



# The formalization and integration of the domestic market into LAS: Ghana



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# 1. Introduction

In November 2009, Ghana was the first country to sign and ratify a Voluntary Partnership Agreement (VPA) with the European Union (EU) on legal timber exports. Although VPAs are primarily concerned with international trade, Ghana decided to include in their VPA the production of timber for the domestic market. This market is supplied for more than 80 percent by chainsaw milled lumber, which has been banned since 1998. Despite this ban, illegal chainsaw milling (CSM) is flourishing, challenging Ghana's ambitions to develop a legal and sustainable forestry sector. Consequently Ghana's efforts in operationalizing the VPA have been on both export and domestic market.

Tropenbos International (TBI) in partnership with Forestry Commission (FC) and Forestry Research Institute of Ghana (FORIG) started a multi-stakeholder dialogue (MSD) on CSM in 2007 to bridge the numerous conflicting interests that characterize CSM. In 2009, the government-initiated process (to regularise the domestic market) facilitated by the Timber Industry Development Division (TIDD) of FC, joined forces with TBI to find sustainable solutions to the CSM challenge.

## 1.1. Objectives of the assignment

The objective of this assignment is to compile a country based study document focusing on Ghana, its informal timber production sector including its impacts, related governance challenges, and means of its potential recognition or formalization (i.e. CSM) as a potentially legitimate source of timber in Ghana.

It is anticipated that this study document will form part of, or be integrated into, a larger options paper being compiled by the European Forest Institute (EFI) on the formalization and integration of timber sales on the domestic market into the Legality Assurance System (LAS) contemplated by the VPAs between the EU and VPA partner countries.

## 1.2. Scope and tasks

The scope of this assignment is to provide an analysis accompanied by recommendations on how informal sources such as CSM can appropriately and effectively be regulated at a national level in Ghana. The study document will inter alia consider, evaluate, and provide guidance on the following issues and/or components relevant to the informal sector:

- i. Provide an adequate and appropriate overview (substantiated by empirical data where present) on the current status quo of the domestic market in Ghana. Specific consideration should be given to aspects such as:
  - a. the background (history) of the domestic market in Ghana,
  - b. its size (quantification thereof) including its contribution and/or relationship with the export market.
  - c. discussion on informal timber sources to the domestic market including the estimated supply quantities, drivers for such supply, and other relevant considerations.
  - d. identifying key players, stakeholders and participants in the informal supply chain including an overview of their key contributions/ roles/ responsibilities.
- ii. Discuss and evaluate the current status of potential recognition and processes to regulate the informal sector as a legitimate source of timber in Ghana. Specific consideration should be given to aspects such as:
  - a. Relevant historical considerations (i.e. past recognitions, successes and/or failures),
  - b. Current recognition and regulation including movement towards such recognition or regulation.
  - c. Possible governance challenges related to the existence, acceptance and regulation of possible wide informal timber production sectors.
  - d. "Pros and cons" of integrating the current informal sector (entirely or partly) as a legitimate timber source.

Note: recognition and regulation should extend and cover both regulatory (law) and non-legislative measures.

- iii. Provide an analytical synopsis on the effectiveness and appropriateness of measures discussed above and recommend or suggest appropriate practical measures (legislative and non-legislative) that may be employed or should be adopted in Ghana to ensure adequate recognition and regulation of the informal sector within the context of timber sales on the domestic market.

Such measures and/or recommendations should cover aspects such as:

- a. Recognition/ acceptance/ legitimizing.
- b. Governance and stakeholder engagement.
- c. Legal access to forest resources by CSMs.
- d. Management of resources in the context of the CSM operations and timber sales on the domestic market.
- e. Measures for adequate control of production by CSMs and the control of their supply chains.
- f. Appropriate measures for enforcement and ensuring legal compliance of the CSMs, including forest operations, timber processing and control of the supply chain.
- g. Any other recommendations that may be deemed necessary or relevant.

### **1.3. Methodology**

TBI has facilitated a process of multi-stakeholder dialogue (MSD) on CSM in Ghana since 2007 (see [www.chainsawmilling.org](http://www.chainsawmilling.org)). This MSD comprises all relevant CSM stakeholders; government institutions, academics, private sector, operators, farmers, etc., both legal and illegal. This MSD process is aligned with the VPA implementation processes and has the active participation of the Forestry Commission (FC) and the Forestry Research Institute of Ghana (FORIG). The project has studied the CSM sector extensively to inform stakeholders in the discussions and to bridge different perceptions on the role of CSM. Studies have established the evolution of the institutional framework of CSM, its social, political, legal and economic drivers and its impacts on livelihoods, forests and the timber sector. More studies - including an economic analysis of the costs and benefits of these options for various stakeholders - have been undertaken to help participants in the multi-stakeholder process to develop suitable ways forward.

The report for this assignment is largely based on a desktop study including the information produced by the project, other existing studies and readily available information, discussions in the MSD and has been reviewed by members of the project management team which includes the Forestry Commission of Ghana, the Forestry Research Institute of Ghana and Tropenbos International Ghana.

## 2. Overview of the domestic market in Ghana

The information in this chapter is mainly based on the TBI-publication “Chainsaw Milling in Ghana: Context, drivers and impacts” by Emmanuel Marfo (2010). This report has synthesized the various studies and discussions that have been carried out on CSM in Ghana.

### 2.1. The background of the domestic timber market in Ghana

Ghana used to be rich in forest resources, and forests were an important part of the economy. Since the colonial era, the exploitation of timber for commercial purposes has been an important part of the Ghanaian economy. But it is only since the start of the Economic Recovery Program (ERP) under the guidance of the World Bank and the IMF in 1981 that deforestation has increased rapidly. The purpose of the ERP was to reduce Ghana's debts and to improve its trading position in the global economy. Since that time, the annual rate of deforestation in Ghana has been more than two percent, one of the highest in Africa. It has reduced Ghana's rainforests by 90 per cent in less than 50 years. The impact of deforestation is widespread, affecting the livelihoods of local people and disrupting important environmental functions of the original forest ecosystem.

The country has about 216 forest reserves that are managed for protection and timber production. Substantial timber resources exist outside these reserves (in so-called off-reserve areas). The current size of reserved high forest is 1.6 million ha. In the past, at least half of the timber harvested came from off-reserve areas, although this has declined in recent years (Marfo 2010).

In the past decades, most of the attention has focused on the international timber trade. Only recently has more attention been given to domestic timber production and trade, because it was realized that it represents a high percentage of total timber production. The domestic trade was to a large extent unrecorded; recent studies have tried to estimate the domestic market in Ghana, which is mainly supplied with chainsaw milled lumber (chapter 2.2). Chainsaws were introduced in Ghana in the 1960s and gradually replaced the use of manual saws for felling and crosscutting trees. Chainsaw milling became widespread in the early 1980s as sawmill operations decreased along with a nationwide economic decline.

### 2.2. Domestic timber production and trade

Due to the nature of CSM, it is difficult to determine the extent of illegal lumber production in Ghana. Since 1999, several attempts have been made to estimate the domestic demand for timber and the contribution to this demand by illegal chainsaw operations (Birikorang et al. 2001; Coleman 2004, TIDD 2005; Marfo, Adam and Obiri 2009 and TIDD/FORIG 2009, cited in Marfo 2010). Based on a critical assessment of the available information from those studies, and new information from a recent market survey (TIDD/FORIG 2009), a revised estimate was calculated by Marfo (2010) to range from 2.2 to 2.9 million m<sup>3</sup> per year.

Based on a nationwide survey (TIDD/FORIG 2009), 72 species were processed through CSM and processed into 112 product dimensions. About 84% of the lumber in the domestic markets studied was supplied by chainsaw operators; 16% came from sawmills (Marfo 2010).

The production and consumption figures for the domestic market and overland export are summarised in Table 1.

**Table 1: Annual production of timber (m<sup>3</sup>) for domestic, overland and overseas markets**

	Formal production	Chainsaw milling
On reserve	800,000 (1999) 550,000 (2004)	No data
Off-reserve	900,000 (1996) 300,000 (2005)	
Annual Allowable Cut (AAC)	2,000,000	
Total production (RWE)	2,000,000 (1996 – 2001) 1,600,000 (2005)	2,200,000-2,900,000

Domestic consumption (lumber)	92,000 (2003-04) 95,000 (2009)	497,000
Overland export (lumber)	No data	260,000
Overseas export (lumber)	528,570	No data

Source: Marfo 2010

Although the actual link between the export and local market has not been investigated (only the overland trade of chainsaw milled lumber to neighbouring countries), export and domestic markets are connected. The same logs and the same companies may be involved. And domestic and export trade are regulated by the same authorities and laws. It is difficult to isolate 'legal operations' from an informally operating general forestry environment; negative effects of non-regulation will spill over to timber export trade.

## 2.3. Drivers and impacts of illegal timber production for the domestic market

### 2.3.1 Drivers of chainsaw milling

Chainsaw milling has persisted in Ghana even though it is banned. In order to design effective policy responses, it is necessary to know the key factors that drive chainsaw milling. In Marfo 2010 the following drivers were distinguished:

1. corruption and weak institutional governance;
2. a high level of rural unemployment;
3. strong market demand for cheap lumber and an inability of formal sawmills to meet this demand;
4. political interference and lack of political will to enforce the ban and implement alternatives;
5. an unclear legal framework and an inadequate policy response to the domestic timber demand;
6. inadequate tenure arrangements and inequitable benefit sharing of forest resources; and
7. strong support for CSM by local communities, particularly farmers.

#### *Corruption and weak institutional governance*

Corrupt practices and ineffective law enforcement have facilitated illegal chainsaw milling (Marfo 2010). There is overwhelming evidence that corruption is prevalent among the frontline staff of the law enforcement agencies and forest service.

#### *Rural unemployment*

The lack of employment opportunities for rural youth drives chainsaw operations. The demand for chainsawn lumber in the rural forested areas has provided economic opportunities for young people who are unemployed or who want to supplement livelihood activities such as farming.

#### *Strong market demand for cheap lumber*

Over the years, chainsaw milling has persisted because it provides easy access to timber in rural areas, where about 70% of Ghana's population live. The majority of sawmills are located far from rural areas, however, in urban areas within the high forest zone. The transaction cost of obtaining sawmilled timber in rural areas is high, mainly due to time and transportation costs. The only alternative for most rural people is chainsawn lumber. Chainsawn lumber has consistently been a cheaper source of timber; the price difference between chainsawn and sawmilled lumber has often been significant.

#### *Political interference and lack of political will to enforce the ban*

Political interference is a significant driving force behind chainsaw milling in Ghana (Marfo 2010). Political interference limits the capacity of officials to fully enforce the law.

#### *Unclear legal framework and an inadequate policy response*

The formal forest sector has largely focused on the export market and neglected the domestic market. It was often assumed that no specific measures would be needed to ensure that the domestic demand was met. This was not the case, however, and chainsawn lumber has largely filled the gap in supply.

Policies on chainsaw milling and domestic timber supply have been inconsistently implemented (see also chapter 3.1, table 3 for definition of legal timber in Ghana). Stakeholders have observed that enforcement efforts have found it difficult to interpret the law and apply it to specific cases. This has complicated the enforcement of the ban since individual situations are left to official discretion.

The policy to supply 20% of industrial sawnwood to the domestic market seriously underestimated the demand. The directive is unrealistic; only 200,000 m<sup>3</sup> of sawnwood could be legally supplied by the industry even if all the two million m<sup>3</sup> Annual Allowable Cut (AAC) were used and this would still be less than the domestic demand. Moreover, the use of Timber Utilisation Permits (TUPs) — which were intended to give legal access to timber to communities, rather than to commercial interests — acted as an indirect official encouragement of CSM, since it was the only alternative source of lumber. Allowing timber markets to sell illegal products when a regulation is in place that bans these products meant that practice clearly conflicted with sector policy.

In addition, the ban is inconsistent with the provision in the 1994 Forest and Wildlife policy on employment and local peoples' right of access to timber for their daily needs. It seems illogical to ban an activity that economically engages people when there is a clear sector policy commitment to employment creation.

#### *Inadequate tenure arrangements and inequitable benefit sharing of forest resources*

Inadequate tree tenure and benefit sharing arrangements have been identified as drivers of illegal CSM. Tree tenure arrangements in Ghana are complex (see also box 1); the right that a person has over a tree depends on whether it is planted or naturally growing, whether it is on communal/family land or rented land; whether the whole tree is needed or only part of it, and whether the end use is commercial or domestic. The rights to all naturally-occurring trees are vested in the state, no matter where they occur, except for alienated lands, which are lands that have been given back to traditional owners. In contrast, planted trees are owned by the planter which has user rights over the land. Although community members can generally use parts of trees on communal lands for domestic needs, they cannot harvest trees or products for commercial use. Any harvesting of trees requires a permit from the Forestry Commission in the form of a Timber Utilisation Contract, Timber Utilisation Permit or Salvage Permit.

#### **Box 1: Difference between on- and off-reserve forest lands**

The allodial title<sup>1</sup> to the land is held by the Stool or Skin of the forest reserves, the rights to the forest resources and the effective management control are vested in the State. Both forest reserves and the off-reserve forests are State-managed. This means rights of entry and exploitation are restricted and subject to the permission of the State. In the off-reserves on the other hand, rights, interests, and entitlements in land and trees (except for commercial rights to the tree) are founded on the customary system of land tenure and administration. This means aside from the commercial rights to the tree, which are held by the State, all other rights and interests are generally held by the landowner, whether it is the Stool, families or communities.

The customary and statutory laws of Ghana are configured in such a way that ownership of land does not necessarily translate into ownership of the naturally-occurring resources the land holds. Ghanaian customary law and administration create the plurality of rights, interests and entitlements in land and forest resources. Non-public land can be owned by families, communities or groups with multiple-use rights vested in the members that can co-exist at the same time and on the same parcel of land.

*Source: Adapted from "A review of tree tenure and land rights in Ghana and their implications for carbon rights in a national REDD+ scheme" (Yaw B. Osafo, October 2010).*

For farmers it has been easier to cooperate with chainsaw operators who want to mill trees on their farms; this also provides the household's timber. This situation is exacerbated by the fact that farmers are cut off from any benefit-sharing arrangement from the exploitation of trees on their farms (Box 2). This arrangement is informed by a complex land and tree tenure system that recognises only traditional authorities (chiefs) and local government authorities (District Assemblies) as legitimate receivers of forest revenue, ostensibly to benefit their entire communities. Several studies have concluded that these authorities have not been accountable in this regard.

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<sup>1</sup> The Allodial title is in essence a title to a property, normally land, where the ownership of the land is unencumbered and the owner of the land has absolute ownership of the land, i.e. does not derive their title from a superior landlord. Title to land cannot be taken away by law.



## **Box 2: Benefit-sharing and timber revenue**

Article 267 of the 1992 Constitution of Ghana stipulates a formula for sharing forest revenue. The Administrator of Stool Lands is intended to take 10% of the total revenue received and share the remainder as follows:

- 25% to the stool in keeping with its status;
- 20% to the Traditional Authority; and
- 55% to the District Assembly (Ghana Forestry Commission 2009).

In practice, the Forestry Commission takes about 50% to cover its management costs and gives the remaining 50% to the administrator to be shared according to the formula.

*Source: Marfo 2010*

### *Strong support for CSM by local communities, particularly farmers*

CSM is supported by various stakeholders, esp. at the local level. The practice brings in about GHC 33.6 million per year in the form of informal payments, most of which benefit FSD officials, police, farmers and chiefs.

## **2.3.2 Impacts of chainsaw milling**

### *Socio-economic impacts*

Chainsaw lumber production helps sustain rural economies and livelihoods in six ways: employment; community benefits such as lumber supplied for community projects (construction of schools and wells); informal taxes collected by District Assemblies; supply of lumber; supply of firewood; and services such as transportation (Marfo 2010).

The most important economic benefit to rural communities is the provision of jobs. The income earned from chainsaw operations is higher than that from alternative labour activities in the communities (Marfo 2010). Operators working full time on chainsaw operations may earn as much as 24 times the income of alternative work such as subsistence farming. Recent studies (Marfo 2010) estimate that more than 97,000 people could be participating in production, hauling, resawing and retailing in the domestic market alone, almost as many as in the formal industry. Many other people indirectly derive income from services at the timber markets or depend on chainsawn wood for their work.

Chainsaw operators do not pay a stumpage fee for trees they fell because of the absence of a legal framework, but they make substantive informal payments in order to keep their operations going. Based on the estimated CSM production, the stumpage revenue foregone by the state is more than GHC 25 million (US\$18 million) per year. Informal payments accrue to a wide range of people; public officials (FSD, police and task force) directly involved in enforcing the ban capture at least 50% of these payments.

Conflicts are part of the everyday struggle over commercial access to timber. Ongoing conflicts related to CSM involve operators and communities (farmers) and operators and forestry officials (including court cases). The two main causes of operator-community conflicts involve lack of consultation with farmers before logging and insufficient compensation for crop damages. Forestry officials face the possibility of violence when they have conflicts with illegal operators; violent clashes have been reported (Marfo 2010). Conflict is costly to the FC. Its officers report that they spend 25–75% of their time on chainsaw-related matters. If a conflict reaches court, an average of seven court appearances is needed to resolve the matter (Marfo 2010).

### *Environmental impacts*

The most pervasive argument against CSM is its negative environmental impact. Marfo (2010) noted several negative environmental consequences compared to conventional logging:

- logging intensity can be as high as seven trees/ha, which exceeds the standard of two to three trees/ha;
- some valuable tree species are felled below recommended size limits;
- most chainsaw operators do not practise directional felling — this can lead to the destruction of young trees and agricultural crops; and
- chainsaw operators have invaded ecologically sensitive sites such as Globally Significant Biodiversity Areas and convalescent areas of production forest reserves.

The problems related to CSM seem to stem from lack of technical skills and from the illegal framework within which it operates. A regularized environment could support administrative development and capacity building to address issues such as directional felling, logging intensity and choice of sites.

## 2.4. The key players, stakeholders and participants in the domestic timber supply chain

After the first identification of CSM stakeholders in Ghana in 2009 (stakeholder analysis available at [www.chainsawmilling.org](http://www.chainsawmilling.org)), the analysis continued through a number of reviews to ensure that all relevant groups of people with a stake in CSM in Ghana are involved in the project, especially the MSD process. In table 2 the identified and categorised stakeholder groups are listed, s.

**Table 2: CSM stakeholder groups in Ghana**

Stakeholder group	Interest
<b>STAKEHOLDERS DIRECTLY LINKED TO CHAINSAW MILLING IN GHANA</b>	
Chainsaw operators, apprentices	livelihood and economic opportunity
Chainsaw machine dealers/ owners	livelihood and economic opportunity
Loaders and transporters	livelihood and economic opportunity
Lumber Brokers	livelihood and economic opportunity, regular supply of cheap and quality lumber
<b>STAKEHOLDERS INDIRECTLY LINKED TO CHAINSAW MILLING IN GHANA</b>	
Consumers	Regular supply of cheap lumber in preferred shapes, sizes and quality
Traditional Authorities	Equitable benefit sharing
Farmers	Equitable benefit sharing
Forest dependent people (NTFP Collectors, Hunters, communities etc)	Equitable benefit sharing
<b>GOVERNMENT INSTITUTIONS CONCERNED WITH CHAINSAW MILLING IN GHANA</b>	
Law enforcement agencies	Conflict reduction
Forestry Commission, incl. VPA secretariat	Sustainable forest management, conflict reduction, satisfaction of VPA requirement, good forest governance.
Ministry of Lands and Natural Resources (MLNR)	Sustainable forest management, good forest governance and successful VPA implementation
Government organizations concerned with forest management and environmental protection	Biodiversity conservation and sustainable resource use
Politicians, including Parliamentary Select Committee on Forestry issues	Sustainable forest management, good forest governance, successful VPA implementation
Local Government (DAs and MAs)	Sustainable forest management, good forest governance, conflict reduction, successful VPA implementation; job creation
<b>NON-GOVERNMENTAL INSTITUTIONS CONCERNED WITH CHAINSAW MILLING IN GHANA</b>	
Community Based Organizations	Access to resources and equitable benefit sharing, sustainable management of resources
Small-scale sawmill enterprises	Access to resources
Large scale sawmill industry (GTMO) and loggers (GTA)	Access to resources, conflict reduction
Forest dependent people (NTFP's collectors, hunters, communities)	Access to resources, sustainable management of resources
Forest research institutes and academia, e.g. FORIG, universities.	Research opportunities and efficient management and utilization of resources.
Civil Society Organisations concerned with forestry issues	Sustainable forest management, conflict reduction, good forest governance and improvement of rural livelihoods

Forestry Decision Makers at the International Level (EU-FLEGT)	Sustainable forest management, biodiversity conservation, poverty reduction, illegal logging reduction, successful VPA implementation, continued supply of legal lumber
Environmental Media	Sustainable Forest Management and good forest governance
Donors	Sustainable Forest Management, good forest governance, reduction in conflicts, poverty alleviation

From this analysis and on-going experiences an importance/influence matrix for the chainsaw milling stakeholders has been developed (Figure 1).

**Figure 1: Importance/influence matrix stakeholder analysis Ghana**

<b>Power (Influence)</b>	High	<i>Keep satisfied</i>	<i>Engage closely and influence actively</i>
		EU, ITTO, World Bank, European NGOs, Royal Netherlands Embassy, and the media	MLNR, FSD, TIDD, VPA office, MLG, Districts/Municipal/Metropolitan Assemblies, GTMO, GTA, NREG, REDD+, FGLG in Ghana and FLEGT in Brussels
	Low	<i>Monitor</i>	<i>Keep informed</i>
		WWF, IIED, GIF, CARE International, FAO, General public, etc	Chainsaw Operators, Lumber Brokers, NFF, FAWAG, WAG, GREDA, Local Communities, Land Owners, Farmers, Traditional Authorities, Academia and Research Institutions and Civil Society Groups
		Low	High
<b>Interest (Importance)</b>			

At the operational level, the main CSM participants are involved in the production, transport and marketing of chainsaw products and in the financing for these operations. They include operators, operational assistants, loading boys, drivers, wood dealers, resawyers and retailers. The operations mainly involve production (at the stump site in the forest or bush), loading to main roadsides, haulage to timber markets, resawing beams into tradable sizes (mostly at the timber markets) and retailing.

For the operatives (from the loading boys to the lumber dealers who finance the activity), CSM is a source of employment that supports their livelihood. At the community level, the operations affect local people, especially farmers, in both positive and negative ways. CSM supplies local people with lumber and some farmers sell trees on their farms for income; on the other hand, some people have conflicts with operators over payment of compensation for trees cut on their farms and for damages to their crops. The DAs and traditional authorities (land-owners) are important participants since chainsaw operations potentially affect their revenue from forest exploitation. There is a general perception that some chiefs support chainsaw operations and are sometimes involved in it.

The timber trade associations, particularly the GTMO, are opposed to CSM and have consistently called for full enforcement of the ban. The GTMO and GTA are umbrella organizations for Ghana's timber-milling companies and logging companies, respectively. With their secretariats headed by a full-time executive secretary, they have legitimacy as organised trade bodies in the industry and wield substantial influence in the sector. They are represented on the Forestry Commission Board and are consulted on all major forest policy issues. CSM operators are not well organised at the moment and do not have access to official policy consultation forums.

The Forest Services Division (FSD) is another stakeholder that is greatly affected by chainsaw operations. CSM increases the division's monitoring costs and complicates forest management planning since illegal operations distort inventory data. It is reported that some officers benefit economically from CSM. The military and the police have often been called on to beef up the enforcement capability of the FSD. This sometimes takes the form of a task force, a joint policy/FSD/military team that patrols forest areas to arrest chainsaw operators. The judiciary, especially district courts, deal with prosecutions related to chainsaw milling offences and often participate in discussions about CSM.

Both national and international NGOs participate in CSM discussions. They have advocated against the status quo to arrest current indiscriminate harvesting practices. Some NGOs have become active in policy discourse, calling for the development of alternatives rather than sticking to enforcement as the only policy option. Some environmental NGOs have argued for full enforcement of the ban.

The people involved in chainsaw operations come from a range of backgrounds. The majority of people in are farmers (48%), unemployed youth (16%), previous timber company workers (7%) and traders (6%), as well as mechanics, masons and labourers. About 58% of these people got into the business through their own initiative; the rest were trained through apprenticeships. It was also observed that about 40% of these enterprises had started operating since the ban was enacted in 1998. These enterprises are rarely organised in a trade body such as the GTMO and GTA because of the illegal nature of their operation (Marfo 2010).

Since CSM is a significant supplier of domestic lumber, carpenters, woodworkers, building companies and individuals who buy wood are all affected by chainsaw operations. Public radio discussions often express the sentiments of these people, especially carpenters, who argue that their livelihoods will be affected if they do not have a reliable supply of timber for their work. In 2004, the TIDD estimated that there were more than 40,000 carpenter enterprises in the country.

### 3. Regulating the domestic timber supply

#### 3.1. Historical developments

As chainsaw milling increased in the commercial sector, it was recognised as an important socio-economic activity and government attempted to regulate it. This led to the promulgation of the Trees and Timber (chainsaw operations) Regulation of 1991 (LI 1518), which allowed District Assemblies (DAs) to register chainsaws and, in collaboration with District Forestry Offices (DFOs), to issue permits for the felling and milling of trees. DAs also registered chainsaws and processed and approved applications for felling. DFOs received applications, conducted inspections and made recommendations to the DA on the suitability of the application. The Forest Product Inspection Bureau (FPIB), who conducted road checks, received copies of registrations and permits.

The decentralization of regulating operations led to the indiscriminate felling of trees, abuse of permits by both DAs and operators and a lack of cooperation between the DA and the DFO (Kotey et al. 1998; Adam et al. 2007a). The resulting depletion of forest resources and increasing environmental degradation became a public concern, prompting policy interventions.

Until 1998, chainsaw milling (CSM) was a legal activity regulated by law. Since then, CSM — including transportation and trade of its products — has been illegal. Table 3 summarises the definition of legal timber in Ghana.

**Table 3: Definition of legal timber in Ghana**

<b>Source of timber</b>	1994 FWP, 1996 FDMP, Cap 157, Act 547, Act 617, LI 1649 and the Manuals of Procedures, local authority bylaws	Timber is sourced from designated productive forest reserves managed in accordance with existing management plans and from off-reserve areas that are not within a distance of 50 m from any stream or river
<b>Resource allocation</b>	1994 FWP, Act 547, LI 1649 and LI 1721  LI 1649  LI 1649	Allocation of timber rights is according to one of the three methods approved by legislation, namely: <ul style="list-style-type: none"> <li>• Competitive bidding for timber rights in the form of Timber Utilisation Contracts (TUCs) on lands that are subject to TUCs; and on farms, with the consent of the farmer/s;</li> <li>• Timber Utilisation Permits (TUPs) for non-commercial purposes only; and</li> <li>• Salvage felling for an area of land undergoing development such as road construction, expansion of human settlement or cultivation of farms.</li> </ul> <p>All TUCs are ratified by Parliament.</p>
<b>Harvesting operations</b>	NRCD 273, Act 493  Logging Manual  LI 1649, Logging Manual  LI 1649, Logging Manual	Loggers must have a properly registered property mark (a special identity number given to registered concessionaires) from the Forestry Commission and an environmental permit or licence.  A harvesting schedule is prepared for areas to be logged.  Pre-felling inspections and stock surveys are conducted, resulting in availability of stocking data, including stock maps, yield list and yield maps.  Allocation of yield is based on a formula that takes into consideration the felling limit of trees, forest condition score and the FC's fine-grained environmental protection standards.

		<p>A five-year harvesting plan and compartment logging plan, which outlines timber harvesting standards and specifications for operations such as road and bridge construction, felling, skidding and log markings, are prepared.</p> <p>Timber Information Forms (TIFs) and Log Information Forms (LIFs) are completed.</p>
<b>Transportation</b>	<p>LI 1649</p> <p>NRCD 243, LI 1649</p> <p>Act 547</p>	<p>Transportation of any timber or timber product is carried out between the hours of 6 a.m. and 6 p.m. on a working day unless otherwise permitted by the FC.</p> <p>Valid conveyance certificates are required for logs being transported.</p> <p>Documentation must be available to show that the logs or timber being transported were harvested legally.</p>
<b>Processing operations</b>	<p>Act 571</p> <p>Act 571, NRCD 243, Cap 110</p> <p>Act 571, NRCD 243, Cap 110</p>	<p>Timber companies require valid registration with the FC.</p> <p>Mills must follow safety and industrial processing standards and trade guidelines during their processing operations.</p> <p>Mills cannot process chainsawn lumber. Logs to be processed must be covered by the necessary documents and certificates such as conveyance certificates.</p>
<b>Markets and export</b>	<p>Act 571, SMCD 128, NRCD 243, NRCD 273, LI 1649</p>	<p>Timber to be exported must be marked with the logger's valid property mark and markings on logs or timber cannot be defaced.</p> <p>All dealers (including exporters) require a valid registration licence to market timber.</p> <p>Export permits must be available during pre-shipment inspections and examination of timber and wood products.</p>
<b>Fiscal regime</b>	<p>Acts 124, 493, 547, NRCD 273, CAP 136, Logging Manual</p>	<p>All tax obligations of a TUC holder must be fully met.</p> <p>Loggers cannot be in arrears with respect to payment of fees and charges.</p> <p>Loggers must pay all stumpage fees with respect to harvested trees.</p>

Source: Marfo 2010, adapted from Agyeman, Oduro an Gyan 2007

By 1994 both timber companies and chainsaw operators carried out excessive and often uncontrolled felling in concession areas, making the regulations practically irrelevant. The situation was compounded by the various regulations issued separately by FSD and DAs. Chainsaw operators, DAs, farmers, and land-owners took advantage of the confusion and carried out much unmonitored felling. Speculative felling and trade malpractice were widespread, including illegal trading in property marks and unauthorised subletting of concessions to unlicensed timber operators. The timber industry's failure to pay royalties and other statutory fees for trees felled in both reserve and off-reserve forests also reached serious proportions. There appeared to be an almost complete lack of control over timber harvesting in the off-reserve areas, where illegal production had risen to about 80% of total timber production (Marfo 2010).

#### *Policy responses*

In response to these problems, a national working group was set up in 1994 to recommend strategies to control illegal felling outside forest reserves. It consisted of the National Chainsawyers Association, timber companies, local timber task forces (FSD, concession holders, district assemblypersons, villages

and military personnel), District Chief Executives, FSD District Forest Managers, stool chiefs and traditional authorities, farmers and communities and the Forestry Ministry (now the Ministry of Lands and Natural Resources). A number of interim measures were consequently adopted, one of which was the Interim Felling Procedures of 1995.

The Interim Felling Procedures had several key features (Marfo 2010):

- Applications to the Forestry Department (FD) for the felling of trees for community projects had to be accompanied by project documents (including a bill of quantities) approved by the DA.
- Before felling began, the trees would be inspected by the FD, DA, logger, a community representative and the farmer involved. Farmers could raise objections over a tree being felled on their farms, even in concession areas. Any tree felled on a farm against the wishes of the farmer was considered illegal.
- A Forest Officer would issue a felling permit before felling commenced.
- After felling, farmers could bring any complaints about the felling operations to the attention of the Forest Officers.
- A certificate of conveyance was issued by the FD for all logs, boards, charcoal or firewood produced for commercial sale before they were moved from the site.
- Staff at roadside checkpoints of the Timber Industry Development Division (TIDD) would stamp and sign the felling permits accompanying lumber in transit and send copies of permits to the FD each month.
- All chainsawn lumber on the market was expected to be governed at all times by the felling permits and the certificates issued by the FD and be available for inspection by either FSD or TIDD staff whenever necessary.

These measures could not curb chainsaw operations; there were inadequate checks in the rural areas and the bulk of the chainsawn lumber that found its way into the urban markets was not inspected as required (Marfo 2010). With evidence that the Interim Felling Procedures were not helping the situation, several policy instruments were employed from about 1997 to deal with illegal timber operations.

Timber task forces — composed of the staff of FSD, police and the military — were formed in 1996 to track down culprits and confiscate chainsawn lumber, equipment and vehicles from CSM operations. This largely failed to stop illegal chainsaw operations.

The Timber Resource Management Act, 1997 (Act 547) and its accompanying Timber Resources Management Regulation, 1998 (LI 1649) were promulgated following a major policy review of chainsaw operations (Agyeman, Agyeman and Kyere 2004), and chainsaw milling was consequently banned in 1998. CSM is mainly regulated through the Timber Resource Management Act and its legislative instruments. The Timber Resources Management Regulations of 1998 have specific provisions that criminalize chainsaw milling and operations for commercial purposes. If the lumber is not meant for sale, exchange or for any commercial purpose, then CSM is permitted. The source of the timber — whether from forest reserves, farms within forest reserves or community forests — is not relevant. Although the law seems to allow CSM with a registered chainsaw for household purposes, it does not allow this lumber to be transported unless accompanied by a conveyance certificate. To address this contradiction, some District Managers of the Forestry Services have issued waybills to allow the transport of CSM lumber.

By 2001, illegal chainsaw milling was becoming a real problem. In spite of being banned, it was gradually taking over as the major supplier of timber to the domestic market. This led to the formation of a Policy Advisory Committee at the Forestry Ministry. One of its recommendations was increased linkage and collaboration of chainsaw activities with other national initiatives such as the national Forest Plantation Development Program in order to provide alternative livelihoods for chainsaw operators. This brought the National Forest Plantation Development Centre (which implemented the program) into the chainsaw milling discussions.

As part of the policy that bans CSM, sawmills have to allocate 20% of their production for the local market. Even if this quota is supplied, it would not be enough to satisfy the local demand in Ghana.

### 3.2. Current developments in recognition and regulation of the informal timber sector

In November 2009, Ghana became the first country to sign and ratify a Voluntary Partnership Agreement (VPA) with the EU on legal timber exports, including the domestic market. VPAs between the EU and timber exporting countries are being developed to implement the European Union (EU) Action Plan for Forest Law Enforcement Governance and Trade (FLEGT). FLEGT is the EU's response to concerns about illegal logging; it aims to facilitate trade in legal timber and improve forest governance.

Although verification of compliance with existing laws is central to the VPA, it also commits Ghana to review and, where necessary, amend laws. Ghana has started a policy reform process in two phases. First changes to areas that do not require an extensive legal reform process will be realized, second changes will be realized that require more effort such as stakeholder consultations, political reflection, etc. (FLEGT VPA 2009b). The Forest and Wildlife policy has been subject to a legal reform process (consultations are almost concluded). In the draft of the reformed policy, provision has been made for improving the domestic market: "Promoting the development of the local market to satisfy domestic wood demands currently linked to illegal, low-yield chainsaw activities" (3.1.2 in draft Forest and Wildlife Policy: June, 2011). Apart from the VPA policy reform process, the Constitution is under reform, including a/o the distribution of benefits (art. 267).

Ghana has developed a Legality Assurance System (LAS) to monitor, control and verify management and use of Ghana's forest resources to ensure that only legal products are produced, sold and exported from Ghana. For the purpose of tracking and controlling timber flows, the following critical control points are identified and described in the supply chain: (i) Source of Timber, (ii) Timber Rights Allocation, (iii) Stock Enumeration, (iv) Tree Felling and Log Production, (v) Post Harvest Audit, (vi) Log Transport and Inspections, (vii) Confiscated Timber, (viii) Wood Imports, (ix) Log Arrival at Processing Plant, (x) Log Processing, (xi) Processed Wood and (xii) Export of Processed Wood (FLEGT VPA 2009a). Since the VPA is including all timber harvested in Ghana, whether for domestic or export purposes, the LAS should also apply to the domestic timber trade, which is supplied for more than 80% with illegal chainsaw milled lumber. The system is first being developed for the timber export chain; in a later stage it will be adapted to also accommodate the timber production for the domestic market. With the formalisation of artisanal milling, small scale producers shall have to adjust to the LAS, which will be challenging for probably items (i)-(vi) and (x).

Illegal CSM challenges Ghana's ambitions to develop a legal and sustainable forestry sector. Bridging the numerous conflicting local and global interests that characterize CSM requires meaningful and inclusive dialogue among all stakeholders. Since 2007, Tropenbos International (TBI) together with the Forestry Commission (FC) and the Forestry Research Institute of Ghana (FORIG) have been facilitating a process of multi-stakeholder dialogue (MSD) under the framework of the EU chainsaw milling project, to reach consensus on how to address illegal chainsaw milling effectively (see Box 3).

#### **Box 3: Multi-stakeholder process of the EU chainsaw milling project**

The multi-stakeholder dialogue (MSD) is the main strategy by which the EU chainsaw milling project seeks to achieve its objectives. It has been established to:

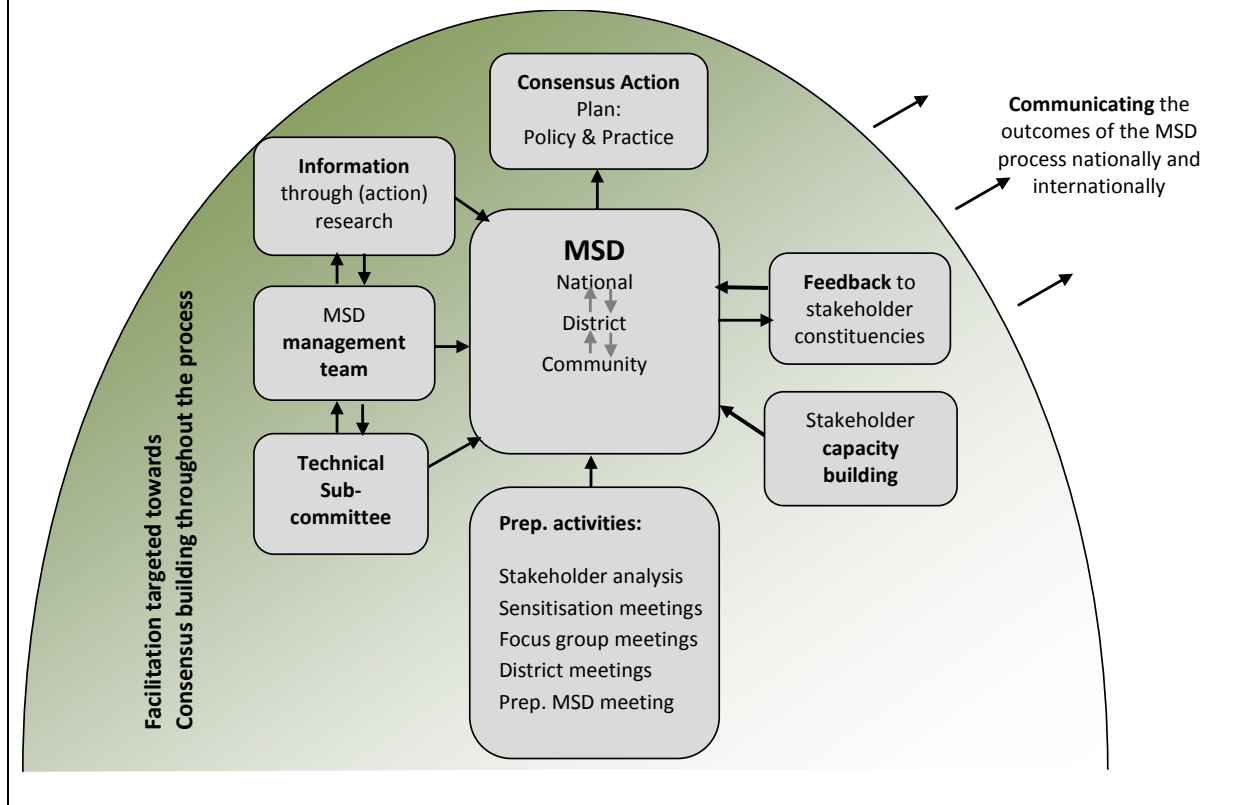
- provide a mechanism for stakeholders to share information, interact, participate in and influence national policy processes and outcomes;
- enhance levels of trust between different actors;
- mitigate conflict between stakeholders; and
- generate shared views of solutions and relevant good practices for CSM among stakeholders.

The MSD is more than just meetings. It is a process that is supported by several crucial elements (see also diagram below):

- To allow for informed decision-making, participants need to have access to sound information. A technical sub-committee (TC) supports MSD participants in reviewing information and presents findings to the participants in an easily understood way.
- Skilled and sensitive facilitation is critical for successful management of the dialogue.
- An MSD steering committee (MSD SC), comprising representatives from the key stakeholder groups, is responsible for guiding the MSD process and ensuring that follow-up on consensus decisions is carried out. That guarantees a sense of ownership of the process.
- It is important that — throughout the process — capacities and skills are built to empower stakeholders, particularly those at the community level, to participate effectively in the MSD.



- A communication mechanism is needed to ensure that information is provided to stakeholders within and outside the process.
- An effective monitoring framework needs to be in place. This enables stakeholders to assess whether the MSD is contributing to the realisation of goals, or whether there is a need to make changes.



To inform stakeholders in the discussions and to bridge different perceptions on the role of CSM, the chainsaw milling project has studied the CSM sector and concluded that implementation of the existing policy, i.e. to ban CSM, has been challenging for several reasons:

1. high market demand for cheap lumber and inability of formal sawmills to feed the domestic market;
2. the high rate of rural unemployment and the lucrative and quick gains for operators that hardly can be met by alternative activities;
3. levels of corruption in the forest sector and law enforcement agencies;
4. the lack of political will to enforce the ban and implement alternatives;
5. political interference in forest sector operations; and
6. strong support for CSM by local communities, particularly farmers.

Based on these lessons and experiences elsewhere in Africa, policy options were formulated for controlling illegal CSM in the country and discussed in the MSD. Domestic market demand was identified as the major driver, therefore it was concluded that the way forward lies in reconciling the demand for adequate legal timber for the domestic market with the sustainable production capacity of the country's forest resources. Stakeholders have considered the following three possible policy options:

- Option 1: Only sawmills supply the domestic market with legal timber obtained from sustained yield. This implies the maintenance and full enforcement of the CSM ban, and the development of a range of options to encourage sawmills to supply domestic markets.
- Option 2: Sawmills and artisanal millers supply the domestic market with legal timber obtained from sustained yield. This implies allocation of harvesting rights to artisanal millers and the logging industry. Options must be developed to create equitable conditions for sawmillers and other participants in the domestic market.
- Option 3: Artisanal millers alone supply the domestic market with legal timber obtained from sustained yield. This implies allocation of harvesting rights to artisanal millers.

Studies, including an economic analysis of the costs and benefits of these options for various stakeholders, have been undertaken to help participants in the multi-stakeholder process to develop suitable ways forward. Outcome of the study showed broad support to regularising CSM even among forestry officials. Participants in the MSD-process agreed that the integration of CSM into the formal system in the form of regulated artisanal milling (see discussion on definition on artisanal milling below) should be explored; they endorsed policy option 2 where both saw millers and artisanal millers should supply the domestic market with legal lumber obtained from sustained yield.

In 2010 the MSD-process was aligned with the VPA implementation processes facilitated by Timber Industry Development Division (TIDD) which had a similar objective. This joint process set up its own structure with a technical sub-committee and a policy committee to develop a policy proposal for supply of legal timber to the domestic market.

*Policy proposal for supply of legal timber to the domestic market*

Option 2 has been elaborated in a policy proposal (Annex 1) which has been subjected to stakeholder consultations; forest sector stakeholders on 30<sup>th</sup> June 2011, Parliamentary Select Committee on Lands and Natural Resources on 23<sup>rd</sup> June 2011 district level MSDs in August/September 2011 and a national level MSD on 26 October 2011 in Accra. This policy proposal aims to provide a framework that promotes trade in legal and sustainably produced timber on the domestic market. The overall aim of the proposal is to describe policy objectives and strategies to eliminate illegal chainsaw operations, address forest governance and institutional constraints, mitigate livelihood impacts and ensure the sustainable supply of legal lumber to the domestic market. The policy distinguishes five key strategies to realise the policy, viz.: (1) create enabling conditions to meet the demand for timber for the domestic market from legal sources; (2) eliminate illegal timber production and trade; (3) promote good governance in the supply of timber for the domestic market; (4) promote industry modernization and re-tooling (5) promote community-based enterprises as alternative livelihood for forest fringe communities. For each specific objective a number of actions has been formulated (see Annex 1). The operationalization of these, however, will take time and further stakeholder consultations (see box 4), especially because these actions are not very concrete yet.

**Box 4: Steps in the official policy making process:**

- **Stakeholder Identification & Consultation:** Ministry of Lands, Forests and Mines (*MLFM, now Ministry of Lands and Natural Resources – MLNR*) has the primary responsibility for identifying and consulting with stakeholders in an effort to establish the different aspirations that exist within the sector.
- **Synthesis:** MLFM constitutes a Technical Committee (TC) to synthesize the information collected.
- **Validation:** The TC presents report back to all stakeholders for discussion, clarification and validation.
- **Preparation of Cabinet memorandum:** MLFM reviews TC recommendations to ensure coherence with national development objectives and government agenda before submission of a draft policy under a formal Cabinet Memorandum which sets out:
  - The problem which the policy has been formulated to address
  - The overall policy goal
  - The policy objectives
  - Policy strategies for implementation
  - Monitoring and Evaluation process
- **Cabinet deliberation and further action:** Cabinet deliberates over the draft policy and approves, disapproves, recommends changes or refers to a Cabinet subcommittee (*evidence of adequate stakeholder consultation is requested*).
- **Launching:** The draft policy upon cabinet approval goes back to the sponsoring ministry for final preparation and launch at a public forum outlining the policy goal, objectives, strategies and anticipated impact.
- **Implementation:** The sponsoring ministry, departments and agencies begin to implement the strategies set out in the Policy.

*Source: Arthur 2006*

*Definition of artisanal milling*

An important aspect of any policy directed at formalising the domestic market is a definition of acceptable forms of CSM. A new concept of artisanal milling was introduced. In August 2010, the Technical Sub-Committee (TC) of the MSD discussed the concept of artisanal milling, in the context of

type of equipment, mode of operation, scale of operation, market, legal access to resource, fiscal and social obligation, training, certification and licensing. It concluded that it refers specifically to a regularised, well-trained and licensed form of chainsaw milling. Artisanal millers use more efficient equipment than a standard chainsaw, such as Logosol or Wood-Mizer. At MSD4 (23 September 2010) the stakeholders confirmed this, suggesting two definitions for artisanal milling:

“Artisanal milling is the small scale harvesting and milling of timber, in-situ and/or ex-situ, from specified legal sources for the domestic market only, by (a) trained, certified and registered artisan(s) with guided, mobile equipment.”

and

“A small scale conversion of timber to lumber for the domestic market with the use of efficient equipment by trained and certified person(s) duly registered with the FC and complying with fiscal and social obligations.”

At a joint multi-stakeholder meeting on 29th October 2010, organised by TIDD and EU chainsaw project, where consensus was reached on a viable policy direction for supplying legal timber to the domestic market in support of the VPA process (option 2), it was confirmed that freehand chainsaw milling should remain banned because of its low recovery rate and the health and safety issues.

At a certain stage the definition on artisanal milling was modified by the policy committee of the joint TIDD-TBI process in:

“Artisanal milling is the use of small-medium motorised mobile milling equipment capable of recovering at least 50% dimension lumber from logs purposely for the domestic market. Artisanal mills should include all bush mills, lucas mills, wood mizer and mobile dimension mills but exclude any form of chainsaw machines.”

This modified definition excludes the use of any form of chainsaw machine (including Logosol) – whether free hand or improved. This provoked some intense debates among stakeholders, especially at the district level leading to the suggestion to exclude any references to type of machinery from the definition (MSD 6, 26 October 2011), only referring to efficient milling equipment, and the 50% recovery rate requirement lowered to 40%. The final position (MSD 6) is that the draft policy proposal has been submitted by the joint process without the definition, leaving it up for further negotiation amongst stakeholders.

### **3.3. Governance challenges related to the existence, acceptance and regulation of informal timber production**

Informal timber production is mainly practised by small-scale operators. In Ghana almost 100,000 people are actively involved in chainsaw operations supplying the local market with timber (this compares well with the formal sector). The practice of chainsaw milling has been banned since 1998, which has kept the actors out of the formal system. To analyse the governance challenges in relation to formalising artisanal milling in Ghana, the pyramid of good forest governance from IIED (Mayers et al. 2005) has been used as a diagnostic framework.

The pyramid has a foundation which supports five tiers (Roles, Policies, Instruments, Extension and Verification), of which the first three have been considered relevant for this assessment. Furthermore the five basic systems contributing to good forest governance have been taken into account, being:

1. Information (access, coverage, quality, transparency)
2. Participatory mechanisms (representation, equal opportunity, access)
3. Finances (internalising externalities, cost-efficiency)
4. Skills (equity and efficiency in building social and human capital)
5. Planning and process management (priority-setting, decision-making, coordination and accountability)

Considering the elements of good forest governance, the following main challenges related to the regulation of the informal timber sector were identified:

**Table 4: Governance issues in Ghana**

Issue i.r.t. formalisation of artisanal milling	Elaboration	What can be done
<b>Foundations.</b> Pre-requisites of good forest governance		
Tenure rights	Inadequate tree tenure and benefit sharing arrangements have been identified as drivers of illegal CSM. Ghana's tree tenure system vests tree ownership and management rights in the State, not with communities or farmers who in practice decide the fate of trees on their land. In addition farmers are cut off from any benefit-sharing arrangement from the exploitation of trees on their farms. For an effective regulation and monitoring of artisanal milling in Ghana, communities need to be engaged in forest management. To achieve that, demonstrable benefits should accrue to them so that they have a clear interest in protecting and managing their forest resources and stimulate tree growing on farms and in plantations to increase future supply.	Review of existing tree tenure arrangements is necessary. There are discussions going on to give back the management of off-reserve resources to communities, while regulation remains with the Forestry Commission.
<b>Roles.</b> Stakeholder roles and institutions in forestry and land use negotiated and developed		
Recognition of FC's management role	FC manages all forest resources. FC's mandatory management role is accepted in reserves, but questioned in off-reserves.	Transfer of commercial rights to community level, while FC's regulating role will continue.
Recognition of future role of artisanal millers	Some stakeholders do not recognise the role of chainsaw millers; in contrast, the general public and other actors do accept their role/existence.	Definition on artisanal milling concluded using a broad stakeholder process
Institutionalised stakeholder participation	<p>The MSD of the chainsaw milling project is involving all CSM stakeholders, legal and illegal, at local, district and national level. The MSD has been integrated into the National Forest Forum (NFF), which is a well-established national forum. This forum has been given formal recognition by the government; any policy recommendation through the NFF should be well considered by policy makers.</p> <p>A challenge within the MSD is how to balance the interests of actors which differ in power and influence.</p> <p>The MSD of the chainsaw milling project is financed by the EU (until 2015). The project is actively looking for institutionalisation of the process, e.g. through the merge with the NFF, but financial resources will be needed to keep the platform running in order to be able to continue providing effective input to policy development processes in</p>	<p>Consolidation of the institutionalization of the process within the NFF as the nationally recognised platform.</p> <p>Development of a sustainable financing mechanism for the NFF.</p>

Issue i.r.t. formalisation of artisanal milling	Elaboration	What can be done
	addressing forest sector issues.	
Structures for decision-making rights and powers	The process of decision making is more and more moving towards a consultative process. Ultimate decisions about forests and forest management are taken by MLNR and FC. Stakeholders can influence these decisions in informal and formal ways. Certain actors are better positioned to voice their concerns than others; in practice this leads to underrepresentation of the interests of chainsaw (artisanal) millers and communities in forest-related decision making.	Better representation of artisanal millers and community organisations in governing (and representative) bodies
Access to information	Lack of information about rules and regulations is a widespread challenge in Ghana. As a result people do not comply because they do not know what to comply with. Stakeholders need to be properly informed about new policies and regulations to be able to provide feed-back and to comply with them. In the draft policy Forest and Wildlife Policy: June, 2011 a strategy has been included for "Widely disseminating information on forestry events, issues and trends to allow educated and informed participation by the wider public as well as the forest fringe communities". Government and civil society have acknowledged this and are putting in (modest) efforts to address this.	Draw up a comprehensive public awareness programme
<b>Policies.</b> Forest policies and legislation in place		
Vision of the role of forests in Ghana's development	Integration of artisanal milling in the formal timber sector requires a broadly shared vision on the forest sector (in the context of rural development) in Ghana and a reform of laws and policies at various levels.	Vision of the role of forests (local development, export revenues, conservation, carbon sequestration, etc.) needs to be developed, using a broad stakeholder consultation.
Policy & legal reform	Policies on chainsaw milling and domestic timber supply have been inadequate and inconsistently implemented (see also chapter 3.1). Policy and legal reform is necessary.  The tree and tenure rights and benefit sharing arrangements are complex and do not motivate local people to protect their forest resources; the laws are not conducive and should be reformed.  Benefit sharing arrangements need to be reformed to provide sufficient financial	Develop a policy on community management of forests in off-reserves, including assignment of accepted rights, roles and responsibilities.  Develop guidelines on the use of timber revenues

Issue i.r.t. formalisation of artisanal milling	Elaboration	What can be done
	<p>incentives for communities to engage in management of forests and trees. Any such arrangement would have to be negotiated with key stakeholders especially with the FC and traditional authorities.</p> <p>A policy proposal for supply of legal timber to the domestic market has been developed aiming at integration of artisanal milling into the formal system.</p> <p>In the policy proposal for supply of legal timber to the domestic market both artisanal millers and sawmillers are expected to supply the local market with timber. Sawmills are supposed to reserve at least 40% of their production for the domestic market.</p>	<p>for FC, District Assemblies and other beneficiaries to include communities.</p> <p>Formalisation of artisanal milling as an accepted and regulated practice: promulgation of a new LI.</p> <p>Providing a regulatory framework for artisanal milling, including:</p> <ul style="list-style-type: none"> <li>• approved forms of logging/processing (differentiation of the concept of artisanal milling)</li> <li>• log &amp; lumber registry &amp; transport/tracking</li> <li>• a schedule of standards and requirements for accepted artisanal millers</li> <li>• A simple and enforceable permit system for artisanal millers</li> <li>• Log tracking and tracing requirements for small scale producers</li> </ul> <p>Review legislative framework for importation, registration and licensing of chainsaw machines and its use.</p> <p>Requirements for established millers to supply at least 40% of their production to the domestic market.</p>
Policy development process	Active stakeholder participation required in further elaboration of the policy proposal for supply of legal timber to the domestic market	Use of the MSD in consultations on the operationalisation of the policy proposal

Issue i.r.t. formalisation of artisanal milling	Elaboration	What can be done
Coherence with other relevant policies and emerging initiatives like e.g. REDD	All new policies need to be checked on coherence with other relevant policies <sup>2</sup> . For REDD all policies which could impact on forest carbon stocks need to be reviewed on their compatibility with REDD-objectives.	Assessment of the policy proposal for supply of legal timber to the domestic market against the objectives of other relevant policies and emerging initiatives such as REDD.
<b>Instruments.</b> Coherent set of 'carrots and sticks' for implementation in place		
Coherent set of instruments	A coherent set of instruments needs to be developed to create enabling conditions for chainsaw milling to transform into artisanal milling. It will be challenging to design such an optimal mix in which instruments for enforcement, capacity building, market enabling measures, etc. are included.	Assessment (SEA or C/B analysis) on the set of instruments indicating the consequences of the proposed instruments on different stakeholder groups. In the policy making process, the Cabinet might already ask for an assessment for justification, showing the impacts of the intended policy.
Monitoring	Monitoring of CSM is difficult because of its high mobility, its profitability and the involvement of many people. Even though it is expected that in a regulated environment it will become easier to monitor the practice, monitoring and enforcement of the regulations will remain a challenge.	Multi-stakeholder monitoring schemes to be developed (article 4.3.2 of draft policy sub-session 5)  Roles should be assigned to various stakeholders in monitoring and their capacity needs to be built, a/o: <ul style="list-style-type: none"> <li>• FC</li> <li>• Local communities to assist in monitoring.</li> <li>• Artisanal millers associations (self-monitoring)</li> </ul>
Capacity	One of the conditions in regularising the domestic market is that freehand CSM will remain banned and that artisanal milling is promoted. The capacities of chainsaw operators, brokers and others involved in the chain will be a limitation in formalising artisanal milling. CSM absorbs a large number of untrained and unskilled workers; any form of regularising will impose standards on currently unavailable technical capacities, timber grades, and business skills.	Capacity of potential artisanal miller including chainsaw operators needs to be built in organisational skills, in forest & business regulations, in milling techniques, etc. This needs to be organised (training centre) and controlled (e.g. through a certification system for artisanal

<sup>2</sup> The Environmental National Resources Advisory Council (ENRAC) is mandated to rationalise cross-sectoral policies

Issue i.r.t. formalisation of artisanal milling	Elaboration	What can be done
		millers).
Corruption	Corruption is prevalent in the chainsaw milling sub sector. It will be very challenging to change this behaviour because of the high level of its acceptance amongst some actors.	Anti-corruption provisions need to be developed and implemented
Provision of alternative livelihoods	With the transformation of illegal CSM into artisanal millers, a small part of the workforce can be integrated into the formal system. In order to keep the rest away from illegal activities, alternative livelihoods need to be provided.	Provide efficient and competitive alternative livelihoods for displaced chainsaw operators, e.g. in the form of plantation development.
Annual Allowable Cut (AAC)	Table 1 shows that total timber production in Ghana is around 4 million m <sup>3</sup> per year (export: 1.6 million m <sup>3</sup> , domestic: 2.5 m <sup>3</sup> ). This is far exceeding the annual allowable cut, which should be updated based on the actual volume and quality of the forests resources in Ghana. For the sustainability of the industry these harvest levels should be addressed. Since both markets draw timber from the same resource, export and domestic market policies should be aligned.	Inventory of the quality and extent of the forest resources base.  Establishment and enforcement of a sustainable AAC.
Public procurement policies	The proposed policy instruments to implement the VPA include a timber procurement policy for verified legal material to be used in government-funded projects.	A public procurement policy has already been submitted to the Ministry. Standards for the construction industry are to be developed.
Timber tracking system	In order to control the sector, it is necessary to develop a tracking system applicable to small scale producers. A system is now being developed for the export market, with financially more capable players.	Develop, based on the existent tracking system, a simplified, feasible and accessible system for small scale producers.
Taxation of artisanal milling	There is the need to integrate artisanal milling into the formal taxation system.	Assess appropriateness of existing fiscal regime for small scale producers and consider potentially more appropriate options.

In the above table the most urgent governance issues have been tried to capture. More enabling conditions / instruments could be identified such as:

- policies and legislation regarding standardisation of timber products
- measures to ensure adequate and legal supply from other sources (import, plantation)
- measures to promote cost-effective substitution
- policy for supporting development of Small and Medium Forest Enterprises (SMFEs), including training and capacity building



### 3.4. “Pros and cons” of integrating artisanal milling into the formal system

Every transition has pros and cons. These will differ for every actor in the system; there will always be winners and losers; in addition, there will be higher level costs and benefits, e.g., at a national level. Any new policy should go hand in hand with certain conditions that mitigate undue costs for certain groups of actors (e.g. provision of incentives for communities, alternative livelihoods for displaced chainsaw millers). A way to anticipate these risks is to analyse the advantages and disadvantages of policy measures for stakeholder groups, through e.g. cost-benefit analyses and strategic social and environmental assessments. The TBI-process has applied this strategy by conducting a cost-benefit analysis of the three policy options (Birikorang et al. 2011) to inform participants of the MSD on the consequences of these policy options. On district level (MSD3, May-July 2010) a participatory SWOT-analysis was done of the three options to identify the pros and cons of each option.

It should also be noted that identification of pros and cons depends on the objective of the policy proposal for supply of legal timber to the domestic market. Is the formalisation of CSM only targeted at making the sector legal and/or sustainable or does the government also want to pursue equity? The policy proposal for supply of legal timber to the domestic market aims to ensure supply of legal timber on a sustainable basis, promote good governance and provide a framework that facilitates production and trade in legal timber on the domestic market. Five key strategies are distinguished:

- i. To meet the demand for timber on the domestic market from legal sources
- ii. To eliminate illegal timber production and trade on the domestic market
- iii. To promote good governance in the supply of timber on the domestic market
- iv. To promote industry modernization and retooling for improved efficiency
- v. To promote community based enterprises (including fuelwood plantations) as alternative livelihoods for forest fringe communities.

These key strategies are used in assessing the pros and cons of integrating artisanal milling into the formal system (Table 5).

**Table 5: Pros and Cons of integrating artisanal milling into the formal system**

Key strategies in the domestic market policy proposal	Pros	Cons
<p>i. To meet the demand for timber on the domestic market from legal sources</p>	<p><b>Increased forest revenue for the state and other relevant stakeholders.</b> By integrating the informal production and supply of lumber to the domestic market into the formal system, the government can collect revenues that it would have otherwise missed. In the Ghana situation it has been calculated that the state could collect up to GHC 25 million per year (US\$ 18 million).</p> <p><b>Decrease in transaction costs</b> for a variety of actors. Formalising and regularising artisanal milling reduces the need for continuous discussion and negotiation between actors in the chain (all payments related to the access, production and supply will be formalised), and reduces the scope for informal payments. The management of illegal chainsaw millers places a high burden on the enforcement capacity of the FC, the policy and the judiciary system in Ghana, at the expense of other tasks of these bodies.</p>	<p><b>Formalising criminal behaviour.</b> Some stakeholders (mainly formal millers) argue that with the formalisation of CSM in the form of artisanal milling, illegal behaviour is being rewarded.</p> <p><b>Transition from an informal to a formal system will not come without costs.</b> Institution and enforcement of laws and regulations will cost money, training of different stakeholders in different skills, etc. On the other hand FC-officials have indicated on several occasions that the enforcement of the CSM ban takes a large proportion of their time.</p> <p><b>Providing tree tenure rights to artisanal millers for off-reserve trees</b> might entail the risk that illegally felled trees from on-reserve areas will be marketed as timber from off-reserve areas (monitoring and enforcement of on-reserve areas need to be improved, which may increase cost).</p> <p><b>Providing (limited) access rights to artisanal millers to on-reserve areas</b> (e.g. by granting them logging titles for commercially less interesting trees) entails the risk that they will log more trees than allowed. Proper enforcement of exploitations is crucial.</p> <p>There may be a risk of <b>formalising a too high production level</b> in order to reduce the impact of totally elimination of illegal CSM when formalising artisanal milling.</p> <p>There may be a risk of <b>reduced export earnings</b> if a larger proportion of production will be destined for local markets, either through the 40% allocation or by allocating some production rights from established millers to artisanal millers.</p>
<p>ii. To eliminate illegal timber production and trade on the</p>	<p><b>Clearer supply chain.</b> The inclusion of the production for the local timber market in the CoC, results in a clearer CoC where the risk of export flows being infected by illegally produced timber decreases.</p>	<p><b>High risk of unemployment<sup>3</sup></b> under large part of the chainsaw millers community. Under the status quo (CSM illegal but ban not properly enforced) around 100,000 people are directly involved in the business. By integrating artisanal milling in the formal system, and</p>

<sup>3</sup> in essence this is not a consequence of regularising the sector, but of matching demand (for logs/lumber) to sustainable supply (AAC). The problem of depleted forests occurs next to the problem of illegal operations, and makes it more difficult to address.

domestic market	<p><b>Less illegal logging.</b> Limited access to forest resources by small operators, coupled with limited enforcement capacity in most countries, invites illegality (Wit et al. 2010). Banning a practice which fulfils a considerable demand, will lead to illegal activities. By providing legal access to small scale loggers, illegal logging will decrease.</p>	<p>strictly imposing sustainable harvest levels, only 20-30% of the chainsaw operators are expected to remain in the business (Birikorang et al. 2011). Conditions need to be put in place to provide them with competitive alternatives to reduce incentives for continuing the practice illegally, e.g. in the form of alternative livelihoods, proper enforcement,,etc On the other hand, if the ban on CSM were totally enforced, all operators would be out of business.</p> <p>Risk of <b>increased lumber prices</b> to consumers due to reduced supply and/or higher production costs (taxes).</p>
iii. To promote good governance in the supply of timber on the domestic market	<p><b>Increased potential to implement sustainability policies.</b> Integration of artisanal milling into the formal system contributes to better regulation of domestic markets. And well-regulated domestic timber markets are an engine for green and sustainable development.</p> <p><b>Better enforcement.</b> From a comparative study (Wit et al. 2010) it was concluded that enforcement tends to be more effective in cases where CSM has been legalized.</p> <p><b>Less conflict.</b> Conflicts are closely related to restrictions or bans on CSM and to informal relationships between actors in the chain (Wit et al. 2010). Forestry officials in Ghana face violence when enforcing the CSM ban. By integrating artisanal milling and involving communities in the enforcement of the regulations, it is expected that conflicts will decrease.</p>	
iv. To promote industry modernization and retooling for improved efficiency	<p><b>Increased capacities.</b> Lack of capacity limits the development of better practices. By formalising the sector, investments can be made for increasing the capacity of small scale loggers (forestry skills, business and marketing skills, and skills in dealing with the law and with authorities). This professional capacity requires long-term support.</p>	

## 4. Reflection on the effectiveness and appropriateness of measures

### 4.1. Recognition/ acceptance/ legitimizing of artisanal milling

Through the joint MSD of TBI and TIDD, consensus has been reached among stakeholders that integration of CSM in the form of artisanal milling into the formal system should be explored; the option was endorsed where both saw millers and artisanal millers supply the domestic market with legal lumber. A policy proposal has been developed to regularize artisanal milling and allocate formal harvesting rights to them. This proposal has been presented to the Parliamentary select committee on 23<sup>rd</sup> June 2011 and the Minister of LNR will consider the proposal. However, it has also provoked some resistance in the formal sector (mainly from saw millers), who fear possible competition from artisanal millers. This has been reflected in the discussion around the definition on artisanal milling (chapter 3.2).

The definition of artisanal milling is critical: without defining what artisanal milling is, it will be difficult to develop an effective policy. Furthermore to include any form of chainsaw machine like the Logosol presents enormous challenges for field monitoring. On the other hand, to exclude them will only confirm the status quo (mobile milling is already permitted in Ghana), making it likely that illegal chainsaw milling will continue (the ban has proven to be ineffective). In order to achieve a broad acceptance of acceptable forms of artisanal milling, the definition should be the result of a stakeholder process (at local, district and national level).

The policy proposal for supplying legal timber to the domestic market prescribes strategies which will have to be detailed out for implementation. How to operationalize these strategies is subject to further decision making. This will take time in developing, but also in further consultation with the stakeholders.

### 4.2. Governance and stakeholder engagement

#### *Addressing corruption*

Corruption is one of the key factors fostering illegal CSM. In Ghana, studies have shown that there is overwhelming evidence that corruption is prevalent among the frontline staff of law enforcement agencies. Corrupt practices have facilitated illegal chainsaw milling and made it attractive. Enforcement of the ban at the operational level has not been effective due to political interference, particularly by chiefs and local politicians. The practice brings in about GHC 33.6 million (US\$ 24 million) per year in the form of informal payments, most of which benefit FSD officials, police, farmers and chiefs. Informal payments to government officials in Ghana were estimated to be US\$ 1.2 million in 2007. This is only a portion of the amount that the government may be losing (estimated at up to US\$ 18 million per year) by not collecting stumpage fees from chainsaw operators. The challenge is to develop a system that keeps actors in the chain away from illegal practices which have proven to be very lucrative.

Many options exist to reduce the possibility of corrupt behaviour in the chainsaw milling production chain (box 5). The main challenge is to design an effective set of incentives for stakeholders (civil servants, sawyers, traders) to comply with the law. Regulations must be simple and easily enforceable, but incentives should be put in place to convince stakeholders that they will earn more from legal activities over the long term than from illegal practices. Therefore chainsaw loggers must be provided with legal and financial incentives to make them switch from informality to formality and legality. Access to timber needs to be simplified with legal logging titles that do not burden the bureaucracy, and eventually formal taxes must be applied. These technical innovations will prove ineffective unless they are coupled with strong political messages that corrupt behaviour on the part of public officials will not be tolerated and will be effectively sanctioned. This will only work when it is combined with other measures, such as decent salaries for government officials and effective monitoring of law enforcement officers (Wit et al. 2010).

#### **Box 5: Remedial actions for dealing with corrupt and unacceptable forest practices:**

- Build capacity for law enforcement
- Address corrupt practices and improve transparency
- Encourage stakeholder participation in forest management and decision-making
- Rationalize the policy and legal framework

- Improve data and knowledge on forest resources and the forest sector in general
- Identify and address the underlying causes of illegality
- Strengthen the watchdog role of civil society
- Ensure equitable benefit sharing

*Source: Combating Unacceptable Forest Practices in Ghana. TBI Ghana 2011*

#### *Stakeholder engagement*

Ghana's FLEGT/VPA process allowed substantive stakeholder engagement on fundamental sector governance issues, and a commitment to more participatory approaches. The MSD facilitated by the chainsaw milling project builds on this 'tradition'. Although the MSD is very successful in providing a mechanism for stakeholders at national, district and local level to discuss CSM issues, powers and interests at these levels differ, even within stakeholder groups. Proper management and facilitation skills are required to manage the powers and interests.

The MSD has been very successful in reaching consensus among virtually all stakeholders including policy makers on an acceptable way to address CSM; transforming the practice into regulated artisanal milling. With this acknowledgement, only a first step has been taken in a long process. The articulated strategies in the policy proposal for supply of legal timber to the domestic market need to be translated into concrete plans based on stakeholder consultations, which have to result in actions and improvements in the field.

Institutionalisation of stakeholder engagement through a recognized stakeholder platform has been initiated through the National Forest Forum (NFF), but sustainable resources have to be found to build the capacity of the Forum and guarantee future existence.

#### *Tax collection*

A proper tax collection system needs to be instituted to collect taxes from artisanal millers. The existent system needs to be assessed on its appropriateness to tax small scale producers. To improve or adapt the system, various options can be considered. The system should be simple for monitoring reasons and for small scale producers to comply. First placers (traders) of timber in the market can be made responsible for checking the legality of the timber entering their supply chain.

#### *Representation*

An important condition for equitable policy development is the representation of artisanal miller organisations in governing and representative bodies. In Ghana the interests of chainsaw millers and of CSM-dependent SMFEs are not represented in formal forest bodies, due to the illegal nature of CSM. Decisions informed by inadequate representation are likely to be skewed against the interests of this important subsector. If chainsaw milling would be transformed into artisanal milling small scale loggers should be represented in the forest governing bodies, such as the FC-board, as well.

Since chainsaw milling has been illegal since 1998, representative bodies are yet to be established or revived. Apart from the established Woodworkers Association of Ghana (WAG) and the Timber and Woodworkers' union, recently Domestic Lumber Traders Association (DOLTA) has been re-established. DOLTA was initially registered as Ghana National Sawn Timber Seller Association (GSTSA), which had membership throughout Ghana and collapsed after 1998 as a result of the ban on chainsaw milling and organisational problems. The Association was re-organised and legally registered in 2008 as DOLTA. DOLTA currently has a membership of about 25,000 people made up of domestic lumber traders, table top machine operators, chainsaw operators and transporters in four regions (Greater Accra, Eastern, Volta, and Central) in Ghana. Its head office is located in Tema, Accra. The objectives of DOLTA are to bring together all lumber traders and their associates under one association or federation to engage government on issues related to domestic lumber trade, position itself to benefit from actions aimed at regularizing the domestic market, ensure sustainable supply of legal lumber on the domestic market and undertake afforestation programmes to sustain the timber resource in Ghana.

### **4.3. Legal access to forest resources by artisanal millers**

To facilitate good governance, security of tenure rights is one of the foundations and also a driver for local economic development. That means that, for addressing illegal CSM effectively, Ghana should review its tenure system, recognizing some ownership, management rights on the part of communities

(land tenure) and of organized small scale loggers (tree tenure), especially outside forest reserves. Attempting any form of forest tenure reform outside the broader context of land and tree tenure would make no sense (FAO 2011). Organising tree tenure rights in a way that benefits people and the forest could be a challenge since it might require Constitutional amendment. It should be assessed whether tenure arrangements can be improved within the existing legislative framework, e.g. by making commercial rights to trees available for a broader range of beneficiaries.

#### **4.4. Management of resources in the context of the artisanal milling operations and timber sales on the domestic market**

FC manages all forest resources. To operationalize the concept of artisanal milling some commercial rights need to be transferred to community level, while FC's regulating role continues. The concept of artisanal milling needs to be clarified (definition) and tested in pilots so that appropriate regulations can be developed. The system in Guyana of small concessions for small scale producers (box 6) could serve as an example how to approach the management of resources for small scale producers in Ghana.

Organisation will make the sector accessible for other actors (including government), promotes a measure of self-regulation, provides for the benefits of organised groups (division of tasks, capacity building), and joint representation of interests. In Guyana, where CSM is legal, the Guyana Forestry Commission (GFC) has supported the formation of Small Loggers Associations (SLAs). These associations allow members to obtain access to State Forests via State Forest Permissions (SFPs), concessions for one or two years for areas smaller than 8,000 ha with the option to renew for an additional one or two years. For the government of Ghana to be able to grant tree access and use rights to artisanal millers, the sector need to be organised into associations, and transformed into artisanal millers. Assuming that access rights have been guaranteed (see previous chapter on tree tenure), these associations provide a platform for training in management of forests, proper felling and milling techniques, organizational, marketing and business skills, etc. By organizing the sector it is expected that it will apply self-monitoring and control illegal access to resources (only a small part of the current CSM workforce is expected to be able to continue within a restructured artisanal milling subsector, the rest will have to refrain from the practice and find alternative income sources).

#### **4.5. Measures for adequate control of production by artisanal millers and the control of their supply chains**

Ghana is in the process of replacing the current paper system with an updated and verifiable system for a nation-wide log tracking system. First timber for the export market will have to comply; eventually the domestic timber trade will be integrated into this system. For the small-scale producers, this 'chain of custody' should be easy in order to comply with regulations. A good example how such a system could be set-up is Guyana, where CSM is legal and an important subsector of the forest industry (see box 6).

##### **Box 6: Log tracking system in Guyana**

The log tracking system developed by the Guyana Forestry Commission (GFC) is the mechanism used to perform legal verification and tracking of the chain of custody in Guyana. The system was introduced in 2000 to mainly verify the origin of forest produce and control the levels of harvesting within state forests. The log tracking system currently applies to all operations including those on state forests, Amerindian reservations, and private properties and is linked to the state forest permit quota system—an initiative to control the volume of produce harvested. The system is regulated by a system of bar coded log tags which are assigned to legal operators at the renewal of an operator's annual license.

An operator's quota (forest produce volume) is calculated by the GFC using a formula to estimate the sustained yield which considers the size of the forest area and captures the minimum log harvesting variables of felling cycle, felling distance, minimum girth, and inventory information. The quota is equated to the number of trees which will yield this volume; and it is the number of trees computed that will dictate the number of tags to be issued with one tag being equivalent to one standing tree. Each operator is allocated a number of tags in accordance to his sustained yield and is recognized by a unique sequence of numbers assigned to that operation.

Log tagging is done at the stump where one half of the tag is fixed to the stump at the time of felling and the other part, bearing the same sequence of numbers recorded on the stump tag, is affixed to the produce being conveyed. It is the unique number of each tag assigned that indicates who the operator is and to indicate the geographic origin of the forest produce within the forest estate. All forest produce including logs, bunch of lumber, piles, poles, and posts are tagged.

GFC administrative control and monitoring of the log tracking system is facilitated by a simple database and its monitoring outposts (forest stations) and forest officers who are supplied with a register of log tag allocation by district. These forest officers are effective in verifying the origin and capturing royalties due on any forest produce being conveyed. The system is supplemented by the use of operators' production registers, which are the property of GFC and are reviewed to ensure specifications of forest produce recorded on the removal permit are authentic.

*Source: Law compliance and prevention and control of illegal activities in the forest sector in Guyana. Preliminary report prepared for the World Bank. Clarke 2006.*

In the example of Guyana the FC is very present in the field (applying 100% monitoring in the face of REDD implementation), and along the road, checking transportation to the market. Guyana is of course a country where the monitoring benefits from a relatively small road network and low population. With regard to the monitoring in the field, it could be questioned if the FC in Ghana could apply 100% monitoring, therefore it is important to create conditions which make it attractive for people to abide by the law and for a range of actors to monitor and report illegal activities.

The log tracking system should be implemented using simple technology that is understandable, cheap and easily accessible for small-scale operators (Hansen 2009).

In the definition of artisanal milling (still under negotiation) reference is made to a 40% recovery rate requirement. Monitoring and enforcement of this % might prove challenging. Discussions are ongoing indicating that the reference to efficiency in the definition is included to assess what equipment will be allowed for processing. The testing of equipment should be performed by officially recognised bodies such as the Wood Industry Training Centre (WITC).

#### **4.6. Appropriate measures for enforcement and ensuring legal compliance of artisanal milling, including forest operations, timber processing and control of the supply chain**

CSM is characterized by low capital requirements and high labour input. Lumber is in high demand, making CSM a very attractive practice in rural areas where alternative lucrative employment is scarce. Combined with its high mobility, the monitoring of the ban on freehand CSM (which will remain banned in the policy proposal for supply of legal timber to the domestic market), and enforcement of the rules becomes a challenge. A regulatory regime, relying on command and control legislation and regulations, requires intensive monitoring and therefore a strong and well-resourced enforcement mechanism (Gregerson and Contreras 2010). It can be questioned whether the context of Ghana will accommodate such a level of enforcement when the practice is transformed into artisanal milling. Involving communities in the monitoring of forest resources could be a (cost) effective way of addressing this challenge. A basic requirement for communities' engagement is that demonstrable benefits should accrue to them so that they have a clear interest to be involved. The current regime of access and benefit sharing provides insufficient (financial) incentives for engaging in management of forests and trees and should be reformed. Financial benefits of timber revenue accrue exclusively to District Assemblies and traditional authorities (chiefs), not farmers, who decide over the fate of the trees.

To increase the effectiveness of monitoring and reporting of unwanted and illegal practices following regularization of artisanal milling, it is important to involve more actors than just the FC and the police. This is feasible if the stakes of other stakeholders in good forest management are high enough to invest in monitoring. This can be done by granting management and (commercial) use rights to the lowest appropriate level, e.g. communities, districts, or artisanal miller associations themselves. Capacity of FC and other land owners/managers in forest monitoring should be improved.

#### **4.7. Any other recommendations that may be deemed necessary or relevant**

##### *Impact on local livelihoods*

Transformation of CSM to artisanal milling could adversely affect the rural economy and enterprises that depend on it for lumber. It could also reduce employment and income earning opportunities for rural people who are directly involved in chainsaw operations. It is for example expected that under a regulated framework only 20-30% of the chainsaw millers can stay in business (Birikorang et al. 2011). Therefore special attention will need to be paid to both enforcement as well as the development of alternative livelihoods. CSM is a quick way of earning a good income. It will be difficult to find alternative livelihoods that offer the same income opportunities. It should be explored whether climate financing could be used to offer incentives for communities to become involved in sustainable forest management and timber production. Plantation development is also mentioned as a possibility to provide former operators with an alternative income.

##### *Supply of raw materials*

As the population of Ghana is rapidly growing (doubling to almost 50 million in 2030) and the forest reserves depleting even faster, the country stands the risk of losing its remaining forest and the services they provide. If the current level of exploitation continues, within 15-20 years' time the forests will be depleted. The annual harvest is estimated to be approximately four times the recommended allowable cut of 1 million m<sup>3</sup> - a figure that is itself probably outdated<sup>4</sup>. Export policies should be fully aligned with domestic market policies since both markets draw timber from the same resource. An assessment of the remaining forest cover and its status is needed so that the annual sustainable harvest level can be determined and, if necessary, strategies for raw material supply developed. Ultimately, a large proportion of supplies may have to come from plantations or imports.

##### *Compatibility with REDD*

Apart from VPA-implementation, Ghana is also preparing for REDD-implementation. (Illegal) logging is a driver for deforestation and therefore should be addressed under REDD. Both initiatives will impact on each other. It is expected that under the framework of REDD, the forest resources of Ghana will be inventoried. This information can be used to revisit the AAC which is now 2 million m<sup>3</sup> per year (insufficient to meet both export and domestic demand). Experts estimate that this AAC exceeds at least three times the sustainable harvest level (Mayers et al. 2008). Adjustment of the AAC to a sustainable harvest level will require Ghana to determine for what it wants to use its forest resources, because it might prove difficult to pursue REDD and continue the level of current harvesting for both the export and domestic market.

Although sustainability is included in the objective of the policy proposal for supply of legal timber to the domestic market, no specific action is included in this framework to pursue this. In the REDD-process all policies which could impact on forest carbon stocks need to be reviewed on their compatibility with the REDD-objectives, including the policy addressing the domestic timber market. Without a sustainability provision in the policy it might prove difficult to meet the REDD-requirements.

##### *Procurement policies*

A draft public procurement policy has been prepared by a team of experts led by the TIDD. This has been submitted to the Ministry of Lands and Natural Resources and will soon be given a legal backing. It is intended to regulate private procurement of timber by development and enforcement of standardization in wood products. Trade associations are also to be guided by their code of conduct and strict enforcement of building codes.

##### *Supply of domestic market by formal sawmills*

Under the current legal regime, the government of Ghana has directed sawmills to reserve 20% of their production for the local market (part of the policy intended to ban CSM and supply the local market from the formal industry). This quota is not enough to satisfy the local demand in Ghana in volume, but also not in preferred dimensions, price, species and place, leaving a large gap to be filled by CSM. For the policy proposal, suggestions have been made to increase sawmills' local market supply to 40% of their production, while maintaining their production level at 1.5 million m<sup>3</sup> per year. The rest of the local demand of 600,000 m<sup>3</sup> timber (2.5 million RWE) per year should be supplied by artisanal millers.

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<sup>4</sup> In Ghana the administrative AAC is 2 million m<sup>3</sup>, while 1 million is recommended.



Conditions need to be created to stimulate saw mills to dedicate part of their production to the local market, especially because of the price differences.

*Cheap and easily accessible procedures*

Procedures to regulate artisanal milling need to be simple so that small scale operators are able to comply with their requirements. This means that the required skills need to be kept at a level understandable and accessible to operators.

*Political will*

In order to address the challenges of the domestic timber market effectively, tough choices have to be made, such as the adjustment of the land tenure system and the distribution of forest resources among the various actors. This will require political bravery and leadership.

*Stimulation of SMEs*

Well-regulated domestic timber markets are an engine for green and sustainable development. The informal sub-sector is characterised by small and medium forest enterprises (SMFEs). By promoting the legality of enterprises there is a potential to put SMFEs — which are mostly informal and unregistered — out of business. This situation can be avoided by including the interests of SMFEs in the legality definition. SMFEs may also need to be organised into associations and assisted to register themselves and conduct their operations in a legal and sustainable manner. Addressing institutional challenges — with an emphasis on networking, research, capacity building, information and technology transfer, access to capital (microcredit facilities) and participation in decision-making processes — could greatly enhance the contribution of the SMFE sub-sector to the improvement of local livelihoods and resource conservation (Osei-Tutu et al. 2010).

## 5. Bibliography

Documents and publications of the EU chainsaw milling project:

- [www.chainsawmilling.org](http://www.chainsawmilling.org)
- Reports of the Multi-stakeholder dialogue (MSD) in Ghana:  
[http://www.tropenbos.org/projects/multi-stakeholder\\_dialogue\\_in\\_ghana](http://www.tropenbos.org/projects/multi-stakeholder_dialogue_in_ghana)

Arthur, E. (2006) *Policy making and legislative processes in Ghana: Introductory guide for forest sector NGOs*. Tropenbos International Ghana, Kumasi, Ghana.

Birikorang, G., E. Marfo, K. Boateng and B. Obiri-Darko. 2011. *Scenario and cost benefit analysis of proposed policy direction for the supply of legal timber to the domestic market*. Forestry Research Institute of Ghana, Kumasi, Ghana (unpublished).

Birikorang, G., R. Okai, K. Asenso-Okyere, S. Afrane and G. Robinson. 2001. *Ghana wood Industry and log export ban study*. Forestry Commission report to the Ministry of Lands and Forestry. Forestry Commission, Accra, Ghana. 53 pp.

Clarke, G. 2006. Law compliance and prevention and control of illegal activities in the forest sector in Guyana. Preliminary report prepared for the World Bank. The World Bank.

Coleman, H.G. 2004. The local wood market: size and nature. In Tropenbos International. *Chainsaw lumber production: a necessary evil? Workshop Proceedings 2*. Tropenbos International, Wageningen, the Netherlands.

FAO 2011. *Reforming forest tenure Issues, principles and process*. FAO Forestry Paper 165. FAO, Rome

FLEGT VPA 2009a. *Voluntary Partnership Agreement between the European Community and the Republic of Ghana on Forest Law Enforcement, Governance and Trade in Timber Products into the Community*

FLEGT VPA 2009b. *FLEGT Voluntary Partnership Agreement Between Ghana and the European Union Briefing Note*. November 2009

Gregersen, H. and Contreras, A. 2010. *Rethinking Forest Regulations: From simple rules to systems to promote best practices and compliance* RRI, 2010.

Hansen, C.P., Lund, J.F. and Treue, T. 2009. Neither Fast, Nor Easy. The Prospect of Reducing Emissions from Deforestation and Degradation (REDD) in Ghana. *International Forestry Review* Vol 11(4); 439-455.

Marfo, E. 2010. *Chainsaw milling in Ghana: Context, drivers and impacts*. Wageningen, the Netherlands: Tropenbos International.

Marfo, E., K.A. Adam and B.D. Obiri (eds.). 2009. *Ghana case study of illegal chainsaw milling. Developing alternatives to illegal chainsaw milling through multi-stakeholder dialogue in Ghana and Guyana project*. FORIG Research Report (CSIR-FORIG/TR/EM; KAA; BDO/2009/18).

Mayers, J., Birikorang, G., Yaw Danso, E.Y., Nketiah, K.S., Richards, M. 2008. *Assessment of Potential Impacts in Ghana of a Voluntary Partnership Agreement with the EC on Forest Governance*. International Institute for Environment and Development, London, United Kingdom.

Mayers, J., Bass, S. & Macqueen, D. 2005. *The pyramid: a diagnostic and planning tool for good forest governance*. Power Tools Series. London, UK, IIED.

MLNR 2011. *Draft Forest and wildlife policy*, Republic of Ghana, June 2011. Ministry of Lands and National Resources, Accra, Ghana (unpublished).

Osei-Tutu, P., K. Nketiah, B. Kyereh, M. Owusu-Ansah and J. Faniyan. 2010. *Hidden forestry revealed: Characteristics, constraints and opportunities for small and medium forest enterprises in Ghana*. IIED Small and Medium Forest Enterprise Series No. 27. London: Tropenbos International and International Institute for Environment and Development.

TIDD 2005. *Report of the committee on the control of illegal chainsawn lumber and supply of mill-sawn lumber to the domestic market*. Timber Industry Development Division.

TIDD/FORIG. 2009. *Ghana domestic timber market study*. Commissioned under Natural Resources and Environmental Governance Program. Timber Industry Development Division and Forestry Research Institute of Ghana Final Report.

TBI Ghana 2011. *Combating Unacceptable Forest Practices in Ghana*. Tropenbos International Ghana.

Wit, M., J. van Dam, P.O. Cerutti, G. Lescuyer, R. Kerrett and J. Parker Mckeown. 2010. "Chainsaw milling: supplier to local markets — a synthesis." *ETFRN News 52: Chainsaw milling: supplier to local markets*: vii–xxii.

Yaw B. Osafo. 2010. *A review of tree tenure and land rights in Ghana and their implications for carbon rights in a national REDD+ scheme*. REDD-NET

# Annex I : Policy proposal for supply of legal timber to the domestic market

## POLICY PROPOSAL FOR SUPPLY OF LEGAL TIMBER TO THE DOMESTIC MARKET

### 1. PREAMBLE

- i. Under the VPA, the Government of Ghana has made a commitment to ensure that legal timber is traded both in the export and domestic markets
- ii. Illegal chainsaw operations are threatening the sustainability of forest resources in Ghana; exploiting an estimated 2.5 million cubic meters across the country including forest reserves, and supplying over 80% of the total lumber demand of about 600,000m<sup>3</sup> on the domestic market.
- iii. Sawmill supply of lumber to the domestic market is inadequate, accounting for less than 20% of lumber sales.
- iv. In the past two decades, there have been several initiatives to combat illegal chainsaw operations including introduction of regulation for chainsaws registration at District Assemblies, use of joint FSD/military/police task forces and legislation to prohibit the operation.
- v. Measures to address illegal chainsaw operations have largely failed due to increasing demand for wood on the domestic market, rural unemployment, inequitable timber revenue sharing arrangement, weak capacity of regulatory agencies to enforce the law and unattractive domestic prices serving as disincentive to sawmills to supply lumber to meet the demand gap.
- vi. Ineffective tree tenure arrangements in off-reserve areas and inequitable sharing of timber revenues that excludes farmers have encouraged illegal chainsaw lumber production
- vii. The political will by successive governments to strictly enforce the ban on illegal chainsaw milling operations and trade has been inconsistent.
- viii. More recently a number of initiatives including research and extensive multi-stakeholder dialogues and consultations have enabled stakeholders to:
  - gain a better understanding of the dynamics of the domestic market;
  - examine alternatives to illegal chainsaw milling; and
  - develop proposals to address the gap in the supply of legal lumber to the domestic market.

- ix. A major outcome of these efforts have resulted in the following policy options for supplying legal lumber to the domestic market from sustainable sources:
- Option 1: Sawmills alone supply lumber to the domestic market;
  - Option 2: Sawmills and artisanal mills supply the domestic market with lumber; and
  - Option 3: Artisanal mills alone supply lumber to the domestic market.
- x. A sector-wide multi-stakeholder consultations identified option 2 as the most practical and preferred option: a commissioned cost-benefit analysis of the three options also confirmed option 2 as the most economically efficient choice to supply legal lumber to the domestic market.
- xi. The choice of option 2 will however come with some social and economic impacts that will require some mitigation measures and investments.
- xii. The consultations acknowledged the important role of local communities in forest management and governance and the need to promote dialogue for social and economic equity in solving the domestic timber market problem.
- xiii. **From the above considerations, the overall aim of this document is to prescribe policy objectives and strategies to eliminate illegal chainsaw operations, address forest governance and institutional constraints, mitigate livelihood impacts and ensure the sustainable supply of legal lumber to the domestic market.**

## 2. GUIDING PRINCIPLES

This ***domestic timber market policy*** document is informed by the Ghana Shared Growth and Development Agenda (GSGDA), Ghana Industrial Policy, the Forest and Wildlife Policy and the Forest Sector Development Master Plan. The underlying principle of this policy is to provide a framework for developing and regulating the domestic timber market in anticipation of expansion and growth of the construction and housing industry while addressing the drivers of illegal chainsaw operations, deforestation and forest degradation.

This ***domestic timber market policy*** document has been developed taking into account the following guiding principles:

- i. Balancing the supply and demand of timber from legal and sustainably managed forests on the domestic market.
- ii. Building a strong relationship between innovation, environment and industry regulations with the view to enhancing product quality on the domestic market.

- iii. Modernizing/adjusting industry to the shrinking natural forest resource base and changing market trends.
- iv. Promoting timber imports to meet domestic demand
- v. Ensuring industrial efficiency and contributing towards Reduced Emissions from Deforestation and forest Degradation (REDD)
- vi. Promoting domestic timber trade regulations as well as incentives.
- vii. Creating opportunities for growth for Micro, Small and Medium Enterprises (MSMEs) in resource development, value added processing and the supply chain as a means of promoting rural employment and reducing poverty.
- viii. Promoting community based forest enterprises as a means of addressing the drivers of illegal chainsaw operations, deforestation and forest degradation.

### **3. POLICY CONTEXT AND STRATEGIC DIRECTION**

#### **3.1. The Policy Context**

The growth and development of the timber industry in Ghana has focused mainly on the export sector at the expense of the domestic market. However a well developed and regulated domestic market is vital for the socio-economic development of the country.

It is recognized that a well developed and regulated domestic market will have some positive impact on the environment. However, it will negatively affect local communities whose livelihoods depend on chainsaw milling. Special attention will therefore be paid to the development of alternative livelihoods especially those related to forest resource creation to absorb the displaced groups.

Whilst the policy interventions may help reduce pressure on the natural forest, the expected expansion in the economy will lead to increased wood demand, necessitating the need for an aggressive plantation development.

#### **3.2. Strategic Direction**

The strategic direction of the domestic market policy is prioritized in favour of interventions in the following areas:

- i. Improved access to raw material for the domestic market
- ii. Adoption of appropriate technologies to improve mill efficiency and recovery rates
- iii. Promotion of processing and utilization of lesser used species (LUS) and alternative wood materials such as bamboo and rubber wood for the domestic market.

- iv. Promotion of alternative livelihood programmes and community-based forest enterprises for displaced chainsaw operators, artisans and forest fringe communities.
- v. Awareness creation and public education on the importance of sustainable management and utilization of forest resources.
- vi. Expansion of industrial and fuel wood plantations.
- vii. Promotion of good forest governance and efficiency in service delivery by relevant public institutions in the development of the domestic market.
- viii. Creating an enabling fiscal environment to promote private sector investments in the forest sector, particularly the domestic market related activities.

## **4. POLICY OBJECTIVES**

### **4.1 Policy Goal**

**To ensure supply of legal timber on a sustainable basis, promote good governance and provide a framework that facilitates production and trade in legal timber on the domestic market.**

### **4.2 Specific objectives**

- i. To meet the demand for timber on the domestic market from legal sources
- ii. To eliminate illegal timber production and trade on the domestic market
- iii. To promote good governance in the supply of timber on the domestic market
- iv. To promote industry modernization and retooling for improved efficiency
- v. To promote community based enterprises (including fuelwood plantations) as alternative livelihoods for forest fringe communities.

### **4.3 Strategies**

#### **4.3.1. Strategies for specific objective 1: To meet the demand for timber on the domestic market from legal sources**

Ghana's current estimated domestic timber demand of 600,000 cubic meters per annum is expected to increase as a result of population expansion and economic growth. Meeting this demand from sawmills alone has been a challenge as a result of the focus on the export market. Consequently the gap in demand is being met from illegal chainsaw production. The following strategies are proposed:

- i. Develop regulatory and fiscal framework to stimulate sawmills to supply at least 40% of their production to the domestic market
- ii. Enforce policy of complete yield removal in timber harvesting

- iii. Develop and promote regulatory framework for artisanal milling
- iv. Develop and promote models of artisanal milling (including Mobile Recovery Teams {MRT}) in the domestic market supply chain.
- v. Identify and allocate raw materials to artisanal millers through appropriate administrative and legal framework
- vi. Introduce and enforce standardization of timber and timber products; promote appropriate building codes
- vii. Facilitate the establishment of timber depots in strategic locations to enhance access to legal timber
- viii. Promote alternatives to wood material like bamboo and rubber wood and the use of recycled wood on the domestic market.
- ix. Promote importation of timber raw materials for processing into value added products
- x. Sustain raw material supply by improving plantation development
- xi. Promote processing of plantation timber for the domestic market

#### **4.3.2 Strategies for specific objective 2: To eliminate illegal timber production and trade**

The Timber Resource Management Act 1997 (Act 547) and its accompanying Timber Resource Management Regulations 1998 [LI 1649, Sections 32 (1 & 2)]; completely outlawed commercial chainsaw lumbering activities. Despite these enactments, chainsaw activities still persist and are on the ascendancy with dire environmental consequences and loss of revenue to government. The absence of regulations on the importation of chainsaws has aggravated the situation. The following strategies are proposed:

- i. Review legislative framework for importation, registration and licensing of chainsaw machines and its use (operators)
- ii. Promote the trade in legal timber through the development and implementation of a public procurement policy on timber and timber products
- iii. Implement wood tracking system (WTS) on the domestic market
- iv. Strengthen legislation on the ban on chainsaw milling
- v. Pilot and scale up community monitoring models by strengthening Community Resource Committees through capacity development

#### **4.3.3 Strategies for specific objective 3: To promote good governance in the supply of timber on the domestic market**



Polices and legislations have not involved stakeholders in forest management including production and trade in timber and timber products on the domestic market. Sustainable forest management requires strict compliance with all regulations through collaborative efforts and good governance. Good governance in domestic timber supply involves developing capacity for maximum collaboration with all relevant government agencies at all levels in a transparent manner along the value chain. This objective seeks to promote good governance in ensuring legal supply of timber to the domestic market using the following strategies:

- i. Review the benefit sharing of timber revenue from off reserve areas to include farmers.
- ii. Promote local communities and Civil Society Organisations' participation in forest management and monitoring of timber production and trade
- iii. Develop guidelines on the use of timber revenues for District Assemblies and other beneficiaries

#### **4.3.4 Strategies for specific objective 4: To promote industry modernization and retooling for improved efficiency**

Traditionally, the role of government as a key actor in the process of industry modernization is limited. However, emphasis of policy should be on creating an enabling environment for industry to gain access to raw material, research and development, training for skills development and resource for industry modernization and retooling. The policy seeks to address the following constraints:

- old and obsolete processing equipment and technology;
- limited managerial and technical skills /expertise;
- poor access to markets; and
- dwindling raw material base.

This objective seeks to promote industry modernization through the following strategies:

- i. Facilitate re-tooling of timber industries with efficient machinery for the production of timber and timber products
- ii. Promote downstream processing and marketing
- iii. Facilitate research and development in support of the domestic timber sub-sector
- iv. Facilitate product development by processing and utilization of LUS

- v. Develop capacities for artisanal milling for enhanced efficiency, product development and marketing

#### **4.3.5 Strategies for specific objective 5: To promote community based enterprises as alternative livelihoods for forest fringe communities**

It is recognized that a well developed and regulated domestic market will have some implications on local communities. The design and implementation of strategies to deal with the challenges of the domestic supply of legal timber must therefore take into account social safeguards for all forest fringe communities. This specific objective seeks to promote community based forest industries through the following strategies:

- i. Identify, pilot and promote viable community-based enterprises including fuelwood plantations and charcoal production
- ii. Identify and train organised chainsaw operators as artisanal millers
- iii. Provide incentives for alternative livelihoods by linkage to service providers, market access and capacity development

### **5. CROSS CUTTING ISSUES**

In implementing actions related to the above strategies, attention should be paid to the following cross cutting issues:

- Capacity building (marketing, entrepreneurship, quality improvement, business management etc)
- Leveraging ICT in the production and marketing of products
- Awareness creation and public education
- Financing; taking into account the need for sustainable sources of funding to support the implementation of the policy and programmes