



4.6 Chainsaw milling in Ghana: assessing its economic impact

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Introduction

Chainsaw milling has been the most important part of the informal wood sector in Ghana for a long time. Originally, the chainsaw was not the common method for processing lumber for commercial use in Ghana. According to the Food and Agricultural Organization (FAO), the main purpose for the introduction of the chainsaw into Ghana was to fell trees during logging and prepare land for plantation farms (FAO 1974). In the 1980s, however, a period of severe economic hardship, sawmill operations reached record low levels. People in Ghana resorted to the use of chainsaw milling (CSM) to produce logs and lumber on a commercial scale (Parker 2008).

Although the initial response of the Government of Ghana was to recognize and legislate for CSM, but in 1998 it banned the practice for several reasons, including environmental degradation, equity considerations, economic inefficiency, corruption and conservation of the forest resource. Clearly, the ban on chainsaw milling in Ghana has not achieved its objective. The Forest Services Division (FSD) of the Forestry Commission has reported that CSM operations are increasing rather than decreasing (Parker 2008).



GENERALLY, THE EFFECT OF THE CSM BAN IN THE CONTEXT OF GHANA'S LOG EXPORT BAN HAS BEEN A DECREASE IN DOMESTIC PRICES AND AN INCREASE IN MILLING CAPACITY AND PROFITABILITY.

Ghana's forestry sector

The assessed forest cover for Ghana was 5.5 million hectares (ha) in 2008, comprising about 1.2 million ha of forest reserves and 4.3 million ha of off-reserve area. Next to cocoa and gold, the forestry sector has been the next highest earner of foreign exchange for Ghana, accounting for 7–10% of export earnings from 2001 to 2005 and contributing about 6% of GDP. Amelia et al. (2007) reported that 60–70% of Ghana's population depends on forest resources for livelihood and cultural purposes.

The informal timber sector in Ghana contributes 70% of the value of export earnings. This sector includes a variety of unregulated transactions and activities that are not legal but are tolerated by the state. The informal sector also serves as the main source of domestic wood supply; CSM supplies about 80% of this (EC 2008). The informal sector

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had a comparable turnover in monetary returns as the formal sector in 2007, although it supplied only the domestic markets (Birikorang et al. 2008). Birikorang (2007) estimates that, based on financial and economic return assessments, the informal sector makes a more significant contribution to employment than the formal sector.

Ghana is exporting less timber to Europe, partly because of European Union (EU) requirements regarding the source and legality of timber. The shortage of timber has resulted in some factories shutting down in Ghana. The regional market (West Africa) is growing in importance, however; the Sahel region is a prominent destination for timber, mainly illegal. Trade in illegal timber is on the increase, compared to trade in legal timber. The EC



(2008) indicates that the informal sector is responsible for about 52% of the largely illegal timber trade in Ghana. In the formal sector, about 19% of timber comes from illegal sources. This shows that about 71% of the annual log volume could be illegal. A study by the EC (2008) indicates that it is easy to obtain documents to authorize illegal logs in Ghana.

Illegal timber harvesting reached 1.7 million m³ in 2008, supplying about 40% of the formal industry needs and more than 80% of the informal (mainly domestic) sector needs (Birikorang et al. 2008). The processing capacity of the milling industry was seven million m³ at that time, concentrated in ten companies found mainly in Kumasi and Takoradi.

Institutional and legal framework

Ghana's forestry policy has established a legal and institutional framework for operations in the sector. The harvest of trees and control of timber movements in Ghana leaves much to be desired, however. FSD is responsible for checking of harvests at the stump site, but frequently fails to do so. In many cases, checks of timber in transit by the Timber Industry Development Division (TIDD) are a mere formality due to corruption. This allows illegal timber to be a part of the economy.

Bans on exporting logs have been a recurring feature of Ghana's timber industry. Two such bans were instituted in 1979 and 1988. The International Institute for Environment and Development (IIED) observed that these bans might have been more effective if they had been accompanied by appropriate supply-side measures such as felling controls (IIED 1993). The log export ban imposed in 1995 was followed by a total ban on CSM.

Chainsaw milling in Ghana

The local wood market in Ghana, unlike the export market, has not been given enough official attention. Formal sector firms (sawmills) are required to supply the local market with 20% of their output by law, although many do not comply. Even when they do, the supplies were usually too expensive, took too long to arrive or were processed according to export specifications and did not suit the needs of local consumers. This distorted the domestic market, which had to satisfy this demand. CSM helped fill the gap created by the inadequate supply of lumber.

Chainsaw milling is an important part of the Ghanaian economy. Because CSM is largely illegal, it is difficult for the Forestry Commission to monitor and control deforestation.

Chainsaw milling also causes these problems:

- logging protected species through the indiscriminate nature of their felling operations;
- logging in protected areas;
- removing undersized trees from forests; and
- extracting more timber than allowed.

Some chainsaw operators duplicate felling licences and obtain logging concessions through bribes. In this way they harvest, transport and sell timber in violation of official regulations. The official annual allowable cut (AAC) is 2 million m³, and the official harvest in 2005 was 935,000 m³. The estimated unofficial harvest by formal industry and chainsaw loggers was 2.3 million m³ (EC 2008).

There is such a solid socio-economic framework in place for CSM in Ghana that enforcing a ban would be more costly than managing the operations. The banning of CSM in Ghana has failed, and the government must regulate it instead.

The ban on chainsaw milling

The ban on CSM in Ghana came into force in 1998.

Chainsaw milling in Ghana can be seen as a criminalization problem or a management or regulation problem. If it is a criminalization problem, the only way to halt deforestation will be to stop the use of CSM. Many firms, particularly in the informal sector, would have to shut down since they could not afford more sophisticated equipment. Other economic activities — such as carpentry, house construction, furniture making, cooking with fuel wood — would also come to a halt, as would firms that depend on chainsawn lumber (the majority of wood-dependent firms in Ghana). The economic implications of such steps are obvious; it would mean the almost complete shutdown of the forestry sector. The first steps have already been taken in this direction by declaring CSM illegal.

If CSM is seen as a forest management problem its costs and benefits are shared among all stakeholders. With this approach, the state must ensure that the CSM sector functions efficiently. This can improve the socio-economic welfare of all stakeholders.

CSM has been estimated by Hansen and Treue (2008) to be responsible for about 75% of all illegal logging in Ghana, despite its criminalization. This confirms the FSD's assertion that CSM is on the increase in Ghana (Parker 2008). The practice has thrived due to the callousness of forest fringe communities and chainsaw owners, who might be wealthy individuals living in an urban area. The local people provide services to CSM operators as assistants, porters and loaders. Some of the illegal milling teams are said to carry firearms, making it dangerous for the Forestry Commission to apprehend them (Sarfo-Mensah 2005).



The Kumasi wood market

This is one of the main wood markets in the country. It started more than 60 years ago in a suburb of Kumasi (Anloga), the second largest city in Ghana, and covered an area of about 15 ha. The market was run by lumber brokers, who obtained their wood stocks from sawmills and chainsaw operators. The main activities were sales of lumber and secondary and tertiary processing of chainsawn lumber. Recently, the market was relocated to Sokoban Wood Village, which was jointly funded by the French and Ghanaian governments at a cost of about US\$10 million. This ultra-modern facility has been designed to accommodate almost 1,000 business entities on more than 12 ha. Relocating the market displaced about 8,000 persons engaged in various business ventures; 141 permanent structures were demolished in the first quarter of 2010.



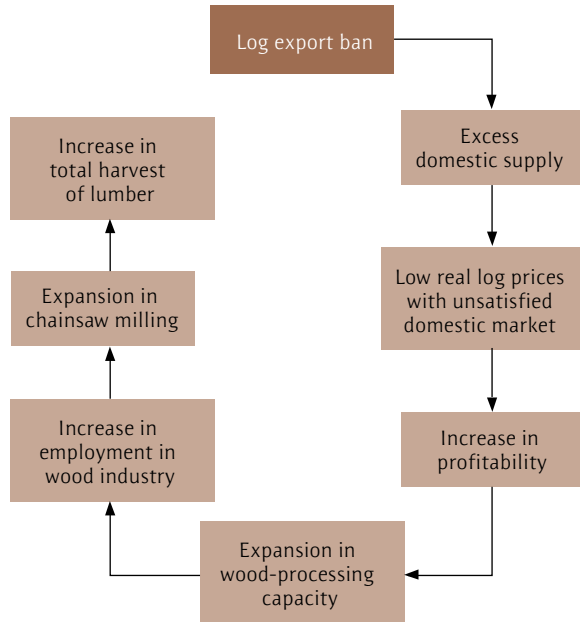
Since the government facilitates the operation of this market, which is mainly supplied by timber from CSM, it goes without saying that CSM has been endorsed: as long as chainsaw millers do not get caught, the illegal timber gets approved in the market (VAT is even being charged on the timber).

Economic impact analysis

The ban on CSM must feature in any meaningful economic impact analysis. In Ghana, the purpose of the ban is to conserve the forest through controlling or preventing over-logging. The variables considered in this economic impact analysis are wood processing capacity, domestic demand and log price, log supply and the profitability of logging. These inter-related variables produce economic impacts that determine the contribution of forest policy to economic growth. A log export ban, like the one in place in Ghana since 1995, leads to a drop in log exports. The excess supply created as a result forces domestic prices down. This drives up the profitability of wood processing and domestic processing capacity. Eventually the domestic market attains enough capacity to absorb harvest levels at least as high as those that existed before the ban. Harvested logs that were previously exported would now end up in the domestic market (Dundley 2004).

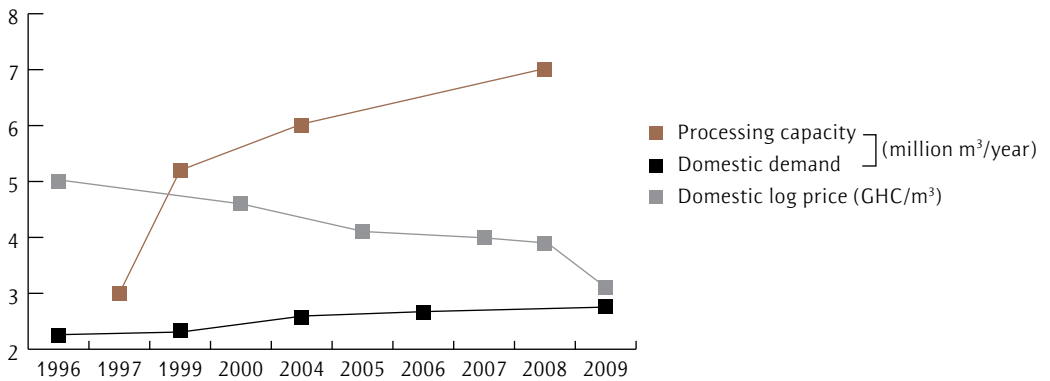
Figure 1 provides some insight into the chainsaw lumber economy cycle in Ghana. As a result of expanded capacity, more people are employed in the wood industry, including the CSM sector. This leads to an increase in the total harvest of lumber. This in turn creates excess supply in the domestic market, adding to the excess due to the log export ban. Hence the cycle continues.

Figure 1. Cycle of chainsaw milling economy, Ghana



The relationship between processing capacity and domestic log price is shown in Figure 2. Domestic demand increases alongside increasing processing capacity due to the drop in domestic log price, growth in the local building construction industry, and growth in GDP and population.

Figure 2. Relationship between domestic log price and processing capacity



Real wood prices (wood prices relative to the rate of inflation) as against nominal wood prices (wood prices in only monetary terms) have almost always decreased in Ghana. Illegality, corruption and government interference render the wood market non-competitive. Illegal CSM lowers the cost of log harvesting and hence the real price of wood on the market. This makes the wood trade very profitable. From 2005 to 2009 the average increase in the price of wood in the domestic market was about 12% while the average inflation rate over the same period was about 22%.

The increase in milling capacity (Figure 3) is related to profitability in the milling industry. As shown, capacity increased 250% from 1994 to 2008. A greater processing capacity, supported by an ever-increasing domestic demand and by relatively cheap domestic log prices, have resulted in an increase in logging, most of which is harvested by CSM.

Figure 3. Increase in milling capacity, Ghana (millions m³/year)

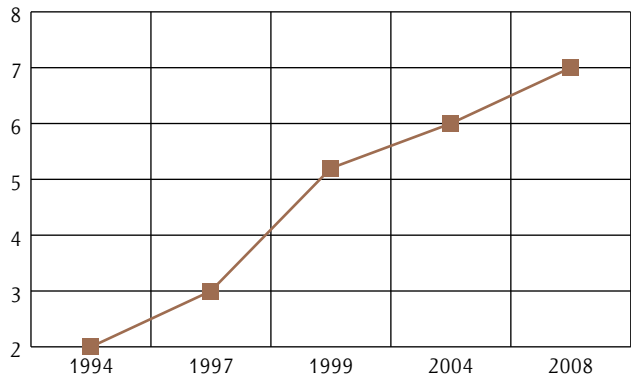


Figure 4 indicates that the log export ban had only a short-term effect on total log harvest in Ghana. The anticipated effect of the ban was of course that the total log harvest would remain low. In fact, the log harvest has increased since 2002. Since Figure 4 shows only official volumes of production, and about 70% of total harvest is illegal, then the forest extraction situation is grave.

Figure 4. Log harvest in Ghana (millions m³/year)

Note: The log harvest curve has been corrected for illegal log harvest

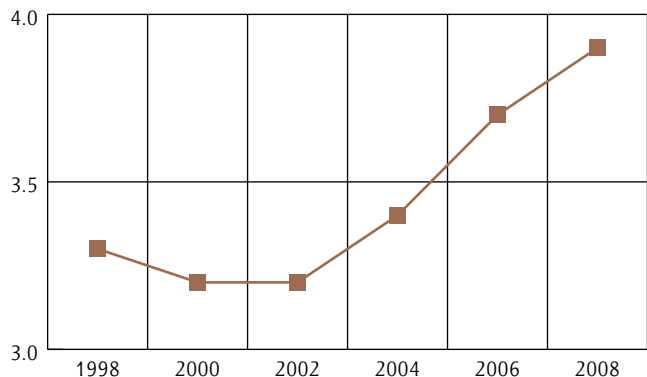


Figure 3 clearly shows an increasing processing capacity, which was supported by a growing domestic demand and relatively cheap domestic prices. This creates an ever-increasing harvest trend, particularly through CSM. Given this trend of total log harvest, it is economically inefficient to maintain the ban on CSM.

Generally, the effect of the CSM ban in the context of Ghana's log export ban has been a decrease in domestic prices and an increase in milling capacity and profitability. This has resulted in an increased log harvest, which has created a favourable environment for chainsaw milling, contrary to the expectations of the ban. Clearly, the objective of the ban has not been achieved.

With current practices, CSM will continue to thrive in Ghana. Increased log harvests will worsen deforestation. The greatest challenge will be to break this cycle. Chainsaw milling needs to be decriminalized and managed in a sustainable way to support the Ghanaian economy.

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