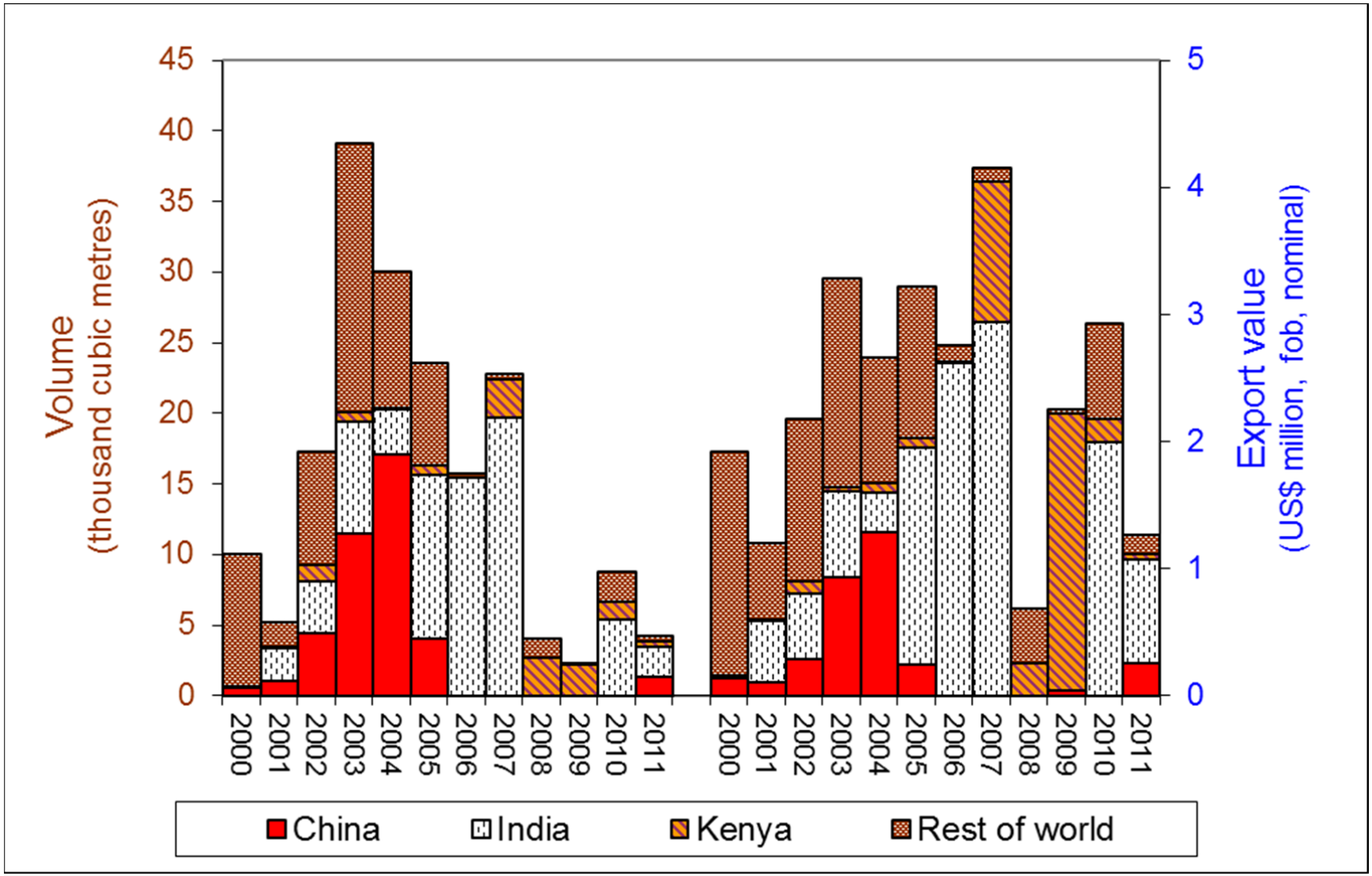

Figure 11 Tanzania's exports of logs

Source: UN Comtrade; 2012

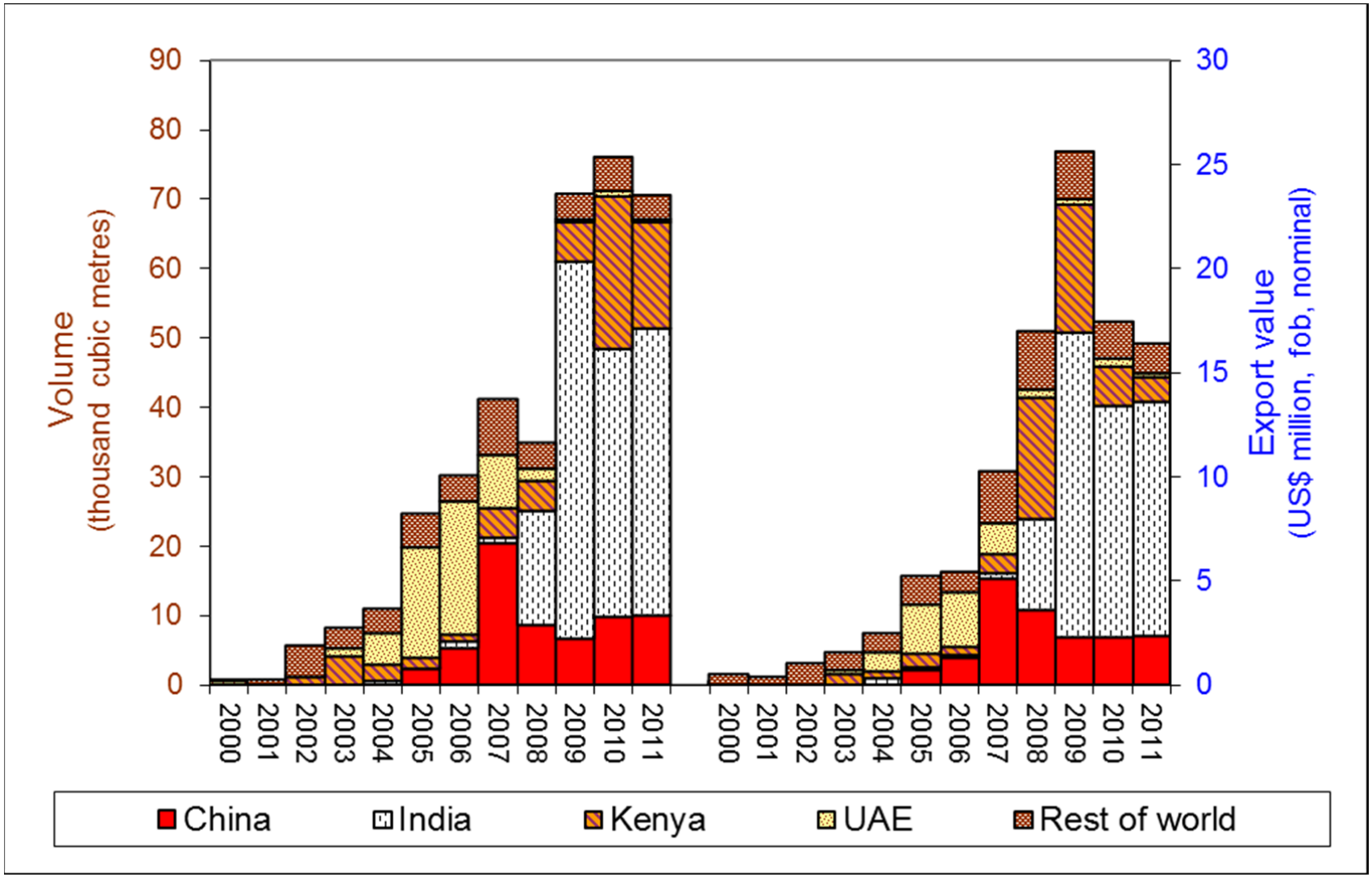

Figure 12 Tanzania's exports of sawn wood

Source: UN Comtrade; 2012

Annex 2 List of people met

1.	Selewin Regie	TFS
2.	H. M. Ngibuini	New Forests Company
3.	P. Sumbi	WWF
4.	M. Makela	Embassy of Finland
5.	F. Mukone	TFS
6.	J. Chenga	TRAFFIC
7.	B. Bobllier	EU Mission
8.	G. Anyemike	TFS

Annex 3 Tables of the UN Comtrade data used

a) Imports of Core VPA products

Source	Estimated RWE Volume (thousand cubic metres)												Import value (US$ million, cif, nominal)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	**4**	**5**	**13**	**16**	**23**	**17**	**19**	**21**	**52**	**76**	**56**	**93**	**1**	**1**	**1**	**2**	**3**	**2**	**2**	**3**	**10**	**9**	**10**	**13**
Study countries:	**3**	**3**	**3**	**4**	**7**	**4**	**7**	**9**	**31**	**53**	**34**	**62**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**5**	**4**	**5**	**7**
Kenya	3	3	3	3	3	3	2	1	2	2	2	7	0	0	0	0	0	1	0	0	0	0	0	1
Malawi	0	0	0	0	2	0	4	6	9	25	5	25	0	0	0	0	0	0	0	0	1	1	0	1
Mozambique	0	0	0	0	0	0	0	0	9	21	22	26	0	0	0	0	0	0	0	0	1	1	2	2
South Africa	0	0	1	1	3	0	0	0	6	0	3	2	0	0	0	0	1	0	0	0	3	0	2	1
Others	0	0	0	0	0	0	0	1	5	4	2	2	0	0	0	0	0	0	0	0	0	0	0	1
Rest of Africa	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
China	**0**	**0**	**0**	**1**	**1**	**3**	**9**	**7**	**15**	**18**	**18**	**21**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**4**	**4**	**4**	**4**
EU-27	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Rest of World:	**1**	**2**	**9**	**11**	**13**	**10**	**3**	**5**	**5**	**4**	**3**	**10**	**0**	**0**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**
India	0	0	6	8	11	9	1	1	0	1	1	4	0	0	0	1	1	1	0	0	0	0	0	1
Thailand	0	0	1	1	0	0	0	1	1	1	0	4	0	0	0	0	0	0	0	0	0	0	0	1
United Arab Emirates	0	1	1	1	1	1	2	3	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Others	0	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Source	Estimated RWE Volume (thousand cubic metres)												Import value (US$ million, cif, nominal)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	**24**	**25**	**25**	**27**	**46**	**64**	**85**	**71**	**77**	**109**	**96**	**110**	**6**	**8**	**10**	**9**	**19**	**17**	**18**	**24**	**31**	**31**	**30**	**35**
Study countries:	**15**	**14**	**14**	**10**	**11**	**12**	**16**	**11**	**8**	**11**	**10**	**19**	**2**	**3**	**2**	**3**	**4**	**4**	**5**	**7**	**7**	**4**	**4**	**7**
Kenya	3	3	3	2	2	4	2	2	4	7	6	7	0	1	0	0	0	1	0	0	3	2	1	2
South Africa	1	4	4	4	4	3	7	5	4	4	4	12	1	2	1	2	3	2	4	6	3	3	2	5
Zimbabwe	9	7	7	3	2	3	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0
Others	1	0	1	1	3	3	6	4	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	5
Rest of Africa	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
China	**0**	**1**	**1**	**3**	**8**	**25**	**45**	**24**	**31**	**55**	**56**	**65**	**0**	**0**	**0**	**1**	**2**	**3**	**4**	**7**	**10**	**12**	**14**	**16**
EU-27	**2**	**2**	**2**	**2**	**2**	**2**	**1**	**2**	**2**	**3**	**2**	**3**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**3**	**3**	**1**

Rest of World:	**7**	**7**	**8**	**12**	**25**	**25**	**22**	**34**	**35**	**40**	**27**	**23**	**3**	**3**	**5**	**4**	**12**	**8**	**7**	**9**	**12**	**12**	**10**	**11**
India	0	0	0	0	1	3	2	4	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1
Indonesia	2	2	1	2	2	1	2	2	2	2	4	3	0	1	1	1	1	1	1	1	1	1	2	1
Malaysia	2	2	3	5	4	7	6	6	8	7	6	4	1	1	1	2	2	2	2	2	2	2	2	2
Thailand	0	0	1	3	5	7	4	15	14	17	7	5	0	0	0	0	1	1	0	2	2	3	1	1
United Arab Emirates	1	1	1	1	11	5	7	7	8	10	7	8	1	1	0	0	7	3	3	4	5	4	3	3
Others	2	2	2	1	2	3	2	1	2	3	2	2	1	1	3	1	1	1	0	0	1	2	1	2

Source	Estimated RWE Volume (thousand cubic metres)												Import value (US$ million, cif, nominal)											
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Total	**111**	**132**	**145**	**173**	**206**	**221**	**219**	**263**	**275**	**305**	**341**	**335**	**31**	**36**	**35**	**42**	**51**	**53**	**56**	**69**	**92**	**84**	**104**	**116**
Study countries:	**67**	**77**	**77**	**93**	**96**	**124**	**87**	**95**	**123**	**148**	**147**	**131**	**18**	**20**	**18**	**22**	**24**	**29**	**23**	**24**	**40**	**37**	**43**	**43**
Kenya	0	7	10	11	12	12	8	5	11	12	15	19	3	4	3	4	4	4	3	2	9	6	7	8
South Africa	0	70	66	82	83	109	77	88	110	135	131	111	14	16	14	18	20	24	19	22	30	31	36	33
Others	67	0	1	1	1	2	2	2	2	1	1	1	1	0	0	0	0	0	0	1	1	0	0	1
Rest of Africa:	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**2**	**4**	**2**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**7**	**2**	**5**	**5**
Egypt	0	0	0	0	0	0	1	2	4	2	3	4	0	0	0	0	0	0	1	4	6	2	5	5
Others	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
China	**0**	**1**	**1**	**2**	**3**	**7**	**6**	**18**	**31**	**27**	**27**	**34**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**4**	**8**	**9**	**7**	**11**
EU-27:	**28**	**36**	**41**	**53**	**71**	**48**	**66**	**59**	**53**	**50**	**60**	**75**	**9**	**10**	**10**	**13**	**17**	**12**	**17**	**18**	**18**	**14**	**21**	**29**
Finland	0	6	6	9	7	6	9	4	2	1	3	0	1	1	1	2	2	1	2	1	0	0	1	0
France	0	5	3	5	4	4	1	1	1	1	2	1	1	1	0	1	1	1	0	0	1	0	1	1
Germany	0	2	3	6	9	9	5	5	5	5	8	19	1	1	1	2	3	2	2	2	3	2	4	6
Italy	0	4	4	3	10	5	4	6	12	8	14	25	0	1	1	1	3	1	1	2	3	2	4	9
Netherlands	0	3	8	4	2	3	7	7	7	6	3	2	1	1	1	1	1	1	1	2	2	1	1	1
Spain	0	4	4	2	3	2	5	3	2	4	5	4	1	1	1	1	1	1	2	3	2	2	4	4
Sweden	0	7	11	14	26	12	16	20	16	20	15	14	1	1	2	3	5	2	3	4	4	4	3	3
Others	28	6	3	9	10	7	20	13	7	6	11	10	3	2	1	2	3	2	5	3	4	2	3	5
Rest of World:	**15**	**17**	**26**	**24**	**36**	**42**	**58**	**89**	**64**	**78**	**104**	**90**	**5**	**5**	**7**	**6**	**9**	**11**	**14**	**19**	**19**	**21**	**29**	**28**
India	0	3	6	10	16	15	16	38	19	25	39	30	1	2	2	3	4	4	4	6	6	7	13	10
Indonesia	0	2	2	4	3	4	11	10	2	3	2	2	1	1	1	1	1	1	2	2	1	1	1	0
Norway	0	3	2	1	4	7	5	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0
Russia	0	1	1	0	1	0	3	5	3	10	20	7	0	0	0	0	0	0	1	1	1	2	4	2
Turkey	0	0	0	0	0	0	1	3	5	10	9	15	0	0	0	0	0	0	0	2	2	4	4	5

United Arab Emirates	0	3	2	3	4	7	8	9	11	9	14	14	1	1	1	1	1	1	2	2	3	2	3	4
USA	0	2	1	0	2	1	1	1	1	0	3	2	1	1	0	0	0	0	0	0	0	0	1	1
Others	15	2	12	6	6	8	13	22	24	21	16	21	1	1	3	2	2	3	3	6	6	5	4	6

Source	Volume (thousand cubic metres)												Import value (US$ million, cif, nominal)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**6**	**0**	**5**	**6**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**2**	**3**
Study countries:	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**6**	**0**	**5**	**6**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**2**	**3**
Mozambique	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
South Africa	0	0	0	0	2	0	0	0	6	0	3	2	0	0	0	0	1	0	0	0	3	0	2	1
Zimbabwe	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
Others	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of Africa	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
China	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
EU-27	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Rest of World	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Source	Volume (thousand cubic metres)												Import value (US$ million, cif, nominal)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**4**	**13**	**29**	**15**	**27**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**2**	**3**
Study countries:	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**4**	**13**	**27**	**15**	**27**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**2**	**3**
Malawi	0	0	0	0	1	0	2	3	5	14	3	13	0	0	0	0	0	0	0	0	1	1	0	1
Mozambique	0	0	0	0	0	0	0	0	5	11	12	13	0	0	0	0	0	0	0	0	1	1	2	2
Others	0	0	0	0	0	0	0	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of Africa	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
China	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
EU-27	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Rest of World	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Volume (thousand cubic metres)												Export value (US$ million, fob, nominal)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Counterpart data:																								
Exports by Malawi	0	0	0	0	0	0	0	1	1	7	0	6	0	0	0	0	0	0	0	0	0	1	0	1
Exports by Mozambique	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Destination	Estimated RWE Volume (thousand cubic metres)												Export value (US$ million, fob, nominal)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011

Total	**12**	**7**	**28**	**55**	**50**	**69**	**75**	**98**	**68**	**132**	**149**	**134**	**2**	**2**	**3**	**5**	**5**	**8**	**9**	**14**	**18**	**28**	**21**	**18**
Study countries:	**0**	**1**	**7**	**8**	**7**	**4**	**9**	**15**	**13**	**13**	**42**	**29**	**0**	**0**	**1**	**1**	**1**	**1**	**2**	**3**	**7**	**8**	**3**	**1**
Kenya	0	0	3	8	4	4	6	11	11	12	41	28	0	0	0	1	0	1	1	2	6	8	2	1
Rwanda	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	0	1	4	1	2	1	3	4	2	0	1	1	0	0	0	0	0	0	1	1	1	0	0	0
Rest of Africa:	**1**	**0**	**1**	**0**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Sudan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	1	0	1	0	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
China	**1**	**1**	**5**	**12**	**17**	**8**	**10**	**37**	**16**	**12**	**18**	**20**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**5**	**4**	**2**	**2**	**3**
EU-27:	**1**	**0**	**3**	**2**	**3**	**1**	**1**	**1**	**1**	**4**	**4**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**2**	**1**	**0**
Italy	0	0	1	0	1	0	0	0	0	3	3	1	0	0	0	0	0	0	0	0	0	1	1	0
Others	0	0	2	2	2	1	0	1	1	1	1	0	1	0	1	1	0	0	0	1	1	1	1	0
Rest of World:	**10**	**5**	**12**	**32**	**22**	**54**	**54**	**43**	**37**	**103**	**84**	**83**	**1**	**1**	**2**	**3**	**2**	**6**	**6**	**6**	**6**	**16**	**15**	**13**
India	1	3	4	8	4	12	17	21	30	99	76	77	0	1	1	1	1	2	3	3	4	15	13	12
Malaysia	0	0	0	0	0	0	0	1	0	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0
Singapore	0	0	0	1	0	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0
Switzerland	1	0	2	11	2	3	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Taiwan	0	1	3	4	3	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thailand	0	0	1	5	0	2	0	6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
United Arab Emirates	7	0	0	2	9	31	35	14	3	1	1	1	1	0	0	0	1	3	3	2	0	0	0	0
Others	0	1	2	1	4	4	1	0	2	0	1	1	0	0	0	0	0	1	0	0	1	0	1	0

Destination	Estimated RWE Volume (thousand cubic metres)												Export value (US$ million, fob, nominal)											
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Total	**4**	**5**	**5**	**7**	**16**	**14**	**19**	**95**	**59**	**42**	**94**	**110**	**1**	**1**	**1**	**2**	**3**	**4**	**3**	**15**	**10**	**5**	**12**	**7**
Study countries:	**1**	**1**	**3**	**2**	**3**	**2**	**9**	**77**	**55**	**40**	**85**	**105**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**12**	**6**	**4**	**8**	**5**
Kenya	0	0	3	1	2	1	9	77	55	39	84	104	0	0	0	0	0	0	1	11	6	4	5	4
Others	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0
Rest of Africa	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
China	**0**	**0**	**0**	**1**	**5**	**1**	**7**	**16**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**
EU-27	**1**	**1**	**1**	**1**	**1**	**2**	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**0**
Rest of World:	**1**	**2**	**1**	**3**	**7**	**8**	**1**	**1**	**1**	**1**	**8**	**1**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**1**	**3**	**1**	**2**	**2**
India	0	0	0	0	1	3	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0	0	2	0
Switzerland	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taiwan	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Arab Emirates	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Others	1	1	0	1	1	2	1	0	1	0	0	0	0	0	0	0	0	1	0	1	1	0	0	2

Destination	Estimated RWE Volume (thousand cubic metres)												Export value (US$ million, fob, nominal)											
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**

Total	**4**	**2**	**1**	**2**	**3**	**19**	**42**	**60**	**127**	**99**	**114**	**120**	**1**	**1**	**0**	**0**	**1**	**3**	**9**	**13**	**26**	**24**	**30**	**35**
Study countries:	**4**	**2**	**1**	**1**	**1**	**17**	**31**	**25**	**90**	**96**	**106**	**113**	**1**	**0**	**0**	**0**	**0**	**3**	**6**	**6**	**22**	**23**	**26**	**33**
Kenya	0	0	0	0	0	15	29	23	84	88	71	98	0	0	0	0	0	2	5	5	20	20	23	27
Malawi	1	0	0	0	0	1	1	0	1	2	7	3	1	0	0	0	0	0	0	0	0	1	0	1
Mozambique	0	0	0	0	0	0	1	1	0	1	1	2	0	0	0	0	0	0	0	0	0	0	1	1
Uganda	2	1	0	0	0	0	1	1	4	4	25	8	0	0	0	0	0	0	0	0	1	1	1	3
Others	0	0	1	0	0	1	0	1	2	1	1	3	0	0	0	0	0	0	0	0	1	0	0	1
Rest of Africa	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**2**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**1**
China	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
EU-27	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Rest of World:	**0**	**0**	**0**	**2**	**1**	**1**	**10**	**34**	**35**	**2**	**7**	**5**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**6**	**4**	**1**	**3**	**1**
India	0	0	0	0	0	0	1	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Iran	0	0	0	0	0	0	2	11	0	0	1	3	0	0	0	0	0	0	0	2	0	0	0	1
Sri Lanka	0	0	0	0	0	0	4	12	23	0	3	0	0	0	0	0	0	0	1	2	2	0	1	0
United Arab Emirates	0	0	0	0	0	1	1	1	8	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0
Vietnam	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Others	0	0	0	2	1	0	2	4	0	1	2	0	0	0	0	0	0	0	1	1	0	1	1	0

Destination	Volume (thousand cubic metres)												Export value (US$ million, fob, nominal)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	**10**	**5**	**17**	**39**	**30**	**24**	**16**	**23**	**4**	**2**	**9**	**4**	**2**	**1**	**2**	**3**	**3**	**3**	**3**	**4**	**1**	**2**	**3**	**1**
Study countries:	**0**	**1**	**3**	**1**	**1**	**1**	**0**	**3**	**4**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**0**
Kenya	0	0	1	1	0	1	0	3	3	2	1	0	0	0	0	0	0	0	0	1	0	2	0	0
Others	0	1	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of Africa	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
China	**1**	**1**	**4**	**11**	**17**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
EU-27	**1**	**0**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Rest of World:	**9**	**3**	**7**	**26**	**9**	**19**	**16**	**20**	**0**	**0**	**6**	**2**	**1**	**1**	**1**	**2**	**1**	**3**	**3**	**3**	**0**	**0**	**2**	**1**
India	0	2	4	8	3	12	15	19	0	0	5	2	0	0	1	1	0	2	3	3	0	0	2	1
Switzerland	1	0	1	10	2	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Taiwan	0	0	0	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Arab Emirates	7	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	2	4	1	3	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0

	Volume (thousand cubic metres)												Import value (US$ million, cif, nominal)											
Counterpart data:	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Imports by China	1	1	6	**45**	**42**	**21**	4	**18**	2	1	2	1	0	1	2	16	13	8	1	7	1	1	1	0
Imports by Kenya	0	0	0	0	2	1	3	8	6	3	11		0	0	0	0	0	0	1	1	1	1	2	
Imports by India	2	2	2	6	7	18	8	9	0	1	1	2	1	1	1	3	3	11	3	4	0	0	1	1
of which:																								
teak						10	9	8	0	1								4	3	3	0	0		

other spp.						5	1	0	0										5	1	0	0		

Destination	Volume (thousand cubic metres)												Export value (US$ million, fob, nominal)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	**1**	**1**	**6**	**8**	**11**	**25**	**30**	**41**	**35**	**71**	**76**	**71**	**1**	**0**	**1**	**2**	**3**	**5**	**5**	**10**	**17**	**26**	**17**	**16**
Study countries:	**0**	**0**	**2**	**4**	**3**	**2**	**3**	**7**	**5**	**6**	**22**	**16**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**2**	**6**	**6**	**2**	**1**
Kenya	0	0	1	4	2	2	1	4	4	6	22	15	0	0	0	0	0	1	0	1	6	6	2	1
Others	0	0	1	0	1	0	2	2	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Rest of Africa	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
China	**0**	**0**	**0**	**0**	**0**	**2**	**5**	**20**	**9**	**7**	**10**	**10**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**5**	**4**	**2**	**2**	**2**
EU-27	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**1**	**0**
Rest of World:	**0**	**0**	**2**	**3**	**7**	**19**	**21**	**13**	**20**	**56**	**43**	**44**	**0**	**0**	**0**	**1**	**2**	**3**	**3**	**3**	**6**	**16**	**12**	**12**
India	0	0	0	0	0	0	1	1	17	54	39	41	0	0	0	0	0	0	0	0	4	15	11	11
United Arab Emirates	0	0	0	1	5	16	19	8	2	0	1	0	0	0	0	0	1	2	3	2	0	0	0	0
Others	0	0	2	2	2	3	1	5	2	2	3	2	0	0	0	0	0	1	0	1	1	1	1	1

	Volume (thousand cubic metres)												Import value (US$ million, cif, nominal)											
Counterpart data:	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Imports by China	0	0	0	0	1	3	3	8	4	4	9	9	0	0	0	0	0	1	1	4	2	2	4	4
Imports by India	0	0	0	0	0	0	0	1	8	28	26	26	0	0	0	0	0	0	0	0	4	10	10	11
Imports by Kenya	0	0	0	0	1	0	2	4	3	1	6		0	0	0	0	0	0	1	1	1	1	2	
Imports by UAE								12	1	1	0									2	0	0	0	
Imports of teak by India in Financial Year						0	0	1	6	22	16	13						0	0	0	2	8	7	6