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IMPACT OF TRANSPORT AND LOGISTICS ON MALI'S TRADE COMPETITIVENESS

August 2004

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August 2004

Prepared by

CARANA Corporation

Delivering Global Development Solutions

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PREFACE

This preliminary report is part of a research effort conducted under the Trade Enhancement Service Sector (TESS) project, under contract for the United States Agency for International Development (USAID) in Washington, DC. (Contract No. PCE-I-07-97-00014).

The TESS Project is intended to encourage and support enhancement of the trade and service sectors to promote economic development and country competitiveness. Specifically, the project provides technical support in advancing the understanding of constraints and competition in services sectors, such as transportation, and in developing and disseminating best practices for liberalization and enhancing systematic efficiency. More information can be found at www.tessproject.com.

The Mali case study is the third of three case studies to be conducted under this project. The first study was conducted in Nicaragua in late 2003. The Indonesia study was completed in 2004. The Mali study was completed in mid-2004 by Joyjit Deb Roy, Team Leader, and International Transportation and Logistics Management Consultants Jason Clawson and Yves Aureille. Cobra Services in Bamako, Mali provided local support to the project team. The Cobra team was composed of Ibrahim Sango, statistician and an experienced road transport operator and international trader, and Mohammed Coulibaly, mining public relations consultant.

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EXECUTIVE SUMMARY

A. OVERVIEW

The dramatic integration of the international economy provides tremendous opportunities for developing countries to achieve economic development through international trade and investment. International efforts to reduce and remove rule-based tariff and non-tariff barriers to trade have increased developing countries' access to key industrial country markets by increasing the relative competitiveness of their goods. While reductions in rules-based barriers to trade have contributed to dynamic export expansion in many countries, recent changes in the international trade regime only level the playing field, and increase the importance of non-rules-based drivers of trade competitiveness in developing countries, such as transportation and logistics efficiencies. Increasingly, globalization favors countries that have effective and low cost transportation and logistics systems, which reinforces cumulative processes and further enhance the competitiveness of transport systems (e.g. more traffic, lower unit costs, higher profitability, increased FDI, etc.). Conversely, countries with ineffective transport and logistic chains become more marginalized within the international economy.

Due to the complexity and fragmented nature of international transport and logistics networks, new market demands and security concerns, the analysis of trade support services sectors can be difficult. Nevertheless, through investigating the right issues and asking the right questions, it is possible to obtain the data necessary for a comprehensive analysis to develop a clear picture of the issues affecting timely and cost effective movement of trade.

This paper provides a country-specific analysis of the impact of the transportation and logistics system on Mali's export competitiveness. The study is based on an analytical framework that identifies sources of bottlenecks and higher transaction costs in the movement of selected exports from Mali. Specifically, this involves the application of "issue identifiers," quantitative or qualitative questions that target particular issues discussed in the paper and determine factors that impact both time and costs throughout trade transactions. The results of this analysis help benchmark current conditions within Mali's transport and logistics system and assist in the prioritization of constraints to facilitate development of comprehensive competitiveness initiatives tailored to enhance competitiveness through more efficient movement of goods.

Mali was chosen as part of a four-country study to benchmark constraints covering a wide variety of transport modes, intermodal networks, infrastructure, customs practices and procedures, trade-related banking and financial practices, transport intermediaries and the overall development of a country's transport and logistics system. Mali is an example of a very poor, highly indebted Sub-Saharan, landlocked country, heavily dependent on raw material exports with no significant manufacturing or value-added activities. As the country attempts to achieve economic growth through the expansion of exports, the efficient functioning of Mali's international transportation system will be a key to success. A strengthened transportation and logistical chain is imperative to enable Mali's exports, such as cotton, livestock, gold, and increasingly, mangoes, to compete in the international market.

B. MALIAN TRADE LOGISTICS AND TRANSPORT COSTS

It is difficult to underestimate the transportation disadvantages that landlocked countries face in international trade logistics and transportation. Mali is at a distinct competitive commercial disadvantage as a result of the logistics and transportations costs of its trade goods. A number of factors impact the cost and efficiency of exporting Malian commodities, including:

- Lack of a National Port: All Malian commodities transported by sea must transit through neighboring countries and be exported through a port foreign to Mali. With the closest effective deep-sea port approximately 765 miles from the primary consolidation cities, transportation costs are increased and efficiency suffers. With port administration outside of the hands of Malian stakeholders, the transport and logistics system is captive to efficiency, capacity and trade facilitation constraints in other countries.
- Inadequate Railway System: One railway links Mali to international shipping lanes, and it serves only approximately 25% of the country. While the recent concession of the rail operations is likely to improve the situation, the Dakar railways has been plagued with serious issues of reliability and capacity, sending exporters towards other modes of transport, even if rail is a more economic mode.
- Insufficient Road Infrastructure: Although primary roads in the Southern part of the country are paved and well maintained, there are only 3,000 km of paved primary roads in a country 2.5 times the size of France. Secondary and tertiary roadways are packed earth and cannot accommodate large trucks, which reduces efficiency and increases cost. Furthermore, as the result of La Compagnie Malienne pour le Developpement des Textiles (CMDT) restructuring for privatization, the responsibility of maintaining cotton roads has yet to be defined and these roads are fast deteriorating after an exceptional cotton year.
- Insufficient Trucking Capacity: A lack of quality trucks is a severe transportation hindrance in Mali. Trucks are generally overloaded and poorly equipped to handle the loads they carry. With high duties placed on the import of new trucks and replacement parts, much of the Malian trucking equipment is aged and in poor condition.
- Inadequate Cold Chain: Although refrigerated services are available, the supply of reefer containers is limited, as is the reliability of the entire cold chain. This results in huge losses in the agricultural sectors as significant amounts of product spoils before reaching market. Furthermore, the current status of the cold chain makes it difficult for Mali to capture additional value in certain sectors, such as meat.

These factors directly affect Mali's trade competitiveness because issues of additional cost, time, and shipment reliability burden virtually all trade traffic. Transportation costs, as a percent of the market value of Malian goods, are among the highest in the world.

Data for this study was gathered during face-to-face interviews with over 50 public, private and international stakeholders. These included manufacturers and producers, transport and logistics service providers, relevant government ministries, port officials, international donors (e.g. USAID, World Bank) and development specialists (Trade Mali). Additionally, field visits were conducted in the following areas to gather data from producers and visit port facilities:

- Tema, Ghana
- Abidjan, Côte d'Ivoire
- Côte d'Ivoire border
- Sikasso region (cotton, mangoes)
- Livestock markets in Ségou, Bamako, and Abidjan
- Port of Dakar's representation in Mali

B.1. BENCHMARKING COST STUDY ~ KEY FINDINGS

This paper presents the findings from a benchmarking cost study that analyzes the relative competitiveness of Malian transportation and logistics services for select export products, namely cotton, livestock, mangoes, gold and freight-all- kinds (FAK). As one would expect, the overall costs of transportation and logistics for the selected commodities varied according to the commodity being exported, government policy toward the commodity, and the infrastructure, mode of transport and route used for export.

Cotton: The transportation costs as a percentage of cotton's market value ranges between 13.5 percent and 18.9 percent, when shipped to various Asian destinations via key Malian transport corridors in 40 foot containers. Based on cost, exporting cotton through Dakar by rail is most economical. The total cost for a shipment is approximately \$1000 less than other alternatives. This is mostly attributed to lower land transportation costs. While rail transport is most economical, concerns over the reliability of rail services, congestion and capacity at the port of Dakar, and other potential sources of delays outweighs lower transport costs in the eyes of many exporters. Despite the conflict in Côte d'Ivoire, transit through Abidjan is the next least expensive alternative.

Cattle – Determining transport costs for cattle was difficult, since cattlemen do not associate a cost to the travel time involved in cattle drives and there is no method to calculate the shrinkage of cattle (and thus the overall loss of value of the animal) resulting from the long drive on foot. Nevertheless, measurable costs indicate that approximately the cost of moving cattle to regional markets (Abidjan) amount to approximately 20 percent of the cattle's market value. Most of the cost is attributed to un-recovered debt due to the lack of payment enforcement mechanisms or letters of credit within the cattle market.

Mangoes – The cost of transporting mangoes, as a proportion of market value is highest with mangoes, ranging from approximately 63 percent for mangoes shipped by land and sea from the Sikasso region, and approximately 73 percent for high value mangoes airlifted from Bamako. While added costs from spoilage and the additional length of transport for the land and sea route (which are not included in the transport costs in this study) reduce the proportionate cost differences with airlifted mangoes, the land and sea mode will likely remain the most economical route for most exporters, due to the fact that 1) air shipment is only economically viable for the highest value fruits; 2) moving mangoes from the Sikasso region to Bamako will add costs; and 3) land and sea transportation allow for much higher export volumes in the absence or greater air freight capacity.

Gold - As one would expect with a commodity with such a high value, the cost of transporting gold as a percentage of the market value is negligible, under one percent.

FAK – A comparison of a sample of shipments to various destinations in Asia, South America and Asia shows that the cost of transport through Abidjan and Dakar (by rail) are approximately \$1000 cheaper than other regional transit ports, such as Lome and Tema, attributed to lower land transportation costs. While regional traffic flows through Lome and Tema have grown in response to the Ivorian conflict and capacity issues at the port of Dakar, the costs of these routes will need to fall in order for them to become viable transport corridors in the long term.

In most cases, a large portion of the total logistics and transport cost to exporters occurs within Mali and/or the port country prior to international shipment and ocean freight costs, exceeding 60 percent from a number of goods and routes. Addressing these inland transportation costs provides a significant opportunity for Mali to improve the competitiveness of exported products. This is particularly true for livestock and mangoes, as well as many other perishable agricultural exports. While some cost drivers are immediately addressable, many require a commitment from the Mali Government to resolve matters through improved policy measures. Included below are a number of key issues identified related to the efficient movement of Malian goods that require commitment on the part of Malian public and private stakeholders, regional stakeholders and international donors.:

1. Insufficient Trucking Policies

Inadequate policies negatively impact the cost and quality of critical trucking services:

- Inadequate regional transportation policy harmonization and implementation;
- Excessive import duties and other taxes on the import of new trucks and replacement parts;
- Heavy administrative requirements;
- An excessive tax burden biased in favor of larger truck operators and conducive to industry fragmentation;
- Outdated government freight rates (not compulsory but used by key parastatal clients);
- Poorly enforced trucking load regulations;
- Fragmentation and disorganization of the trucking industry;
- Few incentives exist to develop important logistics systems, such as a cold chain with reefer trucks and containers and adequate cold storage in key commodity consolidation or transfer points.

2. Failure to Enforce Treaties

There is no shortage of treaties, laws and regulations in Mali and the West African sub region. As of 2000, more than 40 different pieces regional legislation or regulation covering topics pertaining to the transport and logistic chain existed. These include trade in goods and services,, access to ports, transport, harmonization of taxes, customs nomenclatures, market share agreements on truck transportation of selected commodities, etc. With so many overlapping regional organizations who compete for precedence on key issues, conflicts in the framework and application of agreements is inevitable. These regional multilateral treaties and agreements are often translated in the national laws of the various state members, with sometimes-vast

inconsistencies and divergent interpretations. Many treaties, laws and regulations are simply ignored and are not implemented.

3. Producer Mind-set

In their search for global competitiveness, buyers are seeking relationships with producers who can contribute additional competitive advantage to their supply chains. Malian producers have low visibility of the final destination of their products. Visibility to demand can provide important avenues to improve competitiveness and profits—through improved differentiation, responsiveness, or better meeting the customer's need. Producers who are unable to fulfill these requirements will face reduced margins as knowledgeable intermediaries step in. In today's global economy, producers and exporters need to better understand how transport and logistics alternatives allow them to best meet market demands. For example, a cheaper land transport corridor through Dakar (rail) may be a less important decision factor for an exporter whose buyer demands rapid and reliable shipments. Producers who are able to provide viable, cost-effective solutions for buyer needs, are likely to be more successful. This requires a greater knowledge of their buyers and transport alternatives. In this regard, Mali Trade initiatives to establish business linkages between mango shippers and European importers have proven particularly helpful.

4. Production and Logistics Challenges

The agricultural industry in Mali faces many logistical and commercial know-how challenges. Virtually all agricultural sectors, save cotton, suffer extremely high spoilage and shrinkage rates within the transport process. Producer's logistical costs are negatively impacted by the cost of the consolidation of goods; feeding and foraging costs for livestock; poor business practices; and higher rates for smaller producers. Education of producers, supply chain management, and improved transportation equipment, such as refrigerated trucks, truck cleaning and maintenance facilities, will lower the amount of product lost to spoilage and make the logistics system more efficient.

5. Limited Attention to Logistics Management.

Worldwide, advanced logistics strategies are well-established in certain industries, such as ready-made clothing and electronics. Although the major integrated logistic providers are present in Mali, they are hardly known by shippers, outside of the gold and the cotton export businesses that are really managed from overseas. Knowledge and implementation of advanced logistics techniques will become crucial in the context of the forthcoming development of export-oriented textile and clothing industry. Trade Mali could play an important role in the diffusion of this knowledge by organizing seminars focused on Logistics Management.

6. Informal Payments and Profiteering

Exporters are burdened with informal fees paid to police, inspection agents, port officers, local officials (in and out of Mali), transportation officers and others, adding time and inconvenience to the entire transport process. Furthermore, profiteering has developed as a result of the war in Côte d'Ivoire. At the border crossing between Mali and Côte d'Ivoire there had been several

freight forwarders assisting in the procurement of export documents. With only one operating at the border during war time, the freight forwarding company is now able to charge ten times the rate it did when it had competition.

With corruption and graft so engrained in the Malian culture, it is easy to become numb to the payment of bribes and accept them as just another business cost. So accustomed to bribes are businessmen that the payments have diplomatically become known as “informal” or “facilitation” fees. Regardless of the semantics, the payments are a layer of corruption that represent another barrier and cost to trade. Individually the fees are not great. Collectively the fees can be a significant cost as well as a hindrance to the rapid transportation of goods.

It is interesting to note, however, that with the outbreak of war in Côte D'Ivoire informal payment fees actually dropped by 62 percent with the development of a convoy system and streamlined payment procedure. Only by reducing the amount of informal payments did Côte d'Ivoire keep Abidjan competitive as a port of export. The convoy system should be evaluated, duplicated and developed in a manner that eliminates informal payments, particularly in countries where corruption is greatest.

7. Customs Encumbrances

The same Customs problems that exist in Mali are prevalent in most other African countries. Even so, the problems place additional unfair and inappropriate burdens on Malian exporters. The two greatest customs problems are corruption and lack of transparency.

Corruption: At in-country and border crossing customs stops, customs officers collect the appropriate state fees as well as their negotiated “facilitation fees” that range from \$2 to \$20 per transaction. Before reaching a border, a trucker may pass through as many as five in-country customs checkpoints that are literally hundreds of miles from any border. At each stop, customs agents go through the motions of checking paperwork that may or may not exist and collect their facilitation fees. As in the informal payments discussed above, the persistence and perceived acceptability of these payments represent a serious form of corruption that adds costs to the overall movement of goods.

Lack of Transparency: Customs officers interpret and enforce rulings or laws as they choose. There is no uniformity in the enforcement of export laws and regulations with the probable exception of formal gold exports. Trucks routinely reach and cross the border without export documents. Export documents can be obtained through freight forwarders or can be forgotten altogether with the appropriate facilitation fee.

Malian customs requires a comprehensive modernization program with the dedication from senior officials to see the modernization through. Account management techniques and a higher level of automation could help to lessen the impact of customs corruption on exporters. Provided that is properly implemented, the new version of the ASYCUDA++ customs software system could improve the customs process.

8. Low Process Transparency & Automation

While the installation of ASYCUDA will enhance the customs process, it represents only a small segment of the entire transport chain. Typically exporters have very low visibility into their shipment's status, and must manually manage the transaction every step of the way. Coordination among players is weak or non-existent. The introduction of Internet-enabled technologies that manage activities throughout the entire process would allow all the participants in a transaction to better coordinate their activities. Through better visibility of each shipment, they would be able to identify ways to improve the process and reduce costs. This type of connectivity and transparency would also increase their confidence and trust of logistics providers in the supply chain. Furthermore, greater automation could eliminate common documentation errors and provide auditable and available information that may deter arbitrary or improper behavior.

9. Cargo Security Concerns

Security issues have recently become an increasing matter of concern in the Kayes region and near the RCI border, where smuggling is a developing concern. Malian authorities can take a systematic view to reducing these costs by vigorously investigating and prosecuting each reported case. Thereby, the shippers will enjoy reduced insurance premiums, but more importantly, Malian trade will benefit from a renewed status and reputation of increased safety and reliability. Furthermore, security concerns in air cargo are likely discouraging airlines from expanding cargo services from Bamako, contributing to Air France's dominance. Steps to provide adequate cargo security (per standards set by the US FAA and US TSA) could encourage more flights to land in Bamako to carry more cargo. A large cargo scanner is required at the Bamako Airport.

B.2. RECOMMENDED POLICY OBJECTIVES (HIGH PRIORITY)

Highest Priority Issues	Recommended Policy Objectives
<p>1. Develop Alternate Trade Routes. Reverting to the use of Abidjan as the main port of export of Malian goods will not result in decreased transportation costs.</p> 	<ul style="list-style-type: none"> • Recognize the long-term benefits to developing competitive relationships with ports other than Abidjan, and encourage the development of transportation routes to, and the modernization of these ports. • Negotiate further preferential treatment for Malian goods exported through other ports and ensure the enforcement of these agreements.
<p>2. Reform Trucking Policies. The trucking industry is lacking in uniformity, organization and performance.</p> 	<ul style="list-style-type: none"> • Develop a stakeholder group to study the transportation industry problems and develop long-term solutions. • Develop policies and incentives that encourage growth and investment in the trucking transportation sector (e.g. newer trucks, maintenance, container capacity, refrigeration) • Lower duties, for the importation of new trucks and in particular refrigerator trucks. Lower or eliminate duties on replacement parts. • Change domestic tax for vehicles such that larger firms are not taxed more and eliminate bias in favor of industry fragmentation. Design tax incentives that encourages purchase of new vehicles. • Enforce load limits on trucks to protect the public and the road network. • Enforce regulations governing truck quality.
<p>3. Promote Development of Logistics Supply Chain. Lack of attention and development of supply chain leads to inefficiencies, higher costs and spoilage</p> 	<ul style="list-style-type: none"> • Promote cooperation and organization between producers, exporters and service providers to identify and implement actions to reduce key bottlenecks and cost points within priority sub sectors in the agricultural sector. • Assist transportation providers and shippers to gain financing for cold storage and handling facilities through credit assistance or incentives. • Develop a network of multiple consolidation points, or “road stops” to facilitate the consolidation efforts and reduce waste. This would require a review of trucking policies.
<p>4. Reduce or eliminate informal payments and profiteering. Graft and profiteering leads to higher overall costs and delays.</p> 	<ul style="list-style-type: none"> • Determine ways to formalize the convoy system that is in place for goods traveling by truck to Abidjan. • Reduce number of customs and other ‘official’ roadblocks within Mali to reduce delays and

	<p>remove opportunities for graft.</p> <ul style="list-style-type: none"> • Remove or reduce opportunities for corruption by moving from a transaction-based collection system to account management. • Establish system to report the use of illegal charges by customs and other government officials. • Take measures to eliminate profiteering by service providers.
<p>5. Promote Customs Efficiency and Modernization. Prior computer system was obsolete. Fraud common at Customs. Lack of harmonization at regional level lead to delays along Mali's principal trade routes</p>	<p>➔</p> <ul style="list-style-type: none"> • Enhance communication and cooperation between customs authorities in Mali and neighbouring countries to avoid unnecessary transit delays. • Encourage the implementation of harmonization of transit documentation and procedures with countries along Mali's primary transport corridors. • Simplify and improve transparency of customs procedures. • Strengthen use of SYDONIA/ASYCUDA++, including development of new procedures and staff training of the system and procedures. • Develop software interface with UEMOA partners'
<p>6. Enhance Port and Rail Infrastructure. Despite improvements by the new TRANSRAIL concession, many improvements are needed to increase the capacity of the rail line, which was a major bottleneck to Malian cotton exports.</p>	<p>➔</p> <ul style="list-style-type: none"> • Complete rehabilitation of the Dakar-Niger Railroad. • Rehabilitate or construct rail links to key transshipment points on-port infrastructure (Dakar port, Kourikolo port on Niger, Kita ginning plant, etc.) to reduce vessel dwell time and handling costs. • Express unit freight trains for containers, cotton and refrigerated containers. • Install handling facilities at relevant transshipment points. • Develop an automated train, wagon and shipments tracking system with on-line access to shippers and other transit professionals.
<p>7. Improve Agricultural Policies. Besides cotton, other Malian agricultural products are largely ignored.</p>	<p>➔</p> <ul style="list-style-type: none"> • Develop a stakeholder group to study agricultural potential and develop long-term solutions that include supply chain coordination and development of a cold chain for mangoes and cattle. • Develop policies that encourage foreign investment in agricultural development, value-added capabilities and development of cold chain within relevant sub-sectors.
<p>8. Enforcement of intra-regional treaties</p>	<p>➔</p> <ul style="list-style-type: none"> • Work with trade partners along key transport corridors to enhance regional compliance and implementation of intra-regional treaties, particularly on transit facilitation (TRIE and TIE)

SECTION 1: THE ROLE OF TRANSPORTATION AND LOGISTICS IN INTERNATIONAL TRADE AND COUNTRY COMPETITIVENESS

A. WHY TRANSPORT AND LOGISTICS?

The reduction in rules-based tariff and non-tariff barriers of trade has increased the importance of non-rules based drivers of trade competitiveness in developing countries. One such determinant is the provision of transport and logistics services and the extent to which these services ensure that goods are shipped from a factory, warehouse or port in the country of origin to destination markets throughout the world in a timely and cost-effective manner.

The complex demands of the international economy have dramatically increased the importance of transport and logistics services. These demands stem from integrated global manufacturing and production networks, an increasing need for just-in-time logistics, growing usage of intermodal transport involving one or more modes of transportation (road, air, maritime or rail) and new security considerations. As the demands of the international economy become more complex, so do the processes required to complete trade transactions that involve multiple steps, a myriad of players and a range of legal and regulatory frameworks. With costs added at each step of the process, the quality, cost and efficiency of transport and logistics services greatly affect the final value of a good at its final destination and thus the ability to be competitive in global markets

Weaknesses in many developing countries' trade support services sectors contribute to high transaction costs and a limited ability to meet the transport and logistical demands of an increasingly complex global economy, undermining the competitiveness of their goods and thus the ability take advantage of emerging global market opportunities. In general, goods shipped from developing countries face comparatively high transaction costs that can be as much as two to three times the transaction costs in developed countries and account for as much as three times the average tariff rate applied to industrial country imports since the Post-Uruguay Round.

It is imperative that developing countries, international donors and international trade organizations alike implement initiatives that facilitate the provision of lower cost, more efficient and reliable trade support services in developing countries. With reductions in tariff and non-tariff barriers opening access to key industrial markets, countries that are unable to reduce their transaction costs will find it more difficult to reap the benefits of expanded exports, foreign investment and economic growth.

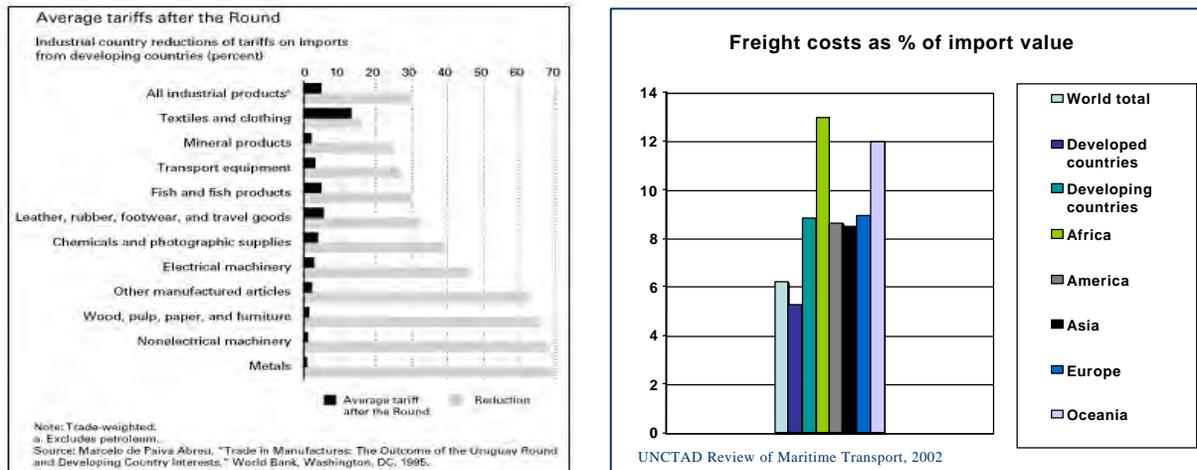
B. WHY MALI?

Since the particular significance of certain weaknesses in the trade support service industry—in addition to their resulting economic costs—vary from country to country, it is important to evaluate the particular conditions and market environment in which service providers operate prior to developing national initiatives. This should include a constraints analysis covering various modes of transport, intermodal networks, infrastructure, customs practices and procedures, trade related banking and financial practices, transport intermediaries and the overall development of a country's transport and logistics system.

Mali was chosen as part of a four-country study to benchmark these constraints. The first study was conducted in Nicaragua, a country with no major export port but within proximity to the most important export market in the world—the United States market. Indonesia was chosen because of the depth of perceived problems in the transportation and logistics chain, associated with its *insularity*. A country with substantial exports, comprised of more than 17,000 islands almost spanning the width of the U.S., presence of numerous ports, lack of substantial rail links and limited roads presented a great opportunity for a case study. Mali was selected for the third study due to the transport and transit problems associated with being landlocked. Mali is an example of a very poor, highly indebted Sub-Saharan landlocked country, heavily dependent on raw material exports with no significant manufacturing or value-added activities. As a country that is highly dependent on exports, the efficient movement of goods is critical to Mali's ability to sustain economic growth.

Over the last decade, Mali's prospects for economic growth have improved considerably. Thanks to better macro-economic policies, national and regional trade liberalization, export growth in cotton and gold and other factors, Mali has achieved an average growth annual rate of 5 percent (compared to an average of 3.2 percent in sub-Saharan Africa). Exports have grown at a rate of over 11 percent and FDI, particularly in mining, have remained high relative to Mali's GDP and natural resource base. Mali has the opportunity to build upon its recent performance to stimulate and/or continue growth in the agriculture sector (e.g. cotton, cattle, horticulture, grains and cereals, oil seeds), manufacturing sector (e.g. agro-processing, textiles and apparel) and the services sector. Opportunities to drive economic growth through trade are enhanced by regional integration efforts within the framework of WAEMU (West African Economic and Monetary Union, UEMOA in French) and ECOWAS (Economic Community of West African States, CEDA in French). These agreements provide Mali access to larger markets nearby, and preferential trade agreements such as the African Growth and Opportunity Act (AGOA), African Caribbean and Pacific-EU Agreement (ACP-EU) and the EU's Everything But Arms (EBA).

Figure 1.1: Reductions in Tariffs, High Transport Costs



In spite of these opportunities, significant handicaps and deficiencies in the country's transportation and logistics services and infrastructure that raise the cost of exporting goods

could limit Mali's ability to fully unleash its prospects. Indeed, Mali is not alone in facing this challenge. As the Figure 1.1 illustrates, for most developing countries, the cost of logistics can account for as much, or more than, three times the cost of tariff rates.¹ The subsequent sections will discuss in detail how transportation and logistics issues impacts Mali's trade competitiveness.

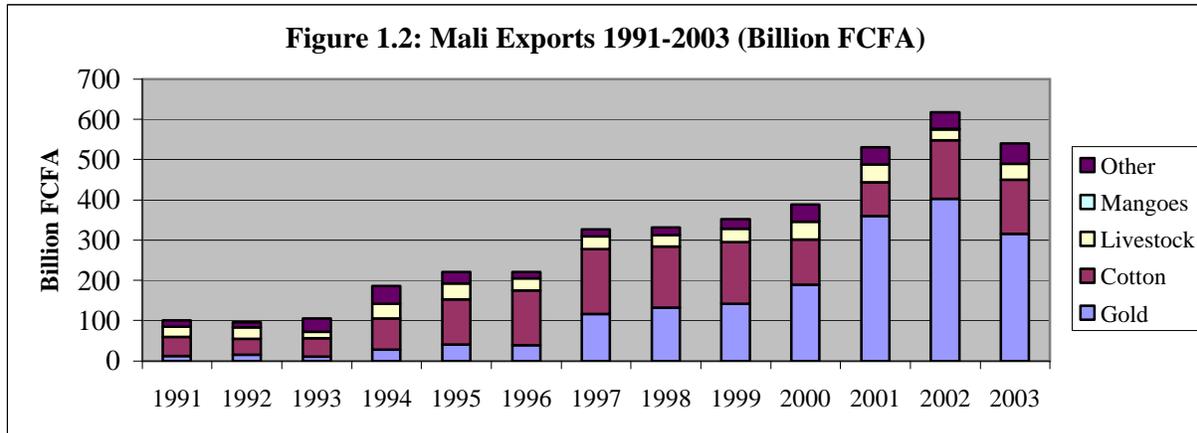
C. ROLE OF TRANSPORT AND LOGISTICS IN MALI

The Malian economy, like most developing countries, is deeply dependent on international trade, with exports (of goods and services) as high as 33 percent of GDP. Total trade (which includes both exports and imports) has accounted for more than two-thirds of GDP in recent years.

Table 1.1: Mali Trade Indicators									
	1994	1995	1996	1997	1998	1999	2000	2001	2002
Exports of goods and services									
Value (US\$ million)	4,055.4	5,206.5	5,247.0	6,464.6	6,436.6	6,799.0	6,487.9	8,784.7	10,860.7
Percentage of GDP	23.0	21.1	20.0	26.1	24.8	26.5	26.8	33.4	32.3
Annual Growth (%)	7.1	6.2	3.0	44.9	-0.1	17.4	-1.1	24.8	29.2
Imports of goods and services									
Value (US\$ million)	7,556.4	8,936.9	9,363.7	9,098.0	9,153.0	9,815.8	9,540.4	13,222.2	13,659.0
Percentage of GDP	42.9	36.2	35.8	36.8	35.2	38.2	39.4	50.3	40.6
Annual Growth (%)	-6.7	7.0	7.8	10.2	5.6	8.0	1.7	29.8	8.5
Trade (% of GDP)									
Percentage of GDP	65.9	57.3	55.8	62.9	60.0	64.6	66.2	83.7	72.9
Gross Domestic Product (GDP)									
Value (US\$ million)	17,627.2	24,661.5	26,191.0	24,751.8	25,968.4	25,704.3	24,200.5	26,297.3	33,641.8
Annual Growth (%)	0.9	6.2	3.2	6.8	6.0	6.7	-3.3	13.3	4.4
<i>Source, World Development Indicators Online, World Bank, 2004</i>									

As figure 1.2 below shows, Mali's export structure reveals a heavy reliance on three basic commodities; gold, cotton and livestock, which collectively and consistently account for more than 90 percent of the total value of exports. In 1991, cotton dominated Malian exports with 47 percent of total exports while the gold share was only 12.4 percent and livestock was 26.2 percent. In 2002, the respective shares were 23.6 percent for cotton, 65.2 percent for gold and 4.4 percent for livestock.

¹ Molnar, Eva, and Ojala, Lauri, "Transport and Trade Facilitation Issues in the CIS 7, Kazakhstan and Turkmenistan," World Bank (2003).

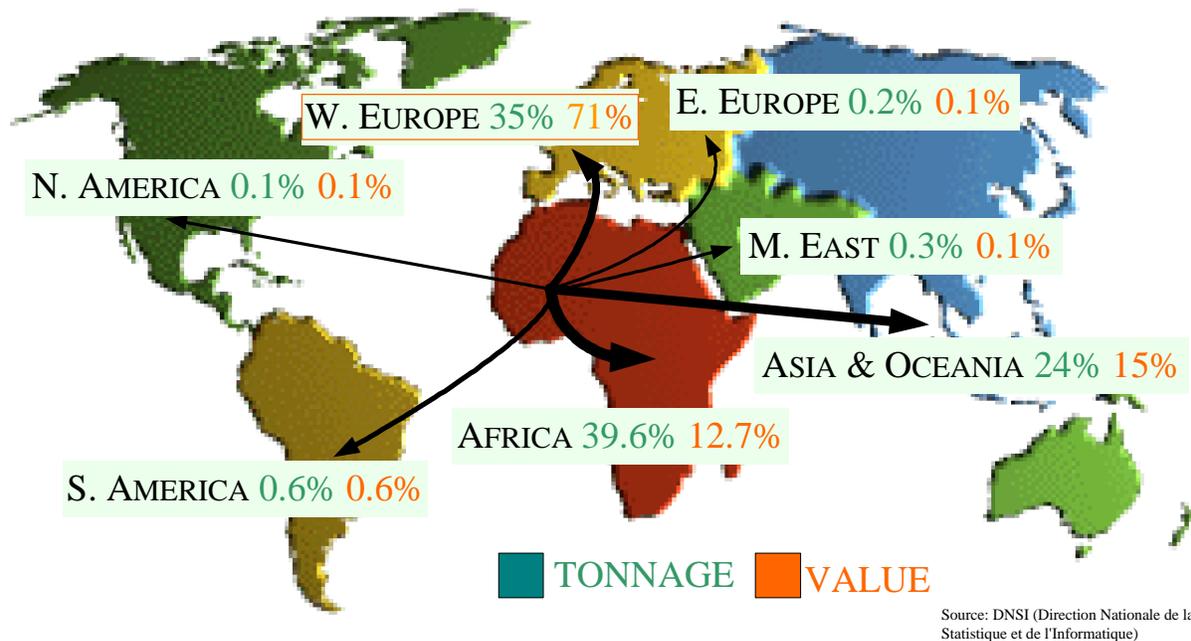


Between 1995 and 2002, exports surged, buoyed by strong gold and cotton exports. This was facilitated in part by a large correction of the exchange rate (devaluation of the FCFA relative to the French Franc by 50 percent in 1993) that increased Mali's export competitiveness. Mali's cotton exports expanded significantly between 1993 and 1997. During the same period, gold mine operations were either reopened or commenced in response to the devaluation and enhanced mining code and the value of gold exports shot up dramatically. New mines opened in 2001 and 2002, and gold prices increased the value of gold exports to a record in 2002.

In 2003, the value of exports declined for a combination of reasons: lower average gold ore concentration once the highest grade ore had been extracted, disruption in the supply of air cargo from the collapse of Air Afrique, the end of flights operated by Swissair and Sabena, and the Côte d'Ivoire crisis, which had cut the country into two parts and resulted in the redirection of trade flows to more expensive corridors. The Sitarail line between Ferke and Abidjan was closed until March 2003 and international operations did not resume until September 2003.

C.1. TRADE DIRECTION

The trade direction pattern of Mali has changed dramatically over the last two decades, reflecting the fact that the European textile industry, which was the largest importer of Malian cotton, has outsourced its manufacturing operations to developing countries primarily in Asia. As a result, while the decision-makers on cotton purchases are still in Europe, the actual flows of goods are to countries such as Thailand, Vietnam, Malaysia, India and China. Some cotton is also exported to Italy. Figure 1.3 demonstrates trade flows by value and volume to regions throughout the globe.

Figure 1.3: Mali's Export Trading Partners

Exports to Europe are mostly gold, which is exported by air, and cotton, which is exported by sea primarily to Italy. In addition, food ingredients, such as spices are exported to Europe by air, and are mostly consumed by the Malian expatriates in France and elsewhere in Europe. Exports to the USA are insignificant and consist mainly of African clothing, artifacts and jewelry. Exports to the UEMOA consist of a great variety of local food products, clothing and livestock. Exports of rice have been banned by the Government

Import direction patterns have also evolved. Increasing portions of refined petroleum-based fuels are coming from Côte d'Ivoire or other West African countries with refinery capacity. Vehicles, which were traditionally imported from Europe are increasingly coming from Asia. Some commodities such as fertilizers and calcite, which used to be produced in Mali, before the collapse of the parastatal corporations that produced them, are now imported from Senegal. Capital goods and equipment come from a variety of developed countries. South Africa is taking an increasing share of the Malian import market, essentially because most gold and other mining-related companies are originally from South-Africa.

C.2. TERMS OF TRADE

With a highly concentrated export portfolio of basic commodities subject to erratic price fluctuations (cotton and gold), and a certain exposure to petroleum prices, price terms of trade (implicit price index of exports divided by the price index of imports) have deteriorated over the long term and have been subjected to high cyclical fluctuations. Over the last few years, gold price increases have resulted in an improvement of Mali's price terms of trade and have reached a high and have subsequently slackened recently. Over the long-term, cotton prices have

declined relative to other commodities. Cotton prices, which were low in 2002, rebounded strongly until the first quarter of 2004, but are going down again, due to world-wide excess supply. With higher oil prices, Mali's terms of trade are likely to deteriorate in 2004.

C.3. PHYSICAL MOVEMENT OF GOODS

The size and direction of trade are important for understanding the context for the physical movement of goods that occur in and out of Mali. The following are important characteristics of this trade:

Production. Horticultural exports, such as green beans and mangoes are grown in The Bamako-Sekou- Sissoko triangle (next to the Côte d'Ivoire border). Cotton is also located in the same region, but the cotton area extends further north. Existing gold mines are located in the West and Southwest regions of the country, close to the Senegal and Guinea borders. Cattle is grown in northern Mali and the inner Niger delta.

Transport Modes. International trade is carried out by land, rail, sea, or air, depending on the type of commodity and the destination. Approximately 95 percent of Mali's international trade volume is carried out by sea. Being a landlocked country, all goods exported to destinations abroad by sea require extensive transport via road or rail. Malian exporters must rely on the ports of the West Coast of Africa, primarily Abidjan in Cote d'Ivoire and Dakar in Senegal, and to a lesser extent Lome in Togo, Nouakchott in Mauritania, and more recently, Tema in Ghana. Only 5 percent of total export volume is transport by air, however, because gold is transported by air, the value of goods transported by air exceeds 67 % of the total value of Mali's exports. The primary air gateway out of Mali is the Bamakou Senou Airport, which handles practically all air cargo exports.

Internal Transportation. The primary modes of transportation within Mali are truck transportation, rail transport on the domestic segment of the Dakar-Bamako- line and river transportation on the Senegal and Niger rivers. Domestic air transport is minimal.

While Malian primary roads are in good condition and navigable, secondary and tertiary roads are difficult to navigate under the best conditions, and impassable under the worst conditions. There are only 3,000 km of paved primary roads in a country 2.5 times the size of France. Secondary and tertiary roadways are packed earth and cannot accommodate large trucks, which reduces efficiency and increases cost. Such roads are difficult to navigate under the best conditions, and impassable under rainy conditions. Furthermore, as the result of La Compagnie Malienne pour le Developpement des Textiles (CMDT) restructuring for privatization, the responsibility of maintaining cotton roads has yet to be defined and these roads are fast deteriorating after an exceptional cotton year. Travel time on Malian roadways varies as well. For example, truck times from Bamako to Kayes (toward the Senegalese border) are driven at speeds 66 percent lower than from Bamako to Sikasso (towards the borders of Burkina Faso, Ghana, Togo and Cote d'Ivoire).

There is only one main railway within Mali which is part of the Bamako – Dakar corridor. Until recently, the only rail line with international linkages was run inefficiently and plagued with

delays, derailments and informal payments, leading to significant reduction in cargo shipments between 1997 and 2001. This occurred despite the fact that rail transportation was (and still is) one of the most efficient modes of transportation for bulk goods such as cotton. New management under TRANSRAIL and investments in new infrastructure and rail stock are and will have a marked effect on the utility of the rail corridor. There is considerable unsatisfied pent-up demand for the rail transportation of both imported and exported commodities, due to the combination of an exceptional cotton crop and the impact of the Côte d'Ivoire crisis, which have led CMDT and other exporters to redirect their traffic through the Bamako-Dakar rail corridor.

Integration of Mali with Regional and International Transport Network. Mali is linked to regional markets via road and rail. More distant markets are linked by air or sea (via land transport).

Ports: There is no ideal or “perfect” port among those chosen by Malian exporters. Lomé in Togo is a long and difficult trucking route. Ghana’s port city of Tema has insufficient storage facilities. Dakar is so widely used that modernization and expansion is needed to accommodate the volume of goods that remain backed up at that port. Conakry in Guinea is not only a long , incomplete, and difficult trucking route, but the port is seen merely as a feeder port with no hope of expansion. It appears that each port, with the likely exception of Abidjan, is seeking to retain or capture additional clients through modernization and infrastructure improvements.

Inland Corridors: Inland corridors through neighbouring countries play a large role linking Mali to the ports of West Africa and regional markets. Important transport corridors include:

- ***Abidjan-Bamako road corridor*** (1,195 km of which 479 km in Mali; theoretical driving time: 1,020 minutes) : Abidjan is the biggest, the best equipped and most efficient port in the UEOMA region. It is the most economical solution for cotton exports to Asia and so far the best logistic platform for fruit exports to Europe. The road to Abidjan is paved throughout and was, until the crisis, the most utilized road corridor. It is now functioning again under a military escort convoy system.
- ***Abidjan-Ferke-Bamako railway/road corridor*** (1,177 km, of which 608 km by rail and 569 km by road: 135 km in Côte d'Ivoire, 479 km in Mali): In addition to the Abidjan-Bamako road, a rail segment from Abidjan to Ferke is run by Sitarail, under a bi-national concession agreement. The line was closed for a few months because of the Ivory Coast crisis. The domestic segment in the Côte d'Ivoire was reopened in April 2003. No rail line exists between Ferke and Bamako, so the movement of goods between these locations is done by road.
- ***Dakar-Bamako rail corridor*** (1,228 km, of which 757 km in Senegal and 461 km in Mali). The rail line is run by TRANSRAIL, under a bi-national concession agreement. The line is in the process of being rehabilitated and is currently recouping its capacity to transport freight. The Port of Dakar is currently saturated. After rail rehabilitation and port capacity, this corridor is likely to be the most economical solution for bulk exports (of cotton) to Europe and Brazil.

- **Dakar-Bamako road corridor** (1,249 km, of which 607 km in Mali; theoretical driving time: 1,261 minutes). A large section of the road, which had never been paved before on the Mali side, is now being paved. It is opened to circulation and is starting to capture a significant share of the Malian freight traffic to Dakar.
- **Nouakchott-Bamako road corridor through Kayes** (1,390 km, of which 638 km in Mali; theoretical driving time: 1,409 minutes): The portion of the road from Nouakchott to Nema through the desert is paved, but often overcome by sand dunes and difficult to maintain. Large segments of the road that had never been paved on the Malian segment are being paved. This corridor has very little economic potential and is driven by politics. It is basically an outlet for the overflow of traffic when Dakar is saturated.
- **Tema-Bamako road corridor** (1973 km): The road is paved but very long. A typical shipment (cotton 40 foot) takes about 5-6 days of transit time from Bamako, Mali to Tema. Since there is more import than export, trucking tariff is higher to move products inland than to move products from the inland to the port. Malian truckers experience severe competition from better-equipped Ghanaian truck fleets. Malian truck drivers are out of their element, constrained by language barriers and having to drive on the 'wrong side of the road'. This route has proven to be a good alternative during the RCI crisis. Transit is more difficult through Mali and Burkina but much easier in Ghana if paperwork is in order. If not, then truckers get trapped into negotiations and informal fees. Although customs documentation is supposed to be harmonized throughout ECOWAS, documents have to be translated from French to English at the customs checkpoint in Ghana.
- **Lome-Bamako road corridor** (1,967 km, of which 667 km in Togo, 780 km in Burkina and 490 km in Mali; theoretical driving time: 1,634 minutes). The road is paved throughout, but is long, narrow and mountainous and extremely dangerous for inexperienced and poorly equipped Malian truck drivers. There are borders to cross (Burkina Faso and Togo). The convoy system set up on the Togolese side is effective in reducing hassle and informal fees. Lome specializes in used car imports. While Lome serves as an outlet for Malian cotton exports during the RCI crisis (when Dakar is over capacity), it is not a great solution long-term.
- **Conakry-Bamako road corridor** (980 km, of which 126 km in Mali; theoretical time: 1,119 minutes). The corridor is the shortest access to the sea, in terms of distance, but not time, as 85 km on the Malian side have yet to be paved. The completion of the work was delayed. The port is secondary and has limited capacity. With development, this corridor would become economically useful as an outlet for the export of Malian mineral ores.

Air: Since the collapse of Air Afrique and the end of flights of Sabena and Swissair, the only large carrier offering direct scheduled flights to Europe, with significant cargo capacity is Air France. Air France offers one flight a day, with an Airbus A-330 aircraft with a 16 tonnes cargo capacity. A new Malian airline is starting to offer scheduled but irregular passenger flights with a leased A310, but has not yet proactively developed its cargo potential. In addition, there are a number of North African and small regional African carriers, offering limited cargo capacity in the region.

Regional Transport Integration: There are a number of regional efforts involving Mali to facilitate trade and transport, specifically through organizations such as UEMOA and ECOWAS (and to some extent NEPAD). UEMOA is seeking to develop its transport infrastructure and simplify transit within its member countries to facilitate the movement of people and goods and economic integration. For example, UEMOA's Transport Infrastructure Program has three components centered on the following priorities:

- Road and railway infrastructure;
- Information systems for networks monitoring and detecting irregular practices;
- Facilitation of inter-state road transport and transit; and
- Facilitation of port procedures.

UEMOA's efforts include a program to simplify, harmonize and optimize administrative and transit procedures with the objective of improving the competitiveness of regional ports and a pilot program to monitor corridor operations through continuous observation of delay and roadblocks and to improve border operations by the construction of joint border posts. Similar programs have been or are being developed by ECOWAS.

If regional agreements related to transport are properly implemented, thus facilitating the movement of trade, Mali's regional and international trade linkages will be greatly enhanced.

Alternate Trade Route Options Utilized. The war in Côte d'Ivoire has had a major impact on the traditional trade routes of Malian commodities forcing Malians to explore other trade routes including the use of alternate African ports. Prior to the war the ports of Abidjan and Dakar accounted for nearly all the volume of Malian exports with Abidjan accounting for nearly 80 percent of the export traffic volume. In 2003, Malian exports by volume to Côte d'Ivoire dropped by 75 percent. Initially, the port of Dakar received a significant portion of Malian goods. Because it is smaller and subject to congestion, Dakar became quickly saturated, redirecting some of the overflow goods through Lomé, Togo, which captured more than 45 percent of all Malian cotton exports. With increased flow of trade, coastal African countries have been making infrastructure improvements to retain their newfound Malian and other landlocked Sahelian countries business. It is in the long-term interest of Malian exporters to have competition among ports for Malian business. Malian authorities are aware of the benefits of port competition and diversification and should continue to encourage the development and use of alternate trade routes.

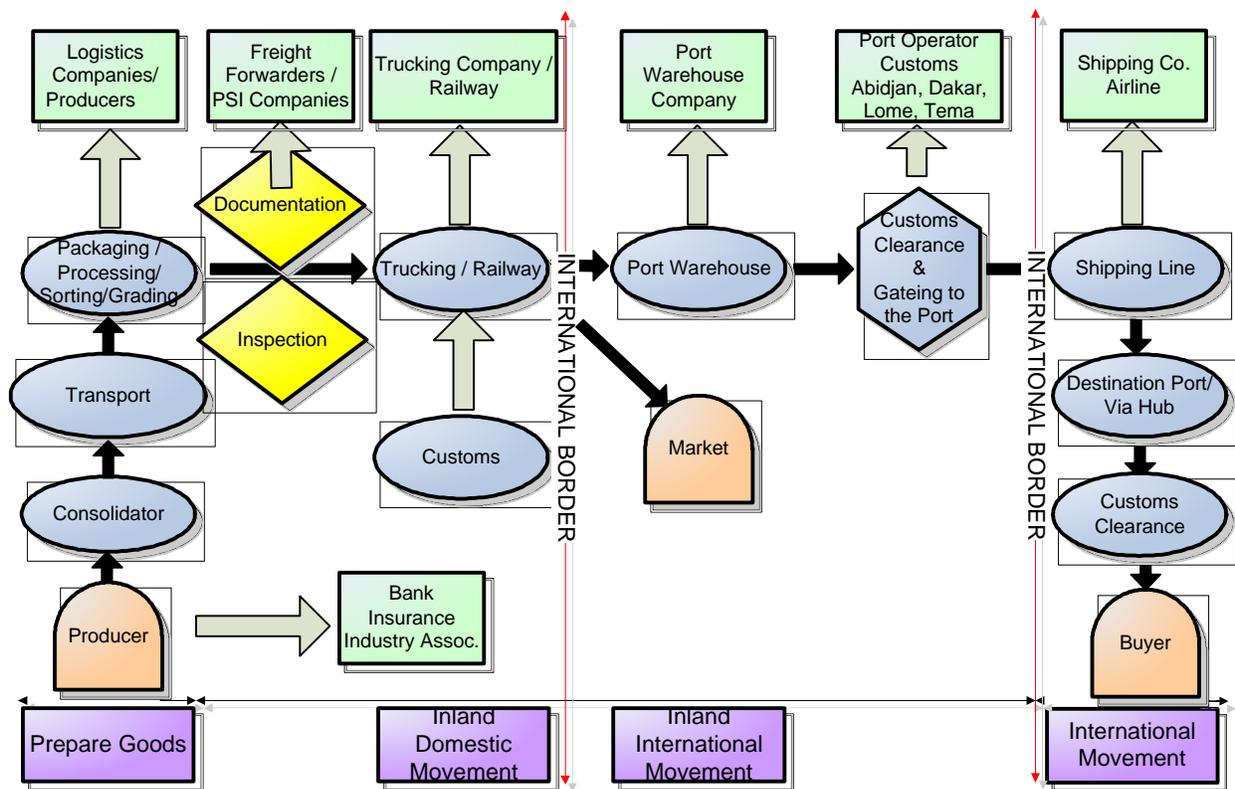
SECTION 2: MALI'S TRANSPORTATION AND LOGISTICS MAP

The effectiveness of trade services is impacted by the logistics infrastructure and various participants who get involved with the trade management process. These two aspects are discussed below.

A. PARTICIPANTS IN INTERNATIONAL TRADE

The movement of a typical good from Mali to foreign markets involves a variety of players who get involved in the transaction between the buyer and seller. As depicted below in Figure 2.1, these include consolidators, providers of transportation services, logistics services, governmental bodies in multiple countries and operators of the logistics infrastructure (such as railroads). These participants are loosely related to the movement of trade. As the transaction proceeds from inception to close, disconnects in the process have far-reaching impact on the cost, reliability, efficiency and the effectiveness of downstream participants.

Figure 2.1: Formal Export Process: Mali Agriculture



Mali has a poorly developed trade sector with a moderate to wide variety of participants involved in the international trade process. These players are depicted in the table below.

PARTICIPANTS IN MALI'S TRADE PROCESS

Participant	Function	Example of Participant
Transportation Carriers	Move cargo	<ul style="list-style-type: none"> • Trucking Companies • Maritime Shipping Lines • Airlines • Rail Operators • Intermodal service providers
Infrastructure Operators	Provide the services to support the movement of cargo	<ul style="list-style-type: none"> • Foreign Port Operators • Airport operators • Wharf company • Stevedores • Container Leasing Company • Equipment Repair Company • Maritime Shipping Lines
Logistics services providers	Provide value-added services to get the right goods to the right place in the right condition at the right time	<ul style="list-style-type: none"> • Agents • Freight forwarders • Customs agents • Integrated Logistics providers • Quality & Inspection Agents • Warehousing • Consolidators & de-consolidators • Packing services • Ship brokers • Bonded warehousing
Financial Service Providers	Provide financial and insurance services to support the movement of cargo	<ul style="list-style-type: none"> • Marine Insurer • COPACO (French financing company for cotton)
Governmental and Regulatory Agencies	Provide policy-level support, taxation and oversee implementation of standards/practices to ensure safe, hygienic, and internationally-accepted principles of movement of cargo	<ul style="list-style-type: none"> • Port Authorities • Customs (Malian and Foreign) • Regional and Local Authorities

Each of these participants is described in greater detail below:

A.1. TRUCKING SERVICES

- Mali has very few large trucking companies, with large being defined as a company with more than five trucks. Entry into the business is difficult with high import tariffs on trucks and replacement parts.

- The trucking fleet is generally aged and in poor maintenance. Used truck fleets are often imported into the country, and these vehicles need more maintenance because of their age and the abuse of constant overloading. It is common to see a truck broken down on the side of the road with the operators waiting hours, if not longer, for a colleague to return with spare parts. It is equally common to observe broken windshields, dents, and worn tires on trucks that are awaiting roadside assistance.
- Some international cargo moves in closed containers while other cargo moves in open trucks. Among the closed containers, the Team observed primarily 40-foot dry containers in use throughout the country.
- Pricing is highly competitive and frequently dictated by what the producer is willing or able to pay. Tariffs are set by the Malian Government, at 32 CFA's (approx. \$0.58) per KM/MT for cotton transport. The tariff schedule is properly calculated from time to time based upon the type of truck, road conditions, and fuel prices, but the tariffs are infrequently updated. Tariffs are no longer compulsory and are now for reference only, except for the national corporations. However, if a producer offers a lower rate per KM/MT, a trucker will frequently accept the lower offer and overload his truck to compensate for the loss. Regardless of the reference shipping rate, Malian truckers will almost always overload their trucks to capture greater revenue.



Overloaded trucks filled with picked cotton. Some trucks are overloaded by almost 50 percent of capacity.

- Cargo is rarely insured. Trucks are required to hold collision policies and the cost of that insurance is included in the per KM/MT rate. For agricultural products, truckers transporting cotton carry insurance of 50,000,000 CFA (approximately \$95,500).
- During the cotton harvest season of October-February, trucking costs for non-cotton commodities are much higher due to high demand for trucking services, and a shortage of reliable trucks creates a demand that outpaces supply. Additionally, the Compagnie Malienne pour le Developpement des Textiles (CMDT) pays a comparably higher rate for cotton transportation, thereby attracting the best of the trucking industry.

A.2. MARITIME CARRIERS

- As a landlocked country, Mali has access to six different ports in foreign countries. Until the war in Côte d'Ivoire, Abidjan was the preferred port and was for many reasons the ideal port for Malian commodities. Recently, other ports have been used with varying degrees of success.
- In the post-September 11 environment, North-South sea lanes between Europe and West Africa have become quite attractive in terms of security, high freight rates, profitability and potential growth and diversification to large integrated logistic/ship lines groups, such as Maersk-Seaboard, SDV (Bollere), P & O Nedlloyd, Cosco, and CMA-CGM. These large international groups dominate all aspects of the logistic chain, and have invested in fleet expansion and modernization, port equipment, port and rail concessions, etc. In Mali, the main players are SDV (Groupe Bollere), Maersk-Sealand and P & O Nedlloyd, followed by Messina, represented in Mali by SNTT. Messina has a line from Dakar-Genoa-Barcelona to bring the Malian cotton to Italy.
- On the African market, P & O Nedlloyd, Maersk-Sealand and Safmarine have formed a sort of cartel called EWATA (Europe West Africa Trade Agreement) and have set freight rates at a high level. While not a formal member of EWATA, SDV follows the price leader with somewhat lower prices.
- Rather than bringing back empty containers to Europe, CGM has inaugurated a new line Abidjan-Tema-Lome-Cotonou-Lagos-Ho Chi Minh City, to bring commodities such as cotton to the Asian textile manufacturing industry. Ten ships are assigned to this route with a frequency of 1 per week.
- In addition to the high freight rates, these large groups are looking for opportunities to benefit from the privatization process by participating in various West African port (Dakar and Lome) and railway concessions to dominate all links of the logistic chain.

A.3. AIR CARGO CARRIERS

- Most freight moves on passenger aircraft today, on 737's and 747's. Because the entryway of these aircraft is not designed for freight, cargo must be moved in cartons and pallets. The typical ULD (Unit Load Device) container used for freighters is too wide to fit through the doors on the passenger aircraft. This results in extra handling costs, cargo loss and damage. Though they have wide network coverage, passenger aircraft have the disadvantage of lower reliability. This is because airlines earn more carrying passengers than cargo – whenever a choice has to be made, the cargo gets left behind. This is incompatible with exporting perishables.
- Air France is the only international air carrier offering substantial cargo capacity to Europe and a vast network beyond Paris. The airline currently enjoys strong market dominance, particularly on the airfreight market to Europe. Because of its very high cost structure and therefore high breakeven load factors, Air France tends to prefer limited capacity at the expense of turning away demand. Air France's flight and capacity

decisions are primarily based on passenger demand and North-South cargo demand. However, because of the strong directional imbalance, Air France has an objective interest in developing South-North cargo traffic and has declared its willingness to facilitate Malian exports, such as perishables, by air and would be willing to sponsor a well organized association of horticultural products.

- Currently, Air France carries an average of 4 metric tons of gold per month throughout the whole year to Paris CDG and then to Zurich. Air France is the key player for exporting fresh vegetables (green beans) and fruits (mangoes) by air. The rest of the cargo includes: gems (malachite, opals), to be shipped to the Anvers market in Belgium, Germany, Thailand, the US and South Africa; African spices and food ingredients for the Malian diaspora in Western Europe; art pieces and handicraft for the US and European markets.
- In 2003, Air France decided to discontinue dedicated airfreight flights to and from Mali due to the lack of sufficient demand. As a result, Air France's total freight capacity in terms of TKO is limited to between 15 and 20 MT per flight (depending upon the passenger load factor). The total cargo capacity comprises 8 LD3 containers, with a capacity of 1.1 to 1.2 MT each, and an additional bulk capacity of 3 MT.
- In past years, Air Afrique, an African multinational airline of 13 African francophone countries was a prime contributor to Mali's air cargo services operations and had a monopoly on air cargo handling at the African gateway airports, such as Dakar in Senegal and Bamako in Mali. The airline was declared bankrupt in 2002 and its assets liquidated. There are plans to launch a new Air Afrique (without the liabilities of the old Air Afrique), but these have failed to materialize due to disagreements on who should foot the bill of the social plan and whether the contender should be granted exclusive flight rights in compensation. Discussions are still taking place from time to time, but the gap is rapidly filled with new regional carriers based in individual countries. Sabena and Swiss Air, two European airlines with large presence in West Africa in terms of passenger and cargo capacity also went through bankruptcy and no longer fly between Europe and Mali.
- A new Malian airline, STA, now offers direct flights from Bamako with a leased Airbus A310 passenger aircraft with a belly pit cargo capacity on the order of T per flight. While STA has been fairly successful in attracting Malian passengers through low fares and large free luggage allowances, flights are often cancelled and STA has yet to organize itself to capture a significant share of the air freight market, besides passenger luggage.
- Besides STA, there has been a profusion of emerging airlines in Francophone West Africa, such as Air Senegal International, a joint venture between Senegalese interests and Royal Air Maroc, who provides a strong commercial and technical support. There are several passenger airlines projects sponsored in the West African subregion by the Aga Khan. Many other start-up projects, involving Air Afrique 'refugees' have been short-lived due to severe under-capitalization.
- In addition, Northern African carriers, such as Royal Air Maroc, Air Algerie, TunisAir, Afriqiyah, fly from Bamako to their respective countries, and provide flights to Europe from their home base. Their operations, however, mostly focus on passenger traffic and

their medium-range passenger aircraft fleet offer relatively little cargo belly pit capacity. Regional carriers based in francophone countries in Mali's vicinity include Air Mauritanie, Air Guinee, Air Burkina, Air Ivoire and others; they provide flights between Bamako and the respective capital of their country. They are not significant air cargo market participants. Ethiopian Airlines and Cameroon Airlines and Ghana Airways are also present at the Bamako International Airport and have a small cargo potential.

- International air couriers such as DHL and others are also making inroads into Mali, and could offer a viable alternative for high value products, such as gold or gems, expensive artifacts, vital products or urgent spares (e.g., in the event of a strike).

A.4. RAILWAYS

- Until October 2003, the 1228 km-long Dakar-Bamako railway was operated by two parastatal companies with a joint management structure: the Societe Nationale de Chemins de Fer du Senegal (SNCS), which operated the 644 KM Senegalese segment; and the Regie National du Chemn de Fer du Mali (RCFM), which operated the 584 Malian segment. Due to poor management, an inability to compete with other transport corridors and provide adequate quality of service and maintain infrastructure, the Senegalese-Malian company lost a significant market share of goods moving in and out of Mali. Limited capacity, poor maintenance, train derailments, bridge collapses and infrastructure failures contributed to delays that induced freight shippers to redirect their freight traffic by road to the ports of Abidjan, and other ports, such as Lome and Cotonou.
- In 2003, the Senegalese and Malian governments transferred equipment and all rail freight operations on the Dakar-Bamako line to a private concessionaire. The TRANSRAIL concession is a mixed private/public corporation with headquarters in Bamako and its main technical center in Thies (Senegal). The majority stake (51 percent) is held by the CANAC/GETMA Consortium, comprising CANAC (Canadian) and GETMA (French). CANAC, the Canadian partner is the subsidiary of a large Canadian rail company. CANAC brings railway expertise. GETMA, the French partner has expertise in freight forwarding and construction. Other shareholders include: the Senegalese Government (10 percent), the Malian Government (10 percent), private Senegalese and Malian investors (20 percent) and Employees (about 9 percent). The government retains ownership of the railway assets.
- TRANSRAIL's rolling stock includes 16 obsolete but salvageable locomotives (engines), with orders for an additional nine by 2005, freight cars (wagons), covered freight cars, flat-bed cars. A new order for 100 flat-bed cars was recently placed.
- TRANSRAIL has recently launched a special express unit train for containers, dubbed the 'green train'. The basic idea is to seal the container at the point of departure, form a unit train dedicated to this traffic, eliminate all intermediate stops and inspections until the port. At present however, express trains also still stop twice at the border.
- TRANSRAIL is in the process of releasing the request for proposals for a telecommunications system integrating the GPS, VHS and Iridium technologies. The new telecommunications system should result in a marked improvement in the monitoring and control of rail movements and a reduction in accidents.

- As part of the concession agreement, TRANSRAIL has committed to invest FCFA 40 billion (approx. US \$74 million) over a period of 5 years in capital expenditures, including: the rehabilitation of the existing one meter gage Dakar-Bamako line (rail and ballast); the acquisition of new engines and rolling stock; and a signalling and Control center. TRANSRAIL has started to implement its plan to systematically rehabilitate the track, starting with the most critical bottleneck segments. The Deamou-Kayes section has already been rehabilitated and the Kidra-Tamba section is currently under rehabilitation.
- Before the concession, the elapse time for completing a Dakar-Bamako-Dakar round trip cycle was 15 days. At present, the rotation time has been reduced to 7 days, in spite of the locomotive shortage and the prevailing breaking problems. The objective is to reduce the rotation time to 6 days (2 days for each trip, and 1 day at each terminal station).

A.5. PORT AUTHORITY AND OPERATORS

Port of Abidjan:

- Due to the civil war, imports and exports through the Port of Abidjan dropped significantly in 2003. With the decreased flow of goods, the port authority offered discounted and sometimes free storage for goods transported through the port. It is likely that the port authority played a significant role in the development of a convoy system that has greatly reduced the cost of informal payments. These measures taken by the port authority seem to be paying dividends. While no figures have been released, traffic at the port has increased and Mali intends to ship approximately 50 percent of its cotton through Abidjan. This increased volume will nearly double the amount of cotton shipped through Abidjan in 2003.
- Abidjan is a comparatively shallow port at 10.5 meters. As a result, only approximately 200 containers (roughly 25 percent of a typical ship) can be loaded onto an ocean going ship for that ship to be able to clear the port. Other cargo is taken on in Tema, Lomé (with a depth of 14 meters), or other African ports to fully load the ship. The port has berths for as many as 36 ships. It also has two berths for the loading of fruit only. For the Customs clearance of fruits, Ivoire Logistique (an Ivorian company) prepares all of the necessary documents in automated form. Bureau Veritas (BV) conducts all inspections and packaging of Malian fruit. BV also manages container stuffing of fruit pallets and coordinates the loading of the refrigerated containers onto the ship.
- Corruption at the port is a major problem. The TESS Team conducting the study of the port was shamelessly solicited for bribes at every turn. Malian exporters pay informal fees at every stage of the export process. Informal fees are paid to:
 - Port security
 - Inspection officers
 - Customs
 - Immigration
 - Port officials
 - Longshoremen
 - Stevedores
 - Storage facility operators
- Theft at the port is a constant concern. With virtually anyone able to pay their way into the port, Abidjan can hardly be considered secure. In an effort to prevent theft of cargo, boarding of the ship by stowaways and prostitutes, and to prevent acts of terrorism, the port

places as many as fifteen port-hired security officers on each ship while in port. Containers are frequently stacked around the loading dock in a manner that effectively blockades the ship and forces anyone wishing to board the ship to do so by the main ramp through a storage center. Ships also patrol the waters around the cargo ships to dissuade the crew from unloading cargo over the sea-side of the ship to an awaiting boat.

- With a shortage of jobs in Côte d'Ivoire, labor at the ports is not an issue, particularly since many port workers augment their regular pay with informal payments.



Fruit pallets being loaded into containers. (Abidjan)



Refrigerated fruit containers being loaded onto ship. (Abidjan)

Port of Dakar:

- Now one hundred years old, Dakar (*Port Autonome de Dakar or PAD*) was traditionally the only gateway port for Mali's international trade until it lost its predominance to Abidjan. Its main advantages include:
 - Strategic location at the cross roads of all the sea-link roads going to West Africa;
 - At the intersection of sea lanes linking Europe to South America and Southern Africa and North America to Southern Africa;
 - Closest large port to Mali and the last stop to Europe from the West African Coast;
 - Intermodal linkages through the Dakar-Bamako rail line and roads to the Senegalese Hinterland; and
 - A relatively stable political situation when compared to Abidjan.

The total PAT traffic volume has increased from 7.2 million of metric tonnes in 1999 to about 10 million tonnes in 2003.

- The Malian Government maintains a strong presence at the Port of Dakar through EMASE (Etablissements Maliens au Senegal), the Malian Government owned warehouse in Dakar. EMASE is managed by a Director, who reports to the Transport Directorate (Direction Nationale des Transports – DNT) in the Ministry of Infrastructures and Transports. EMASE owns and manages a large warehouse, which was recently expanded. Initially, EMASE was

set up to manage all logistic operations related to cotton, transportation by rail to Dakar, loading in Dakar warehouse, inventory management, and scheduling and management of ship departures. Its responsibilities were later expanded to include all import and export goods to/from Mali going through the Port of Dakar.

- Goods moving to and from Mali through the Port of Dakar benefit from special treatment, based on agreements between the Senegalese and Malian governments. This includes:
 - Priority access to ships
 - 20 % discount on facilities rental fees on warehouses
 - 50 % discount on loading and unloading fees
 - Allowance for 20 free days for delays
 - Flat fee per container box irrespective of content
 - Tax exemption on Value Added Tax (VAT) on port services
- Congestion is a major problem in the port of Dakar. An enormous population explosion has overcome the roads which funnel into the peninsula where Dakar is located, resulting into a massive gridlock. Only trucks with 20 foot containers can possibly negotiate their way through the narrow and heavily encumbered roads and streets. Within the port, inadequate organization and facilities and limited capacity at the EMASE warehouse has delayed the clearance of goods. Intermodal links are in repair. For example, the rail tracks leading to the quay had sunken into the ground, leaving not enough clearance for trains to make it to the quay, which resulted in inefficiencies in the transshipment of commodities.
- The combination of two exceptional cotton years in Mali and the Cote d'Ivoire crisis have exacerbated congestion in the port. With the massive overflow from Abidjan (which is three times bigger than Dakar) Dakar was not able to absorb the sudden increase in traffic and suffered from enormous congestion problems at all levels: traffic congestion in outside access roads, congestion within the port, full warehouses at EMASE and experienced delays. Some cotton loads have been stored for months at the Malian warehouses, before they would eventually be shipped.
- Transportation costs are higher from Dakar to a variety of Northern destinations than transport costs from Abidjan. For example, sending goods to New York from Dakar costs up to 63 % more that sending the same goods to New York from Abidjan, due to a number of factors, such as thin import flows and unbalanced traffic, inadequate of economies of scale, and restrictive labor regulations and practices at the Port of Dakar.
- A port development plan dubbed the 'Strategic Vision for the Port of Dakar 2010' aims at developing the 'reference for logistic platforms in Africa'. The port development plan for the decade includes a direct access road to circumvent the highly-congested urban roads, expansion of the container terminal, and the development of fruit and grain terminals.

Port of Tema:

- Ghana's Port of Tema is a man-made port with one container terminal and provides facilities for refrigerated containers. Port capacity is 14 berths under both private and public management. The port has been recently dredged and water depth is between 11.5 and 12 meters. The port has about 1.7 million m³ of water and includes a dry dock for ship repair.

- Tema's port authority has made a concerted effort to attract transit cargo to and from neighboring countries in West Africa. Port services have improved during the past few years. As a result of these efforts and the need for countries like Mali to find an alternative to Abidjan, transit traffic has increased dramatically since 2000.

Table 2.1: Transit Traffic By Country of Destination, Port of Tema, 1997-2003 (Tons)

Country	1997	1998	1999	2000	2001	2002	2003
Burkina Faso	1,415	15,774	12,720	42,140	78,063	208,948	329,530
Mali				256	38,279	144,276	423,147
Niger	7,033	13,097	16,969	76,303	116,151	159,680	77,891
Others	163	189	204	26,274	28,758	114,869	24,525
TOTAL	8,611	29,060	29,893	144,973	261,251	627,773	855,093

Source: Ghana Ports and Harbor Authority

- The port has a separate Marketing Division that is focused on attracting trade through Tema. They seem well organized and had a lot of data available readily. The port has published rates but offers special rebates to land-locked countries like Mali to encourage them to access Tema (especially with the civil war in Cote d'Ivoire which reduces access to Abidjan). Several value-added services are provided to transit countries, such as escort by customs and security to the Ghana border (in convoys), special storage facilities at for grains, alcohol, perishables (horticulture and fish), transit sheds for exporters/importers to construct their own facilities, etc. The port is also considering extension of the railway to attract more traffic.
- The TESS Team did not see pack houses that enable exporters to bring their products on ice and containerize them at the port before dispatching cargo.
- A major problem at the port is delays in the import process because most consignees do not have readily available transport to move their products quickly away from the docking area.
- Congestion remains an issue. The TESS Team observed many empty containers outside the container terminal, which was at overcapacity. A second container terminal is under construction and will be ready in about a year's time.

Port of Lome (PAT):

- The Autonomous Port of Lome (*Port Autonome de Lome – PAT*) is positioning itself as the Gateway of the Sahelian landlocked countries, such as Burkina Faso, Mali and Niger. In order to become more attractive and compensate for its natural handicap, the Port of Lome Authority, in cooperation with the law and order forces (police, gendarmerie and customs) has developed the '*Solidarite de la Mer*' program, an assisted convoy system to facilitate access to the sea to landlocked countries. In essence, trucks in transit to or from the landlocked Sahelian countries are grouped into quasi-military convoys and accompanied with a strong law and order force, in order to provide security for merchandises and people, more fluid traffic, a reduction of the number of checks and reduction of informal fees. The system

has worked out quite well, according to the resident Director of EMATO (*Etablissements Maliens au Togo*), the Malian Public Warehouse in Lome.

- Since the Ivorian Crisis, the amount of Malian imports handled by Lome more than doubled. Malian exports transiting through Lome have increased by close to 16 percent between 2002 and 2003. Because of the exceptional cotton crop year and the Ivorian crisis, cotton export flows were directed to alternate ports such as Dakar, which got quickly saturated and the overflow went to Lome.
- In spite of its meritorious and so far successful efforts, it is questionable whether Lome could retain a substantial market share of the Malian traffic, when the RCI situation normalizes and when the Dakar-Bamako rail and the alternate road corridors get fully rehabilitated.

A.6. LOGISTICS COMPANIES

Integrated Logistics Services

- The integrated logistic services in Mali are the same large groups involved in maritime transport in West Africa, namely Maersk-Sealand and SDV from the Bolloré group. There is also a newcomer, SNTT who represents the Italian shipping company Messina. The large integrated logistic services are geared toward big business (cotton) and the shippers from the formal sector. Presently, integrated logistics companies are mostly providing basic services that meet the needs of today's gradually-evolving market. These service providers offer lower prices to customers by aggregating volume and negotiating lower rates with transportation carriers, provide know-how and facilities at international destinations, and manage domestic transactions that require experience and knowledge to facilitate, such as cargo consolidation, dealing with regulatory agencies, and locating needed equipment for haulage.
- Small local freight forwarders (*transitaires*) often specialize in small niche markets. Capitole Transit is one of the two freight forwarders that have a secure safe for gold at the Bamako Airport. Another capitalizes on its cold storage facility (a rare asset in Mali) to tackle the export market for perishables. Kene Transit specializes in the Mali/ Côte d'Ivoire border trade. Most others try act as opportunistic jacks of all trade, with modest success.
- There is a market for one-stop logistics service providers that offer increased reliability through integrated operations, superior information technology, and better shipment control. However, those companies that offer such services charge a premium most Malian exporters cannot afford. Maersk is one of those companies that has begun offering one-stop logistics and transportation services from Mali. For 120 Euros per MT, Maersk will load, transport by truck, pay all insurance and informal fees, and store at the port until departure any goods collected anywhere in Mali for export through Dakar. For a 40-foot container this represents just over \$2,800. Although this is a considerable amount for a Malian exporter, we understand that Maersk does have some clients use the service because, they are more certain that their goods will arrive at the destination in good condition, and that is worth the higher price.
- Small Malian shippers try to save on costs and shop for logistics services by price, dealing with small freight forwarders for formalities and do a lot of the logistics and transport work

themselves. Consequently, shippers buy individual services from different providers, making coordination difficult.

- There is a general resistance on the part of some exporters to purchase logistics services. For example, with perishable commodities, shippers prefer to retain control of their goods at all times, and are not accustomed to trusting a third party handling the end-to-end logistics transaction. Furthermore, exports are more focused on reducing transportation cost, whereas the reliability and quality of shipments come second for many. As a result, logistics is not viewed as a source of competitive advantage.
- Logistics service providers “throw in” very little to attract new business. The few companies that do offer complementary services primarily discount or offer free storage. The railway, for example, offers free storage of containers to attract business to rail transport to Dakar.
- At present, the large integrated logistics companies, such as Maersk and SDV prefer not to do business in certain commodities (e.g. mangoes) by land/ sea until the Bamako-Abidjan corridor becomes (politically) reliable again or the Bamako-Dakar railway is fully rehabilitated, ready for direct freight express trains equipped for refrigerated containers, and the logistic firms are themselves equipped or have access to reliable cold chains.

Warehousing & Container Yard Services

- Very little warehousing takes place within Mali. Exports of livestock are conducted primarily from Ségou and the beasts remain grazing until being loaded on a truck. Grains and cereals arrive in 100 kilogram (kg) bags to Ségou by donkey cart and are almost immediately loaded onto trucks. Mangoes are collected by the side of the road until loaded onto trucks and driven to consolidation point. Cotton is one of the few commodities that is warehoused, and a significant amount is stored outdoors and is exposed to the elements.



**Cotton at SDV Warehouse at Port of Abidjan
(Facility held 80,000 MT of cotton)**

- Most warehousing of goods occurs at the port of exportation. SDV, SAGA and SIMAT are the largest freight forwarders in the region and own most of the storage facilities used by Malian exporters. Since storage is one of the “throw in” services, it appears that all of the ports’ warehousing companies offer free storage for the first 30 days. Cotton, the leading agricultural export, has an average storage time of 90 days. Cold storage facilities for

perishable goods are available at the port of Abidjan. Two freight forwarders are equipped to warehouse goods in special facilities at the Bamako Airport. Refrigerated warehouses for mangoes are insufficient.

- The integrated logistics providers Maersk and SDV also own and operate private warehouses and container yard services near Bamako. However, they don't yet offer cold storage facilities. SDV has a small cold storage facility (3 refrigerated containers at the Bamako Airport).
- The new-comer, SNTT is currently finishing its warehousing and container yard facility and will soon be equipped with a cold chain and will provide refrigerated containers for horticultural products and others.
- Regional exports, such as cattle, are not warehoused and typically are left to graze by the side of the road, near the cattle market, on whatever grass may be found. After they are sold, they are taken directly to the slaughterhouse.
- Large shippers and inspection companies may invest in their own infrastructure. In Abidjan, the TESS Team visited the fruit docks managed by Bureau Veritas (BV). The fruit awaiting transport is stored in refrigerated BV warehouses. BV's value-added services include inspection, sorting, and at times, packaging of the fruit. BV also stuffs the refrigerated containers and supervises the loading of containers onto the ships.

A.7. CUSTOMS

- Given the size and porosity of its borders, Mali's customs agency has a difficult job. Although borders in the Northern part of the country are totally uncontrollable, trade flows there are minimal. The customs office falls under the jurisdiction of the Ministry of Finance, and is administered centrally, with field offices in outlying areas.

The TESS Team found a consistent and repeated reference to Customs as a hindrance to trade. Key concerns raised by the shipper community include:

- Arbitrary rulings: customs processes are interpreted differently by different offices, and up and down the hierarchy. If an unfavorable ruling is given, shippers try again, either elsewhere or by involving others in the hierarchy.
- Improper penalties: penalties are imposed without adequate cause and fines are extracted, which one must pay to have repealed.
- Although Mali's Customs processes have been partially-automated, full paper documentation is still deemed necessary, which still provides officers an avenue to collect informal fees. Customs is in the process of installing the new version of the ASYCUDA system (SYDONIA in French), an integrated Customs system, (French Cooperation grant). Required documents include:
 - Quality Certificate
 - Intent to Export License
 - Inspection Certificate
 - Phyto-sanitary Documents
 - Export Declaration
 - Bill of Lading

- Origin Certificate

- The normal fee billed by freight forwarders for the preparation of the necessary export documents is \$11.50. The war in Côte d'Ivoire has caused some freight forwarders to temporarily suspend these services. At the Côte d'Ivoire-Mali border crossing south of Sikasso, only one profiteering forwarder remains to offer documentation services and does so at a rate ten times higher than the norm.

- To receive the stamp and signature from Mali Customs validating the export, an exporter pays \$3.80 in State fees, with another \$2.00 to \$20.00 in negotiated "facilitation fees." Many truck drivers will attempt to become friends with the Customs officers in an attempt to lower the amount of the facilitation fee they will be required to make.

• CUSTOMS SERVICE IN MALI	• FEE
• Preparation of Documents	• \$11.50 to \$115.00
• Customs Validation	• \$3.80
• Country-wide Informal Fees	• \$10 to \$70

- Once goods are exported, the paper copies of documents collected by Customs are sent to Customs headquarters in Bamako where clerks manually type the information into the export databases. These databases serve as the repository for all of the official Malian export statistics.
- Multiple in-country Customs checkpoints exist to verify proper paperwork. With much of the paperwork prepared at the borders, it is unclear what benefit these checkpoints provide. At each stop, truck drivers are required to negotiate the appropriate informal payment before continuing on their route.



Malian in-country Customs checkpoint



Border crossing from Mali to Côte d'Ivoire

Côte d'Ivoire:

- The French have invested in the automation of Ivorian Customs and therefore the agency is viewed as highly automated. Using the « Systeme de Dédouanement Automatisé de la Marchandise » (SYDAM), all exports are entered into the Ivorian Customs database.

- The convoy system reduced the informal fees from approximately \$460 to \$190 per truck. The payments are divided evenly among the rebels in Northern Côte d'Ivoire and the loyalists in the Southern part of the country. It is unclear what portion of these payments previously went to Ivorian Customs versus the cut taken by local authorities. Nevertheless, additional informal fees are paid to Customs at the port of Abidjan at an average rate of \$20.
- Beyond the informal payment process, the TESS Team heard little anecdotally about problems with Ivorian Customs. Greater complaints were made about the graft in and about the port of Abidjan.

CUSTOMS SERVICE IN CÔTE D'IVOIRE	FEE
Documentation may include: export license, origin certificate, bill of lading, quality certificate, factory of ginning information (cotton), truck number and owner, phyto-sanitary documents.	\$19
Convoy Informal Fees	\$190
Customs Fees	\$190
Other Informal Fees	\$20

Ghana

- The customs process in Tema, Ghana has been recently streamlined and the software used for documentation is called GC Net. It can be accessed by exporters/importers/freight forwarders, etc. As long as the paperwork is in order, it is a fairly smooth process. Documentation can be started at the exporter's office prior to shipment and by the time goods arrive at Port, the paperwork is ready. Even the SPS documentation is smooth as long as product quality is good. Some informal payments and negotiations come into play if documents are not in order or false declarations are furnished.
- The paperwork processing is simple and straightforward. The practical problem arrives during actual cargo movement because the port has a shortage of equipment to move cargo. An imported container typically takes about 2-3 days to clear from the time of arrival. There is a lot of competition amongst expeditors and that keeps prices competitive and demand up.
- A new feature introduced at Tema to reduce wait time are privately owned automated scanner facilities for containers so that 100% manual checking is not required, greatly increasing traffic flow.

Senegal:

- Recent customs reform in 2000 did result in substantial improvements of Dakar's customs clearance process. Nevertheless many customs procedures remain unnecessarily complex, bureaucratic and manual. In one survey (APIX) 52 percent of the business community view customs as one of the top three administrative barriers to business. The old home-made computer system is inadequate and will soon be replaced by a newer computer system, under a French Cooperation grant.
- Illegal 'facilitation fees' are viewed as a serious problem by private sector users.

A.8. INSURANCE PROVIDERS

- In Mali, the main insurance carriers are Caisse National d'Assurances et de Reassurance and AGF, Agence Malienne d'Assurances.
- For sea transport, cargo insurance is mandatory. In Senegal, SANAC, a recent re-incarnation of the former state-owned insurance company specifically specializes in maritime cargo insurance.
- For air cargo, IATA carriers, such as Air France, require that the exporters purchase insurance. Airfreight insurance rates (SCI) are set at 75 FCFA/kg (\$0.13) of freight for all freight types.
- Few shippers, other than the cotton company and a few comparatively 'large' firms in the formal sector, bother to insure the merchandise for land transport, as the risk *premia* would be prohibitively expensive, at least in their estimation. Even shippers of perishables do not take cargo insurance for land transport. The insurance market for cargo insurance is very thin.
- Vehicle insurance is compulsory. However, in a sector that is dominated by the informal sector, many truck drivers take some short cuts and do not have proper vehicle insurance.
- Regulations on **cargo insurance** have been harmonized at the UEMOA and even the ECOWAS levels. The insurance policy for the merchandise transported is not mandatory and it is up to the shipper to get cargo insurance from an insurance carrier.

A.9. SHIPPERS ASSOCIATION (CMC)

- Conseil Malien des Chargeurs (CMC) is an association regrouping all shippers, i.e., exporters, importers and other decision-makers involved in international trade. The CMC was created to take over some of the responsibilities of Direction Nationale des Transports in a spirit of consensual participation. The association was created and received a small budgetary allowance, but never received membership dues. Only one member, the company headed by the Chairman, has so far bothered to pay its membership fee, although most 'members' would agree that some of the initiatives taken by its able Secretary-General have been extremely useful, such as the negotiation of the convoy system for Mali trucks Côte d'Ivoire or the latest bilateral negotiations on the implementation of the TRIE and TIE transport and transit facilitation treaties. CMC makes policy recommendations on transport and transit affairs.

A.10. TRUCKERS ASSOCIATIONS

- There are many small truckers associations, and attempts have been made to regroup them into a representative federation. They have a role to play in the preparation of reference tariffs.

B. OPERATING ENVIRONMENT

Numerous factors influence the day-to-day ability of businesses to operate and compete. These include macroeconomic conditions (e.g. fiscal, monetary, trade, and overall development policies), microeconomic conditions (e.g. government administration, infrastructure, regulation, tax laws, finance, cost and availability of factors or production), and level of political stability. Favorable macro- and micro-economic conditions allow business leaders to make choices about where and how to compete, which industries to be in, and how to position their companies. It impacts their effectiveness in implementing their plans, their efficiency in managing their operations and their ability to achieve value-added benefits.

In order to assess the ability of transport and logistics providers to move goods in a efficient and cost-effective manner, an observation of Mali's operating environment is critical. Because more in-depth analyses of Mali's overall business and investment climate can be found in other studies (such as the recently-published DTIS study), the following section will focus primarily on factors directly relevant to the movement of goods.

Weak Overall Business Climate. Like other sectors of the economy, Mali's transport and logistics sector faces numerous business impediments. These include the high cost and relatively weak availability of key factors of productions (e.g. energy and telecommunications), a weak infrastructure network, a low skilled (yet relatively inexpensive) workforce, inadequate access to finance, and a weak regulatory and tax regime. These challenges undermine investment and increase the costs of doing business. Before one considers issues directly related to transport, competitiveness is already weakened.

Weak Transportation Policy. Numerous aspects within Mali's transportation policies negatively impact the cost and quality of transport and logistics services. For example:

- Excessive import duties and other taxes imposed on the import of new trucks and replacement parts have had a negative impact on the Malian road transportation industry. Some companies have evidently managed to negotiate favorably lower duty rates to import multiple trucks, however duties remain prohibitive to an operator purchasing a single truck. Partly as a result of these policies, much of the truck fleet is aged. According to the Direction Nationale des Transports (DNT), in 2000, 83 percent of trucks were over 15 years old.
- The domestic tax structure for vehicles is stratified, providing different treatment for trucking companies depending on the number of trucks operating. For those firms that operate less than three trucks, a flat tax is applied; for those firms operating more than three trucks, tax is based on turnover. This encourages a magnitude of small firms, even if operating under the same management. This prevents the sector from capturing economies of scale.
- Although published Government freight rates are no longer compulsory, they are still to be used by parastatals, such as CMDT, the cotton company; while they are calculated correctly and take into account the state of the road conditions, they are not updated often enough, so that truckers' margins are eroded when the price of fuel escalates dramatically, as it is now the case.

- Truck overload regulations are poorly enforced. This undermines safety and accelerates the deterioration of roads.
- Technical regulations governing truck quality are poorly enforced, encouraging firms to continue using aged trucks long beyond their lifespan.
- Few incentives exist to develop important logistics systems, such as a cold chain with reefer trucks and containers and adequate cold storage in key commodity consolidation or transfer points. Similarly, there are few commercial incentives for developing state-of-the-art trucking fleets.

Failure to Enforce Intra-Regional Treaties. Mali is a signatory to a number of regional organizations, namely ECOWAS and WAEMU, which include treaties and agreements to facilitate the transit of goods (for more information on these treaties, see annex 3) As a land-locked country, such agreements are critical to its ability to efficiently export its goods through ports in neighboring countries. As of 2000, more than 40 different pieces regional legislation or regulation covering topics pertaining to the transport and logistic chain existed. These include trade in goods and services, access to ports, transport, harmonization of taxes, customs nomenclatures, market share agreements on truck transportation of selected commodities, etc. With overlapping regional organizations who compete for precedence on key issues, conflicts in the framework and application of agreements are inevitable. These regional multilateral treaties and agreements are often translated in the national laws of the various state members, with sometimes-vast inconsistencies and divergent interpretations.

While Mali has strived to adopt all the regulations defined under the aegis of WAEMU and ECOWAS, Mali has significant difficulties implementing such regulations. Malian transporters also face weak implementation in neighboring countries. Gaps in the application of regional agreements inevitably lead to delays, additional costs and uncertainty amongst transport service providers, importers and exporters both in Mali and throughout the region.

A case in point are the TRIE (*Transit Routier Inter Etat*) and the TIE (*Transport Inter Etat*) are regional agreements regarding inter-state transit and transport, which were adopted by all state members in the context of ECOWAS. The TRIE convention was signed on 29 May, 1982 and implementation scheduled in 1987. The TRIE was intended to:

- Ensure security of all merchandises in transit
- Ban intempetive controls on the part of the police, gendarmerie and customs
- Simplify transit forms
- Harmonize regulations pertaining to axle load limits
- Ensure one bond only
- Require use of only one tranport document, called the TRIE card
- Develop a reliable database for road transport planning purposes.

The TRIE convention has been blatantly ignored in most ECOWAS countries relevant to Mali trade, with the possible exception of Togo. As mentioned above, the TRIE convention bans, *inter alia*, intempetive controls on the part of the customs, gendamerie and police. A recent count (April 2004) shows that on the Bamako-Dakar road corridor, trucks from Mali were stopped 33 times and subjected to controls of all kinds, resulting in 13 hours lost and illegal facilitation fees

of FCFA 155,000, whereas if the TRIE convention had been applied the truck would have been stopped no more than 6 times.

Differences in interpretation and application of the TRIE and TIE conventions have led to the proliferation of bilateral road agreements and rail agreements, some of which are sometimes in contradiction with the multilateral ECOWAS or WAEMU conventions. According to a recent paper by the Economic Commission on Africa (ECA), it is estimated that in UEMOA, only 30 percent of the rules governing road transport are sub-regional, the remaining 70 percent being either bilateral or national.²

Typically, bilateral road agreements specify how the member countries involved in a specific corridor share the truck transit business, both for imports and exports. Roadblocks were recently erected by Senegalese truckers who were protesting for not having access to Malian cotton export transport business in transit through Senegal. This precipitated a new round of negotiations on the implementation of the TRIE convention.

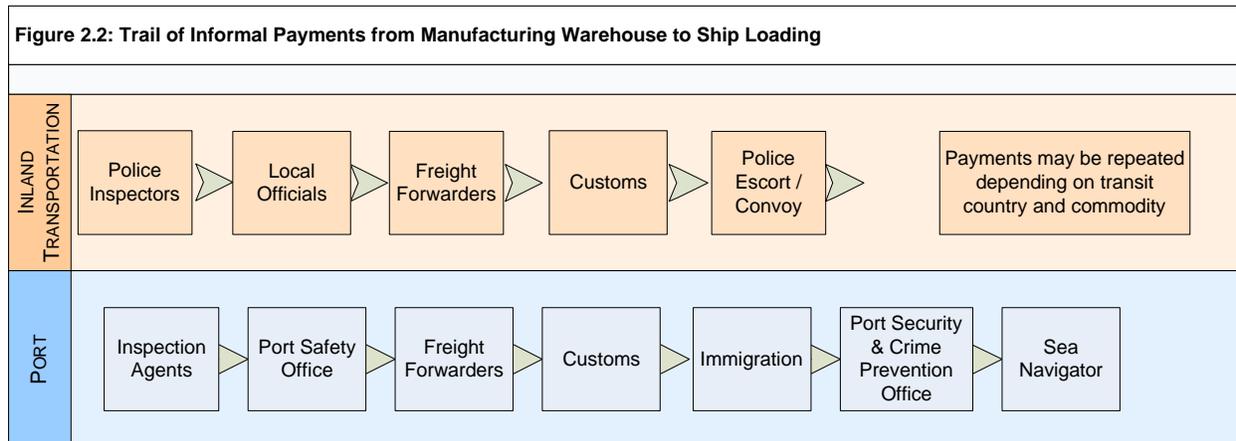
Negotiations have been held recently between the Senegalese and the Malian Authorities and relevant trade associations, such as Conseil Malien des Chargeurs (CMC), the Malian Shippers Association, and chambers of commerce to actually implement the two agreements and solve other issues regarding the quota of Malian cotton transport between Mali and Senegalese truckers. Similar negotiations have also taken place between Cote d'Ivoire and Mali on the same subject and the resolution of other bilateral issues, such as the reopening of international traffic. Paradoxically, and thanks to the new heavily-guarded convoy system instituted between the different protagonists of the Ivorian crisis and Mali, the cost of intempestive controls in terms of out-of-pocket 'facilitation' or 'protection' money, time lost and the opportunity cost of the time lost, has been sharply reduced and de facto institutionalized.

Informal Fees. Everyone interviewed by the TESS Team responded that they pay informal fees within Mali, Côte d'Ivoire, Ghana, Senegal, Burkina Faso, Togo and Guinea to ensure that their goods arrive at their destinations. These fees are paid to a variety of operators in the transportation and logistics chain starting from the local police all the way to crane operator who loads the container on the ship. In general, shippers and truck drivers have little knowledge about customs regulations and procedures, as well as on their rights under the laws. The contradictions between transit procedures officially adopted at the sub regional level and national transit procedures create issues of transparency. This gives unscrupulous customs or police officers the opportunity to re-interpret the codes in his favor and use them as a tool to exert pressure on the user. Though informal fees are paid at every stage, the fees themselves are relatively small compared to the market value of the containers but add unnecessary stops, time and burden to businesses. Usually, the lowest mover of a good is tasked with making the payments and the informal payments are included in their tariff (e.g. truckers, expeditors, customs agents etc.). Exporters and truck drivers seek to make friends of the informal fee collectors in an effort to lessen the amount requested as payment. The thought is that a person

² Lisinge, Robert T. Trade Facilitation to Integrate Africa into the Global Economy. African Trade Policy Center. Economic Council on Africa. August 2004. Pg. 14

would never seek to over charge a friend. Not all bribes are paid in currency; some of the informal fees are paid in fruits and vegetables. Bananas and potatoes are particularly well received in lieu of cash.

The Figure 2.2 below represents the different pay points for a typical shipment:



Source: CARANA Research, Mali, June 2004

With corruption and graft so engrained in the Malian culture, it is easy to become numb to the payment of bribes and accept them as just another business cost. So accustomed to bribes are businessmen that the payments have diplomatically become known as “informal” or “facilitation” fees. Regardless of the semantics, the payments are a layer of corruption that represent another barrier and cost to trade. Even though these payments may seem petty in one or two time occurrences, they represent corruption at its worse because, while not deep, it is wide spread and thought to be acceptable since large sums of money are not involved. Collectively the fees can be a significant cost as well as a hindrance to the rapid transportation of goods.

Security. Theft and security are not major problems in Mali. Only rarely is a truck hijacked or cargo stolen. When theft does occur it is generally outside of Mali and specifically in Côte D’Ivoire, and to an almost insignificant degree in Senegal. In Côte D’Ivoire, shipments are relatively secure under the convoy system. Prior to the war, trucks could have entire shipments stolen depending on the goods carried. Since so many of the products exported are agricultural and subject to spoilage, insurance is cost prohibitive on most commodities. Therefore, when a shipment is stolen, the value of the lost cargo is unrecoverable.

International Security Considerations. Malian exporters are not yet aware that they will be facing, just like the rest of the developing world, a greatly complicated process of international trade as a result of security considerations that have been put in place in the post-September 11th world. In order to reduce the possibility of terrorists using the international transport system to smuggle weapons of mass destruction into their borders, many governments— particularly the U.S.— have imposed heightened security regulations that will challenge global trade and distribution networks. Important developments include:

- **24-Hour Advance Manifest Rule** - The new “24-hour advance manifest rule” is at the heart of this new effort to screen all cargo before it is loaded at the initial port of departure.

Carriers and non-vessel operating common carriers (NVOCCs) are required to provide complete details of the shipment, including name of shipper and consignee, complete commercial descriptions of the merchandise, accurate weight and piece counts, and container seal numbers posted on the loaded container. These cargo declarations must be transmitted to the Customs and Border Patrol offices at the port of unloading 24 hours before cargo is loaded aboard the vessel at a foreign port of origin. This new rule has potentially significant effects for ports that are congested and have limited storage space, like many West African ports or shippers that transport perishable commodities and do not use a proper cold chain.

- **C-TPAT Program** - In an effort to strengthen overall supply chain and border security, US Customs has also initiated a joint business-government program to enhance cooperation between border officials and international shippers. The “Customs Trade Partnership Against Terrorism” (C-TPAT) program recognizes that efficient and effective border cooperation relies on the ultimate owners of the supply chain, importers, carriers, brokers, warehouse operators and suppliers. Certification under the C-TPAT program will result in expedited cargo movements and a reduced number of inspections in the targeting process.

Security at the Bamako Airport is minimal and the airport needs to be equipped with large cargo scanners. The lack of adequate cargo security standards (US FAA and US TSA standards) could discourage airlines that could otherwise provide air freight services.

Labor. Labor unions at railroads and ports are active in Senegal and Cote d’Ivoire and strikes frequently impact the movement of goods through ports and transport corridors. Three months after taking over the rail concession, TRANSRAIL’s new management had to deal with its first negotiation regarding salaries and other compensation matters. TRANSRAIL’s management is trying to convince the labor unions to simplify the highly complicated compensation structure, which was based on seniority and social criteria at the expense of productivity-based salaries and incentives. Senegalese truckers have recently blocked Malian cotton trucks on the road to Dakar, demanding that they would get their ‘fair share’ of this business.

Logistics Inefficiencies. Inefficiencies abound in the product flows of Malian goods. Perhaps none is more baffling than Malian cattle drives. With the consolidation point and market for cattle exports located in Ségou, cattlemen will literally drive their cattle by foot as much as 160 miles to Ségou. It is difficult to place a cost amount on the cattle drive because the cattlemen value their time at nothing. For them, there is no opportunity cost. It is also virtually impossible to determine what amount of shrinkage occurs in cattle that are forced to walk 160 miles to then be trucked to market.

Even with the preferential treatment enjoyed by CMDT, cotton is only slightly less inefficient. There are seventeen gin mills in Mali, and five each are located in Koutiala, Fana, and Bougouni. Once consolidated, cotton may be transported as far as 120 miles to a gin mill only then to return via the same route for exportation. Even with this inefficiency, the gin mills seem to be well placed on maintained and navigable roads. Adding to logistics costs are the storage requirements. Currently there is more than 100,000 MT of Malian cotton in warehouses in Abidjan awaiting purchase and/or shipment.

The inefficiencies of transporting Mangoes have resulted in significant waste. The highest quality mangoes are delivered by air freight however, unless the producer is located near the

Bamako airport, air freight is not an option. Delivery to the port of Abidjan or Dakar by non-refrigerated truck results in 70 percent spoilage of the fruit. On the other hand, mangoes transported by refrigerated truck to Abidjan's specialized fruit docks may remain fresh for up to two months. The railway has improved the quality of mangoes by reducing waste from spoilage. Even so, the logistical deficiencies in packaging mangoes into a 40' container will result in 10 percent of the boxes (500 of 5,000 boxes) being crushed in transit.

EU documentation requirement a high barrier for horticultural exporters. Institutional and retail customers in developed nations are increasingly demanding that their products meet internationally-accepted codes of conduct pertaining to technical, environmental, and social standards in the areas of human rights, fair labor practices, environmental management, and food safety/hygiene. The E.U. regulators monitor food imports tightly and impose strict documentation requirements to protect against the use of banned antibiotics, salmonella and other diseases. The new EU regulations regarding traceability are likely to impose an insuperable burden on small Malian exporters of mangoes and other fresh horticultural products, who get their supplies from a variety of small collectors and small producers.

Weak Agricultural Policies. While it is often said that Mali is one of the poorer countries in the world, it is rich in natural resources and its agricultural potential can be further developed. Cotton is the commodity given the most attention by the government and receives preferential treatment. However, cattle and mangoes are produced in large quantities, but receive little government support for their exportation. As a result, both are subject to unnecessary amounts of spoilage and waste. There is an insufficient collaboration with producers, and a lack of commercial understanding.

Cattle, for example, is viewed as prestigious and therefore sold only as needed with no thought given to maximizing margins in unit cost. In addition to an improved export policy the government may engage in commercial farming education to help make the transition from family run farms to commercialism. The move to commercialism may prove challenging because of certain family social aspects ingrained in Malian culture. Additionally, an easing of tariff requirements for second hand and after market agricultural machinery could create an industry that otherwise doesn't exist. Credit is also non-existent for cattle producers as they have a poor history of repayment. When the cattle arrive in Abidjan after a three day trip, cattle are sold on credit to slaughterhouses over a week to two week period. Half of the credit amount will be paid by the slaughterhouse within one to two weeks following the credit sale. With a lack of payment enforcement mechanisms, cattle producers may never recover 10-15 percent of their credit due. This un-recovered debt represents the greatest logistical cost.

The specific government policy with respect to the promotion of mangoes has yet to be articulated. There is considerable help from international donors and an association has been created for the specific purpose of promoting Malian exports.

While inadequate agricultural policies may not directly impact the movement of goods, the lack of a coherent policies toward key agricultural exports can impact the supply chain coordination necessary to not only ensure the rapid and efficient export of goods or raw materials, but also the rapid and efficient movement of key production inputs.

SECTION 3: TRADE LOGISTICS AND TRANSPORTATION COSTS

Through the collection of data for the relative cost of trade services, it is possible to pinpoint specific problem areas, and prioritize opportunities for action. The following section explains the methodology and findings of a benchmarking cost study performed to analyze the relative competitiveness of Malian transportation and logistics services for key export products.

C. METHODOLOGY

The following steps were performed:

- i. The scope of analysis was defined: International trade transactions that represented the commodities, routes, and transactions were defined;
- ii. Sources of data and potential interviewees were identified;
- iii. Actual costs and transaction details were captured through interviews, document research, site-visits and follow-up; and
- iv. Data analysis and findings recorded.

C.1. DEFINE SCOPE OF ANALYSIS

C.1.1 Commodities Selected:

Commodities were selected based on the following criteria:

- A history of exportation, or evidence of a growing interest in exporting that commodity. For instance, international exports and regional exports are considered.
- Heavy volumes of trade.
- Coverage of the most popular modes of transport.
- Reasonable coverage of the most popular trade lanes and trading blocks.

In addition to these criteria, export volumes were examined to identify where prolonged price pressure was evident. This was expected to explain if, and how, suppliers could improve profitability by driving innovation in post-production processes—such as transportation, logistics, packaging and marketing.

Based on these criteria, cattle, cotton, gold, livestock and freight-all-kinds were selected for analysis for the following reasons:

Cotton:

- Cotton is Mali's second leading export after gold in value and leading export in terms of export volume. Mali is normally the largest cotton producer in the Franc Zone.
- Cotton is exported internationally transiting through different transit countries, transport corridors and modes of transport.

- Cotton is Mali's most formalized and organized agricultural product, with a great deal of public and private attention to the entire supply logistics chain when compared to other products.
- Trade preference agreements such as the African Growth and Opportunity Act (AGOA) provide an opening for the emergence of a regional textile and apparel industry. With Malian cotton recognized as being of high quality and with low production costs, Malian cotton could become an integral part of the supply chain.

Cattle:

- Cattle represent Mali's most important regional export and livestock production accounts for around 20 percent of GDP in an average year.
- The cattle industry is an important source of income in northern Mali and around the Niger inland delta.
- Since the overall value of the cattle as a commodity is based on weight and quality, shipping conditions (live and slaughtered) impact these factors.
- The cattle sector is both a formal and informal sector. Government statisticians estimate that actual numbers of cattle exports may be two to three times greater than what is officially recorded.

Mangoes:

- Although they represent only a tiny portion of total export value, mangoes have a strong export growth potential grounded on comparative advantage, and excellent raw product quality. The growth of the sector could have a significant impact on employment and incomes.
- As a perishable horticultural commodity, the export of mangoes raises a number of issues and challenges related to packaging, storage, spoilage during transit, and speed-to-market. Other perishable horticultural commodities could benefit from this analysis.
- Mango exports involve several modal alternatives or multi-modal alternatives: road transport for exports in the subregion, road/air, road/maritime or road/rail/maritime for exports to European markets.
- The development of mango exports is an integral and important part of the USAID strategy in Mali.

Gold:

- Mali is the second exporter of gold in Africa. Gold represents a key source of export earning and government revenues, and is the primary recipient of foreign direct investment. Gold earnings have large impact on Mali's balance of payments
- The formal gold sector employs more than 3,000 Malians.
- Mali is one of the lowest cost producers of gold and has a comparative advantage.
- Gold is indicative of one of the few high-value commodities exported by air (diamonds, gems, etc.).

Freight all Kinds (FAK):

- Analyzing the shipment of freight all kinds allows for a comparison of various transportation costs across countries, and to some extent provides a baseline for the export of goods.
- In the emergence of a new Malian export product (such as manufactured goods), FAK transport costs would be a logical place to begin estimating transport costs for that good.

C.1.2 Scope of Supply Chain Activities Selected:

The analysis has focused on transportation and logistics costs from the producer to the first landed point, in the country of consumption. The extended supply chain was not considered beyond that point to reduce the inherent complexity of analysis and maintain consistency between the country studies. Supply chain flows across various commodities vary greatly, and make them unsuited for comparison. Even with a single commodity, product flows travel numerous paths in transit from importers to their customers with multiple value added steps, which makes comparison difficult. Following each step of every product would require extensive and time-consuming research, which is beyond the scope of this study.

Therefore, transportation and logistics costs upstream from the producer are included in the importers' landed cost, and are not isolated specifically for this study. Within the defined area of focus, landed costs for different export commodities was examined from the view of the overseas importer. Although this method provides a convenient and common tool for measurement, commodities being delivered FOB required an additional step to identify the prevailing rates for international carriage.

Selected Trade Routes and Transportation Modes:

The most widely traveled trade routes were selected for analysis. While the greatest purchasers of Malian products are European countries, cotton is shipped primarily to Asian and Near-Eastern countries (China, Thailand, Malaysia, India, Pakistan, Vietnam) where European textile mills are located. Some cotton is transported directly to Europe; primarily to Italy. Fruits and vegetables are exported primarily to Europe, and gold is flown out of Mali to European destinations. The analysis reflects coverage by multi-modal transport (land and ocean) and air transport for gold and mangoes.

MODE \ DESTINATION	EUROPE	ASIA/ASIA PACIFIC	LATIN AMERICA, AUSTRALIA
Air	◆		
Multi-modal (Land + Ocean)	◆	◆	◆

Wherever feasible, the costs of logistics and transportation alternatives were examined. This includes alternative routes to the same destination, or the use of alternative transportation modes or providers.

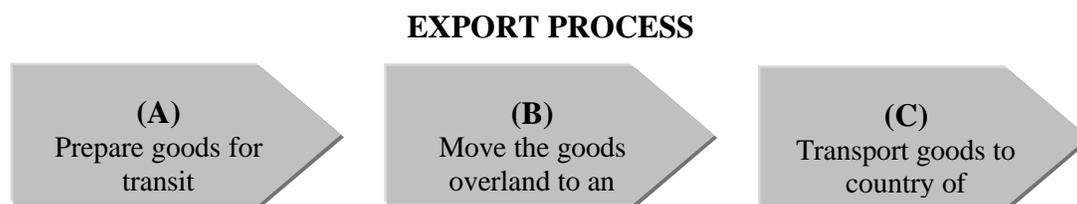
C.1.3 Candidates Selected for Analysis:

The final candidates selected reflect the route, commodity and mode considerations outlined in the selection criteria provided above.

Product	Origin	Transit Country/Port	Final Destination
Agricultural Goods Traveling by Truck			
Cotton	Sikasso, Mali	Abidjan, Côte d'Ivoire	Shanghai, China; Lam Chabang, Thailand; Ho Chi Minh City, Vietnam; India
Cotton	Sikasso, Mali	Lomé, Togo	
Cotton	Bamako, Mali	Dakar, Senegal	
Mangoes	Sikasso, Mali	Abidjan, Côte d'Ivoire	Netherlands
Agricultural Goods Traveling by Rail			
Cotton	Bamako, Mali	Dakar, Senegal	Shanghai, China; Lam Chabang, Thailand; Ho Chi Minh City, Vietnam; India
Air Cargo Exports			
Gold	Bamako, Mali	-	Switzerland
Mangoes	Bamako, Mali	-	Paris, France
Regional Exports			
Cattle	Ségou, Mali	-	Abidjan, Côte d'Ivoire
Freight All Kinds (FAK)**			
FAK	Bamako, Mali	Abidjan, Côte d'Ivoire	Santos, Brazil; Rotterdam, the Netherlands; India; and Shanghai, China.
FAK	Bamako, Mali	Dakar, Senegal	
FAK	Bamako, Mali	Tema, Ghana	
FAK	Bamako, Mali	Lomé, Togo	

C.1.4 Cost Definitions and Categories

The Team developed a comprehensive framework of cost analysis to capture information. The expectation was that costs would not always be known, available or shared in the field, so a variety of methods to pinpoint or estimate only the most relevant information was applied. For instance, cost data was sometimes provided so that to breakdown the sub-components of cost was impossible. The overall objective was to develop an accurate picture of international trade and logistics issues for Mali, and this was the guide for data analysis. An activity-based approach to examining transportation and logistics costs was applied. Activities in the export process were broken down into three primary steps, which demonstrate the process of goods moving from the producer to the buyer. These costs are discussed below.



A) Prepare goods for transit: Pre-shipment activities, which include the consolidation, packaging and storage of a product, transportation to the exporter and any documentation, are an important determinant of logistics costs. Some goods require an elaborate and inefficient consolidation process. Packaging can be an important aspect of the freight cost in the pre-shipment step. Packaging can reduce waste that would otherwise occur, especially for certain commodities in transit, such as mangoes. Some goods are packaged prior to land transportation

(cotton bales), while others are moved “as is” for refining (gold) or slaughter (cattle). Others, such as mangoes, may be packaged prior to land or air transportation, or transported in bulk for later packaging or processing.

B) Move goods to an international port: This includes the transport and logistics costs prior to international shipment. Moving goods to an international port involves transporting the goods by land to one of six possible foreign port terminals where the goods will make their final transit. In the case of this study, includes not only the cost of movement of freight, but also warehousing, handling, port costs, security fees, customs documentation, etc. Costs of preparing documentation and trucking make up the bulk of the cost in this category. It is important to note that documentation is prepared twice on some commodities since Malian goods can only make their final transit after crossing a foreign border. Informal fees can be significant and add time and inefficiencies to the transportation process.

C) Transport goods to country of destination: The last step involves international shipment or ‘move’ of goods. At times these costs such as insurance, handling, port charges, service charges, etc., may be included in the overall freight rate, or separately in other cases on the service providers and particular logistics chain.

These three main steps take into account the majority of the direct costs associated with a typical international trade transaction. In addition, there may be additional costs associated with indirect factors, such as waste.

C.2. SOURCES OF DATA

Actual costs and transaction details were captured through interviews, document research, site-visits and follow-up. The TESS Team concluded face-to-face interviews with more than fifty entities throughout Mali, Côte d’Ivoire, Senegal, and Ghana. Interviews were typically 1 hour and frequently involved telephone or personal visits to follow-up. The following agencies and entities formed part of the interview mix:

Private Sector

- Manufacturers & Producers
- Ocean Shipping Lines
- Logistics Service Providers
- Port Operators
- Trucking and rail companies
- Consolidators
- Freight Forwarders
- Air Courier Service Provider
- Pre-shipment Inspection companies
- Gin Mills and Storage Facilities
- Warehousing companies
- Chamber of Commerce
- Shipper’s association
- Truckers Association

Public Sector

- Office of the President
- Ministry of Transportation
- Customs
- Ministry of Infrastructure
- Ministry of Livestock and Fishing
- Ministry of Agriculture
- Office of Statistics (DNSI)

International Community

- UNCTAD
- World Bank
- European Community
- USAID / Trade Mali
- French Trade Commission

D. COST FINDINGS

D.1. TOTAL COSTS

The overall costs of transportation and logistics for the basket of commodities varied widely, with differences apparent in the commodity being exported, the destination, modes of transportation used and route. The total costs of transporting selected Malian exports, as a percentage of market value, ranged from less than one percent for gold, 13 to 19 percent for cotton, to approximately 74 percent for mangos shipped by air. In most cases, a large portion of the total logistics and transport cost to exporters occurs within Mali and/or the port country prior to international shipment and ocean freight costs, exceeding 60 percent from a number of goods and routes.

D.1.1 Cotton

Cotton is exported to international destinations via road, rail and sea modes of transport. The export of cotton generally involves the following steps:

1. CMDT contracts drivers collect crop. Trucks are often overloaded and not always covered to protect the product from the elements.
2. Cotton is delivered to gin mills (Koutiala, Bougouni, Fana are the largest), where the fiber is ginned, compacted, and bundled in bales of approximately 225 kg. Cotton is often stored in the open air to await exportation.
3. Customs documentation is prepared.
4. Cotton is transported overland to one of four ports — Dakar, Abidjan, Tema or Lome. Cotton exported via Dakar is primarily shipped by rail, trucks are used to transport to other ports. Trucked cotton is sometimes transported in sealed 40 foot containers and at other times transported in open trucks covered by a tarp. Over 87 percent of cotton exports are moved by truck.
5. Cotton is shipped to international destinations via maritime transport.



Cotton Baling Process



Cotton Storage Process (At Gin Mill)

The total costs to export cotton ranged from approximately \$3,900 to \$5,100 per 40' container (20 tons). This represented a large number of different destinations and logistics requirements, starting from the producer all the way to the buyer. Figure 3.1 below shows a sample of cotton transportation costs to Shanghai, China. Based on cost, exporting cotton through Dakar (rail) is the cheapest alternative. As mentioned earlier, however, issues of reliability of rail services, congestion and capacity at the port of Dakar and other potential sources of delays somewhat outweigh lower transport costs. While transit through Lome is the most expensive export route, the Ivorian crisis and overflow from Dakar make it a viable route for exporters.

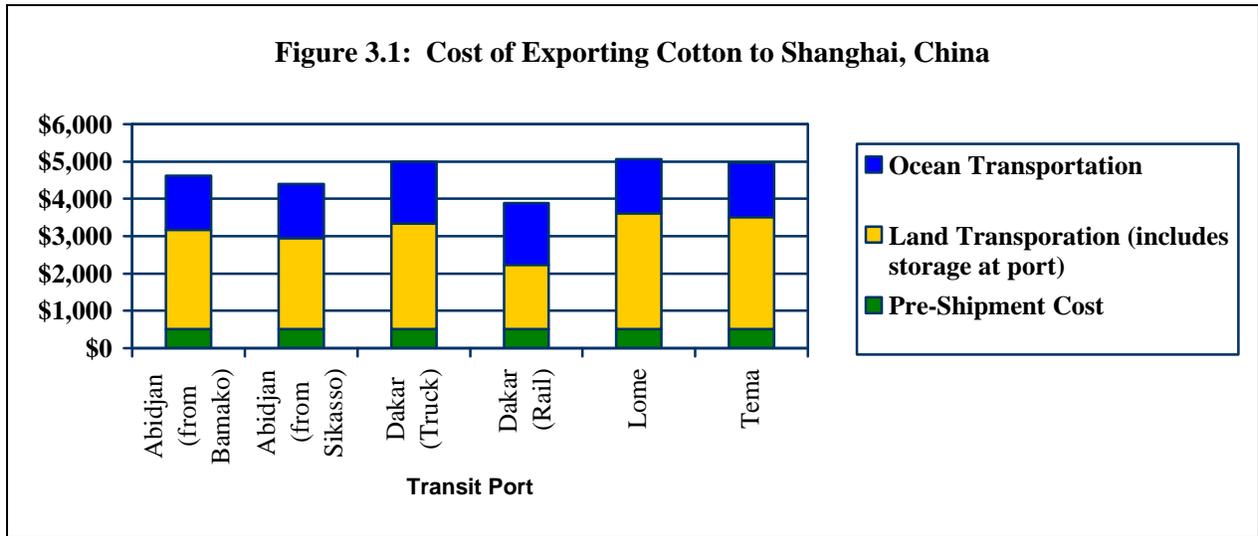
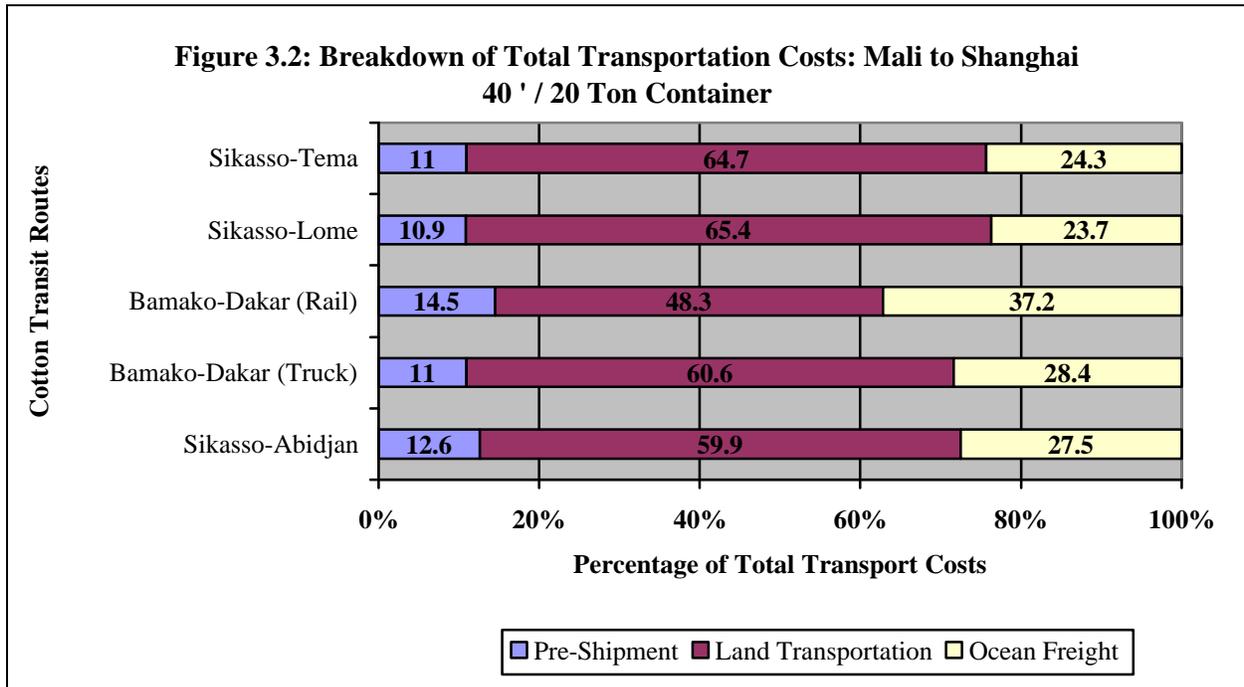


Figure 3.2 shows how the transportation costs are broken down into pre-shipment, inland transportation and international transportation (ocean freight).



As the graph shows, pre-shipment costs for cotton are relatively inexpensive, ranging between 14.5 percent of the total cost of transport. Pre-shipment costs, which are approximately \$515 for a cotton shipment, are broken down into consolidation (66 percent), ginning and warehousing (30 percent) and the cost of export documents. Inland transportation accounts for the highest proportion of the transport costs, highlighting the disadvantage of a landlocked country like Mali, in which case it accounts from 48 and 65 percent of total costs. Compared to other inland alternatives, exporting via rail to Dakar has the lowest land transportation cost as a proportion of total transport cost. When exporting to Shanghai, the inland move through Dakar is 30 percent cheaper than the inland move from Sikasso to Abidjan. Land transportation costs are highest by cost and proportion through Lome and Tema, respectively. Ocean freight was consistently 24 to 28 percent of the total cost, regardless of the final Asian destination (except in the case of Dakar by rail).

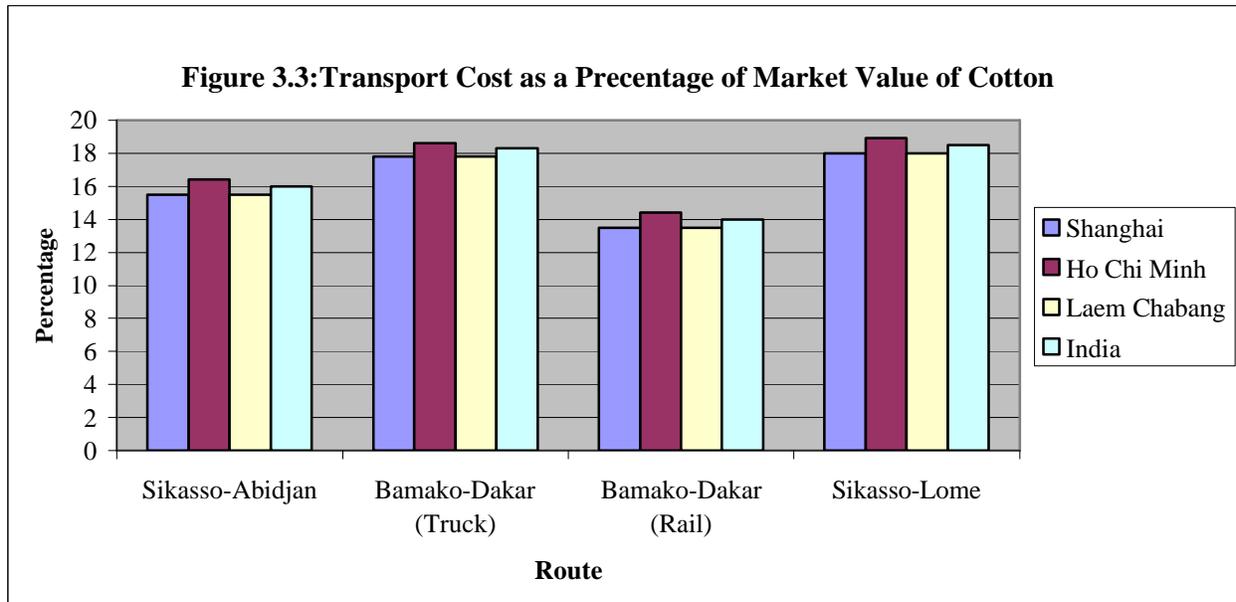


Figure 3.3 shows that transportation cost as a percentage of cotton's market value ranges between 13.5 percent and 18.9 percent, when shipped to various Asian destinations via key Malian transport corridors. Destinations include Shanghai, China; Ho Chi Minh City, Vietnam; Laem Chabang, Thailand; and several potential destinations in India (Madras, Cochin, Nava Sheva and Tuticorin).

Key Cost Drivers / Issues

A number of highlighted issues identified during the course of the study, which are specific to the export of cotton and impact the overall cost of transport include:

- The crisis in Cote d'Ivoire provides an opening for the utilization of more transport corridors, enabling exporters to 'port shop' and drive competition in transport corridors. However, as conflict ends, higher overall transport costs and infrastructure and capacity issues in some regional ports (e.g. Lome, Dakar) will limit alternatives on a cost basis.

- Transport of cotton (particularly through Cote d'Ivoire is traditionally high. Although the development of a convoy system to Abidjan has reduced informal payments by 62 percent, bribery remains a significant cost component.
- While CMDT prefers cotton to be transported in sealed containers, the lack of sufficient trucking services and limited availability of containers makes this impossible.
- Profiteering by service providers has increased for goods exported to Abidjan and Lome/Tema since Cote d'Ivoire crisis.
- Due to inadequate port capacity, approximately, 100,000 tons of cotton are in storage in the port of Abidjan.

D.1.2 Cattle

The export of cattle to the regional market (Abidjan) generally involves the following steps:

1. Cattle are driven (by foot) to market, primarily in Segou. The cattle drive may extend 100 miles or further.
2. Cattle are loaded onto trucks (32-35 head per truck). To reduce individual costs, multiple herders will use the same truck, splitting costs on a per-head basis.
3. Customs documents are procured in advance or obtained at Sikasso at ten times the cost paid prior to the conflict in Cote d'Ivoire.
4. Cattle are exported primarily to the Abidjan cattle market, stopping once to graze along the way during a 3-4 day trip.
5. Cattle are sold within one to two weeks after arrival in Abidjan. Nearly all cattle that reach Abidjan are sold.
6. All cattle are sold on credit to slaughterhouses and paid within one to two weeks following butchering. At times, 50% of payment is withheld for an additional month or longer.

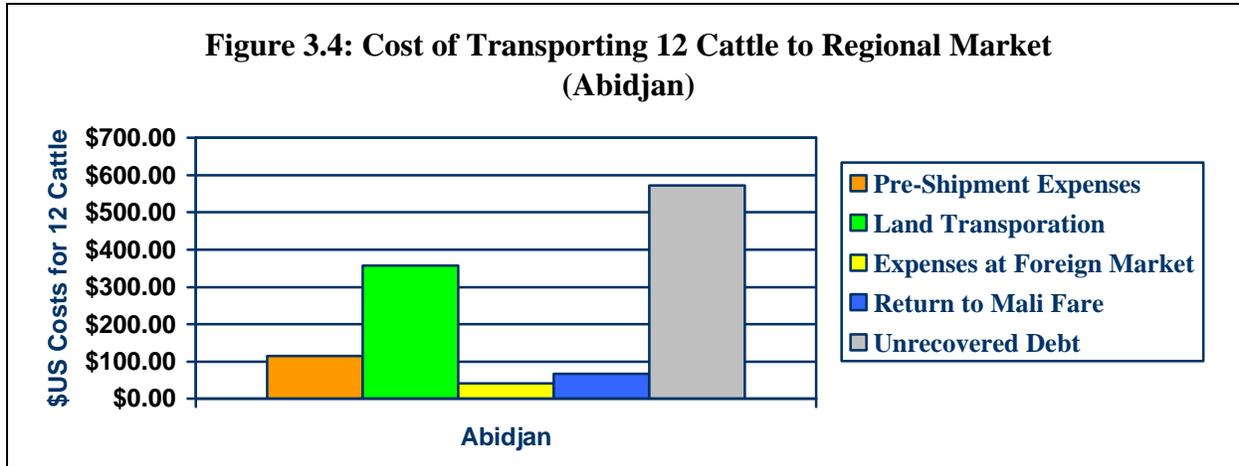


Cattle Driven to Ségou
(This photo was taken 160 miles from Ségou)

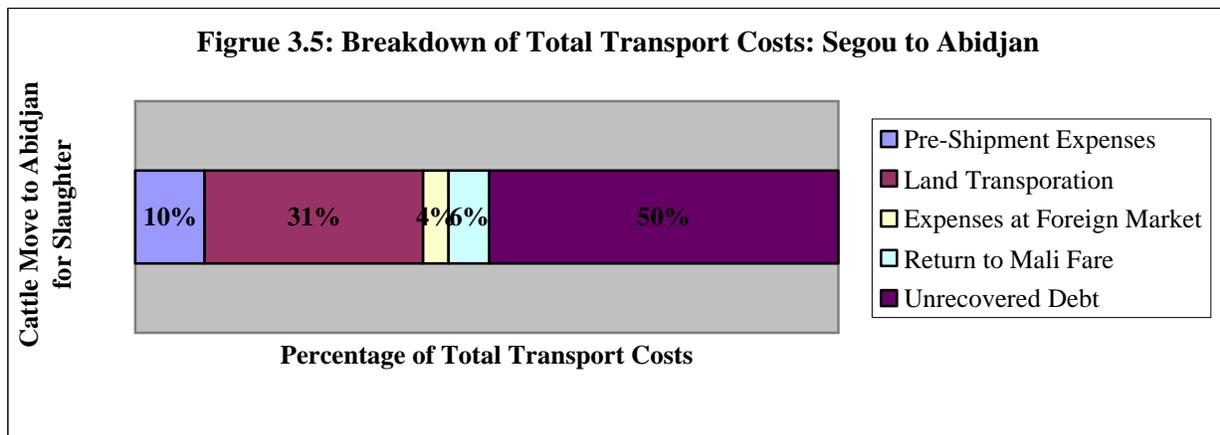


Cattle Market in Ségou

Total costs for the movement of cattle were based on the assumption that a dozen cattle earn a market value of approximately \$5,625³. Calculating the cattle transport costs is difficult, since cattlemen do not associate a cost to the travel time involved in cattle drives and there is no method to calculate the shrinkage of cattle (and thus the overall loss of value of the animal) resulting from the long drive on foot. Because of this, estimating pre-shipment costs outside of the preparation of export documents (\$114) is particularly difficult. As such, the study only considered those costs that are measurable. Without calculating time expended in the cattle drive, or shrinkage during the drive, total transportation costs for 12 cattle amount to approximately \$1,150. A breakdown of the costs is included in figure 3.4 below.



Note that one of the largest cost components is un-recovered debt. With the lack of payment enforcement mechanisms or letters of credit within the cattle market, the TESS Team found that 10-15 percent of total value of the cattle is not recovered by the exporter (cattlemen). As Figure 3.5 shows, this can account for as much as 50 percent of the overall transaction costs of moving cattle for export.



Calculable transport costs account for around 20.5 percent of the market value of the cattle. If the cattleman receives full payment for cattle sold in the Abidjan market, the cost of transport can drop to approximately 11 percent of the market value. Since these ratios do not include time

³ Based on estimates from Trade Mali representatives, prices at the Segou market and the cattle market in Abidjan.

and shrinkage costs attributed to the cattle drive, one could assume that the actual proportion is significantly higher.

Key Cost Drivers / Issues

Issues identified during the course of the study that are specific to the movement of cattle and impact the overall cost of transport include the following:

- Shrinkage during the cattle drive reduces overall value of the commodity. Greater value could be gained at the market if cattle were transported from their origin.
- Lack of enforcement mechanisms for payment of cattle sold on credit places significant burden on cattlemen.
- Mali could capture more added-value by slaughtering cattle at markets in Mali and then shipping the meat to the regional export markets. This is difficult due to the lack of an adequate cold chain in both the trucking and rail sectors.
- Trucking services for cattle exports becomes more expensive from October to December when the cotton harvest begins.
- Trucking service industry inefficient and costly due, to lack of uniformity and organization, aged fleet, and poor maintenance.

D.1.3 Mangoes:

Mangoes are generally exported to Western Europe (e.g. France and the Netherlands) via air through Bamako or via road, rail, sea/air through Ferke and Abidjan. Generally the quality (and thus value) of the mangoes shipped by air is significantly greater than the mangoes shipped by land. The export of mangoes via air involves the following steps:

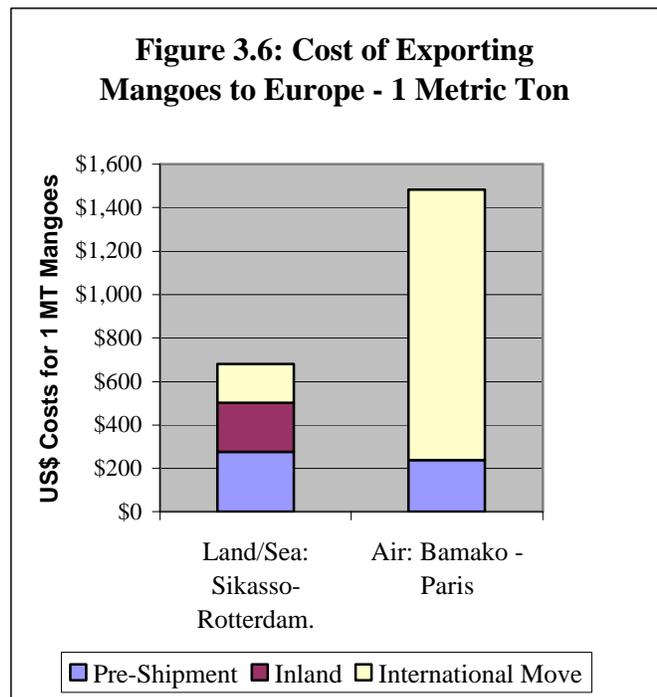
1. Producers sell mangoes to collectors, who deliver the fruit to the exporter. The exporter pays the collector for 'good' fruits only and returns rejected fruit to collectors, who resell them to local markets. At the time of the study, the exporter paid 175 FCFA/kg (\$0.33/kg) for 'good' fruits. This payment includes a marginal transportation cost, borne by the collectors.
2. The exporter performs post-harvest operations (e.g. sorting, cleaning, packaging). Mangoes are packaged by hand into 5 kg cartons.
3. The exporter ships boxes to the Bamako airport by truck.
4. Mangoes are shipped via Air France to Paris Charles de Gaulle Airport (CDG)
5. Upon arrival at Paris CDG Airport, a French freight forwarder (Sotracom) takes over. The shipment is trucked to the French buyer, or shipped by air or truck to another European destination.

The export of mangoes via Abidjan by rail (generally from the Sikasso region) generally involves the following steps:

1. Collectors bring fruits to the exporter's packhouse (such as that of Tropical Expressions of Mali (TEM), an Ivorian-Malian joint venture). At the time of the study, producers received an approximate price of 140 FCFA/kg (\$.267/kg). This payment includes a marginal transportation cost, borne by the collectors.
2. TEM leases I-cube containers, together with cooling generators, from a leasing operator located in Abidjan. The empty containers come from Abidjan to Sikasso by rail (until Ferke) and then road.
3. TEM performs all required post-harvest operations, cleaning, selection, sorting, phytosanitary treatment, and packaging in cartons of 4 kg. The boxed mangoes are then put on pallets, loaded into containers and refrigerated. Containers generally hold up to 5120 boxes, or 20.5 tons.
4. Containers are shipped by road between Sikasso to the Mali-Cote D'Ivoire, through to Ferke. As in cotton, a convoy system is used for security and to reduce informal payments. Transshipment of containers at the Ferke Sitarail station.
5. Containers are loaded on to rail cars in Ferke and shipped to Abidjan on the Sitarail line.
6. Containers are loaded onto ships at the port of Abidjan. If necessary, cold storage is available at the port.
7. Containers are shipped by sea between Abidjan to Antwerp or Rotterdam on an express specialized fruit ship
8. Upon arrival, the European importer takes over.

It should be noted that in addition to the above-mentioned export processes, which involve refrigerated containers, some mangoes are also shipped in non-refrigerated trucks from Sikasso to Abidjan. The land trip usually takes around a week, as opposed to 2 days when using rail. The costs of this type of transport were not considered, as it is a sub-optimal means of exporting mangoes, due to the perishability of mangoes.

The total costs to export a ton of mangoes ranged from approximately \$680, when shipped by land and sea⁴, to \$1,485, when shipped by air. Figure 3.6 shows the cost of transporting average quality mangoes (valued at approximately \$1079 per ton) by land from the Sikasso region (by road and rail) to Rotterdam via Ferke and Abidjan, and the higher quality (valued at approximately \$2007 per ton) mangoes shipped by air. The export of mangoes by air is significantly more expensive (a difference of \$803), but the higher costs are compensated by the higher market value of the quality mangoes. The lower

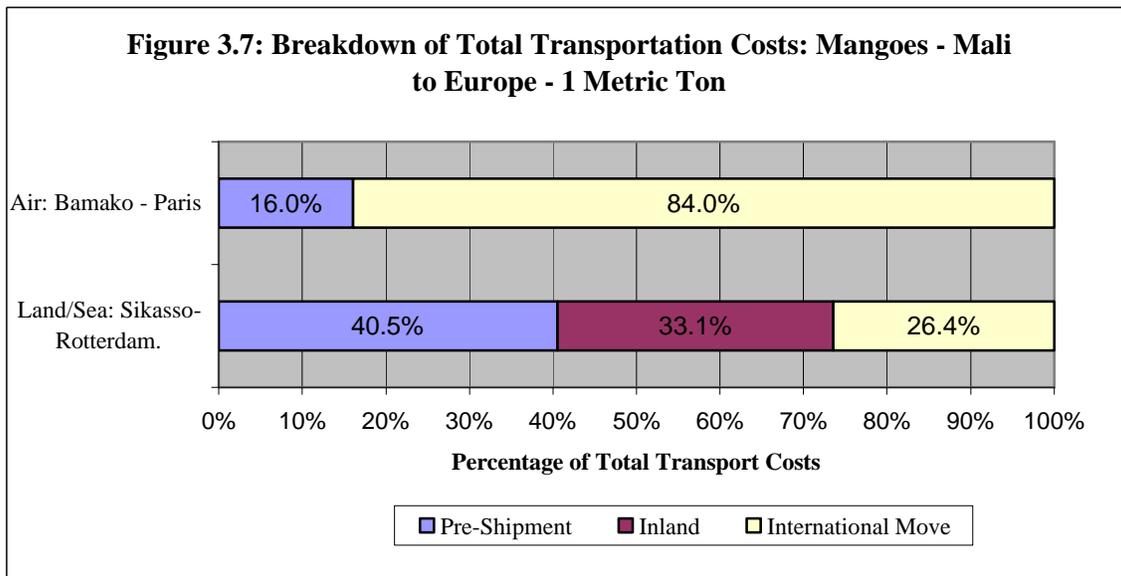


⁴ Cost information on the land and seas route provided by Trade Mali consultants.

cost of transporting by land and sea can also be explained by the fact that this mode of transport allows mangoes to be shipped in bulk / greater volume. As noted earlier, airlifted mangoes are exporting in shipments of 2.5 tons, whereas mangoes shipped by land and seas are moved in containers with a 20.5-ton capacity.

It should be noted that neither of the cost samples include the economic costs of possible spoilage and length to market. If one were to consider that it takes up to 17 days to move mangos by land and sea (1 day for loading, 2 days for the land shipment to Abidjan, and 8-14 days on the sea), compared to 1 or 2 days for the airlifted mangoes, the difference between the two modes would be reduced. Furthermore, when one considers that the rate of spoilage and crushed mangoes on the land route can reach highs of 10 percent (the rate is dropping with improvements in packaging), the economic cost of the land / seas mode of transport could be higher than represented in figure 3.6.

Figure 3.7 shows how the transportation costs are broken down into pre-shipment, inland transportation (road and rail) and the international move (air or sea)



As the graph shows, airfreight is clearly the highest cost component for mangoes airlifted from Bamako. If mangoes were shipped in volume via dedicated air-freight flights, this component could be reduced. As a percentage of total cost, pre-shipment expenses for airlifted mangoes is small. In real terms, however, the pre-shipment costs are similar between the two modes of export — approximately \$230 for airfreight and \$238 for land/sea freight. These costs are attributed to post-harvest activities, particularly packing the mangoes into boxes, cartons and pallets (69 percent), as well as warehousing (21 percent) and labor (10 percent). These post-harvest activities are critical to maintaining the value of the mangoes in distant markets.

Inland transportation accounts for a substantial portion of the total transport costs — approximately one-third. In reality, this proportion is be greater when one considers that the cost of the sea freight component is inclusive of the rental of the container throughout the land journey. The cost of the rail segment, which includes the transfer of goods from trucks to

railcars, accounts for the largest share of inland costs (approximately 35 percent). The road segment accounts for 20 percent of the inland costs, as does expenses accrued during the land route. This includes not only formal costs (e.g. customs and documentation), but also informal fees (estimated at around \$30) and convoy costs (estimated at around \$100.) The inland cost also includes the rental and fuel for the cooling generators (approximately 11 percent of inland costs) and handling and forwarding at the port of Abidjan (approximately 12 percent). Similar to cotton, the ocean shipment accounts for approximately 26 percent.

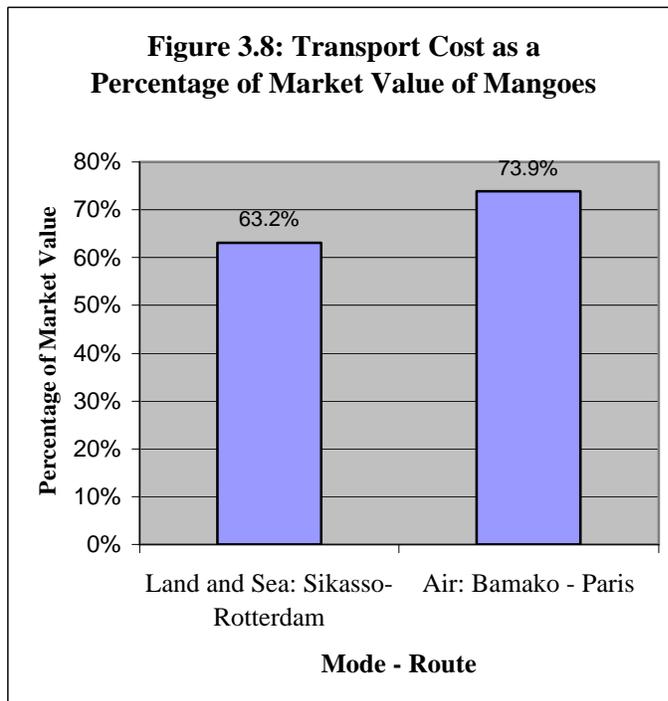


Figure 3.9 shows that the cost of transporting mangoes, as a percentage of market value, is higher than cotton, cattle and gold, ranging from approximately 63 percent for mangoes shipped by land and sea, to around 73 percent for airlifted mangoes. This shows that differences in the costs of transport from a proportionate view drop significantly when considering the higher value of airlifted mangoes. If one were to consider the spoilage rates attributed to the land / sea route, these differences are further reduced. For example, assuming 5 percent spoilage during the land/sea journey, transport costs as a proportion of market value increase to 66 percent. In the case of 10 percent spoilage, the ratio increases to approximately 70 percent. Add in the

extra time cost of the land and sea journey, the differences between the two modes are further reduced (yet difficult to calculate). Despite these added costs, the land and sea mode will likely remain the most economical route for most exporters, due to the fact that 1) air shipment is only economically viable for the highest value fruits; 2) moving mangoes from the Sikasso region to Bamako will add costs; and 3) land and sea transportation allow for much higher export volumes in the absence or greater air freight capacity.

Key Cost Drivers / Issues

Highlighted issues identified during the course of the study that are specific to the export of mangoes and impact the overall cost of transport include:

- Mali's mango sector lacks a reliable cold logistics chain. The supply of refrigerated containers is limited. Whereas mangoes stored in reefer containers may stay ripe for as long as two months, as much as 70% of mangoes transported in non-reefer trucks rot in transit.
- Due to the lack of cold chain storage along the Dakar corridor, transport options are limited to airfreight and road/rail to Abidjan. With a developed road/rail/sea chain to export mangoes, the Dakar corridor could provide a competitive alternative.

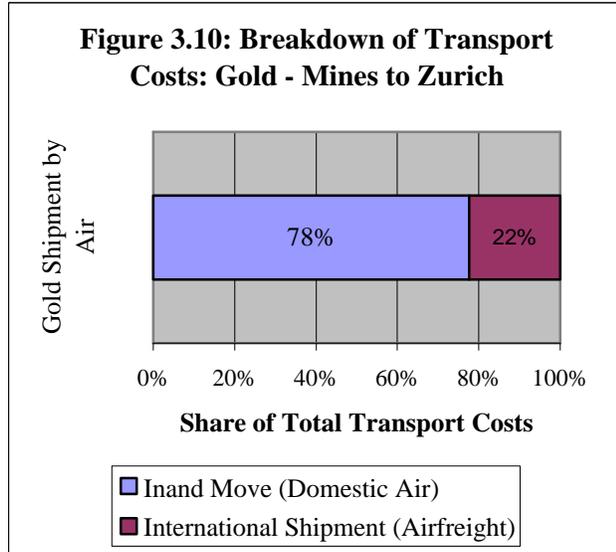
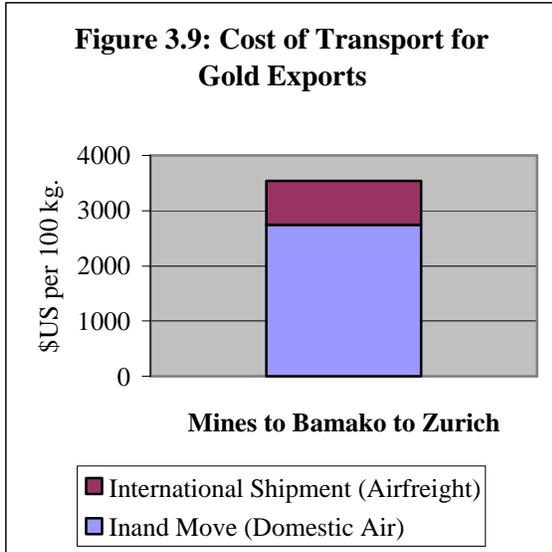
- Deficiencies in packaging mangoes in 40' containers will result in 10 percent of the boxes (500 of 5,000 boxes) being crushed in transit.
- At the present time, some of the large integrated logistic services providers (Maersk, SDV) and many Malian small freight forwarders are reluctant to be involved in the export by land and sea of perishable such as mangoes, until: the situation in Cote d'Ivoire improves; TRANSRAIL's rehabilitation has sufficiently progressed and TRANSRAIL is in a position to guarantee a reliable service with refrigerated containers; and a cold chain is operational. This further limits transport options for exporters.
- The lack of dedicated air freight puts mango shipments in competition for passenger cargo. In cases of limited capacity, passengers receive priority. Dedicated airfreight flights could not only reduce the per kilogram cost of shipments, but also ensure cargo space for exporters.
- Mango producers are not sufficiently organized to convince Air France or other carriers to add dedicated air cargo capacity throughout the season. While a small producers association (APROFA) receiving assistance from donors could provide this capacity, it could be strengthened and expanded to reach threshold export volume to reserve dedicated cargo freighter (16 T per week).

D.1.4 Gold:

Gold is exported in an unrefined form to Europe by airfreight via Air France. Gold is generally exported through the following steps:

1. Once gold ingots are extracted, gold is flown domestically flown to Bamako from privately owned runways located at the gold mines. Flights from the mines average from 30 to 45 minutes.
2. At Bamako Airport, the gold is taken to a special secured safe under the Malian State police escort and security agents from a private security company approved by ICAO and RAGAAE, the Bamako cargo-handling agency. There are only two freight forwarders (including Capitole Transit) that are equipped with such gold safes.
3. Gold is flown to its final destination, typically Zurich. Prior 48 hours reservation is required and all risks insurance is mandatory. Once loaded in the belly pit of an Air France airplane, the gold is under the responsibility of Servicom, a specialized security company hired by Air France. Air France transports an average of 4 tonnes of gold per month.

In general, the total cost of exporting 100 kg of gold to Europe is approximately \$3,575. As Figure 3.9 demonstrates, this includes both inland move (domestic air) and the international move (air freight). Figure 3.10 shows that of the total cost of transportation, the cost of domestic air is the greatest, accounting for over 75 percent. As one would expect with a commodity with such a high value, the cost of transporting gold as a percentage of the market value is negligible, under one percent. It should be noted that these figures do not include a 3 percent ad valorem export tax levied against all gold exports.



Key Cost Drivers / Issues

Highlighted issues identified during the course of the study specific to the export of gold that impact the overall cost of transport include:

- Although the transportation of gold ingots by air does not pose any major infrastructural problem, the transportation of the raw material inputs, chemicals and fuels, as well as machinery, equipment and parts to gold mines does place a heavy burden of mine access road infrastructure.
- Most of the inputs and fuels for the Sadiola goldmine (which extracts 70-100 kg of gold weekly) come from Dakar or Senegal by rail to Kayes and are then transported to Sadiola by trucks. Given the rapid deterioration of the Kayes-Sadiola road, the Sadiola mine may experience shortages in fuel or other inputs and its operating efficiency may be affected.

D.1.5 Freight All Kinds (FAK):

Transportation costs of a container loaded with Freight All Kinds, which could be household goods, mixed manufactured goods, or various products were reviewed. Figure 3.11 presents the cost of exporting FAK from Bamako, through key regional ports—Abidjan, Dakar (rail and truck), Tema and Lome—to Shanghai, China; Rotterdam, Netherlands; Santos, Brazil; and Madras, India. Note that ocean freight to Rotterdam and Shanghai is the same.

While the overall costs vary depending on the final destination, differences are evident when comparing costs attributed to transit ports for a respective destination. In all cases, Abidjan and Dakar (rail) are the least expensive transit points (Abidjan is marginally less expensive). Transport costs via Tema and Lome cost approximately \$1000 more than the cheaper destinations, attributed primarily to higher land transportation costs.

Figure 3.11: Cost of Transport for Freight All Kinds (FAK) - 40' Container/20 MT

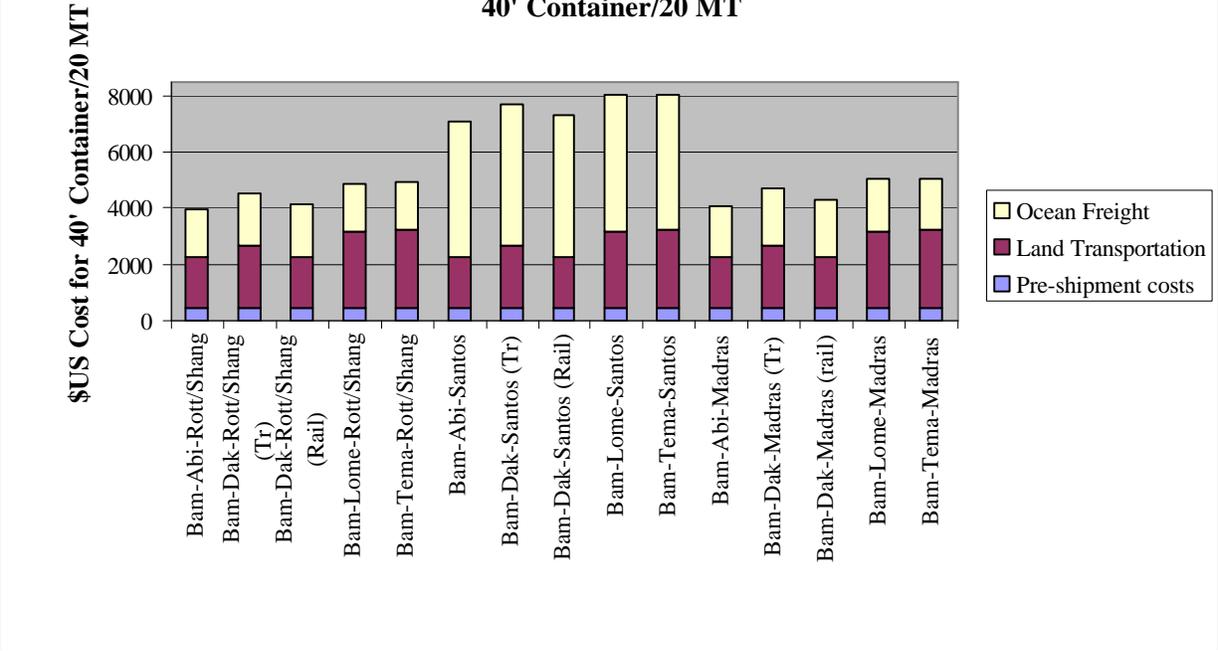
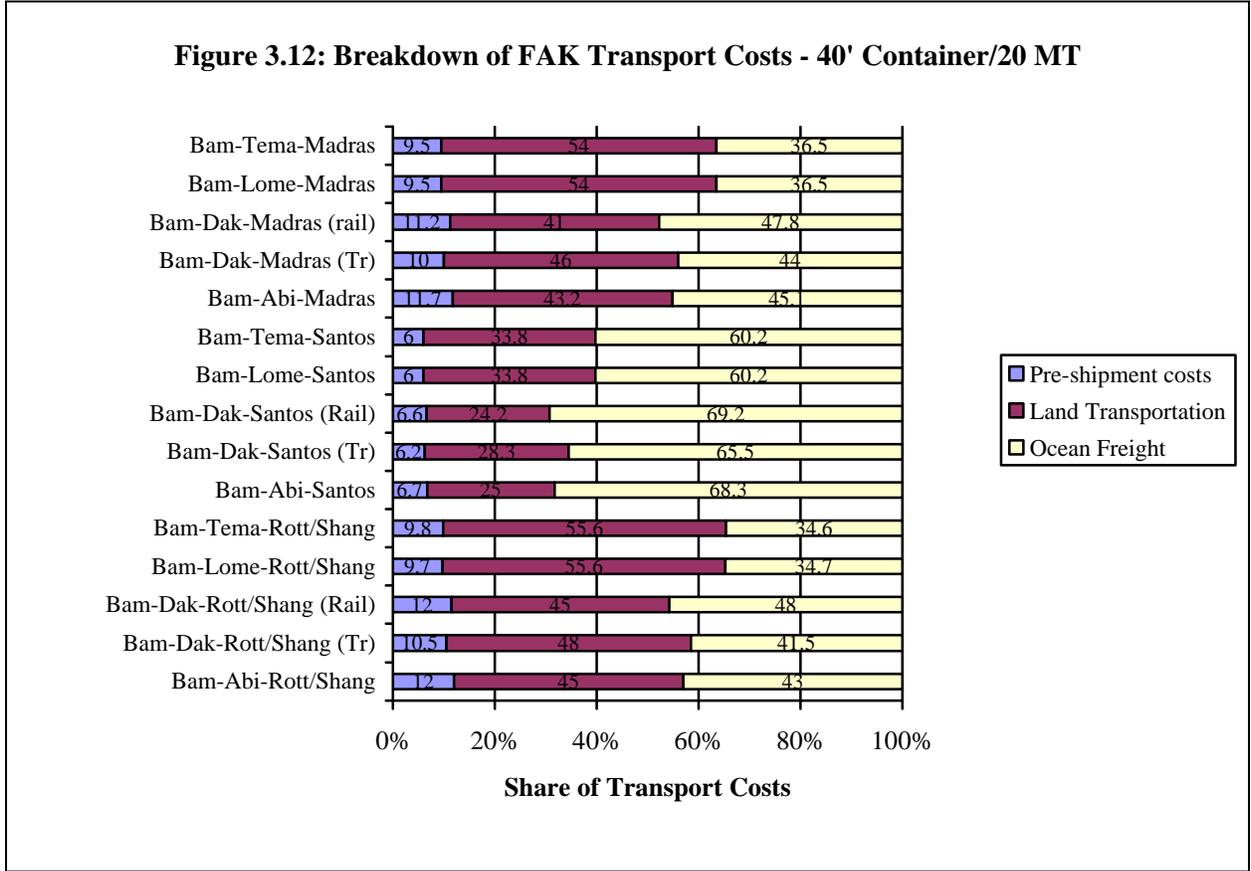


Figure 3.12: Breakdown of FAK Transport Costs - 40' Container/20 MT



As figure 3.12 shows, pre-shipment costs for FAK are relatively inexpensive when compared to other costs, ranging from 6 percent to 12 percent of the total cost of transport. Pre-shipment costs, which are approximately \$479 for most FAK container shipments, are broken down into consolidation (36 percent), preparation of export documents (8 percent), facilitation fees (40 percent) and other costs (16 percent). Many times pre-shipment costs are included in the freight rates. Except in the case of ocean freight to Santos, Brazil, inland transportation generally accounts for the highest proportion of the transport costs, ranging from 41 percent to 54 percent of transport costs when shipping to Madras and 45 percent to 55.6 percent when shipping to Rotterdam or Shanghai. This further highlights the disadvantage of a landlocked country like Mali. In all cases, the share of land transportation costs is lowest when goods are transported by rail to Dakar. Land transportation costs are highest by proportion when routed through Lome and Tema.

SECTION 4: ISSUES & POLICY OBJECTIVES

Mali has a number of intractable issues that have a direct impact on the country's transportations and logistics capability, which in turn impact export competitiveness. For example, Mali's status as a landlocked country will always present some disadvantage in exporting its goods abroad. Despite this, there are several areas related to the movement of goods about which stakeholders in Mali could take action. Some of the issues identified will have to be resolved at a high level of government, which will require the direct attention of ministries in charge of economic planning, finance, development, trade and investment, agriculture, and transport. Due to the regional nature of Mali's transport and trade linkages, addressing issues related to trade and transport will require concentrated cooperation, coordination, and often negotiation with authorities in neighboring countries at either the regional or bilateral level. In some cases, the donor community (e.g. USAID, World Bank, AfDB, EU, etc.) will have to play a catalytic role in working with government or private sector counterparts to effect positive change. There are several donor-funded projects (e.g. the USAID funded Trade Mali and West African Trade Hub (WATH), the World Bank funded Mali-Transport Corridors Improvement Project, and the African Development Bank funded Community Infrastructure and Road Action Program. Finally, steps by the private sector—producers, exporters and transport and logistics service providers—and the way they view and utilize the processes surrounding the movement of goods, will be critical for improvements in the transport and logistics system to achieve results.

A transportation and logistics seminar organized at the government level can often act as a first step to present the findings of the study to all relevant stakeholders (public, private, donors and regional) and design and prioritize interventions to improve the supply chain.

A. ACTIONABLE ISSUES

Throughout the study, the high cost of inland transportation continues to have the greatest adverse affect on the competitiveness of Malian commodities. With land transportation accounting for 48 to 65 percent of the total value of goods, Malians must accept smaller profit margins or price their goods above market rates. Furthermore, the lack of an efficient and reliable cold chain and limited container supply leads to greater spoilage and fewer transport options. Customs processes and corruption create additional costs and delay. There are a number of actions that can be taken immediately to lower the burden of transportation and logistics costs in Mali.

STRENGTHEN TRUCKING SECTOR

Issues with the trucking industry are regarded as a source of many of Mali's land transportation problems. Attention by policymakers could help alleviate a significant burden on the Malian trading community by addressing the following issues:

1. Promote Importation of New Trucks and Replacement Parts: Creating incentives to import new or used trucks will benefit all sectors of the Malian trading community. Poorly-conditioned and overloaded trucks, inevitably lead to higher transport costs, lower efficiency and lower quality transport services. With 80 percent of the truck fleet over 15 years old, it is becoming increasingly difficult for exporters to obtain adequate, clean and

affordable trucking. CMDT now pays a premium in order to attract clean, reliable trucks to deliver its cotton to the port of export. Other exporters unable or unwilling to pay a higher rate for trucking are relegated to using whatever trucking services remain, likely increasing spoilage or damage. Even then, they will pay a higher rate during the cotton harvest. As previously mentioned, the duties on the importation of new trucks and replacement parts are prohibitive. Malian Policymakers should consider a relaxation of those tariffs in collaboration with WAEMU partners.

2. Change Domestic Tax Structure for Vehicles: The current domestic tax structure for vehicles translates into different fiscal treatment for trucking companies, creating a tax bias towards smaller trucking firms that lack economies of scale, and encouraging larger firms to expand operations through loopholes in the system to take advantage of lower tax rates. A uniform tax rate for vehicles across the trucking industry could promote the development of larger, better organized, and more efficient trucking companies. If the government did wish to have different tax structures within the trucking industry, it is recommended that the domestic vehicle tax structure be biased toward newer trucks that replace the aged fleet.
3. Promote Investment in Refrigerated Trucks and Containers. There is a definitive need for refrigerated capacity in Mali. Both the cattle and fruit and vegetable industries would benefit from an increase in refrigerated truck capacity. For cattle, refrigerated trucks would allow slaughtering and value-added procedures of meat cutting and packaging to be done in Mali. All of those services are currently provided elsewhere. The “5th quarter” of the cow (bones, innards, etc.) is sold by the slaughterhouse in Abidjan at a premium. Frequently the only real profit a Malian cattle producer may hope for is in the sale of the 5th quarter. Without those value-added services within Mali, it is always the foreign slaughterer that benefits. For mangoes, the inadequate supply of reefer services force exporters to use transport methods that result in high levels of spoilage.
4. Promote Investment in Maintenance Facilities. Recently CMDT privatized its trucking fleet and now contracts back to its former employees. The result has been poor. Trucks previously maintained by CMDT are in disrepair and deteriorating rapidly. The garage once owned by CMDT sits empty, awaiting purchase and private operators take over the repair business. Potential investors have been reluctant to sink money into an industry that is inadequately supported by its government. Either through a cooperative effort by firms in the trucking industry to invest in maintenance facilities or government actions to reduce entrance barriers for new maintenance firms or promote investment, the development of a reliable maintenance service sector will enhance the operating efficiency of the trucking industry.
5. Enforce Transport Regulations: Weak enforcement of vehicle overload regulations contributes to the degradation of an already weak road infrastructure, and technical regulations governing truck quality encourage companies to continue using aged fleets. Compliance by private sector companies and enforcement by authorities would eventually lead to lower transport costs, enhance safety and facilitate the development of a more functional trucking sector.

PROMOTE DEVELOPMENT OF ALTERNATIVE TRANSPORT ROUTES

With the crisis in Cote d'Ivoire and the port of Dakar's inability to effectively handle larger volumes of trade, Malian exporters have been forced to utilize alternative transport routes, predominately Lome, Togo and Tema, Ghana. With the increased flow of trade, coastal African countries that all had been making infrastructure improvements under their respective Transport Sector Project, have attempted to accelerate and strengthen their capacity and modernization projects, with the goal of retaining their newfound Malian and other landlocked Sahelian countries' business. It is a long-term strategic interest of Malian shippers to have competition among ports for Malian business and alternative routes to ensure uninterrupted flows of trade. Malian private and public stakeholders should work with their counterparts in countries such as Ghana, Togo, Burkina Faso and Guinea to develop coordinated and cooperative efforts to improve not only the infrastructure of alternative transport corridors, but also reduce sources of costs and delays such as customs encumbrances and informal road blocks.

PROMOTE DEVELOPMENT OF LOGISTICS SUPPLY CHAIN

Inadequate focus and investment in the logistics supply chain limits the efficient movement of Mali's agricultural goods and the ability to take advantage of value-added activities. This inevitably impacts the performance of sectors. Cattle drive over a hundred miles leads to shrinkage that lowers the market value of cattle, where they could be transported by truck from their place of origin. The lack of a cold chain for cattle limits the ability of the sector to slaughter cows in Mali for regional export. Limited reefer containers and a weak cold chain across modes of transport lead to significant waste in the mangoes sector. The highest quality mangoes are delivered by airfreight, however, unless the producer is located near the Bamako airport, airfreight is not an option. Mango delivery to the port of Abidjan or Dakar by non-refrigerated truck results in 70 percent spoilage of the fruit whereas mangoes transported by refrigerated truck to Abidjan's specialized fruit docks may remain fresh for up to two months. Deficiencies in packaging mangoes into a 40' container will result in 10 percent of the boxes (500 of 5,000 boxes) being crushed in transit. Even with the preferential treatment enjoyed by CMDT, cotton is only slightly less inefficient. Once consolidated, cotton may be transported as far as 120 miles to a gin mill only then to return via the same route for exportation.

It is important that the government and international donors promote cooperation and organization between producers, exporters and service providers to identify and implement actions that can enhance logistics chain efficiency, reduce key bottlenecks and cost points, and reduce waste and spoilage in transport within priority sub sectors in the agricultural sector. Government and donor stakeholders could also assist transportation and logistics providers gain financing for cold storage and handling facilities through credit assistance or tax incentives.

Promoting the development of Mali's logistics system would include a focus on some of the following issues:

1. Production and Logistics. The agricultural industry in Mali faces many logistical and commercial know-how challenges. In many cases, the high spoilage and shrinkage rates noted above result from a lack of understanding of effective logistics options available throughout the supply chain. Producers' logistical costs are negatively impacted by the

cost of the consolidation of goods, feeding and foraging costs for livestock, poor business practices, and higher rates for smaller producers. Education of producers on supply chain management, and the use of improved transportation equipment, such as refrigerated trucks, truck cleaning and maintenance facilities, will lower the amount of product lost to spoilage and make the logistics system more efficient.

2. Producer Mind-Set towards Logistics Management. Although the major integrated logistic providers are present in Mali, they are hardly known by exporters, outside of the gold and the cotton sectors that are really managed from overseas. Many do not sufficiently understand the importance of logistics in profitability of their products. Knowledge and implementation of advanced logistics techniques will become crucial in the context of an export-oriented textile and clothing industry utilizing AGOA and local cotton production as a comparative advantage, or the shipment of perishable goods to European markets. Trade Mali could play an important role in the diffusion of this knowledge by organizing seminars focused on Logistics Management.

Malian producers have low visibility into the final destination of their products and inadequate knowledge of the shipment process. Visibility to demand can provide important avenues to improve competitiveness and profits—through improved differentiation, responsiveness, or better meeting the customer's need. In today's global economy, producers and exporters need to better understand transport and logistics alternatives to allow them to best meet the demands of buyers. This requires a greater knowledge of their buyers and transport alternatives. For example, cheaper land transport corridor through Dakar (rail) may be a less important decision factor for an exporter whose buyer demands rapid and reliable shipments. In this regard, Mali Trade initiatives to establish business linkages between mango shippers and European importers have proven particularly helpful.

REDUCE INFORMAL PAYMENTS

Informal payments constitute a significant loss not only from the payout required, but also in additional time and transportation costs. Even though these payments may seem petty in one or two time occurrences, they represent corruption at its worse because, while not deep, it is wide spread and thought to be acceptable since large sums of money are not involved. The Malian government, in collaboration with regional authorities should take steps to 1) reduce opportunities for graft by reducing or removing official roadblocks (e.g, by implementing the TRIE and TIE agreements), 2) develop reporting systems for illegal charges; 3) enhance the transparency of regulations and documentary requirements; and 4) establish strict enforcement measures against officials involved in graft. Furthermore, moving from a transaction-based collection system for customs to an automated system (ASYCUDA++) could help limit corruption (see Customs section below).

The convoy system implemented for Côte D'Ivoire has had a favorable impact on the transportation cost of goods. The effect has been so positive, that even in a time of war, Côte D'Ivoire has been able to reduce the overall transportation costs of goods to the Port of Abidjan and reclaim business from neighboring countries. Nevertheless, this convoy system still represents a form of corruption, and must be recognized as such. Adopting and formalizing

similar convoy system that does not require exporters to pay informal payments (i.e. exporters pay a set 'security fee') could enhance transparency, reduce informal payments, and facilitate the movement of goods.

REDUCE CUSTOMS ENCUMBRANCES

The same customs problems that exist in Mali are prevalent in most other African countries. Even so, the problems place additional unfair and inappropriate burdens on exporters. The two greatest customs problems are corruption and lack of transparency.

Corruption: At in-country and border crossing customs stops, customs officers collect the appropriate state fees as well as their negotiated informal or "facilitation fees" that range from \$2 to \$20 per transaction. Before reaching a border, a trucker may pass through as many as five in-country customs checkpoints that are literally hundreds of miles from any border. At each stop, customs agents go through the motions of checking paperwork that may or may not exist and collect their facilitation fees. As in the informal payments discussed above, the persistence and perceived acceptability of these payments represent a serious form of corruption that adds costs to the overall movement of goods.

Lack of Transparency: Customs officers interpret and enforce rulings or laws as they choose. There is no uniformity in the enforcement of export laws and regulations with the probable exception of formal gold exports. Trucks routinely reach and cross the border without export documents. Export documents can be obtained through freight forwarders or can be forgotten altogether with the appropriate facilitation fee. Perhaps as much as 65 percent of livestock exports are exported through a process commonly known as the informal livestock trade. Malian statisticians readily admit that the informal trade of livestock may be two to three times higher than the recorded formal trade. The informal trade process is a popular way to avoid state 45-day quarantine requirements on livestock as well as paying for a health certificate.

To reform Malian Customs, a comprehensive modernization program is required with the full commitment from senior officials to ensure the completion and implementation of modernization activities. Account management techniques and a higher level of automation could help to lessen the impact of customs corruption on exporters. Provided that is properly implemented, the new version of the ASYCUDA++ customs software system funded under a French Cooperation grant could improve the Customs process by linking disparate islands of information so that (i) the end-to-end process is automated and (ii) shippers and their agents can have remote access. Remote access will give shippers early knowledge of problem shipments or documentation errors so that they can be solved before they become critical, saving them time and eliminating the need to be physically present for every shipment.

As the ASYCUDA is introduced, Mali and international donors should strengthen its application through the development of simpler and more efficient, cost-effective customs procedures. In setting up these new procedures, Malian government authorities should avoid the tendency to set up parallel manual systems 'as a back-up'. This would lengthen the actual application of the system and maintain avenues for officials to demand informal payments. Staff training at all levels of the customs authority on the ASYCUDA system and the new procedures is necessary for proper implementation

As Mali's West African partners are getting their own system (often the same ASYCUDA system), there is an opportunity to integrate the systems, through a client/server architecture, which should facilitate data exchange and cross-checking among participating customs, further enhancing transparency and ease of customs clearance across borders.

HONORING REGIONAL TREATIES

There is no shortage of treaties, laws and regulations in Mali and the West African sub-region. While these treaties hold a great deal of potential to facilitate the movement of trade, the weak and inconsistent application of trade and transport-related measures help to create uncertainty and incomprehension amongst transport service providers and exporters, as well as provide opportunities for graft. It is critical that Mali works together with WEAMU and ECOWAS countries to ensure that transit regulations are applied uniformly across countries, particularly along key transport corridors.

DEVELOP RAIL LINE TO BAMAKO

As the results of the study have shown, transporting goods via Bamako by rail is one of the most economical export options. While past problems on the rail system led to a contraction in cargo shipments, improved rail operations and new investment under TRANSRAIL have and will continue to result in higher levels of traffic. The development of this line should be promoted and supported by private and public stakeholders as a means to:

- Reduce travel times, provide higher security for containers and reduce informal payments (as informal stop-points are by-passed).
- Reduce unit prices, as rail transportation generally has lower unit price per distance due to the number of cars and containers pulled behind one engine.
- Enhance development of multimodal transportation
- Reduce road degradation and congestion

In order for the rail line to regain popularity among shippers who have lost faith in the service, TRANSRAIL and related services providers will need to make the necessary investments and upgrade reliability and service. This will not only require investments to improve the rail line and stock, but also the development of key modal transfer/transshipment points (to facilitate movement of goods from trucks to rail cars) and storage and handling facilities. Furthermore, investments in cold storage facilities and rolling stock with reefer capabilities could encourage more exports of mangoes via Dakar.

One area for concern for developing the Bamako-Dakar rail line are capacity issues at the port of Dakar. To address these issues, private and public stakeholders in Mali will need to work with stakeholders in Dakar to improve warehousing facilities, transfer points, and clearance procedures.

IMPROVE ROAD NETWORK

The state of the road network in Mali adds cost, time and uncertainty to transportation. All trade is affected by the road network, whether its destination is a regional city or ultimately international. As noted earlier in the report, the size and capacity of the network is limited. Only 3,000 km of primary roads are paved and in good condition. Secondary and tertiary roads are difficult to navigate under the best conditions, and impassable under the worst conditions. While regional efforts funded by the World Bank and AfDB will likely enhance key regional transport corridors, the improvement of Mali's secondary and tertiary roads are in question. From the perspective of facilitating the movement of trade network, expansion priorities should continue to focus on the high volume corridors. In this regard, Mali's involvement in regional infrastructure development should not only focus on facilitating transit to the ports of Dakar and Abidjan, but also other transit options within the region.

In addition to the development of primary corridors, the improvement of secondary and tertiary roads is necessary to enhance the ease and reduce the costs of moving exports and inputs within Mali. The improvement of secondary and tertiary roads should focus on priority farm-to-market / consolidator linkages and network efficiency.

LOW PROCESS TRANSPARENCY & AUTOMATION

While the installation of ASYCUDA will enhance the customs process, it represents only a small segment of the entire transport chain. Typically exporters have very low visibility into the status of their shipment, and must manually manage the transaction every step of the way. Coordination among different players is weak or non-existent. The introduction of Internet-enabled technologies that manage activities throughout the entire process would allow all the participants in a transaction to better coordinate their activities. Through better visibility of each shipment, they are able to identify ways to improve the process and reduce costs. This type of connectivity and transparency would also increase their confidence and trust of logistics providers in the supply chain. Furthermore, automation eliminates common documentation errors, and repeated transaction failures can be quickly pinpointed and rectified. Also, since each step of the transaction is recorded, auditable and available for other participants to see, it may deter arbitrary or improper behavior on the part of officials involved.

Numerous suppliers worldwide are gaining greater control over their supply chain transactions by using Internet-enabled technologies that manage activities across the entire supply chain. This allows all the participants in a transaction from the supplier to a buyer to coordinate their activities. Through better visibility of each shipment, they are able to identify ways to improve the process and reduce costs. This type of connectivity and transparency would give Malian participants and their trade partners more control over the international trade process and increase their confidence and trust with logistics providers in the supply chain. Although Mali's IT base is relatively underdeveloped and unsophisticated when compared to more developed countries, public and private stakeholders should consider ways to further integrate their transport, logistics, customs and related activities through IT solutions.

E. TRADE SUPPORT SERVICES & POLICY OBJECTIVES

Issues identified with particular trade support services are identified below.

ROAD TRANSPORT

ISSUES	PRIORITY	POLICY OBJECTIVES
The trucking industry unable to provide quality and cost effective services.	High	<ul style="list-style-type: none"> • Develop a stakeholder group to study the transportation industry problems and develop long-term solutions. • Develop policies and incentives that encourage growth and investment in the trucking transportation sector (e.g. newer trucks, maintenance, container capacity, refrigeration). • Lower duties, for the importation of new trucks and in particular, refrigerator trucks. Lower or eliminate duties on replacement parts. • Change domestic tax for vehicles such that larger firms are not taxed more. Design tax that encourages purchase of new vehicles. • Enforce load limits on trucks to protect the public and the road network from undue deterioration. • Enforce regulations governing truck quality.
Lack of harmonization in taxes, fees and regulations distort competition across countries and modes	Medium	<ul style="list-style-type: none"> • Harmonize national transport at the UEMOA level to make sure that the competitive playing field among countries and among transport modes is not biased, i.e., that taxes/subsidies or regulations pertaining to a given mode do not distort the competition among modes.
State of road infrastructure adds cost, time and uncertainty to transportation.	Medium	<ul style="list-style-type: none"> • Continue to work with donors and neighboring countries to improve regional infrastructure network, focusing on high volume corridors. • Develop and improve secondary and tertiary roads within Mali, focusing on priority farm to market / consolidator linkages and network efficiency.

AIR CARGO

ISSUES	PRIORITY	POLICY OBJECTIVES
Air cargo capacity reduced due to the collapse of Air Afrique. Only 5% of cargo is moved by air. Lack of airport infrastructure to accommodate	High	<ul style="list-style-type: none"> • Articulate air cargo development objectives and policy: air is a critical transportation link for Mali domestically, regionally and internationally. • Encourage new passenger airlines to develop their cargo operations. • Volume is a critical determinant to the success of air cargo. Identify particular industries (exporters of horticultural produces) that will benefit from air cargo use and promote its adoption in those clusters.

freighters outside Bamako		<ul style="list-style-type: none"> • Encouragement of cargo services will result in larger planes that can accommodate ULD containers and land in regional airports. Also, designation of main airports that can attract regional cargo for international shipments.
Security concerns in air cargo discourage airlines from expanding cargo services from Bamako.	High	<ul style="list-style-type: none"> • Take steps to provide adequate cargo security (per standards set by the US FAA and US TSA) could encourage more flights to land in Bamako and to carry increased cargo.

RAIL TRANSPORT

ISSUES	PRIORITY	POLICY OBJECTIVES
Despite improvements by the new TRANSRAIL concession, many improvements needed to increase the capacity of the rail line, which was a major bottleneck to Malian cotton exports.	High	<ul style="list-style-type: none"> • Complete rehabilitation of the Dakar-Niger Railroad • Rehabilitate or construct rail links to key transshipment points on-port infrastructure (Dakar port, Kourikolo port on Niger, Kita ginning plant, etc.) to reduce vessel dwell time and handling costs. • Express unit freight trains for containers, cotton and refrigerated containers. • Install handling facilities at relevant transshipment points. • Develop an automated train, wagon and shipments tracking system with on-line access to shippers and other transit professionals.

MARITIME TRANSPORT

ISSUES	PRIORITY	POLICY OBJECTIVES
Lack of adequate competition to the Port of Abidjan.	High	<ul style="list-style-type: none"> • Promote the development of alternate export routes to ports other than Abidjan. Recognize that competition lowers prices. • Recognize the long-term benefits to alternate trade routes and make agreements with neighboring countries for preferential treatment of Malian goods. • Enforce any agreements reached with other governments.

LOGISTICS SERVICES

ISSUES	PRIORITY	POLICY OBJECTIVES
Lack of attention to and development of supply chain leads to	High	<ul style="list-style-type: none"> • Promote cooperation and organization between producers, exporters and service providers to identify and implement actions to reduce key bottlenecks and

inefficiencies, higher costs and spoilage.		<p>cost points within priority sub-sectors in the agricultural sector.</p> <ul style="list-style-type: none"> • Assist transportation providers and shippers to gain financing for cold storage and handling facilities through credit assistance or incentives. • Develop a network of multiple consolidation points, or “road stops” to facilitate the consolidation efforts and reduce waste. This would require a review of trucking policies.
High level of profiteering at border crossings	High	<ul style="list-style-type: none"> • Examine and regulate the costs of document preparation by Freight Forwarders who are profiteering from the war in Côte D’Ivoire. • Eliminate Customs graft at border crossings.
Few affordable end-to-end logistics services.	Medium	<ul style="list-style-type: none"> • Malian exporters shop for the lowest cost provider in each phase of the export process. While end-to-end logistics service providers exist, they do so at a premium. Either a reduction in prices by logistics providers or increased competition may result in more affordable logistics services.

CARGO HANDLING & STORAGE SERVICES

ISSUES	PRIORITY	POLICY OBJECTIVES
Few consolidators. Goods either travel less than truckload or by full container load from origin to destination.	Medium	<ul style="list-style-type: none"> • Regional trade can benefit significantly from consolidation services. Provide local producers with access to regional trade leads. Provide training and education for small producers who interact directly with buyers. Assist large buyers establish consolidated services inbound from multiple suppliers.
The absence of adequate warehousing and specialized storage facilities requires truckers to time their deliveries to vessel arrival, causing congestion, waiting and unnecessary cost.	Medium	<ul style="list-style-type: none"> • Assist transportation providers and shippers to gain financing for required cold chain, storage and handling facilities based on the cost savings generated by improving throughput and reducing asset requirements.

CUSTOMS AND BORDER ACTIVITIES

ISSUES	PRIORITY	POLICY OBJECTIVES
Prior computer system was obsolete.		<ul style="list-style-type: none"> • Enhance communication and cooperation between customs authorities in Mali and neighbouring countries

<p>Fraud common at Customs. Lack of harmonization at regional level leads to delays along Mali's principal trade routes.</p>	<p>High</p>	<p>to avoid unnecessary transit delays.</p> <ul style="list-style-type: none"> • Encourage harmonization of transit documentation and procedures with countries along Mali's primary transport corridors. • Simplify and improve transparency of customs procedures. • Strengthen use of SYDONIA/ASYCUDA++, including development of new procedures and staff training of the system and procedures. • Develop software interface with WEAMU partners' systems.
<p>Graft and profiteering leads to higher overall costs and delays.</p>	<p>High</p>	<ul style="list-style-type: none"> • Determine ways to formalize the convoy system that is in place for goods traveling by truck to Abidjan. • Reduce number of customs and other 'official' roadblocks within Mali to reduce delays and remove opportunities for graft. • Remove or reduce opportunities for corruption by moving from a transaction-based collection system to account management. • Establish system to report the use of illegal charges by customs and other government officials

BANKING & FINANCE PRACTICES

ISSUES	PRIORITY	POLICY OBJECTIVES
<p>Develop a structure to protect Malian cattle exporters who currently lose 10-15 percent of the export value of their cattle through un-recovered debt.</p>	<p>High</p>	<ul style="list-style-type: none"> • With perhaps as much as 60 percent of cattle exports conducted informally, encourage more formal exports by offering protection for the industry. • Conduct face-to-face meetings with Ivorian officials to determine solutions to the matter of un-recovered debt. • Develop a Malian-run collection service in Abidjan to legally assist Malian cattle exporters in collecting debt.
<p>Exporters select FOB or even shorter payment terms because they want to get paid sooner, even if other terms may lead to lower total cost.</p>	<p>Medium</p>	<ul style="list-style-type: none"> • Institute financial instruments to pay producers for their exports while allowing them to capture the additional benefits of negotiating improved contractual terms.
<p>Mango exporters do not insure their shipment on the land transport segment,</p>	<p>Medium</p>	<ul style="list-style-type: none"> • Address insurance industry concerns to lower perception of risk by improved management, safer transportation and reduce insurance premium distortion between Mali and neighbouring countries.

thereby taking enormous risks.		
Lack of investment in container (reefer).	Medium	<ul style="list-style-type: none"> • Develop leasing for containers, including refrigerated and vehicles.
Former CMDT employees want to acquire a small fleet of trucks.	Low	<ul style="list-style-type: none"> • Develop a credit scheme for truckers to acquire trucks.
Lack of financial assistance to agricultural industry.	Low	<ul style="list-style-type: none"> • Study a structure to encourage or permit financial institutions to offer loans to the agricultural industry.
Insufficient investment strategies.	High	<ul style="list-style-type: none"> • Develop incentives to attract <u>and retain</u> foreign investment to Malian agricultural opportunities and value added services.

Annexes

ANNEX 1: ACRONYMS

ACP	African Caribbean Pacific countries
ADM	Mali Airports/ <i>Aéroports du Mali</i>
AEG	Agriculture and Economic Development Group (USAID in Mali)
AFD	<i>Agence Française de Développement</i>
AfDB	African Development Bank
AGOA	African Growth and Opportunity Act
AR	Roads Authority/ <i>Autorité Routière</i>
ASECNA	<i>Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar</i> (Air Control and Security Agency in francophone Africa)
ASYCUDA	Automated System for Customs Data
BOT	Build-Operate-Transfer
BV	Bureau Veritas
CAS	Country Assistance Strategy
CDG	Paris Charles de Gaulle Airport
CEMAO	<i>Communauté Economique et Monétaire de l'Afrique de l'Ouest</i> (French for ECOWAS)
CET	Common External Tariff
CMC	<i>Conseil Malien des Chargeurs</i> - Malian Shippers Association
CMDT	<i>Compagnie Malienne pour le Développement des Textiles</i> (Cotton company)
CMTR	<i>Conseil Malien des Transporteurs Routiers</i> - Malian Truckers Council
CNUCED	<i>Conférence des Nations Unies sur le Commerce et le Développement</i> (French for UNCTAD)
COMANAV	<i>Compagnie Malienne de Navigation</i> (Niger River Transport Company)
COSCAP	Cooperative Development of Operational Safety and Continuing Airworthiness Project
DNAC	Civil Aviation Administration - <i>Direction Nationale de l'Aviation Civile</i>
DNR	Roads Administration - <i>Direction Nationale des Routes</i>
DNT	Transportation Administration - <i>Direction Nationale des Transports</i>
EBA	Everything But Arms
EC	European Commission
ECOWAS	Economic Community of West Africa States (English for CEMAO)
EDF	European Development Fund
EM	Mali Warehouses/ <i>Entrepôts du Mali</i>
EMACI	<i>Entrepôts Maliens en Côte d'Ivoire</i> - Mali Warehouses at the Port of Abidjan
EMAGUI	<i>Entrepôts Maliens en Guinée</i> - Mali Warehouses at the Port of Conakry
EMAMAU	<i>Entrepôts Maliens en Mauritanie (Nouakchott)</i>
EMASE	<i>Entrepôts Maliens au Sénégal (Dakar)</i>
EMATO	<i>Entrepôts Maliens au Togo (Lomé)</i>
EU	European Union
ESW	Economic Sector Work
EWATA	Europe West Africa Trade Agreement
FAA	Federal Aviation Agency
FAK	Freight All Kinds container
FCFA	CFA Franc - monetary unit in Franc Zone (West and Central Africa)

FED	<i>Fonds Européen de Développement</i> - European Development Fund (EDF)
FDI	Foreign Direct Investments
ICAO	International Civil Aviation Organization
IF	Integrated Framework for Trade
ISRT	Inter-State Road Transport
MDG	Millennium Development Goals
NEPAD	New Partnership for Africa's Development
PAD	<i>Port Autonome de Dakar</i>
PAT	<i>Port Autonome du Togo (Lomé)</i>
PER	Public Expenditure Review
PER	<i>Programme Economique Régional (UEMOA)</i> - Regional Economic Program (WAEMU)
PRSP	Poverty Reduction Strategy Paper
RCFM	<i>Régie des Chemins de Fer du Mali</i>
RCI	<i>République de Côte d'Ivoire</i>
SNCS	<i>Société Nationale des Chemins de Fer du Sénégal</i>
SSATP	Sub-Saharan Africa Transport Program
SYDAM	<i>Système de Dédouanement Automatisé de la Marchandise (Côte d'Ivoire)</i>
SYDONIA	<i>Système Douanier Informatisé (ASYCUDA in English)</i>
TESS	Trade Enhancement Service Sector Project
TIE	<i>Transport Inter-Etat</i> - Inter-state transport agreement
TKO	Tonne Kilometer Offered
TCIP	Transport Corridor Improvement Project
TOR	Terms of Reference
TRIE	<i>Transit Routier Inter-Etat</i> - Inter-state road transit agreement
TSP	Transport Sector Project
TSP2	Second Transport Sector Project
UEMOA	<i>Union Economique et Monétaire Ouest Africaine</i> - French for WAEMU
ULD	Unit Load Device
UNCTAD	United Nations Conference on Trade and Development
USAID	United States Agency for International Development
VAT	Value Added Tax
WAEMU	West Africa Economic and Monetary Union - English for UEMOA
WATH	West African Trade Hub (a USAID project)

ANNEX 2: COSTS FOR SELECTED COMMODITIES AND ROUTES

Product	Mode	Origin	Transit Point	Destination	Pre-ship.	Inland Transport	Intern'l Shipment	Total	Value
Cattle*	Foot/Trck	Various	Seguo, Mali	Abidjan	\$114.0	\$357.8		\$1,153.6	\$5625 / 12 Cattle
Cotton	Road/Sea	Bamako	Abidjan	Shanghai	\$515.3	\$2,649.0	\$1,450.0	\$4,614.3	\$26,278 / 40' cont.
Cotton	Road/Sea	Sikasso	Abidjan	Shanghai	\$515.3	\$2,438.0	\$1,450.0	\$4,403.3	\$26,278 / 40' cont.
Cotton	Road/Sea	Bamako	Dakar	Shanghai	\$515.3	\$2,832.0	\$1,650.0	\$4,997.3	\$26,278 / 40' cont.
Cotton	Rail/Sea	Bamako	Dakar	Shanghai	\$515.3	\$1,716.0	\$1,650.0	\$3,881.3	\$26,278 / 40' cont.
Cotton	Road/Sea	Bamako	Lome	Shanghai	\$515.3	\$3,104.0	\$1,450.0	\$5,069.3	\$26,278 / 40' cont.
Cotton	Road/Sea	Bamako	Tema	Shanghai	\$515.3	\$2,994.0	\$1,450.0	\$4,959.3	\$26,278 / 40' cont.
FAK	Road/Sea	Bamako	Abidjan	Rotterdam/ Shanghai	\$479.0	\$1,776.0	\$1,700.0	\$3,955.0	NA
FAK	Road/Sea	Bamako	Dakar	Rotterdam/ Shanghai	\$479.0	\$2,178.0	\$1,900.0	\$4,557.0	NA
FAK	Rail/Sea	Bamako	Dakar	Rotterdam/ Shanghai	\$479.0	\$1,765.0	\$1,900.0	\$4,144.0	NA
FAK	Road/Sea	Bamako	Lome	Rotterdam/ Shanghai	\$479.0	\$2,722.0	\$1,700.0	\$4,901.0	NA
FAK	Road/Sea	Bamako	Tema	Rotterdam/ Shanghai	\$479.0	\$2,730.0	\$1,700.0	\$4,909.0	NA
FAK	Road/Sea	Bamako	Abidjan	Santos	\$479.0	\$1,776.0	\$4,850.0	\$7,105.0	NA
FAK	Road/Sea	Bamako	Dakar	Santos	\$479.0	\$2,178.0	\$5,050.0	\$7,707.0	NA
FAK	Rail/Sea	Bamako	Dakar	Santos	\$479.0	\$1,765.0	\$5,050.0	\$7,294.0	NA
FAK	Road/Sea	Bamako	Lome	Santos	\$479.0	\$2,722.0	\$4,850.0	\$8,051.0	NA
FAK	Road/Sea	Bamako	Tema	Santos	\$479.0	\$2,730.0	\$4,850.0	\$8,059.0	NA
FAK	Road/Sea	Bamako	Abidjan	Madras	\$479.0	\$1,776.0	\$1,850.0	\$4,105.0	NA
FAK	Road/Sea	Bamako	Dakar	Madras	\$479.0	\$2,178.0	\$2,050.0	\$4,707.0	NA
FAK	Rail/Sea	Bamako	Dakar	Madras	\$479.0	\$1,765.0	\$2,050.0	\$4,294.0	NA
FAK	Road/Sea	Bamako	Lome	Madras	\$479.0	\$2,722.0	\$1,850.0	\$5,051.0	NA
FAK	Road/Sea	Bamako	Tema	Madras	\$479.0	\$2,730.0	\$1,850.0	\$5,059.0	NA
Gold	Air/Air	Mines	Bamako	Zurich		\$2,747.3	\$787.5	\$3,534.8	\$1,099,817 / 100 kg Gold Ingots
Mangoes	Air	Bamako	-	Paris	\$228.9		\$1,198.5	\$ 1,427.5	\$1,930.4 / 1 metric ton
Mangoes	Land/Sea+	Sikasso	Ferke, Abidjan	Rotterdam	\$276.2	\$225.3	\$180.0	\$681.5	\$1, 079 / 1 metric ton

* \$681 additional costs (average) for un-recovered debt.

+ Cost data for Mangoes by sea and land provided by consultants from the Trade Mali Project.

ANNEX 3: INTERNATIONAL AND REGIONAL STATUTES ON TRANSIT TRADE AND TRANSPORT

Mali is a participant or signatory to a number of international, regional and bi-lateral conventions and agreements intended to facilitate the transportation of goods. Details of the major regional agreements, relevant to inter-state transport and trade facilitation are provided below:

I. REGIONAL STATUTES

At the West African sub-regional level, Mali is a member of two main regional organizations, namely the West African Economic and Monetary Union WAEMU (UEMOA in French), which includes 8 mostly francophone countries, namely Senegal, Mali, Niger, Burkina Faso, Cote d'Ivoire, Togo, Benin and Guinea Bissau (lusophone) and ECOWAS (CEDEAO in French), which includes, in addition to the 8 members of WAEMU, seven additional members, namely Nigeria, Ghana, Sierra Leone, Gambia, Liberia, Guinea Conakry, and Cape Verde. Mauritania is no longer a member of ECOWAS. Both sub-regional organizations have the objectives to form a completely integrated union (monetary, free trade area, common market) in stages.

WAEMU is far more homogeneous and integrated and has achieved complete monetary union (FCFA), a high level of harmonization of its business laws (OHADA code), a simplified import duty structure, abolition of duties among members, an a common external tariff with respect to non-members.

There is a plan for five of the non-WAEMU members of ECOWAS to form another monetary union, with the long-term objective of eventually merging the two monetary unions into one. In the area of transport and transit, WAEMU and ECOWAS have harmonized their policies and procedures.

II. ECOWAS TREATY

The original Treaty signed on May 28, 1975, establishing ECOWAS, was revised on the 7th of September, 2003.

The main articles of the revised ECOWAS Treaty relevant to transport and trade facilitation are as follows:

Article 3: Aims and Objectives states *inter alia* that one of the objectives of ECOWAS is the harmonization and co-ordination of national policies and the promotion of integration programs, projects and activities in agriculture, natural resources, transport, trade, services, standards, money, taxes, and legal matters.

Article 32: Transport and Communications stipulates that member states undertake to:

- Develop common transport policies, laws and regulations
- Develop an extensive network of inter-state highways (international corridors)
- Formulate plans to integrate railway and highway networks
- Harmonize policies on maritime transport and services

- Expand the granting of fifth freedom rights to airlines in the region
- Endeavor to standardize transport equipment

Article 45: Re-exportation of Goods and Transit Facilities

- In accordance with international transit and the ECOWAS Convention on the Inter-State Road Transit of Goods, member state shall grant full and unrestricted freedom of transit and shall not be subject to any discrimination, quantitative restriction, duties or other charges. However, goods in transit shall be liable to the usual charges for transport and services.

Article 46: Customs Cooperation and Administration

- Harmonization and standardization of customs regulations and procedures

Article 55: Completion of Economic and Monetary Union

Within 5 years after the creation of a Customs union, achieve the following:

- Common policy in all socioeconomic aspects, including agriculture, industry, energy, transport;
- Total elimination of all obstacles to the movement of people, goods, capital and services;
- Harmonization of monetary, financial and fiscal policies, setting up of a West African monetary Union, a single regional Central Bank and a single West African currency.

A. ECOWAS PROTOCOLS

Protocol 1: Maritime Port Facilities, which pertains (inter alia) to tariff and tax benefits, port formalities and procedures, conditions for port access, journey time and costs, port competitiveness and port statistics and particularly port access by landlocked countries, such as Mali

Protocol 2: Transit Itineraries and Facilities, which designates transit itineraries and facilities, development of new transit facilities, and allocation of construction and maintenance costs.

Protocol 3: Customs Control, which pertains to the administration of customs control over the international corridor traffic, general provisions on the rules on duties and taxes, customs guarantees, sealing of transport units and containers, customs offices in each country, customs procedures, customs cooperation and other matters relevant to customs.

Protocol 4: Documentation and Procedures Harmonization

Protocol 5: Road Transport of Transit Goods pertains to the application of regulations related to the interstate transit of goods, including the highway code, technical standards and inspection for road vehicles, carriage contract and road carrier liability for the transport of various good categories. An annex to Protocol 5 pertains to the extension of the protocol to multi-modal road and rail transport of transit goods.

Protocol 6: Handling of Hazardous Goods on the handling, storage and transport of hazardous goods, in compliance with international standards

Protocol 7: Facilities for Freight Forwarding Agents to facilitate the efficient movement of the goods along the logistic chain.

Protocol 8: Civil Liability Insurance for Road Vehicle Motorists, to establish an international scheme of compulsory civil liability insurance for road haulers and other motorists to be insured while traveling in other ECOWAS countries (ECOWAS brown card or CIMA Inter-African Conference on Insurance Markets).

Protocol 9: Preferential Treatment for the Carriage of Food and other Agricultural Commodities, which contains provisions relating to border controls, limited to veterinary, sanitary and phytosanitary checks, special types of vehicles, conveyance of live animals, model transportation and insurance contracts. These provisions specify compensation in the event the commodity deteriorates due to administrative hold-ups. It also contains provisions on product packaging and conditioning (ECOWAS and WAEMU). Particularly relevant for livestock and perishables, such as mangoes.

Protocol 10: Special Community Funds to Finance the Road Transit System, which pertains to the levy of a community taxes and user fees to finance the maintenance and repair of corridor transit roads, the renewal of the truck fleet and other related administrative and monitoring costs.

Protocol 11: Labor Organization and Regulations pertains to the organization of road haulers, drivers and transport users associations and labor unions and labor related regulations.

Protocol 12: Competition and Transparency establishes the rules and conditions for the future liberalization of the road transport sector, based on fair competition, competitiveness and transparency principles.

Protocol 13: Information, Statistics and Databases on transport and transit contains provisions on the production and diffusion to users and public decision makers of qualitative and quantitative information on inter-state traffic volumes and the setting-up of freight exchanges.

Protocol 14: Training of Transport and Transit Workers pertains to the introduction of harmonized provisions on the organization of training workshops and information seminars for carriers, drivers, traffic administrations, shippers, convoy escorts, port operators, transit operators.

Protocol 15: Sub regional Transit and Transport Cooperation pertains to the development of cooperation among the various bodies concerned with transit and transport, including administrative, institutional, and focusing on regional integration community projects, such as the establishment of a truck and container sealing system and the creation of an observation center on unfair practices at border crossings.

Protocol 16: Infrastructures and Facilities pertaining to the creation of community transport and transit infrastructures and facilities, their funding, maintenance and supranational management to improve traffic flows in all international transit corridors.

B. MULTILATERAL CONVENTIONS WITHIN ECOWAS

Both ECOWAS and WAEMU adopted the following conventions:

Convention A/P1/5/82 on the Creation of the ECOWAS ‘Brown Card’ motorist liability scheme. The convention signed in 1982 establishes the ECOWAS ‘brown card’ system, a liability insurance scheme for motorists in transit in the ECOWAS area.

Convention A/P2/5/82 on Inter-State Road Transportation (TIE in French)

The convention signed in 1982 pertains to inter-state transport among ECOWAS and WAEMU member countries. Article 3 specifies the relevant international transit corridors. Article 4 states that the maximum axle load for road vehicles is 11.5 tonnes. Article 5 sets maximum dimensions for various types of vehicles. Article 10 states that trucks must be checked at least every six months.

The four fundamental requirements of a proper transit system, striking a balance between the requirement to be not too onerous for the users and providing the required safeguards for customs authorities are as follows:

- Goods must be transported in vehicles and containers providing assurance of customs security
- Relevant duties and taxes are guaranteed (for transit countries) through the carriage process by means of an internationally recognized safeguard.
- Goods in transit are accompanied by an internationally recognized carnet, used as the only control document throughout the transit.
- Control measures taken at the origin country must be accepted by transit and destination countries.

The convention is designed to:

- Eliminate excessive road checks,
- Ensure equitable access to the transit freight business between the transit and the originating country.
- Harmonize the highway code and transport regulations

The provision vehicle weight per axle is not effectively implemented in Mali, as existing weight balances were too fragile to handle truck overloads are not currently operational. There is a project to acquire a new set of trucks balances, capable of weighing trucks with up to 40 t/axle. There are still too many legal and illegal road checks along the transit corridors.

Convention A/P.4/5/82 on Inter-State Road Transit ISTR (TRIE in French)

This convention establishes an inter-state transit regime within ECOWAS; it provides in Articles 5 and 6 the regulations with respect to the transit formalities, procedures and documents within the ECOWAS zone. In essence, the convention provides suspensive arrangements, whereby all duties, taxes and restrictions pertaining to the goods in transit transported by road are suspended

by the customs service of the exporting member state to the customs agency of another member state, under the cover of a **single document, without unloading or breaking the seal.**

The ISTR (TRIE) declaration makes it possible to:

- Approve the technical characteristics of the vehicle. The convention sets technical regulations on the road vehicles and containers eligible for transit transport within ECOWAS, ECOWAS license plates, ISTR Transit declaration
- Identify the goods in transit, the vehicle and the transit purpose
- Track the detailed itinerary of the transit vehicle and consignment including origin, border posts and destination
- Determine the scope of the transit arrangement (national territory, multiple borders)
- Determine the liability
- Provide statistical data and information in case of violations and facilitate the cooperation among customs services.

In December 1988, ECOWAS made a resolution C/RES.1/12/88, on the implementation of the Program of the Higher Committee on Land Transport, which:

- Reminds ECOWAS member states that ‘Transit Transport shall not, within the territory of the transit state, be subject to any customs duties, import or export duties, or any special transit taxes levied by said state’, in strict compliance with the UNCTAD Convention on transit trade for landlocked countries, the Preamble to the Inter-State Road Convention ISRT (TRIE in French) and its Article 3
- Sets up a Consultative Committee in each member state, of all stake holders affected by road checks
- Enjoins all ECOWAS members states to ratify the Inter-State Road Transport Convention
- Reduces the number of road checkpoints and the number of check point officials
- Enjoins ECOWAS member states to enforce the Inter-State Road Transport Convention, limiting vehicle axle loads to 11.5 metric tones.
- And to implement the ECOWAS International Waybill, in compliance with the Inter-State Road Transport Convention.

The existence of multiple (and often illegal) road checkpoints and multiple national documents instead of a single ECOWAS transit document are in contradiction with the ECOWAS and WAEMU conventions on interstate transport and transit.

The complete implementation of the inter-state transit and road transport (TIE and TRIE) agreements should result in the removal of many redundant road check points and the undisturbed transit of sealed transit trucks and containers, thereby resulting in a sharp decrease in transit times and costs.

C. MULTILATERAL CONVENTIONS WITHIN WAEMU

In addition to the WAEMU conventions adopting ECOWAS interstate transit and transport conventions, the relevant texts are:

- A WAEMU decision (1 July 1996) establishing preferential arrangements relative to the liberalization of trade and transit of raw commodities
- WAEMU's Recommendation No 04/97/CM regarding the implementation of a road infrastructures and transport program within the WAEMU zone, including the creation of adjoining border posts and the creation of an Observation Center on Unfair Practices and the introduction of a single clearance document.

III. BILATERAL AGREEMENTS

Differences in interpretation of the TRIE and TIE conventions have led to the proliferation of bilateral road agreements and rail agreements, some of which are sometimes in contradiction with the multilateral ECOWAS or WAEMU conventions. An overhaul of these bilateral agreements to make them compatible with multilateral ECOWAS and WAEMU conventions is badly needed.

Typically, bilateral road agreements also specify how the member countries involved in a specific corridor share the truck transit business, both for imports and exports. Roadblocks were recently erected by Senegalese truckers who were protesting for not having access to Malian cotton export transport business in transit through Senegal.

In addition, there are bilateral maritime and port agreements, such as the ones that regulate the granting of licenses and port facilities to the Mali Government in Dakar, Abidjan, Lomé, Conakry, Nouakchott and Tema, the operations of Mali warehouses in these ports, preferential access and tariffs, tax advantages and the logistic management of the international transit corridors.

ANNEX 4: SAMPLE QUESTIONNAIRES

A.1.1 List of Questions-Consolidator/ Wholesaler

1. Who are your clients, what are the products being transported and the destination?
Where are your pick up points?
2. How predictable are your order volumes and the commitment of your container?
3. Are there penalty charges for failing to meet commitment order?
4. What is your role in the whole export chain system?
5. How many warehouses, trucks do you have?
6. How many containers do you ship per month?
7. How long does it take to respond to a customer's need for shipment?
8. What issues do you have with the logistics infrastructure that you use?
What issues do you have with warehouse, custom documents, roadway, shipping line?
9. Any problems with stolen goods, high jacked goods, or crime?
10. What services do you provide? How much does it cost?
11. What services do you pay for? How much for each service?
Under what circumstances do you have to pay informal fees?
12. Do you pay VAT for logistics services? Do you pay for insurance and what does it cover?
13. What percentage of export transaction is labor cost?

List of Questions-Shipping Lines

1. Who are your clients, what are the products being shipped and where are they going?
2. What is your role in the whole international system?
3. How many ships call on (Port) and how often? What is the number of containers per year handled by your shipping line in (Port)?
4. How long does it take for a ship to be serviced? Do you wait at sea before entering the port?
5. What do you think about the port service at the port where your ship calls?
6. Do you have any problems with damaged/stolen/piracy goods (for refrigerator container)
7. What services do you offer? How much does it cost?
8. What services do you pay for? How much do you pay for each service? Under what circumstances do you have to pay informal fees?
9. Do you pay VAT for logistics services? Do you pay for insurance and what does it cover?
10. What percent of one transaction for export is labor cost?
11. What do you think about the new government policy (new Inpres)? Some shipping lines are changing their port from JICT. What is the reason they are doing this?

List of Questions-Producer

1. What are your products, who are your buyer, where are the destination?
2. Where do you get the input materials?
3. How many containers do you shipped per month or year?
4. (Especially for RMC Producer) What do you do if your production exceeds the quota?
Do you have alternate markets?
5. Are there any penalty charges for failing the commitment order?
6. What steps do you go through to get the goods ready for shipment and how long does it take?
7. Do you use a warehouse prior to trucking the goods?
8. How long are the goods in the warehouse and do you have any problems in the warehouse?
9. How long does it take to move your product from your warehouse to buyer?
10. Any problems with stolen/damaged/spoiled/high jacked goods, or crime?
What percentage of your products gets spoiled by the time they get to the buyer?
11. What is the shortest lead time to fulfill an order?
12. What is the market value (\$) of your product per container?
13. How much is your pre shipment cost, the inland transportation cost, and do you pay international transportation cost?

<i>Pre-shipment Cost</i>	<i>Inland Transportation Cost</i>	<i>International Transportation Cost</i>	<i>Document Cost</i>
Packaging	Trucker	International freight	Taxes
Handling	Container		Licenses
Warehousing			Inspection
			COO
			Certificate of export
			Customs

14. What is your recommendation for improving logistics in export?
15. Do you pay any informal fees? What percentage of your transportation cost is for informal fees?
16. Have you considered moving your production to another country?
17. Where do you see the biggest inefficiency of your company?
18. What percentage of your shipment is in “perfect order” (on time, right quantity and items)