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Towards A Private Sector -Led Growth Strategy for Cambodia

Volume 1: Value Chain Analysis

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Prepared by

Global Development Solutions, LLC
Yasuo Konishi

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Global Development Solutions, LLC
11921 Freedom Drive
Suite 550
Reston, VA.20190
U.S.A.
Tel +1 703 904 4373
Fax +1 703 435 -1824
E-mail mail@GDS -LLC.COM

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Executive Summary

1. Project Objectives

Poverty reduction is a central theme and objective of the Government in Cambodia. In this context, economic growth and competitiveness is synonymous to poverty reduction and rural employment. While it is widely known that a variety of administrative and market-based barriers impede the development of the private sector in Cambodia, very little baseline data currently exists, particularly regarding the performance of the private sector, to help guide the Government in making sound policy decisions. The objective of this project is to identify specific administrative and market-based barriers to growth, quantify the impact of these barriers on the competitiveness of companies operating in Cambodia, and to shed light on possible policy options to help remove distortions that impede the development of the economy.

Private sector led economic growth in Cambodia faces a number of formidable challenges. These challenges can be broadly categorized into four issue areas:

- Strengthening the business environment and improving good governance;
- Deepening the supply chain;
- Improving the competitiveness of infrastructure services; and
- Improving firm level productivity.

To address these issues, the Royal Cambodian Government is developing a private sector growth strategy, anchored in the process of accession to the World Trade Organization. WTO accession will result in substantially improved market access for Cambodian producers; yet it is clear to the RGC that opportunities afforded by WTO will not result in growth of productive employment unless business environment constraints are removed and market-supporting institutions built.
The RGC has asked the World Bank Group, including the World Bank, Mekong Project Development Facility and International Finance Corporation, to support the development of this strategy, and the Bank has agreed to provide analytical inputs to the strategy in three volumes: (1) a Value Chain analysis; (2) an Investment Climate Assessment based on a survey of 502 firms, also incorporating special focus on smaller and rural enterprises; and (3) support to improve the regulatory and institutional arrangements for private provision of public services. The following is volume 1, the Value Chain Analysis.

In volume 1, channel mapping exercise was undertaken to develop a value-chain analysis that help quantify both production and administrative costs associated with operating a business in Cambodia. The use of this technique resulted in a detailed breakdown of both administrative and production costs which were then selectively benchmarked against costs incurred in similar enterprises operating in other countries. The administrative barriers identified through this process were then matched against specific laws and regulations to help focus the attention of the Government in introducing policy reform initiatives.

The exercise yielded detailed information that point to the need for substantial policy reform, investments in support services, and strengthening public-private partnership. Key issues impeding competitiveness among enterprises operating in Cambodia include:

- Lack of enforcement of existing regulations;
- Poor infrastructure and support services;

- High official and unofficial public sector administrative costs;
- Limited availability and high cost of inputs including energy and finance;
- Weak legal framework, particularly to safeguard rural businesses;
- Poor or non-existent public services;
- Quasi-monopolies and high public sector administrative costs discourage natural evolution of forward and backward market linkages;
- Closed agreements between public and private discourage investments in support services; and
- Poor labour skills.

These distortions have resulted in high operating costs, and a volatile and unpredictable market that force enterprises in Cambodia to take short-term views on their business strategy. Such behaviour has hindered the competitive potential of medium and large enterprises. This also has translated to limiting opportunities for small and rural businesses, including farmers, from being integrated into the supply chain of medium and large companies with access to domestic and export markets.

Equally importantly, however, is that these distortions have discouraged new investments from taking place to expand existing operations, as well as to dampen investments in the development of support industries.

2. Issues/Findings

A channel mapping exercises was conducted for six distinct products/commodities. The selection of products and commodities, and the criteria for their selection are as follows:

Rice:	Potential for rural development linkage
Garments:	Exhibited historical growth and is currently the leading export industry
Cotton/Textiles :	Possible integration with the garment industry
Motorcycles :	Potential for integrated regional production
Tobacco:	Cambodia's first integrated supply chain
Canned milk:	An example of the impact of smuggling on foreign direct investment

The channel mapping exercise, is companied by a custom clearance 'roadmap' which shows the complexity of the existing custom clearance procedure. Furthermore, taking into account the focus placed on determining the impact of high administrative costs associated with operating in Cambodia, interviews were conducted to derive at an itemized list of undocumented fees imposed on enterprises operating in Cambodia according to ministries and activities.

The channel mapping exercise, corresponding customs clearance maps, and an itemized list of undocumented fees provide hard statistical evidence which points to the need for a range of government reforms. In addition, the following governance and market constraints were identified (Table 1).

Table 1

Principal Constraints to Private Sector Growth: Examples from Selected Commoditie s

Commodities	Governance Issues	Market Constraints
Rice	• Lack of regulatory discipline resulting in forgone public sector revenue from illegal traded paddy • High customs clearance charges to import fertilizer and export rice • Complex customs clearance procedures • Strong incentive to remain informal to avoid regulatory burden • Lack of legal infrastructure to support commercial credit beyond microcredit • Dependence on informal moneylenders who "lend" in-kind (fertilizer, seeds)	• High fuel costs • High electricity costs • High cost of capital • Low per hectare yield due to poor quality fertilizer sold by local traders • Lack of reliability and trust in the local bank system
Garments	• High import clearance charges for input material • Disruptive and costly on-site inspections prior to packing and loading containers for shipment • High export documentation and customs clearance charges • High GSP quota fee for exports to the U.S.	• High electricity costs • Lack of vertical integration
Motorcycles	• Lack of regulatory discipline resulting in large volume of unregistered used and new motorcycles entering the market • Absence of differentiated tax categories for CKD, IKD and CBU • Absence of tax codes for selected input material required for production of motorcycle subcomponents • High import tax • Complex customs clearance procedures	• High fuel costs • High electricity costs
Textiles (including cotton production)	• High customs clearance charges • High overweight charges • Complex customs clearance procedures	• High cost of imported seeds – limited local capacity to produce local seed varieties • Poor quality fertilizer • High fuel costs • High electricity costs • High cost of importing chemicals • High shipping costs due to limited frequency and availability
Tobacco	• Complex customs clearance procedures • High customs clearance and permit	• Poor quality fertilizer • High electricity costs • High fuel costs

	charges • High social contributions assessed by provincial government officials • High import tax on ancillary products	• High cost of capital • Limited reliability and trust in the local banking system
Canned Milk	• Complex and slow customs clearance procedures • High customs clearance charges • High SGS inspection charges negotiated by the Ministry of Finance • Large volume of illegal imports from Thailand • Slow repayment of VAT • Disruptive and costly government inspections for contraband products • Poor road conditions	• Underdeveloped freight transfer system – load and reloading trucks at border check points • High fuel costs

3. Opportunity Costs Associated with Market and Administrative Di stortions

It is often argued that undocumented administrative charges are a necessary evil in a country where civil service salaries are not competitive with private sector wages. What is not apparent, however, is the high opportunity cost of an opaque system of governance on short and long term capital flow to both the public and private sector.

To shed light on the magnitude of the opportunity cost of market and administrative distortions in Cambodia, data from the value chain analysis of the six products and commodities were used to make preliminary estimates of potential losses in GDP contribution and public sector revenue. The following table provides a summary of these findings (Table 2).

Table 2

Potential Losses in Annual GDP Contribution and Publi c Sector Revenue

	GDP Contribution	**Public Sector Revenue**
Rice	$69.7 million[1]	$4.8 million
Tobacco	$60 million[2]	$9 million
Garments (trousers)	$3.8 million*	$0.73 million
Motorcycle	$62.5 million	$10.4 million
Canned Milk	$30 million	$3 million
Cotton	NA	NA
TOTAL	**$226 million**	**$27.93 million**

* in the form of GSP quota

As the above table suggests, formalizing business transactions could contribute substantially to short-term capital flow for the public sector that include administrative fees and tax revenue. And the medium and long-term impact on public sector revenue flows would include increased GDP contributions, and increase in investment flows, which in turn would feed back into additional short-term revenues.

[1] Calculation based on 450,000 tons of paddy sold illegally. This figure can be as high as $731 million if calculations are based on the gap between production and milling capacity.
[2] Calculation based on 2 billion illegal cigarettes sold at an average cost of $0.3/box of 20 cigarettes.

Transparency and openness in the market would in turn improve the competitiveness of private sector enterprises, while at the same time stimulate forward and backward market linkages that help to integrate small businesses and rural farmers into the domestic and export oriented supply chain.

In theory, strengthening the business environment, stimulating development of the supply chain, improving infrastructure support services and introducing productivity gains would lead to both market and corporate competitiveness. But the current reality facing the Cambodia market will require a stronger and more transparent public-private partnerships, as well as a coordinated effort between the privates and public sector and the donor community to systematically tackle selected market and administrative distortions strategic to stimulating growth and competitiveness in the economy.

The following matrices provides a summary of actions required to help reduce administrative barriers and market distortions to enhance the competitiveness of enterprises operating in Cambodia (Table 3 and 4).

Table 3

Reducing Administrative Barriers to Enhance Competitiveness For Enterprises Operating in Cambodia

Principal					**Regional Tax Harmonization and Introduction of New Codes**		**Improving Utility and Fuel**	
Programme Categories								
Support	Streamlining administrative	Standardize & restructure payment procedures	Transparency &	GSP quota fee	Standardize & restructure payment procedures	Introduce new tax	Regional harmonization	Electricity &
Principal Market Constraints								
Lack of regulatory discipline	X	X	X		X			
High administrative fees	X	X	X	X	X		X	X
Complex import & export procedures	X	X	X		X		X	X
Costly rent seeking activities	**X**	**X**	**X**		**X**		**X**	
Disruptive inspection regime	**X**	**X**	**X**		**X**			
Inadequate tax regime				**X**		**X**	**X**	**X**
Uncompetitive pricing structure for public service	**X**	**X**	**X**	**X**	**X**		**X**	**X**

Public-private collusion	**X**	**X**	**X**		**X**			**X**
Examples of Potential Impact	Reduce the number of signatures and stamps required, for import/ export clearance which not only reduces the time required to process clearance documents, but also opportunities for rent seeking activities to occur. Currently, some enterprises must process as many as 37documents and 15 signatures and stamps per container.	Approximately 50% of the customs clearance fees charged are unofficial, and these are principally cash transactions during a period when a container is being moved.	Improve transparency and accountability particularly in areas such as border checks where, for example, the Government suffers as much as $4.8 million in lost revenue in illegal paddy trading.	Improve the financial performance and competitiveness of local enterprise in the garment industry which currently pay as much as 60%of profits on GSP quota fees to the Government	Approximately 50% of the customs clearance fees charged are unofficial, and these are principally cash transactions during a period when a container is being moved	Strengthen the investment environment by introducing new tax categories for raw material such as polymers required for developing the plastics industry to support the development of light industry	Help reduce input costs of imported material to strengthen the competitiveness of export products in the food and light industries	Improve the competitiveness of export products by reducing local electricity costs where prices are between 125 – 592% higher in Cambodia than in the region.

Table 4

Actions for Enhancing Competitiveness and Expanding Markets for Enterprises Operating in Cambodia

Principal Objectives							
Programme Categories			**Financial and Administrative Support**				
Support	Skills	Technology & Know-How Transfer	Channel	Management	Regional Strategy	New Industry	Out Grower
Principal Market Constraints							
High cost of capital			X	X	X	X	X
Low productivity	X	X	X				X
Lack of reliable support services	X	X	X	X	X	X	X
Lack of market access			X	X	X	X	X
Low quality awareness	X	X		X	X	X	X
Examples of Potential Impact	Improve farming techniques and skills to enhance labor productivity by 50% in par with China in the rice sector	Introduce new tobacco curing barn technology to improve wet-to-dry leaf conversion ratio from 8:1 to 6:1	Expand opportunity to invest in irrigation systems and equipment to improve per hectare yield by 20 – 30%	Expand and improve performance of out grower programmes by 20 - 30%, and help SMEs/SSF gain access to markets	Public-private partnerships to support regional sourcing strategies in light manufacturing	Link with regional sourcing strategy to develop light manufacturing such as plastics, packaging, casting and forging industries.	Expand out grower and supplier support programmes within the agricultural sector, food processing, and in light manufacturing industries

I

Introduction and Market Structure

Upon a request from the Minister of Commerce, H.E. Cham Prasidh for an overall support on PSD strategy, and guidance from the Secretary of State for Commerce, H.E. Sok Siphana and CDC Secretary General Sok Chenda Sophea to develop terms of reference for the value chain analysis, The World Bank Group engaged in preparing a Country Assistance Strategy for Cambodia to better understand constraints facing the domestic private sector. However, the stock of current literature does not provide an adequate understanding of the structure and constraints faced by the domestic private sector, including rural entrepreneurs. In this regard, two missions were fielded by the World Bank led by Magdi Amin from the World Bank, and supported by Yasuo Konishi, a supply chain expert from Global Development Solutions, LLC (GDS), to conduct a channel mapping exercise to develop a value chain analysis for several strategic products/commodities.

The project used a technique based on a channel mapping model to perform value chain analysis for a number of strategic products. The channel mapping exercise was instrumental in developing indicative data at the product level to determine specific areas where policy and administrative reforms would have the greatest impact on improving the competitiveness of Cambodian products. Secondly, production cost information resulting from the channel mapping exercise will be used to determine whether Cambodian enterprises can be integrated into a much larger regional supply chain.

Using the channel mapping technique, the mission team measured the cost of administrative interventions and production costs along the entire value chain of selected products. This technique help capture the cost of administrative distortion on competitiveness as well as to benchmark the cost of production against local and regional competitors producing similar products. Furthermore, the output from this exercise is expected to enable the Government to identify specific departments within each ministry, and sections of law responsible for administrative distortions that contribute to reducing the competitiveness of Cambodian industry.

During the first mission undertaken in December 2002, a number of strategic products/commodities were identified for the proposed channel mapping exercise. But following discussions with various local institutions and government organizations, changes were introduced in the selection of products/commodities to be targeted for review. In addition, preliminary findings during the first mission in December suggested that substantial administrative barriers such as customs and port clearance, and government inspections were dampening private sector growth. Consequently, the second mission undertaken between January and February 2003 placed emphasis on conducting channel mapping exercises for a wider range of products/commodities, which placed emphasis a mapping administrative procedures associated with customs and port clearances, and the identification of an itemized list of unofficial administrative costs to determine whether complex and costly administrative procedures are a root cause prohibiting private sector growth in Cambodia.

The second mission focused on conducting channel mapping exercises for six products/commodities: rice, garments, motorcycles, textile (including the production of cotton, yarn and fabric), tobacco, and canned milk. In addition to the channel mapping exercise, the mission team compiled a schematic of custom clearance procedures

which corresponds to each channel map to show the complexity of the existing customs and port clearance procedures. Furthermore, taking into account the focus placed on determining the impact of high administrative costs associated with operating in Cambodia, interviews were conducted to derive at an itemized list of undocumented fees imposed on enterprises operating in Cambodia according to ministries and activities.

The channel mapping exercise, corresponding customs clearance maps, and an itemized list of undocumented fees provide hard statistical evidence which points to the need for at least two types of government reforms. First, high distortion costs associated with administrative procedures suggest that the government will need to work towards reducing both official and unofficial costs associated with operating a business in Cambodia. Secondly, the complexity of the custom clearance process suggests that procedural streamlining is required to help reduce the number of opportunities for undocumented fees to be collected, as well as to bring down the cost of having to utilize the services of customs clearance agents to help maneuver through the complex web of stamps and signatures required in the customs clearance process.

Having identified a number of administrative constraints inhibiting the growth of the private sector, additional interviews were conducted to scope out various means of expanding production in the private sector, particularly to enhance the integration of small and medium enterprises (SMEs) and small shareholder farmers (SSFs) into domestic and export production. In this context, the team also documented a number of effective out-grower schemes currently employed by a number of local enterprises. Based on existing out-grower schemes, recommendations will be made on how to expand these schemes to help increase the volume of production and participation by SMEs and SSFs, particularly in export oriented market activities.

The report will begin with a brief overview of the Cambodian market in Section I. The value chain analysis will begin in Section II with a brief description of the channel mapping methodology, followed by a detailed value chain analysis for all six products/commodities in Section III. Based on the value chain analysis of six products/commodities, the report will highlight the principal constraints to competitiveness and growth faced by Cambodian enterprises. Section IV will review sources of administrative distortions by reviewing a number of current laws and regulations, and identify priority areas and recommended action to address critical competitiveness and growth issues.

1. Market Structure

Cambodia has a population of approximately 11.5 million people. People under 20 years of age represent 55 percent of the overall population, and the workforce is growing at a rate of 3.2% per annum with 228,000 workers entering the market each year. These figures suggests that the Government will be under tremendous pressure to help stimulate the creation of new jobs in the following two decades.

Currently, 80 percent of the workforce is employed in agriculture, and the agricultural sector accounts for 36% of the country's GDP. It is estimated that 84 percent of households live in rural areas where the average per capital income is estimated to be about $238. For most to these households, rice production is a critical source of income and nutrition. Similarly, rice dominates 90% of cultivated land.

While agriculture continues to be a driving force for the Cambodian economy, garments and tourism offer additional sources of employment and income generating opportunities. Specifically, garments is the leading manufacturing activity in Cambodia accounting for 12.4% of GDP and creating employment opportunities for some 220,000 workers. However, with WTO provisions coming into effect, diversifying into alternative sources of economic activities will

be crucial for keep rising unemployment figures at bay.

More broadly, 85% of the workforce is self employed, which suggests that the Cambodian market consists mostly of subsistence level, and micro enterprise activities. This indicates that the absence of a tiered supply chain market structure, a crucial factor for attracting and retaining foreign investments in a country. Consequently, while promoting and targeting investments in strategic industries will be crucial to stimulate market growth in Cambodia, equally important will be policy and market based incentives to build and strengthen a market structure represented by an organized supply chain that integrates local SMEs into both the local and regional market demand.

II

Channel Mapping Methodology

Channel mapping is a process of tracing a product flow through an entire channel from the point of product concept to the point of consumption. This process highlights the underlying patterns of inputs, constraints and competitive advantage that a producer has. It also traces the path of all value adding and non-value adding activities associated with the production of a good and approximates costs involved at each stage.

When applied correctly, a channel mapping methodology provides opportunities to benchmark one producer against another, as well as benchmark production activities across regions and countries. Similarly, this methodology is an ideal tool for measuring and quantifying the cost of administrative distortions that hinder competitiveness of products and industries. Consequently, channel mapping can also be used as an effective tool to identify discrete areas for policy reform.

One of the principal ways in which a channel mapping methodology is applied is through a value chain analysis. A value chain analysis provides a detailed breakdown of each stage of production, estimates the cost at each stage, as well as to calculate the relative significance of these costs to the overall value of an end product.

While more traditional methods of product and market analysis isolate operational costs along various stages of production, a value chain analysis is a much more comprehensive tool, particularly as it takes into account an entire spectrum of activities and inputs associate with a product. Although a value chain analysis is usually employed at a product level, output from such an analysis provides useful indicative data on production and operational costs associated with a specific market.

1. Creating a Product Value Chain

An important point of departure for conducting a value chain analysis is to understand how to breakdown and categorize various activities associated with the production of a good to be analyzed. A value chain analysis can be used for everything from agricultural commodities to complex engineered products. But the effectiveness of a value chain analysis is principally a function of whether an analysis is conducted using categorization of value adding and non-value adding activities associated with a product.

Creating a value chain requires products to be defined and categorized according to various production processes and procedures that capture all value adding and non-value adding activities associated with a final product. Depending on the complexity of the product and the level of detail required for an analysis, the number of categories along a value chain can range from as few as 5 and as many as 25 or more categories of activities. For example, a value chain for rice can have as many as 18 process categories clustered under three major value adding activities, namely rice production, post-harvest activities; and transport/shipping/customs clearance. A sample of the process segmentation along a rice value chain is presented below (Table 5).

Table 5

An Example of a Value Chain for Rice

Production	**Host-Harvest**	**Transport/Shipping/Customs Clearance**
Land preparation Seeds Transplanting Fertilizer/manure Agrochemicals Harvesting	Drying Milling Interest Packaging Porter fees Market fees Levies/service	Transportation Port charges Vessel loading Customs clearance Shipping

Each of the process segmentations represent important value adding and non-value adding activities relevant for tracing a product from its very beginning until it reaches the final consumer.

2. Value Chain Analysis for Cambodia

Principal challenge for developing creditable industry and product level market analysis in Cambodia is the acute absence of reliable baseline data. As a result, much of the raw data required to analyze industries and markets must be compiled through individual in-depth firm level interviews. Consequently, the value chain analysis executed for this mission offers indicative data for various product groups and industries, but may require further work in the future to analysis a larger sample size of firms.

To ensure that the value chain analysis is adjusted for any data uncharacteristic of the market, emphasis was placed on cross checking all firm level data against other similar enterprises to help ensure that data used for the value chain analysis mirrors realities facing local enterprises.

A unique outcome of the value chain analysis for Cambodia was that firms faced substantial administrative interventions that cost companies time and money, but most of these interventions took place when inputs were imported and when final goods were exported, and very little administrative interventions were experienced during production.

III Value Chain Analysis

Rice: Potential For Rural Development Linkage

Official records suggest that Cambodia exported approximately 60,000 tons of rice in 2001. At the same time, however, it is estimated that unofficially traded paddy during the same period was nearly 450,000 tons, principally going to Vietnam and Thailand. Given current cost estimates, if 450,000 tons of paddy were directed through formal market channels in Cambodia, it would be equivalent to approximately $69.7 million in GDP contribution to for the country. In addition, based on both official and unofficial administrative costs, forgone public sector revenue resulting from the unofficial sales of 450,000 tons of paddy is estimated to be approximately $4.8 million.

To develop a comprehensive value chain for rice, a local high value export variety called Neang Mali was chosen. Specifically, the analysis traced a value chain for Neang Mali from a farm in Kampong Speu to a milling facility in Kandal Province and a finished product delivered to Hong Kong. In this particular example, rice farmers have a contract with a miller to sell 100% of production. In return, farmers are provided with high quality seeds as well as on-farm technical assistance.

At approximately 1.98 tons per hectare, Cambodia has the lowest rice yield rate among all Mekong River countries, while at the same time, Cambodia has the highest fertilizer use (Table 6). Specifically, the yield rate per hectare of Neang Mali used for the value chain analysis was approximately 1.87 tons per hectare. According to most millers, while they would like to see their farmers achieve yield rates as high as 3 tons per hectare, a more realistic expectation is around 2 tons per hectare. Nearly 58% of all rice grown in Cambodia relies on rain fed agriculture, and 32% of the overall rice planted in Cambodia are planted near flood prone areas along the Mekong.

Table 6

Rice Producti on and Yield Comparison for Selected Asian Countries

	Cambodia			**Vietnam**			**Thailand**			**Lao PDR**			**Myanmar**		
Fertilizer (kg/ha)	**N**	**P_2O_5**	**K_2O**	**N**	**P_2O_5**	**K_2O**	**N**	**P_2O_5**	**K_2O**	**N**	**P_2O_5**	**K_2O**	**N**	**P_2O_5**	**K_2O**
Low range	100	0	70	0	0	0	0	0	0	Na	Na	Na	0	0	0
High range	100	100	70	90	30	30	100	75	75	Na	Na	Na	44	8	0
Yield (tons/ha)															
Low range	1.8			2.6			1.3			Na			Na		
High range	2.4			4.6			4.0			2.5			3.2		
Average yield	1.98			4.26			2.57			3.06			3.17		
Harvest Area (million ha)	1.924			6.766			9.020			0.560			6.144		
Irrigated (%)	8%			54%			22%			7%			18%		
Rainfed (%)	58%			29%			75%			57%			68%		
Upland (%)	2%			5%			1%			36%			4%		
Flood prone (%)	32%			11%			1%			0%			10%		

Source: Better Crops International. Vol. 15, Special Supplement, May 2002; FAOSTAT, 2001

The value chain for rice was broken down into three major categories and 18 sub categories (Table 7). The three major categories include: production; post harvest; and transport/shipment and customs. According to the value chain analysis, it costs approximately $144.02 per ton to grow, process and ship Neang Mali rice from Cambodia to Hong Kong. The value chain analysis highlights that fertilizer/manure (18%), transplanting (13.9%) and customs (10.6%) constitute highest costs associated with export oriented rice:

Table 7

Value Chain for Neang Mali Rice (Dollars/ton)

Dollars/Ton

	Production (50.3%)						Post-Harvest (16.1%)							Transport/Shipping/Customs (33.6%)					
Value	**Land Preparation**	**Seed**	**Transplanting**	**Fertilizer/ manure**	**Ag-chemicals**	**Harvesting**	**Drying**	**Milling**	**Interest**	**Packaging**	**Porter Fees**	**Market Fees**	**Levies/ Service**	**Transport**	**Port Charges**	**Vessel Loading**	**Customs**	**Shipping**	**TOTAL**
Unit Cost	$14.19	$4.15	$20.09	$26.00	$	$8.03	$ 3.35	$12.23	$2.06	$2.16	$0.72	$1.44	$1.27	$6.51	$10.23	$1.40	$15.30	$14.88	**$144.02**
% of Total	9.9%	2.9%	13.9%	18.0%	0.0%	5.6%	2.3%	8.5%	1.4%	1.5%	0.5%	1.0%	0.9%	4.5%	7.1%	1.0%	10.6%	10.3%	100.0%

Source: Based on interviews conducted by Global Development Solutions, LLC

1. Production

Production of rice constitutes approximately 50% of the overall value adding activity. Such activities are segmented into 6 areas: land preparation; seed; transplanting; fertilizer/manure; ag chemicals; and harvesting (Table 8):

Table 8

Estimated Production Cost for Neang Mali in Kampong Speu

Per Ton

	Labor	Input	Riel Total		$ Total	% Total
Land preparation		56,776	56,776	$	14.19	16%
Seed	-	16,604	16,604	$	4.15	5%
Transplanting	80,343	-	80,343	$	20.09	22%
Fertilizers/manure	9,641	94,339	103,980	$	26.00	29%
Ag chemicals	-	-	-	$	-	0%
Harvesting	32,137	-	32,137	$	8.03	9%
Drying	13,390	-	13,390	$	3.35	4%
Milling	3,320	45,600	48,920	$	12.23	14%
Interest payments	-	8,227	8,227	$	2.06	2%
Total	**138,832**	**221,546**	**360,377**	**$**	**90.09**	**100%**
% of Input	**39%**	**61%**				

Source: Based on interviews by Global Development Solutions, LLC

As Table 8 indicates, fertilizer and manure account for the highest cost during the production phase. As evident from the import procedure faced by fertilizer importers (Chart 1), custom clearance process is complex. According to fertilizer traders, import costs and customs clearance charges associated with importing contributes to the high cost paid by local farmers.

For premium fertilizer, farmers must pay approximately 1,000 Riels/kg. On the other hand, cheaper variety of fertilizers are also readily available through local traders costing anywhere from 700 – 800 Riels/kg. Interviews with farmers suggest that cheaper fertilizers tend to be relatively ineffective and maybe contributing to anywhere from 25 – 35 percent reduction in yield per hectare.

Further investigation of this issues suggests that while fertilizers purchased in bulk and brought into Cambodia are certified by the Ministry of Agriculture, local traders often dilute the fertilizer before being repackaged and sold to local farmers[3]. It is estimated that nearly 70 percent of all fertilizers sold by local traders are diluted. Random sample tests were taken to investigate this issue. *In one test, 15-15-15 fertilizer imported from Thailand had only one-third of the required concentrate of nitrogen, phosphorus, and potassium. In another test, 15-15-15 fertilizer imported from Vietnam had approximately 27 percent less nitrogen, phosphorus, and potassium than was originally certified when the fertilizer was imported to Cambodia.*

Currently there are only 5 major fertilizer importers with localize distribution network that have effectively created a distribution monopoly for fertilizer in Cambodia. The sub-decree on Standards and Management of Agricultural Material under the Ministry of Agriculture, Forestry, and Fisheries require that all transactions associated with the sales

[3] A random spot check of fertilizer quality was conducted, where two types of loose fertilizers (16-20-0 and 15-15-15) from Vietnam and Thailand sold by traders in Phnom Penh were tested for quality.

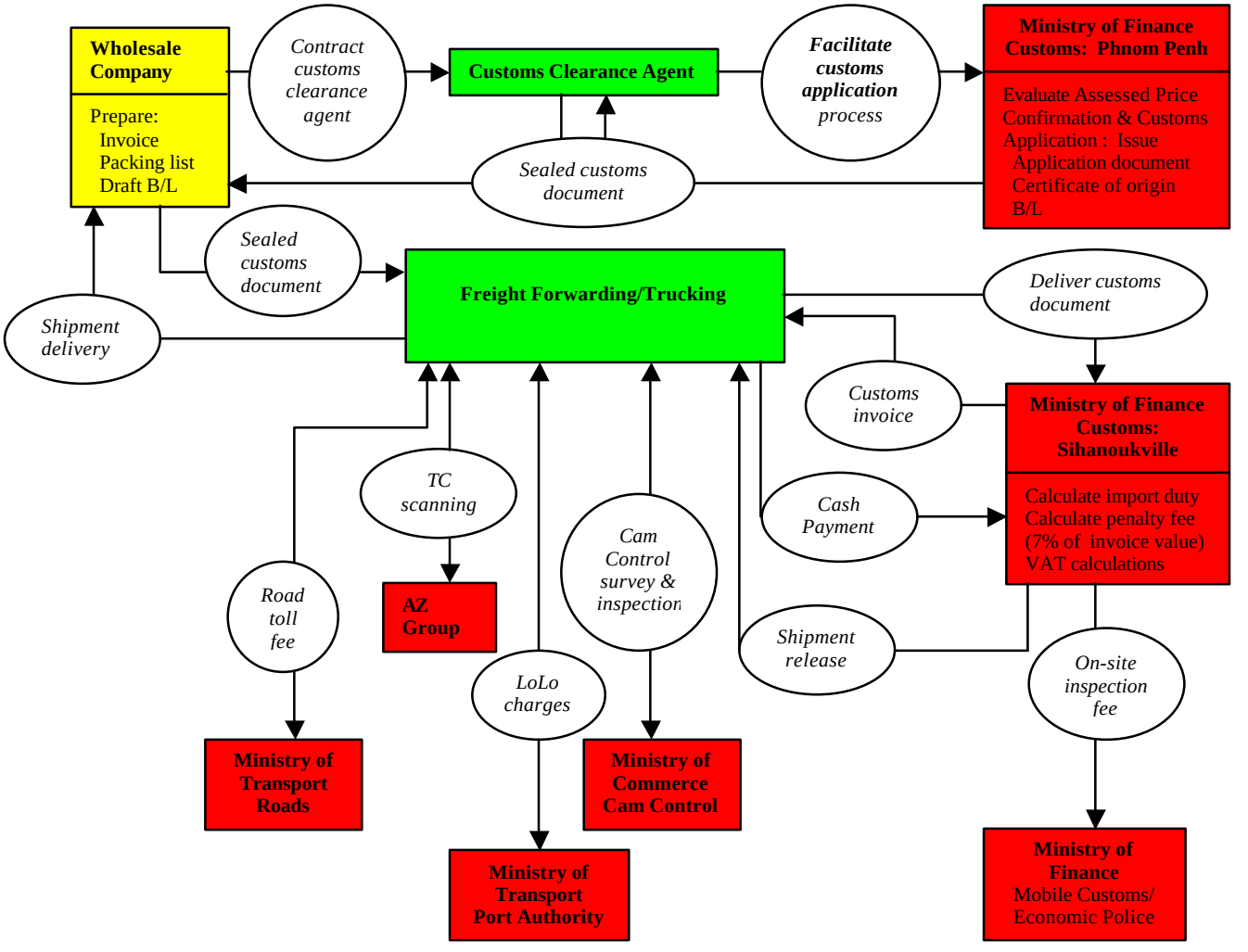
and distribution of agricultural material, including pesticides and fertilizer, must be registered with the Ministry. At the same time, however, currently only 5 – 6 firms are known to be registered. Thus, between the distributional monopoly and illegal inflow of fertilizer, the small holder farmers face a formidable challenge in acquiring affordable high quality fertilizer.

As a result of poor quality fertilizer used by farmers, per hectare yield rates are consistently lower than anticipated when farmers use the prescribed amount of fertilizer for the Neang Mali variety. Consequently, farmers are either having to pay premium prices for reliable fertilizer, or are applying larger volume of less expensive fertilizer to achieve per hectare yield targets prescribed by rice millers.

If farmers had access to high quality fertilizer, this would contribute a savings of about $15 per ton, which would translate to a 31% increase in profits for small holder farmers.

Chart 1

Import and Customs Clearance Procedure for Loose Cargo Load



Source: Based on interviews by Global Development Solutions, LLC

Transplanting continues to be done by hand as automated equipment is far beyond the reach of an average farmer. In addition, the plot size of many farmers are so small that it

would not warrant mechanization. This means that farmers are dependent on temporary labour to complete the transplanting. It is estimated that transplanting takes 25 men/hectare with an average wage rate of approximately 6,000 Riels/worker/day.

While farm labour continues to be inexpensive in Cambodia, labour productivity has remained relatively low when compared to regional competitors (Table 9). Low labour productivity can be partly attributed to the absence of training and support institutions to assist farmers, as well as poor access to financing that enable farmers to access proper farming implements and install irrigation system.

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Table 9

Benchmarking Labour Productivity in the Rice Sector
Between Cambodia, Vietnam and Thailand

	Cambodia	**Thailand**	***Productivity***
	Kampong Speu	**Central**	***Differential***
Yield/hectare (tons)*	1.87	2.91	
Labour input (person days/ha)	43	47	
Labour productivity (kg/worker)	**43.49**	**62.35**	**-43%**

**Thailand: Total labour input equal to $155.5/ha using a wage rate of $3.33/day*

The third highest production cost associated with growing Neang Mali is land preparation. Most farmers do not own a tractor, much less an ox to help plow the land. To achieve high yield rates possible through the use of high quality seeds, proper land preparation is paramount. As most small and medium farmers do not have their own tractors, they must hire tractors from local service providers. On average, farmers must pay 50,000 Riel/ha (approximately $12.5) to a local service provider for land preparation. In addition, proper land preparation require the services of a tractor twice. Consequently, farmers are required to pay on average approximately $25/ha to an outside service provider to assist in the preparation of land.

In addition, rising fuel costs has had a substantial impact on the cost of land preparation. For the Neang Mali variety, land preparation costs constitute nearly 16 percent of the total cost of farming.

The only alternative left for a farmer to prepare land properly is to purchase an oxen to plow the soil. However, according to one farmer, accessing financing through local micro-credit institutions is prohibitive. For example, for a 12 month, 100,000 Riel loan, farmers are required to pay 12,000 Riel/month for the first 11 months and 10,000 Riel on the 12th month. This is equivalent to 42 percent annualized interest rate. Consequently, when a head of cattle cost one million Riel (approximately $250), it is nearly impossible for small and sometime medium farmers to borrow from local lending institutions.

2. Post Harvest

Post harvest activities are divided into 7 areas: drying, milling, interest, packaging, porter fees, market fees, and levies and services. Once a farmer has harvested his crop, it is dried and then brought to the milling facility where the paddy is graded and weighed. For Neang Mali, local millers generally rely on

three variables to grade paddy: moisture content, mixture with non-Neang Mali and impurity such as disease and straw. A typical paddy grading system is presented below (Table 10).

Table 10

Paddy Grading System

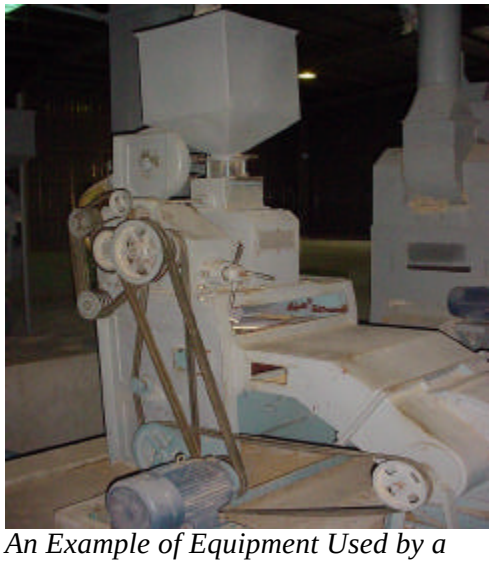
Moisture		Mixture		Impurity	
Moisture content (%)	Deduction (%)	Mixture (%)	Deduction (%)	Impurity (%)	Deduction (%)
15%	0%	1%	0%	1%	0%
16%	1.5%	2%	1%	2%	1%
17%	3%	3%	2%	3%	2%
18%	4.5%	4%	3%	4%	3%
19%	6.0%	5%	4%	5%	4%
20%	7.5%	6%	5%	6%	5%
21%	9.0%	7%	6%	7%	6%
22%	10.5%	8%	7%	8%	7%
23%	12.0%	9%	8%	9%	8%

Source: Based on interviews by Global Development Solutions, LLC

During the 2002 harvest season, farmers were offered a farm gate price of 620 Riel/kg. Depending on the score that a farmer received for his harvest, deductions are made from the farm gate price. In addition, the cost of seeds which the farmer received at the beginning of the season is deducted.

In general, there are at least two types of millers in Cambodia: village millers and commercial millers. Village mills are generally used by subsistence level farmers where a mill can facility between 45 – 60 families, and payments are made according to meal and husk, or on a cash basis. Two types of mills are used at the village level: a steel huller and polisher that removes the husk and polishes the rice in a single operation; and a second type which uses a rubber roller to remove the husk and steel polishers to remove the bran and polish the rice.

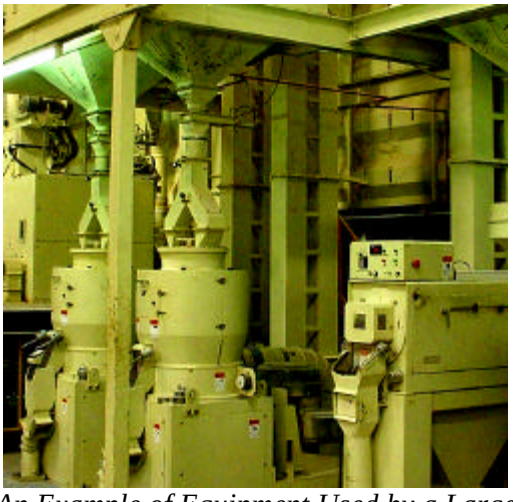
Small commercial mills can mill between 0.5 – 2.5 tons/hour, but have a relatively high energy consumption rate of approximately 10 – 15 Khw.



An Example of Equipment Used by a Medium Size Village Level Mill

Furthermore, smaller commercial mills tend to have a relatively low paddy to rice conversion rate (usually less than 55%).

Large commercial mills geared towards exports have milling capacity of as much as 120 tons/day, and utilize technology intensive equipment to mill, husk and sort rice where conversion losses are relatively low (paddy to rice conversion rate can range between 60 – 65 percent).



An Example of Equipment Used by a Large Scale Commercial Mill

As Table 11 indicates, the paddy to milled rice conversation ratio in Cambodia is well below some of the major rice exporting countries, and only slightly above Lao PDR and Myanmar.

The low conversion rate can, in part, be attributed to poor post-harvest labour skills, as well as limited availability of high quality commercial milling facility.

Table 11

Paddy to Milled Rice Conversion Rate

	Conversion Rate
Lao PDR	0.60
Myanmar	0.62
Cambodia	**0.63**
Vietnam	0.65
Thailand	0.66
China, PR	0.70
Taiwan, China	0.73
Japan	0.73

Based on the general consensus that about 4.12 million tons of paddy is produced in Cambodia each year, the total milling capacity in the country is estimated to be only 1.31 tons[4] - a deficit in milling capacity in the country of nearly 2.81 million tons. Hypothetically, if the un-milled paddy is a premium variety, the lack of investments in commercial standard milling capacity is contributing to a potential loss in export revenue equally $731 million.

Whether for a village level or commercial mill, the largest cost associated with post-harvest activities is milling, specifically, the cost of electricity (more than 58% of all post-harvest costs are associated with milling, most of which is the cost of electricity). On the grid, electricity cost can be as high as $0.50/Kwh. Consequently, millers must generate their own electricity. In such instances, the cost of electricity range between $0.12 - $0.18/Kwh.[5]

[4] Commercial milling capacity: 648,450 tons; Village mills: 663,129 tons.

[5] Comparative electricity costs (off-peak tariff for industry and % more expensive in Cambodia): Thailand ($0.08/Kwh – 125%); Vietnam ($0.0467/Kwh – 291%); and Lao PDR ($0.0265/Kwh – 592%); Myanmar ($0.08/Kwh – 125%).

As evident from the value chain analysis, there is very few, if any government interventions during the post-harvest stage. This, in part, can be attributed to the fact that there are very few laws and regulations in place to monitor and regulate company operations. Consequently, very few opportunities are available for government officials to come into contact with local enterprises. This phenomenon was the case not only in the rice milling industry, but in all other industries, as laws and regulations dictating company operations is still at an embryonic stage.

3. Benchmarking the Competitiveness of Cambodian Rice Production

When the cost of producing Neang Mali rice in Cambodia is compared with the average cost of high quality rice production in Thailand, the overall cost of production tends to be about 40 percent higher in Thailand, but Thai farmers achieve approximately 12% higher per hectare yield rates. With this said, however, in the context of cost per ton of production, Cambodian farmers achieve a cost of $89.9/ton while their Thai counterparts achieve a cost of $113.3/ton (Table 13).

Table 13

Benchmarking Rice Production Costs
Between Cambodia and T hailand (per Hectare)

		Cambodia		Thailand		*Cost*
		$/hectare	**% of Total**	**$/hectare**	**% of Total**	*Differential*
1	Land preparation	$ 26.50	16%	$ 26.09	11%	2%
2	Seed	$ 7.75	5%	$ 6.02	3%	22%
3	Transplanting	$ 37.50	22%	$ 63.36	27%	-59%
4	Fertilizer/manure	$ 48.53	29%	$ 15.77	7%	208%
5	Ag chemicals		0%	$ 2.48	1%	
6	Harvesting	$ 15.00	9%	$ 61.94	26%	-24%
7	Drying	$ 6.25	4%	$ 8.48	4%	-74%
8	Milling	$ 22.83	14%	$ 33.04	14%	-69%
9	Interest payment	$ 3.84	2%	$ 3.38	1%	12%
10	Rent	$ -	0%	$ 16.32	7%	
	TOTAL	**$ 168.20**	100%	**$ 236.87**	**100%**	
	Yield/hectare (tons)	**1.87**		**2.09**		

These figures suggest that cost of production of premium rice in Cambodian can be competitive against major rice exporting country like Thailand. At the same time, however, a number of farming and processing issues require support to help enhance competitiveness of the rice industry. These issues include: cost of seeds, fertilizer costs, labour productivity, cost of electricity, improving milling equipment and technology to reduce losses, while increasing the paddy to milled rice conversation ratio.

4. Transport/Shipping/Customs Clearance Charges

The second largest cost associated with producing and exporting rice from Cambodia is transport, shipping and customs clearance charges, specifically, customs clearance charges. According to the value chain analysis, custom clearance charges constitute nearly 10.6% of the total cost of producing

and exporting rice. In this respect, direct administrative costs account for nearly 12% of revenue from one ton of paddy rice (Table 14).

Table 14

Transport, Shipping and Custom Clearance Charges for Exporting Neang Mali Ric e to Hong Kong (20 foot container)

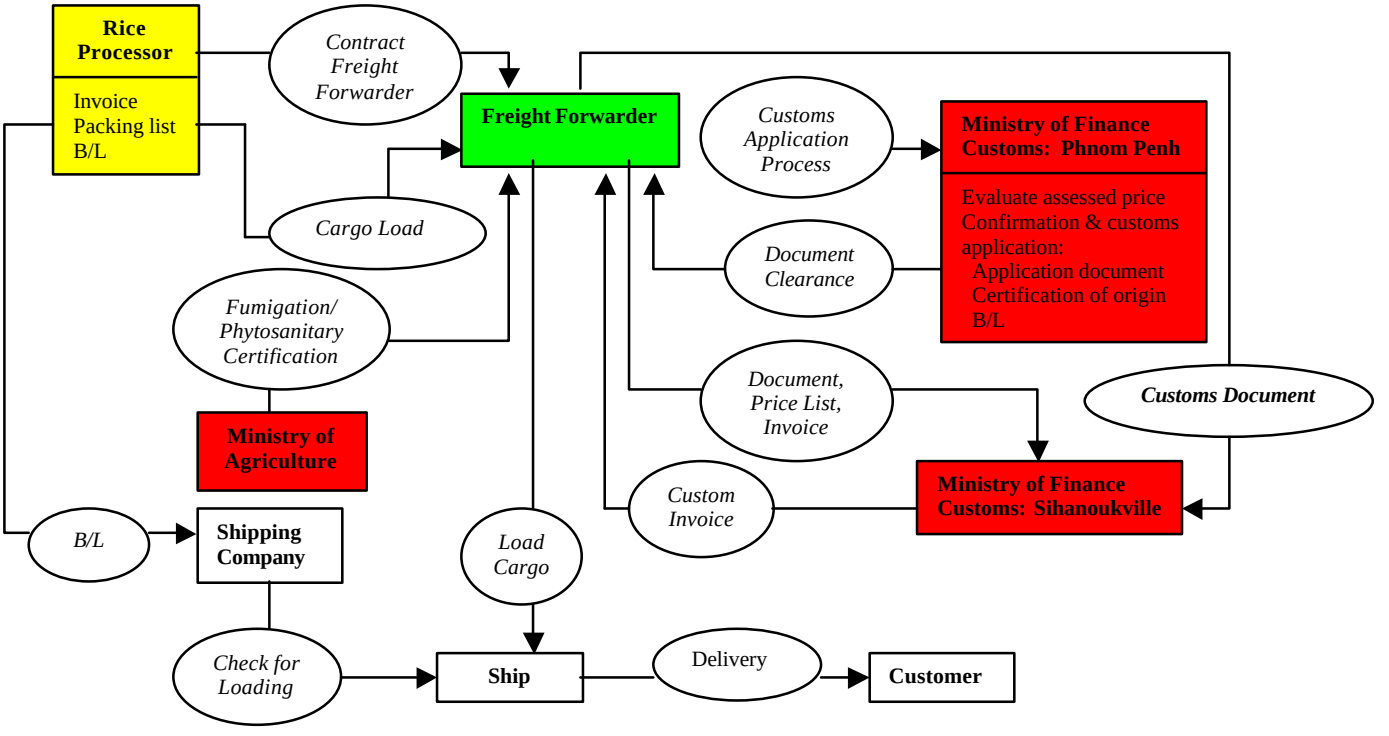
				Total Cost	Fee payment
1	**Mill - Sihanoukville**			**$ 140.00**	
			% of Total		
		Cost($)/ton			
	Road (NR4)	$ 6.51	**12%**		Transport company inclusive of toll
2	**Customs/Camcontrol/Police inspectio ns**			**$ 329.03**	
		Cost($)/ton			
	Customs clearance	$ 5.58	11%		Customs (MoF)
	Customs permit	$ 4.65	9%		Customs (MoF)
	Camcontrol quality certificate & analysis	$ 4.65	9%		Camcontrol (MoC)
	Camcontrol survey	$ 0.42	1%		Camcontrol (MoC)
			29 %		
3	**Vessel Loading fee**			**$ 30.00**	
		Cost($)/ton			
	Lift empty & laden at factory	$ 1.40	**3%**		Shipping company
4	**Port Charges**			**$ 220.00**	
		Cost($)/ton			
	Terminal handling charge	$ 3.26	6%		Shipping company
	Documentation fee	$ 0.70	1%		Shipping company
	Banker adjustment factor	$ 1.16	2%		Shipping company
	Fumigation	$ 0.93	2%		Private contractor
	Phytosanitary certification	$ 2.79	5%		MoA
	Lift empty	$ 1.40	3%		Shipping company
			19 %		
5	**Shipping charges**			**$ 320.00**	
		Cost($)/ton			
	Sihanoukville - Hong Kong (low quote)	$ 14.88			
	Sihanoukville - Hong Kong (high quote)	$ 19.53	**37 %**		
	Sihanoukville - Shanghai	$ 30.23			
6	**TOTAL**	**$ 52.98**	**100%**	**$ 1,039.03**	

Source: Based on interviews conducted by Global Development Solutions, LLC

As rice is a major export commodity, it is not unusual to find a number of high level government officials with financial interest in rice milling companies. Consequently, when compared with enterprises in other industries, milling companies tended to have less bureaucratic and administrative interventions imposed on them. This is evident from the limited number of administrative procedures required for customs clearance, and the limited and relatively low administrative fees incurred by local millers (Chart 2).

Chart 2

Export Clearance Procedure for Neang Mali Rice



Source: Based on interviews conducted by Global Development Solutions, LLC

According to one miller which has a high government official on its board, the customs document requirement was limited to a total of 5 documents, 6 stamps and 8 signatures. As we will see from other examples, the customs clearance procedures and costs associated with customs clearance for rice millers is only a fraction of the cost incurred by companies in other industries.

With this said, however, it should be noted that the customs clearance charges constitute 29% of the transport, shipping and custom clearance charges, which is equivalent to $329 per 20 foot container. The highest portion of these costs can be attributed to customs clearance and customs permits under the Ministry of Finance.

5. Benchmarking Post -Harvest Cost for Rice in Cambodia

As evident from the previous sections, post-harvest costs are considered high in Cambodia. Benchmarking post-harvest costs in Cambodia against Myanmar suggests that while processing costs such as milling is slightly higher in Cambodia, the biggest difference between the two countries point to high administrative costs associated with exporting rice (Table 15).

Table 15

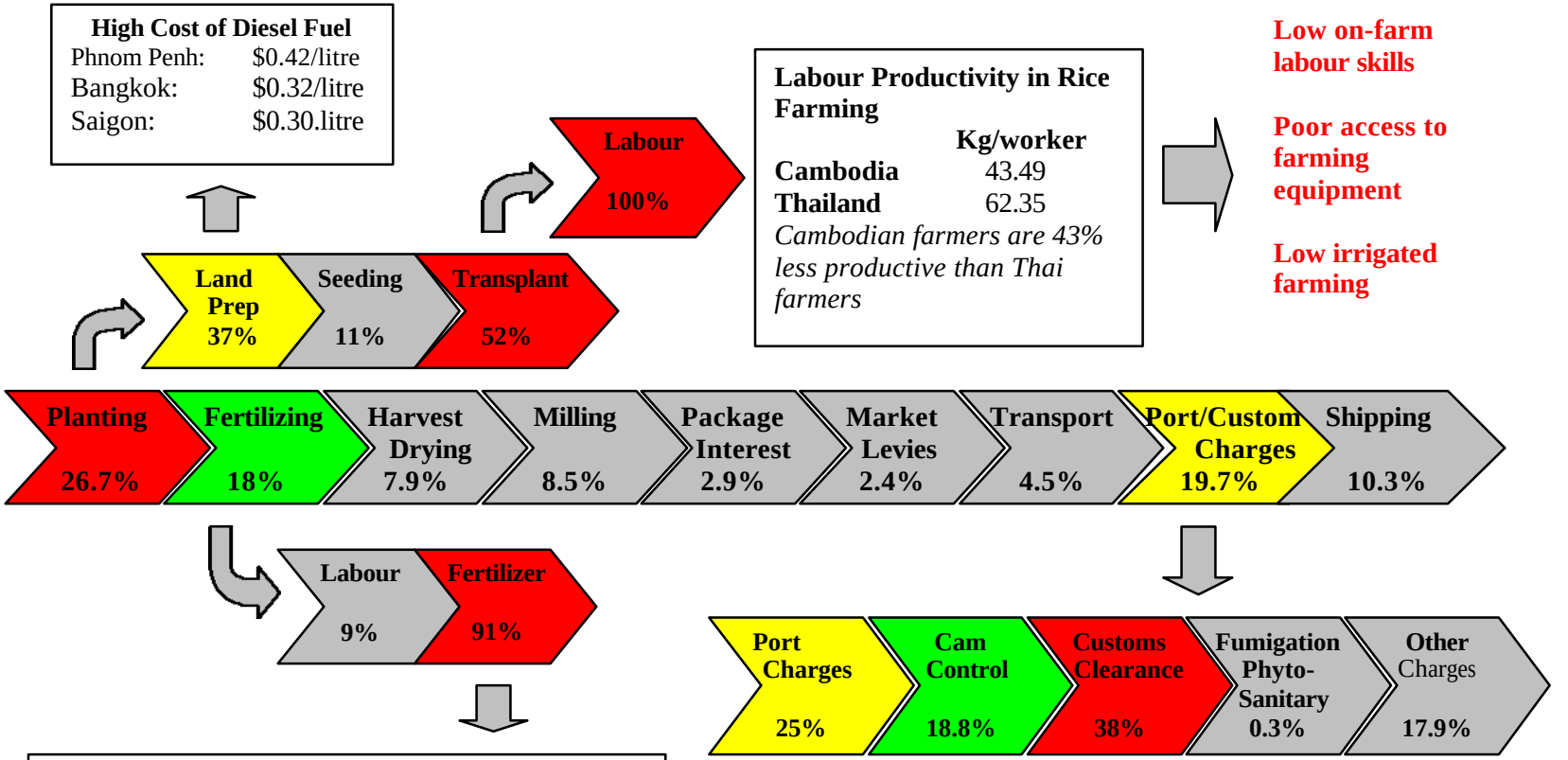
Benchmarking Post -Harvest Cost for Rice in Cambodia and Myanma r (per Ton)

		Cambodia Sihanoukville	Myanmar Yangon	*Cost Differential*
1	Production cost	$ 77.87	$ 67.93	14%
2	Milling	$ 12.23	$ 7.38	65%
3	Packaging	$ 2.16	$ 8.88	-24%
4	Levies	$ 3.43	$ 5.26	-65%
5	Transport	$ 6.51	$ 9.47	-69%
6	Port charges	$ 10.23	$ 0.42	2,336%
7	Vessel loading	$ 1.40	$ 0.76	84%
	TOTAL	**$ 113.83**	**$ 100.10**	13%

Specifically, port charges and vessel loading charges in Cambodia are both substantially higher than in Myanmar. In the case of port charges, costs in Sihanoukville is 24 times more than at the Port of Yangon. Similarly, the vessel loading charged in Sihanoukville is 184% of what is charged in Yangon. These figures, however, may not account for subsidies offered by the Government Myanmar regarding port charges.

Chart 3

Value Chain for the Production of Neang Mali Rice in Cambodia



The value chain analysis suggests that the premium rice sector in Cambodia has the potential to be competitive against Thailand, a major rice exporter in the world market (Chart 3). At the same time, however, a number of market based and administrative barriers to competitiveness continue to hinder the development of the sector, particularly in the context of attracting adequate investments in the commercially milling sector. In this context, the critical bottleneck is in the processing rather than production side of the rice value chain.

In addition, administrative costs associated with importing inputs and exporting rice continues to dampen the overall competitiveness of rice in the export market. While these administrative barriers are not unique to the rice sector, the potential for expanding the foreign exchange earning capability to support the development of the Cambodian economy will hinge on a range of administrative reforms to help reduce overall competitiveness of export quality rice.

Administrative and market barriers to competitiveness faced by the rice exporting sector can be summarized as follows (Table 16).

Table 16

Administrative and Market Barriers to Competitiveness

	Critical Issues	**Impact**
Business Environment	High import clearance charges Lack of regulatory enforcement Poor access to finance High export clearance charges	High cost of fertilizer Large unofficial outflow of paddy to Vietnam and Thailand High production costs, low yield rates, poor quality or inadequate use of agricultural inputs Reduce the competitiveness of export rice Discourage investments in expanding milling capacity
Supply Chain	Lack of investment in commercial milling capacity Absence of business and technical support infrastructure	Deficit in milling capacity High cost of support services Poor on-farm labour skills
Infrastructure	Uncompetitive energy pricing policy High cost of electricity High cost of diesel	High milling cost High transplanting cost and high milling cost for self-generating electricity

Cotton, Fiber and Textile Production: Potential Integration With the Garment Industry

The textile and garment industry accounts for nearly 200,000 jobs, and garment exports account for over 77 percent of the country's export revenue. At the same time, however, Cambodia's garment industry is entirely dependent on imported material. Specifically, imported raw material accounts for nearly 63 percent of the cost of production for the garment industry. While WTO provisions should be a concern to the Cambodian garment industry, what is equally troubling is how the industry will continue to be competitive in the global market where the industry is dependent entirely on imported material and such costs constitute an overwhelming percentage of the cost of production.

Black soil area in Andoek Hep and Battambang Province, and numerous areas within Cambodia with basaltic red soil lend themselves well to growing cotton. This was evident during the 1960s when nearly 20,000 hectares of cotton was grown in Cambodia. But following the war, food shortages pushed farmers into subsistence level farming that favored rice over cotton.

A number of cotton pilot projects were sponsored by the Soviets during the 1980s, but security problems combined with increased production and access to cotton from regional markets never stimulate the re-development of cotton farming in Cambodia. Now, in the eve of Cambodia becoming a member of the WTO, the engagement of WTO provisions in 2005, and the rising cost of raw material inputs for the garment industry is yet again provoking debate over whether Cambodia should re-introduce cotton into the basket of high value added cash crops to be targeted to help stimulate the agricultural and industrial sectors.

Currently, less than a hand full of enterprises are actively involved in processing cotton into yarn and fabric. Consequently, the number of cotton growers continues to remain relatively small. A value chain analysis that stretches from cotton production to yarn spinning, and finally textile fabric production reveals the number of barriers that continues to make cotton farming, yarn spinning and textile fabric production less than competitive.

While it is useful to compare costs across the entire value chain from cotton production, processing and transport/customs clearance, the disproportionate costs between the three value adding activities distorts the analysis within each stage of production. Consequently, the report will segment cotton to textile production process into three separate value chains to help identify and analyze factors inhibiting the overall competitiveness of the textile industry in Cambodia.

1. Cotton Value Chain

Currently there are very few integrated cotton to textile production facilities operating in Cambodia. Consequently, cotton farming and related market transactions still lack structure and organization. In addition, rice farming continues to dominate the market, particularly as there is clear demand and market for rice either through the domestic market or through sales to Vietnamese and Thai rice traders. As a result, farmers are reluctant to shift from rice to cotton farming.

Cotton farms currently operating in Cambodia range in size from 0.5 hectares to over 65 hectares, where most farmers enjoy two growing seasons. With the exception of a few large cotton farms, majority of farmers do not have irrigation systems in place and thus rely on rain fed agricultural practices[6]. As the

[6] It is estimated that approximately $100 - $200 is required to purchase a pump and pipes adequate to irrigate 3 hectares of cotton.

case with most farming communities, nearly one out of ten cotton farmers are illiterate. As a result, introducing new farming techniques to improve yield and maintaining a structured pest management programme continues to be a challenge. In addition, as most smaller cotton farms are located in rural areas, if not in remote locations, access to capital to purchase proper farming equipment and to expand plot size is proving to be a formidable challenge for increasing cotton production.

In the absence of access to affordable working capital, unless an intermediary processor provides all of the necessary inputs such as high quality seeds, fertilizers, and sprays, small shareholder farmers (SSFs) have no means of shifting production from one crop, like rice, to cotton, even if market opportunities are available to increase farm level income. In this context, 'pro-active' response to market opportunities is often not possible, and thus bound farmers to behave in a 're-active' manner where they must be sought out by intermediary processors willing to sponsor them. Consequently, the process of scouting and mobilizing farmers to shift to cotton farming has proven to be a costly endeavor for cotton processors.

A value chain analysis of cotton farms in Cambodia revealed that the average total value added for producing seed cotton is approximately $346 per ton (Table 17). To derive at this figure, cotton production was segmented into 9 different value adding activities.

Table 17

Cotton Value Chain for Cambodia

	Land Preparation	Planting	Seeding	Thinning	Stamping	Weeding	Spraying	Fertilizing	Harvesting	**TOTAL**
Value	$20.52	$9.17	$143.13	$4.17	$12.50	$30.00	$26.71	$50.42	$50.00	**$346.60**
% of Total	6%	3%	41%	1%	4%	9%	8%	15%	14%	100%

Source: Based on interviews conducted by Global Development Solutions, LLC

Seeding: As evident from the value chain, nearly one-half of the cost associated with cotton production originates from the cost of seeds. As very little cotton is grown in Cambodia today, high quality cotton seeds are currently imported. According to a leading cotton processors in Cambodia, cotton seeds imported from China have performed relatively well.[7] With this said, however, a number of seed varieties are still being tested. In China, for example, per hectare yield may reach as high as 2.5 tons per hectare, but currently, the same seed variety yields only 1.2 tons per hectare in Cambodia. Another factor that contributes to the low yield rate is that only 2 percent of the farmers can actually afford to purchase fertilizer, and of this 2 percent, a majority of these farmers apply only 10 percent of the prescribed amount (lack of financing is an overwhelming factor for the inadequate application of fertilizer). This translate to an estimated 0.9 ton/hectare field loss in production.

As a result of these factor, Cambodian cotton growers and processors predict that it will be another three to five years before seed varieties and farming practices can be adapted to achieve yield rates matching those enjoyed in China.

It is anticipated that as farming practices using high quality seed varieties are adapted to soil and climatic conditions, producers will resort to production of local seed varieties to help reduce the cost of cotton production. At the same time, however, cost of importing seeds continues to remain high. As evident from the complex import procedures associated with imported fertilizer, importing cotton seeds also face similar barriers to entry.

[7] The price of high quality cotton seeds from China is estimated to cost approximately $10/kg plus freight. The prescribed volume of seeds required is approximately 15kg/ha.

Consequently, streamlining import procedures is expected to play an important role in encouraging the development of the cotton industry during its early days.

Fertilizer: Like most other agricultural crops, cost of fertilizer is prominent in the overall cost of producing cotton. As evident from the cotton value chain, fertilizer costs constitute 15 percent of the overall cost of production. Interviews suggest that what little fertilizer used by farmers is both expensive and of poor quality (similar situation faced by rice farmers – Table 18).

Table 18

Fertilizer Price and Application by Cotton Farmers in Cambodia

	Price (Riel)			
Fertilizer	**Riel/kg**	**$/kg**	**Riel/ton**	**$/Ton**
DAP	1,100	$ 0.28	1,100,000	$ 275.00
KCL	1,300	$ 0.33	1,300,000	$ 325.00
Urea	700	$ 0.18	700,000	$ 175.00

Average Fertilizer Application

Fertilizer	**kg/ha**	**Riel/ha**	**$/ha**
DAP	100	110,000	$ 27.50
KCL	50	65,000	$ 16.25
Urea	50	35,000	$ 8.75
Total	**200**	**210,000**	**$ 52.50**

Source: Based on interviews conducted by Global Development Solutions, LLC

According to cotton processors, the prescribed amount of fertilizer required to achieve maximum yield per hectare is estimated to be about 200kg/ha, which must be applied twice. This translates to approximately $53/ha.

Harvesting: The average daily wage for a farm hand on a cotton farm in Cambodia is approximately $1.00/day. Given a relatively low wage rate, some questions arise regarding the relatively high cost of harvesting.

Most cotton farms are relatively small. Consequently, not only is it uneconomical to use mechanized equipment such as picking and stripping equipment, but even larger farmers are unable to afford mechanized equipment to harvest cotton. As a result cotton harvesting is all done manually. While the cost of labour is inexpensive, compared to Chinese workers, labour productivity among Cambodian cotton pickers is estimated to be about 50% below that of Chinese workers. As a result, in Cambodia 60 man-days of labour is required to harvest 1 hectare of cotton (Table 19).

Table 19

Labour Input Requirements for Cotton Production in Cambodia

Labour Costs/ha	# of Days	Wage/day	Total Riel	% of Total
Land preparation	25	4,000	98,500	13%
Planting	11	4,000	44,000	6%
Seed	24	4,000	96,000	12%
Thinning	5	4,000	20,000	3%
Stamping	15	4,000	60,000	8%
Weeding (3 times/season)	36	4,000	144,000	18%
Chemical spraying (4 times/season)	12	4,000	48,000	6%
Fertilizing (2 times/season)	8	4,000	32,000	4%
Harvesting	60	4,000	240,000	31%
Total	**196**		**782,500**	**100%**

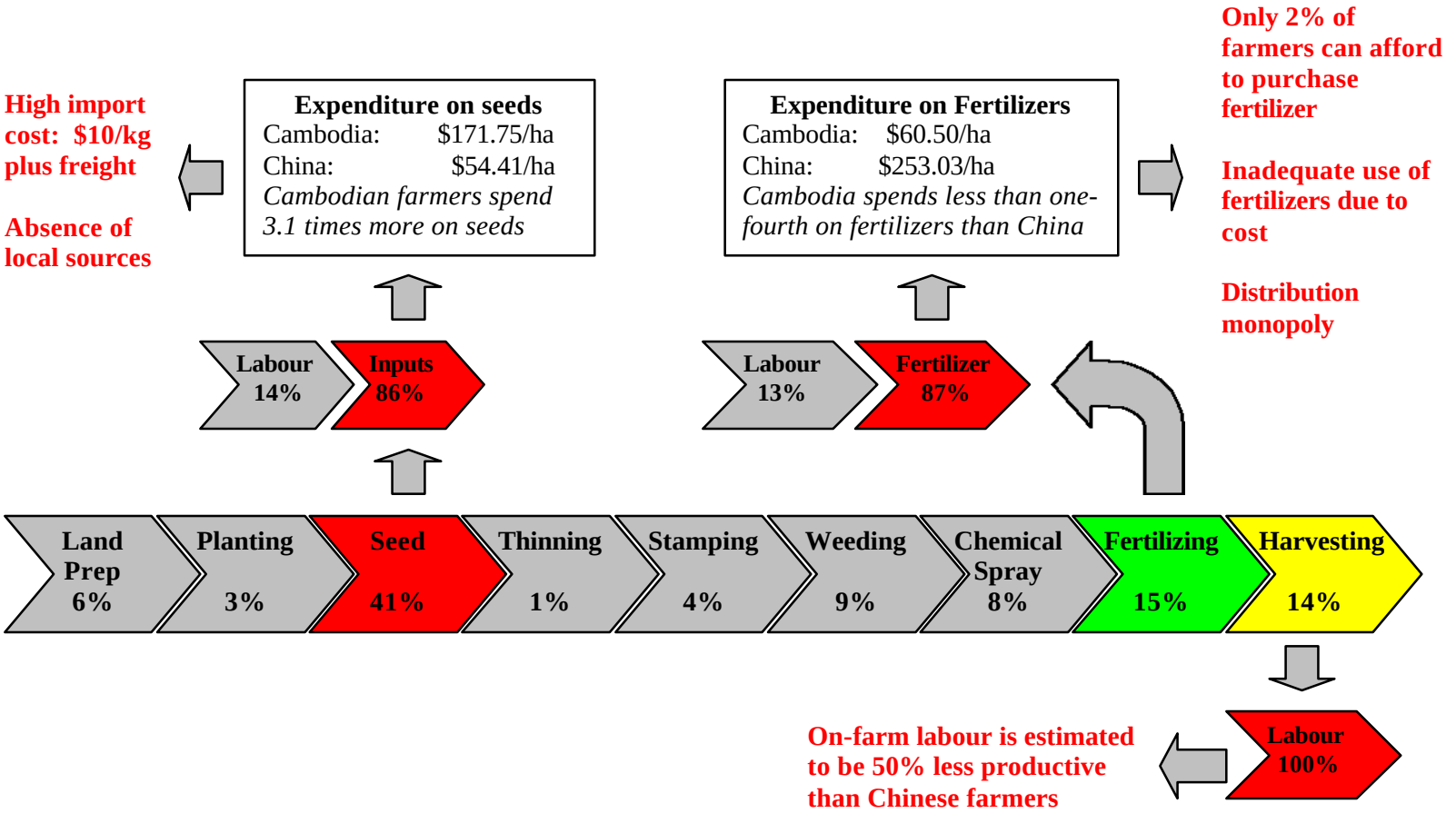
Source: Based on interviews conducted by Global Development Solutions, LLC

According to a cotton processor, access to improved equipment and training would improve labour productivity and thus contribute to reducing the overall cost of production. But as no training institution or organized activity to promote and support the development of the cotton industry is available in Cambodia, resources required for on-farm training and support to improve worker productivity remains as a hidden cost to an integrated textile company that sources cotton from local farmers.

As the summary value chain in Chart 3 indicates, the areas with the highest cost associated with cotton production is somewhat similar to the product cost for rice in that imported inputs such as seeds and fertilizer, and labour productivity are prominent components in the value chain. What is surprising, however, is that cotton producers in China, particularly in the Yellow River Valley, rely heavily on intensive use of fertilizer in their production regime.

Chart 4

Value Chain for Cotton Production in Cambodia



Benchmarking cotton production costs in Cambodia against Yellow River Valley in Chain indicates that while cotton production in Cambodia is still at its 'experimental' stage, achieved yield rates per hectare is virtually identical with China, while the cost of producing cotton in Cambodia is 55% less than in China on a per hectare basis. As evident from Table 20 below, labour input costs in China is 4 times more than in Cambodia, while at the same time Chinese farmers rely heavily on a chemical regime, particularly the use of chemical sprays and fertilizers, to achieve the per hectare yield rates comparable to Cambodia.

These figures suggest that conditions in Cambodia may be ripe to produce cotton for vertical integration into the textile and garment industry, as well as to exploit regional export markets, particularly to China where market growth in the garment sector is anticipated. In this context, further investigation is required to determine the commercial viability of targeted support to expand cotton production in Cambodia. As with the production of premium rice, deepening the supply chain to integrate farming activities into a broader export market presents an opportunity to not only address critical economic growth issues, but is expected to also help bridge the gap between rural poverty to economic growth.

Table 20

Benchmarking Cotton Production Cost Between Cambodia and China

		Cambodia		**China**		***Cost Differential***
		Kampong Speu		**Yellow River Valley**		
		Cost $	**% of Total**	**Cost $**	**% of Total**	
1	Land preparation	$ 24.63	6%	$ 54.42	7%	-45%
2	Planting	$ 11.00	3%	$ 61.67	8%	-0.18%
3	Seed	$ 171.75	41%	$ 54.41	7%	316%
4	Thinning	$ 5.00	1%	$ 9.07	1%	-55%
5	Stamping	$ 15.00	4%	$ 18.41	2%	-81%
6	Weeding (3 times/season)	$ 36.00	9%	$ 48.97	7%	-74%
7	Chemical spraying (4 times/season)	$ 32.05	8%	$ 143.89	19%	-22%
8	Fertilizing (2 times/season)	$ 60.50	15%	$ 253.02	34%	-24%
9	Harvesting	$ 60.00	14%	$ 108.83	14%	-55%
10	**Total**	**$ 415.93**	**100%**	**$ 752.69**	**100%**	
	Yield/hectare (tons)	**1.2**		**1.275**		

2. Textile Value Chain

Once cotton is harvested, it is dried and sorted before the ginning process begins. To capture value adding activities following the cotton harvest, the textile value chain will include ginning to yarn production, weaving and knitting for fabric production, and finally cutting and sewing to complete a finished product. These activities are categorized into three areas: yarn production; fabric manufacturing; and finished goods processing.

As there is insufficient volume of locally produced cotton to meet the production needs of textile factories in Cambodia, the value chain analysis focused on the use of imported cotton as a source of raw material. Furthermore, the value chain analysis traced the cost of producing bed sheets, a product currently produced in Cambodia and exported widely to both the United States and Europe.

The type of cotton used for bed sheets is referred to as CWC Ne40/1. The imported price for such cotton is approximately $350/bale. This translates to about $1,112.17/ton. Currently, CWC Ne40/1 is imported from China, and as with all other imported commodities, custom clearance procedures are cumbersome and time consuming.

Once baled cotton arrives at the factory, it is ginned using imported Chinese equipment. On average, ginning and lint handling equipment used in Cambodia are about 20–30 years old, but in good working condition.[8] Once lint cotton is ready, the process of yarn production begins. Here again, the equipment used is relatively old, but in good working condition. As evident from the value chain analysis, substantial resources are dedicated to maintenance and other overhead charges.

With available technology in Cambodia today, the process of transforming cotton into yarn yields a conversion lose of approximately 10 percent. This means that for every ton of lint cotton, the production process yields 900kg of yarn.

The process of transforming cotton into yarn is capital intensive. A large portion of the equipment currently used in Cambodia is used equipment from China

and other Southeast Asian countries. But for the most part, the volume of production currently realized in Cambodia does not warrant further capital investments to upgrade equipment.

The yarn is then either woven or knitted into fabric. Here again, used equipment, principally from China is used. Even while using second hand equipment, the conversion waste from yarn to fabric is only about 2 percent.

Once the fabric is completed, it must be sized and bleached before it can be used. It is

[8] Given existing equipment available in Cambodia, one ton of seed cotton yields approximately 380kg of lint cotton.

estimated that bleaching waste is approximately 2 percent. Following the bleaching process, the fabric is now ready to be cut and sewn. In the case of bed sheet production, it is estimated that processing waste resulting from cutting and sewn is also around 2 percent.

The value chain for textiles immediately points to that fact that raw material input costs are extremely high (Table 21). As discussed earlier, this is partly due to the high cost of using imported cotton. For example imported cotton is estimated to cost over $1,112/ton. As the value chain below suggests, the initial cost of imported cotton has a substantial impact on the cost of production, particularly the cost of raw material input at each stage of production.

Table 21

Textiles Value Chain for Cambodia

	Yarn				Fabric						Finished Good				
	Raw Material	Utilities	Labour	Other Inputs	Raw Material	Utilities	Labour	Chemicals	Rent	Bleaching	Raw Material	Labour	Accessories	Other Inputs	TOTAL
Value	$ 1,112.17	$ 287.01	$ 143.51	$ 251.14	$1,125	$ 180	$ 270	$ 112.50	$ 225	$ 600	$ 2,117.78	$ 28.24	$ 28.24	$187.78	$6,668.37
% of Total	16.7%	4.3%	2.2%	3.8%	16.9%	2.7%	4.0%	1.7%	3.4%	9.0%	31.8%	0.4%	0.4%	2.8%	100.0%

Source: Based on interviews conducted by Global Development Solutions, LLC

At the same time, however, locally grown cotton, even at a yield rate of 1.2 tons of seed cotton per hectare can cost as little as $346/ton. Taking into account the relatively low yield rate of 1.2 tons per hector of seed cotton, and a seed to lint cotton conversion ratio of 1:0.38, the cost of sourcing local cotton would be approximately $910/ton of lint cotton, a savings of $201/ton (18% decrease in the cost of production). Assuming that in the near future cotton growers in Cambodia can achieve yield rates as high as 2 tons/ha of seed cotton, this action alone can reduce costs incurred by the textile industry by nearly 32%.

In addition to imported raw material, imported chemicals, specifically, bleach, is a heavy cost associated with textile production. Currently, the bleaching process costs approximately $0.12/yard, which is equivalent to nearly $600/ton of fabric. Here again, the high cost of bleach is associated with the import clear procedures.

Utilities was found to be the third highest cost associate with textile production. As with most manufacturing enterprises in Cambodia, textile manufacturers must generate their own electricity. Taking into account that yarn production is capital intensive, substantial amount of electricity is required. For an integrated textile factory with 1,500 workers, working 30 days per month, producing approximately 600,000 yards of woven fabric and 50 tons of knitted fabric per month, the average electricity requirement is nearly 700,000 Kwh/month. According to one textile manufacturer, the price of fuel oil in 2002 was approximately $0.19/litre. But by first quarter 2003, the same fuel oil cost $0.26/litre, a 36 percent increase in less than one year. In the Philippines, for example the same fuel is priced at $0.18/litre, a 44 percent disadvantage imposed on Cambodian manufacturers. Currently, the average cost of electricity incurred by a textile producers is approximately $0.16/Kwh, while a similar producer in China is paying approximately $0.07/Kwh. Here again, a Cambodian textile manufacturers faces a 128% comparative disadvantage against its Chinese competitors.

As indicated by the value chain map in Chart 3, the highest cost associated with textile production is the material cost. As mentioned in the previous section on cotton production, while locally produced cotton costs approximately $346.60/ton, due to lack of volume and consistency, textile mills must import cotton at a cost of nearly $1,928.85/ton ($350/bale). While the finished products continues to be competitive in the export market, reducing material input costs by 5.6 time can have a dramatic impact on the overall competitiveness of the textile industry and niche markets in the garment sector.

The second highest cost in textile production is labour. As evident from the value chain map, the final stage of production consisting of cutting, sewing, finishing and packaging is labour intensive. While the level of labour input at the finished goods production stage is often high, the challenge faced by textile manufacturers in Cambodia is the low quality of labour skills among semi-skilled labour force. As there are no local training institutions providing technical training support to the textile industry,[9] companies must resort to their own resources to train and to introduce multi-skilling among its workers. In addition, the pool of qualified shopfloor supervisors and managerial staff are also at a great deficit in Cambodia. Consequently, some manufacturers are relying on expatriate workers from China where there continues to be a 'glut' of qualified supervisory and management level workers in the textile industry.

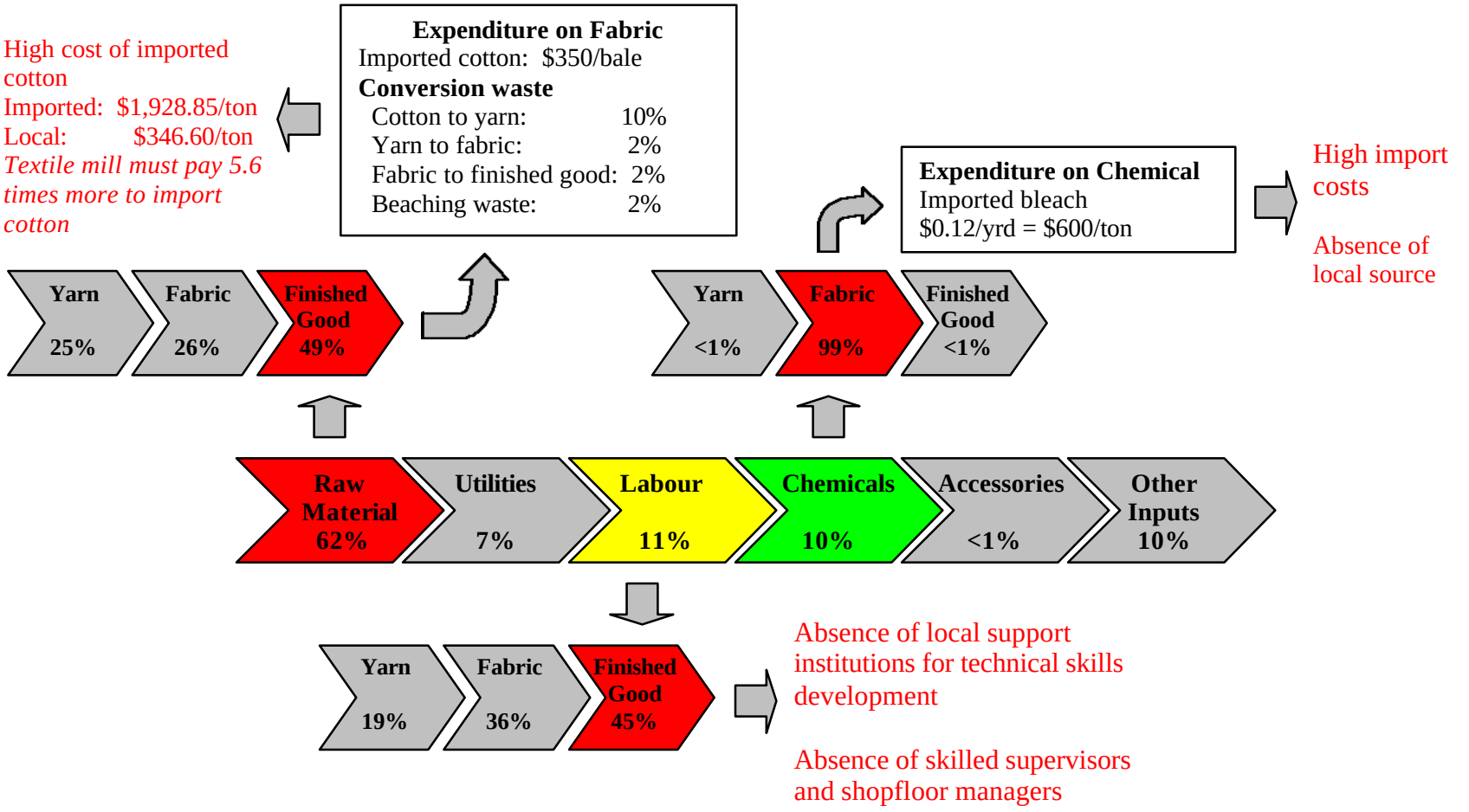
The analysis of the rice and cotton value chains both suggest that as we move up the value chain into increasingly higher value added activities, Cambodia suffers from increasing deficit of qualified workers. This points the lack of investment in human capital, particularly in semi-skilled and skilled labour. In this context, the ability to deepening the supply chain to integrate cotton production into export oriented textile and garment sectors in Cambodia will be, in part, a function of the level of investments made to strengthen the human capital of the country.

The third highest cost associated with textile production is the cost of chemicals. As the value chain map indicates, majority of the costs are incurred during fabric production and the principal cost involves the use of imported bleach. As with all other imported inputs, the cost of importing is high and the absence of locally available supplier continues to hinder the competitive potential of the textile industry.

[9] JICA has provided some technical assistance in this area, particularly targeted towards skills development in the garment industry, but the project is coming to an end in 2003.

Chart 5

Value Chain for Textile Production in Cambodia



3. Transport and Customs Clearance Charges

The cost of transport and customs clearance charges were evaluated based on a 40 foot container carrying 26,000 pieces of finished bed sheets. The container weighs approximately 22 tons and is transported from a factory in Kampong Speu to Sihanoukville, loaded on to a ship bound for the United States. The value chain analysis suggests that on average a shipment of a 40 foot container costs approximately $178.45 per ton for the entire process (Table 21).

Table 21

Transport and Customs Clearance Value Chain for Textile Products in Cambodia

	Transport	Port Charges	Vessel Loading	Customs	Shipping	**TOTAL**
Value	$14.72	$6.50	$0.91	$15.13	$141.19	$178.45
% of Total	8.2%	3.6%	0.5%	8.5%	79.1%	100.0%

Source: Based on interviews conducted by Global Development Solutions, LLC

According to a textile processor, the high cost of shipping was partly a function of the lack of frequency and volume of ship traffic between Cambodia and the U.S. and other major export destinations. Further analysis is required to evaluate and compare the relative cost of shipping between Cambodia and its regional competitors to major export destinations.

Even taking into account the high cost of shipping, customs clearance charges is a prominent cost to textile producers. It is estimated that custom clearances charges account for approximately 8.2% of the overall transport and customs clearance charges or $15.13/ton. But this is not inclusive of unofficial charges. Specifically, undocumented government administrative charges, accounted for an additional 2.9% or $5.28/ton.

Table 22

Transport and Administrative Charges for Exporting 40 Foot Container of Bed Sheets from Cambodia

		Total Cost ($)	$/ton	% of Total	
1	**Transport: Factory to Sihanoukville**				
	Trucking	$ 270.00	$ 12.27	6.7%	Freight forwarder
	Toll	$ 13.86	$ 0.63	0.3%	MoT (Port Authority)
	Road fee	$ 40.00	$ 1.82	1.0%	MoT (Port Authority)
	Total	**$ 323.86**	**$ 14.72**	**8.0%**	
2	**Port Charges**				
	LoLo	$ 20.00	$ 1.00	0.5%	MoT (Port Authority)
	Overweight doc	$ 80.00	$ 4.00	2.2%	MoT (Port Authority)
	Overweight	$ 30.00	$ 1.50	0.8%	MoT (Port Authority)
	Total	**$ 130.00**	**$ 6.50**	**3.5%**	
3	**Vessel Loading**				
	LoLo	$ 23.00	$ 1.05	0.6%	MoT (Port Authority)
	Total	**$ 23.00**	**$ 1.05**	**0.6%**	
4	**Customs**				
	Customs clearance	$ 260.00	$ 11.82	6.4%	MoF (Customs)
	Camcontrol	$ 48.62	$ 2.21	1.2%	MoC (Camcontrol)

	VAT	$ 11.00	$ 0.50	0.3%	MoF (Customs)	
	Certification of quantity	$ 12.00	$ 0.60	0.3%	MoI (CPO)	
	Total	**$ 331.62**	**$ 15.13**	**8.2%**		
5	**Shipping**					
	Shipping	$ 3,106.18	$ 141.19	76.8%	Shipping company	
	Total	**$ 3,106.18**	**$ 141.19**	**76.8%**		
6	**Unaccounted Costs (no receipts)**					
	Certification of process	$ 40.00	$ 1.82	1.0%	Camcontrol	
	Labour compliance	$ 200.00	$ 0.30	0.2%	MoL	
	Environmental compliance	$ 500.00	$ 0.76	0.4%	MoE (1)	
	Fire extinguisher inspection	$ 150.00	$ 0.23	0.1%	MoInt (2)	
	Fire extinguisher sticker fee	$ 187.50	$ 0.28	0.2%	MoInt (3)	
	Police donations	$ 150.00	$ 0.23	0.1%	MoInt (4)	
	Local officials	$ 1,000.00	$ 1.52	0.8%	Provincial government (5)	
	Military police	$ 100.00	$ 0.15	0.1%	MoD (6)	
	Total	**$ 2,327.50**	**$ 5.28**	**2.9%**		
	GRAND TOTAL	**$ 6,242.16**	**$ 183.87**	**100.0%**		

Source: Based on interviews conducted by Global Development Solutions, LLC

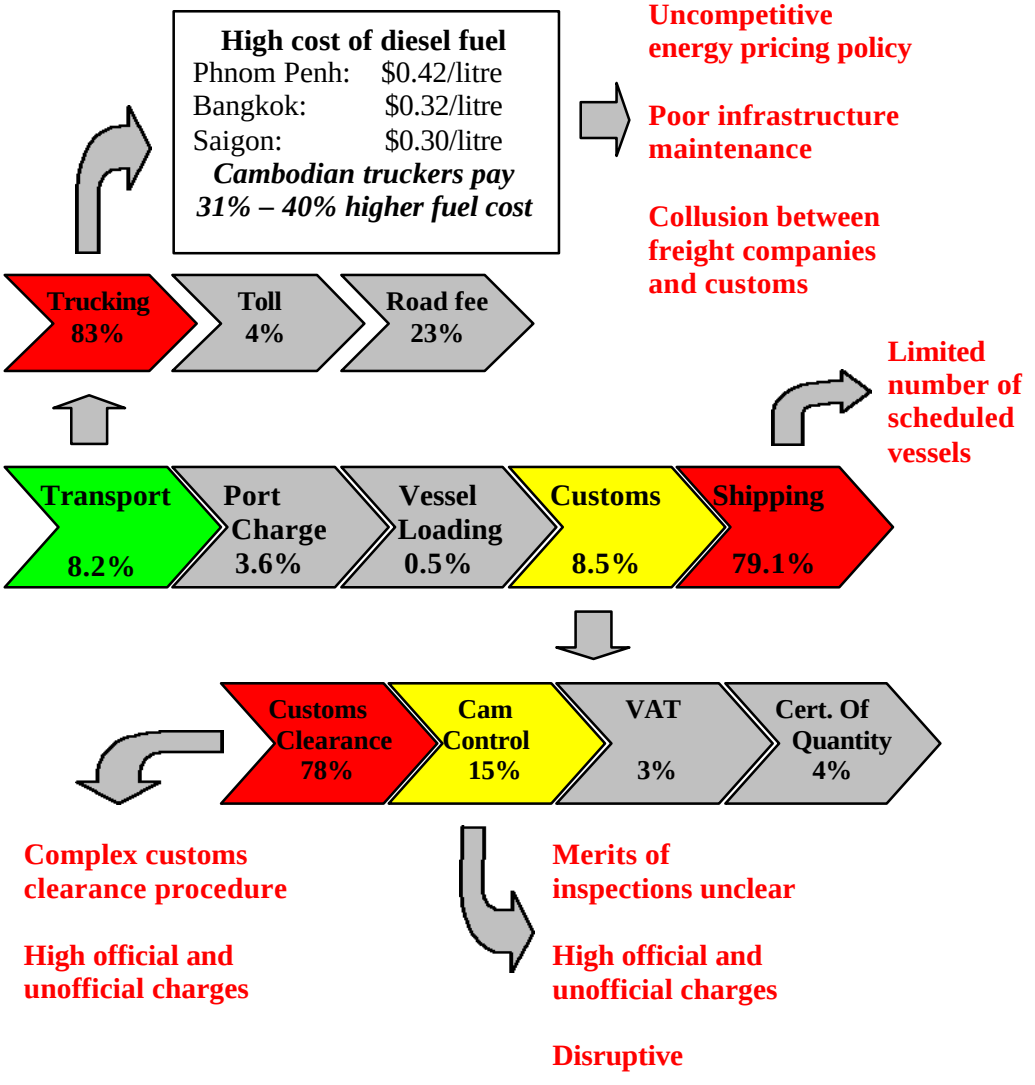
Notes:
The company import and export approximately 30 containers/year. Each container weighs approximately 22 tons. Thus, to derive at a per ton rate some figures in the unaccounted costs are divided by 660 tons.
1. Two inspections/year paying $250/visit. Threaten with brining several reporters to the factory
2. Two inspections/year paying $75/visit
3. Two inspections/year paying 2,000 Riels/extinguisher - 150 extinguishers on the premise
4. Three donation/year paying $50/donation
5. Two donations/year paying $500/donation
6. Donation on an irregular basis

A close scrutiny of the customs clearance charges suggests that over 78 percent of the administrative charges paid to the Government is accounted for by the customs department.

In addition to relatively high administrative costs, transport costs are also high. The value chain analysis suggest that nearly 8% of the overall cost or $14.72/ton, majority of which is paid to freight forwarders, is accounted for by transport costs. Further analysis points to costs incurred by freight forwarders, not only in transporting goods from factory to port, but the high cost also reflects the undocumented payments which it must make to government administrators. In the case of textiles, it is estimated that the undocumented cost for trucking a 40 foot container from Phnom Penh to Sihanoukville is approximately 35 percent of the freight forwarder charges. This is after deducting trucking costs and a 15% profit margin. Other evidence suggests that document costs may range anywhere from 35 – 50 percent of the freight forward's invoice.

Chart 6

Value Chain for Transport and Customs Clearance for Textiles Export



The value chain map for transport and customs clearance associated with textiles suggests that shipping, customs and transport costs are the highest costs. While further investigations is necessary, according to local companies, given the limited export volume from Sihanoukville, the traffic of scheduled ships to major export destinations is limited. Consequently, costs tend to be higher as shipments must often be transshipped via a second port in Asia. Secondly, as the volume of a single shipment is sometimes small, companies are not able to utilizing space available in an entire container. This also results in a higher per unit cost of shipping.

Customs clearance and Cam Control charges also contribute to the cost burden of exporting textile products from Cambodia. Specifically, export procedures tend to be long and complex, and official and unofficial charges are also high. As this problem is a cross-cutting issue across all export industry, but one particularly problematic in the garment industry, an in-depth-analysis of these issues

will be presented in the garment value chain analysis section.

Yet another cross-cutting issue is the cost of transport, particularly as it relates to high fuel costs. As evident from the value chain map, Cambodian enterprises faces a 31% - 40% higher fuel cost than its regional competitors. In this context, a reconsideration of the country's energy pricing policy which takes into account both fuel and electricity pricing is expected to play a critical role in improving the competitiveness and export potential of enterprises operating in Cambodia.

Administrative and market barriers to competitiveness faced by the cotton production and export oriented textiles industry in Cambodia can be summarized as follows (Table 23).

Table 23

Administrative and Market Barriers to Competitiveness in Cotton/Textile Sector

	Critical Issues	**Impact**
Business Environment	Poor access to finance High import clearance charges High export clearance charges	Lack of investment in irrigation results in low per hectare yield rates Inadequate access to fertilizer resulting in low per hectare yield rate High cost of fertilizer Reduce the competitiveness of export products Discourage investments in integrated cotton and textile facilities
Supply Chain	Shallow supply chain and absence of backward linkages Absence of market structure to produce and sell cotton Absence of business and technical support infrastructure Lack of support industries Little to no investment in human capital	High and variable input cost, particularly with respect to imported cotton Farming practice and crop selection not responsive to market opportunities Farmers inability to shift from subsistence level rice farming into other cash crops Poor on-farm skills Need to import high cost seeds and bleach Low labour mobility and responsiveness to market opportunity
Infrastructure	Uncompetitive energy pricing policy High cost of electricity High cost of diesel Poor road conditions Low frequency and high cost of shipping	High ginning and finished good processing costs High transport costs to transfer finished goods to port Reduce the competitiveness of finished goods

Tobacco: Cambodia's First Fully Integrated Supply Chain

Well over 20,000 hectares of tobacco is grown in areas such as Kampong Cham, Kandal, Prey Veng and Kratie. In particular, flood plains along the Mekong River is home to some of the best tobacco grown in Cambodia. While Cambodia's production of tobacco account for of only 0.1% of the world's total production, it is a $50 million business, employing over 50,000 people, accounting for 2 percent of GDP, and nearly 30 percent of government tax revenue in Cambodia is derived from the tobacco industry.[10]

Currently, nearly 10 tobacco companies of varying size and origin operate in Cambodia. Principal players in the market include: British American Tobacco Cambodia (50%); Viniton (25%); JTI (2%); Reemtsma (<1%); and the reminder are sold by numerous local producers. Many of these companies have financial and market ties to Australia, Singapore, China, France, Malaysia, and Japan. It is estimated that nearly 5.5 billion manufactured cigarettes and 2.3 billion hand rolled cigarettes are consumed in Cambodia alone. Of this figure, however, nearly 2 billion cigarettes are produced and sold in the illegal market. For example, nearly 42 operators in Kampong Cham produce and sell hand rolled cigarettes, many which violate copyright provisions and produce substandard quality for local market consumption.

Traditional tobacco farmers continue have yield rates of about 0.7 tons/hectare, while farmers that align themselves with foreign cigarette manufacturers such as BAT are achieving yield rates reaching 2 – 2.5 tons/hectare. On average, tobacco farms range in size from 1.5 hectares to 5 hectares.

Not only is the yield rates differ between traditional and contract tobacco farmers, but also the leaf quality and consequently, the final price that a farmer receives for cured tobacco differ greatly. For example, traditional farmers tend to receive $0.25 - $0.75/kg for cured tobacco. But contract farmers that have adopted modern farming techniques through participation in out grower programmes receive as much as $0.3 - $1.25/kg for cured tobacco. This can translate to as much as $400 - $450 net profit per hectare for a tobacco farmer.

1. Snap Shot of a Modern Tobacco Farm in Cambodia

As an example, the report focuses on a 3 hectare tobacco farm in Kampong Cham which belongs to a out grower programme lead by one of the leading cigarette companies operating in Cambodia. Set along the flood plains of the Mekong River, the soil is fertile from all of the new top soil that the floods bring each year. Thanks to this natural soil rotation, very little fertilizer is actually required to achieve a robust harvest and rotation farming is not required as the floods help to renew soil conditions each year.

High quality seeds are distributed to the farmer by the cigarette company with whom the farmer has a 100 percent off take agreement. Such seeds are planted and held in a nursery for 40 – 50 days before it is transplanted to the field under 10 –12 cm of soil.

Proper soil preparation is essential for achieving high yields. In most instances, smaller farmers can not afford to purchase tractors, which can cost as much as $1,000 for a small 'walk-along' unit, and as much as $4,700 for a large 20 – 30 horsepower unit. In order to fulfill conditions for achieving

[10] Current tax on cigarettes is approximately 15% to 20% per pack depending on the type of cigarette.

high yields, farmers hire local farmers with tractors to come and help till the land. Such services are readily available, but can cost as much as 180,000 Riel/ha ($45/ha). So, for a farmer with 3 hectares of land, the price of land preparation can be as high as $135 (Table 24).

Table 24

Estimate of Variable Costs Incurred by Moder n Tobacco Farmers in Cambodia

Variable Costs	**$/3 hectares**	**$/hectare**	**$/ton**
Labour: seasonal	$ 75.00	$ 25.00	$ 12.50
Labour: permanent	$ 270.00	$ 90.00	$ 45.00
Tractor hire	$ 135.00	$ 45.00	$ 22.50
Irrigation pipe	$ 120.00	$ 40.00	$ 20.00
Trucking cured tobacco	$ 7.50	$ 2.50	$ 1.25
Jute string/bags	$ 5.00	$ 1.67	$ 0.83
Personal protection gear	$ 10.25	$ 3.42	$ 1.71
Fertilizer		$ -	$ -
TOTAL	**$ 622.75**	**$ 207.58**	**$ 103.79**

Source: Based on interviews conducted by Global Development Solutions, LLC

But it is through such proper land preparation that modern farmers are able to plant as many as 16,000 – 18,000 plants per hectare. Such Although numerous farms are located on the flood plans along the Mekong River, the distance from the water to the farming site can be as much as 0.5 – 1 km.

An Example of a Walk-Along Tractor Used to Pump Water for Irrigation

intensive land use requires irrigation systems to be in place if farmers expect to achieve high yield rates.

Consequently, wells must be dug to pump water for irrigation. It is estimated that in order to consistent access to water, a well must be 20 – 30 meters deep. For such a well to be dug and a pump installed, it is estimated to cost nearly $150. In addition, a motor is required to pump the water, which is another $300, and rubberized pipes must be replace each year, which can cost between $60 - $80/100 meters (Table 25).

Table 25

Estimate of Fixed Costs Incurred by a Modern Tobacco Farmer in Cambodia

Fixed Costs	**$/3 hectares**	**$/hectare**	**$/ton**
Well digging/pump	$ 150.00	$ 50.00	$ 25.00
Pump motor	$ 300.00	$ 100.00	$ 50.00
Curing barn	$ 700.00	$ 233.33	$ 116.67
Tractor		$ -	$ -
small	$ 1,000.00	$ 333.33	$ 166.67
large	$ 4,700.00	$1,566.67	$ 783.33
TOTAL	**$ 2,150.00**	**$ 716.67**	**$ 358.33**

Source: Based on interviews conducted by Global Development Solutions, LLC

In this context, fixed costs associated with shifting from traditional to modern tobacco farming has a high premium which most farmers are not able to manage unless financial and technical assistance is made available to them by large cigarette manufacturers.

Such tobacco yield approximately 20 leaves per plant, that grow to a height of 1 – 1.5 meters and achieve yields of 12 tons/hectare of green fresh leaf tobacco, which translates into about 2 tons/hectare of cured leaf tobacco. As chemicals are expensive and difficult to access, local resources are used to combat pests and diseases. Both as a cost cutting measure and to integrate sustainable agricultural practices, local farmers are exposed to integrate pest management (IPM), which include the use of a spray formulated from water and crushed leaves from locally available Lim Trees combat caterpillars and other pest that most often impact tobacco crops.

As most small tobacco farmers are operated by a single family or a group of families in a village, labour costs associated with family members are not accounted for in the cost of production.

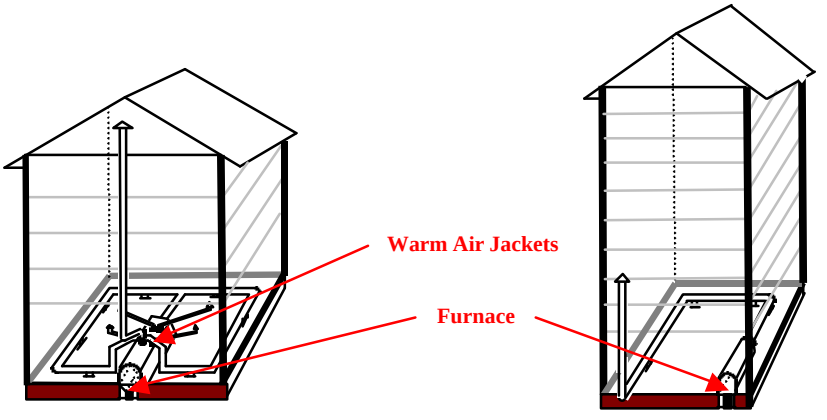
Preparing tobacco for curing

At the same time, however, a 3 hectare tobacco farm would require an additional farmhand to help, not only to manage the crop, but also to help oversee seasonal workers required during harvesting. On average, a permanent farmhand would cost about 90,000 Riel/month or $22.5/month. And seasonal workers are paid about 4,000 Riel/day ($1/day).

Interviews with farmers and farmhands suggest that some of the seasonal workers are also rice farmers. Which point to a possible opportunity to organize labour force exchange activities between the two sectors. Generally, 3 hectare tobacco farm would hire between 5 – 6 seasonal workers, particularly during harvest season. In this context, a tobacco farmer may pay as much as 300,000 Riel/season ($75/season) for seasonal farmhand.

Once tobacco is harvested, it must be prepared for curing. While many tobacco farmers continue to use traditional curing methods, the moisture content and quality of the cured tobacco does not fetch the highest price. As a consequence, increasing number of tobacco farmers, particularly those who are affiliated with an out grower programme sponsored by a major cigarette company, are shifting to modern curing techniques.

A modern curing technique employed among Cambodian tobacco farmers consist of a 5-tiered drying tower made of mud, bamboo, and a tin roof. Inside a modern curing barn a network of hot air jackets and pipes are put into place to ensure consistent and even distribution of heat.



Modern Curing Barn

Traditional Curing Barn

Using a modern curing barn often requires a 4 stage curing process[11] which can take anywhere from 105 – 120 hours where maximum temperatures may reach as high as 74C. According to tobacco farmers, the principal fuel used for curing is old rubber trees and trees which they 'harvest' from the Mekong River during flood season.[12]

Generally, such curing barns can cost as much as 2.6 million Riel ($700), where most of the

[11] The four stages includes: yellowing; color fixing; lamina drying; and steam drying.
[12] It should be noted that BAT, the largest cigarette manufacturer in Cambodia, has engaged an extensive sustainable reforestation programme. Further detail is provided in the annex.

costs are incurred for the purchase of steel pipes and tin roofing material. On average, these curing barns can last up to 10 years. While the initial cost of building such a curing barn is high, tobacco farmers are able to achieve a fresh to cured tobacco conversion ratio of 6:1. This means that a 3 hectare tobacco farm producing 36 tons of green fresh leaf, would end up with 6 tons of cured tobacco.

Once tobacco is cured, it must be delivered to the cigarette manufacturer where it is graded. In most instances, the curing barn is some distance away from the tobacco 'auction floor'. But a number of informal transport services have evolved in villages where there are a cluster of tobacco farmers using modern farming techniques. Specifically, larger farmers able to afford the purchase of a truck are offering to transport cured tobacco to the 'auction floor' for about 3,000 Riel/bale.[13] So, a 3 hectare tobacco farm that yields a total of six tons of cured tobacco would pay approximately $45 ($7.50/ton) to a local farmer to truck the cured tobacco to the auction house.

Depending on the grading, farmers using modern farming techniques can receive as much as $1.25/kg for cured tobacco. In the case of the farmer with 3 hectares which produces 6 tons of cured tobacco, he received a price of $1.00/kg, which translates to a revenue of $6,000 (Table 26).

[13] One bale of tobacco weighs approximately 100kg.

Table 26

Estimated Revenue for a M odern Tobacco Farmer in Cambodia: An Example from a 3 hectare Farm

Revenue Estimates	
Total land (hectares)	3
Cured tobacco Yield rate (tons/hectare)	2
Total production of cured tobacco leaves(tons)	6
Conversion rate (in weight) for 3 hectare	
Green fresh leaf	36
Cured tobacco	6
Total production of cured tobacco (kg)	6,000
Price per kg	$1.00
Revenue	**$6,000.00**

Source: Based on interviews conducted by Global Development Solutions, LLC

Based on these calculations, small shareholder farmers such as the one profiled here with a 3 hectare tobacco farm can earn between $3,227[14] - $5,377[15] profit per season.

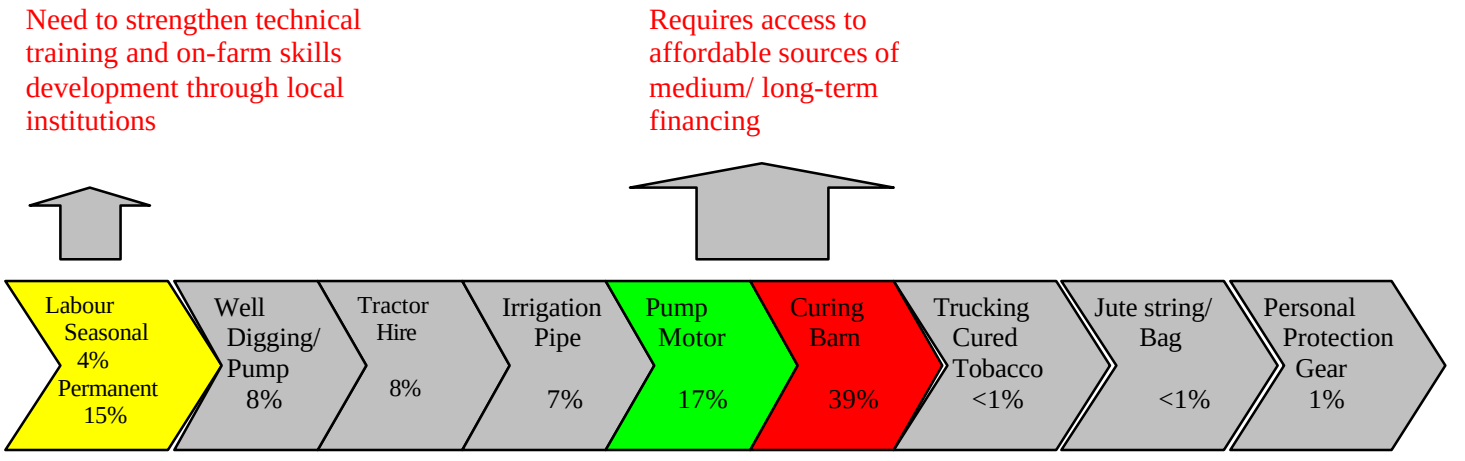
Once the cured tobacco is sold to a cigarette manufacturer, it is sent to re-drying plant where the tobacco goes through at least 8 processing steps: conditioning; sand extraction; quality control; grading; blending bin; drier; packing; and storage. Once in storage at least for six months, the tobacco is ready to head off to the production facility.

The value chain for tobacco farming and the cost breakdown of start-up costs indicates that substantial upfront capital investment is required for fixed asset investments in such items as drilling wells, pumps and pump motors, and even a tractor (Chart 7). The volume of initial capital required is usually far beyond the reach of local farmers. At the same time, however, tobacco farmers associated with an out grower programme like the one sponsored by BAT gain access to financing support, thus making it possible to shift from other cash crops such as rice to a much more lucrative farming enterprise.

While there are a number of serious development and ethical issues surrounding tobacco farming, some consideration is need to take into account the economic conditions facing Cambodia, and the absence of short and medium term economic options available to rural farmers.

[14] Assumes an investment in a new well, pump, pumping motor, curing barn, and a small tractor.
[15] Assumes no new investments in fixed assets and is required to cover variable costs.

Chart 7



2. A Brief Introduction to Cigarette Production in Cambodia

Tobacco grown in Cambodia is considered a medium grade quality, and is used as 'filler/bending tobacco', as opposed to the high quality 'flavor' tobacco grown in other parts of the world such as the United States.[16] As such, premium tobacco manufacturers operating in Cambodia must import flavor tobacco. Similarly, in the past decade, with the resurgence of the tobacco industry in Cambodia, the country is now beginning to export blending tobacco to a selected number of countries in Asia. For example, BAT Cambodia, exports as much as 400 tons of blending tobacco to its sister operations in Sri Lanka, Malaysia and Singapore. And, now sources over 80 percent of its tobacco from local growers.

The level of quality achieved in Cambodia for blending tobacco in recent years is a promising sign for developing a exportable cash crop. According to interviews, the cost structure of the tobacco industry in Cambodia continues to be competitive within the region. For example, it is estimated that cured tobacco is anywhere from $0.5 - $1.00/kg cheaper to produce in Cambodia than in neighboring Vietnam. At the same time, however, without expanding crop production, particularly through the introduction of large scale farming, mechanization, and improved production techniques from countries like Thailand, it is anticipated that the competitive advantage currently held by Cambodia may quickly dwindle.

[16] Principal regional competitors in the blending tobacco market includes Thailand, Vietnam and Indonesia.

For the production of premium cigarettes, manufacturers must import wrapping material, including filters, casing, and spare parts – referred to as WMS. As such costs continue to remain relatively high, particularly taking into account the administrative costs associated with importing WMS. In general, the production cost structure in Cambodia for premium cigarettes is divided into three areas: leaf; packaging; and filter, where the input cost ratios is approximately 4:2:1 respectively. With this said, however, as the volume of locally grow tobacco increases, the overall cost of leaf may go down slightly to help improve the competitiveness of premium cigarettes produced in Cambodia.

The cigarette market in Cambodia is divided into manufactured and hand rolled, where hand rolled cigarettes dominate the low end market and most manufactured cigarettes attract premium prices.

A large producer like BAT operate a highly automated production facility using equipment such as Molins Mark 8 cigarette maker, Protos from Hauni which can process as many as 7,000 cigarettes per minute.

Among the premium brand producers, equipment currently being used in Cambodia include AMF machines that can pack 125 packs per minute (PPM), and GDX1 machine which can operate at 370 PPM. With such highly automated equipment currently operating in the market, there is ample capacity for cigarettes to become a major export commodity for Cambodia

3. Value Chain Analysis of Administrative and Transport Costs Associated with the Production and Export of Tobacco in Cambodia

Interviews with tobacco farmers and tobacco processors suggest that there was very little administrative interventions experienced during farming and tobacco processing stages. With this said, however, two administrative interventions were identified during the farming stage. Specifically, tobacco farmers are regularly assessed a 'barn tax' amounting to $21.98/year by district authorities. Similarly, the tobacco processor are regularly requested to make annual 'social contributions' by the provincial government which is equivalent to about $198.

In addition to the barn tax and social contributions, administrative charges associated with the import of WMS and flavor tobacco accounted for 48.7%, transport charges 10.5% and export of cured tobacco accounted for 40% of all administrative charges (Table 27).

Table 27

Administrative Interventions and Transport Costs Associ ated With the Production and Export of a 40 Foot Container of Tobacco from Cambodia

	Pre-Production			Production	Post-Production	TOTAL	% of Total
	Material Impor:	Curing	Transport	Production	Export Processing		
District Authorities							
Barn tax		$ 21.98				$ 21.98	**0.9%**
Transport tax			$ 59.40			$ 59.40	**2.4%**
Provincial Government							
Misc. Social Contribution			$ 198.00			$ 198.00	**8.0%**
Ministry of Finance						$ 627.00	**25.5%**
Import permit	$ 80.00					$ 80.00	**3.3%**
Customs Permit	$ 113.00				$ 200.00	$ 313.00	**12.7%**
Customs Clearance	$ 15.00				$ 199.00	$ 214.00	**8.7%**
Treasury	$ 20.00					$ 20.00	**0.8%**
CDC	$ 80.00					$ 80.00	**3.3%**
Ministry of Commerce	$ -						
Cam Control	$ 91.25				$ 30.00	$ 121.25	**4.9%**
Ministry of Transport						$ 229.06	**9.3%**
Port Authority	$ 135.00				$ 80.00	$ 215.00	**8.7%**
Roads					$ 14.06	$ 14.06	**0.6%**
Ministry of Interior							
Police	$ 5.00					$ 5.00	**0.2%**
Ministry of Agriculture							
Phytosanitary					$ 115.00	$ 115.00	**4.7%**
KAMSAB	$ 10.00					$ 10.00	**0.4%**
PME Charges						$ 283.00	**11.5%**
Customs permit	$ 80.00					$ 80.00	**3.3%**
Clearance costs	$ 203.00					$ 203.00	**8.3%**
AZ Group	$ 80.00					$ 80.00	**3.3%**
Transport Company	$ 285.00				$ 345.00	$ 630.00	**25.6%**
TOTAL	$ 1,197.25	$ 21.98	$ 257.40	$ -	$ 983.06	**$ 2,459.69**	**100.0%**
% of Total	**48.7%**	**0.9%**	**10.5%**	**0.0%**	**40.0%**	**100.0%**	

Source: Based on interviews conducted by Global Development Solutions, LLC

Most inputs required for the production of cigarettes are imported via Sihanoukville port and other inputs required for leaf production from Thailand using trucks towing 40 foot containers. Transport arrangements are principally handled through Thai freight forwarders that arrange for the transport of goods, usually from Bangkok to Poipet where both export and import clearance take place.

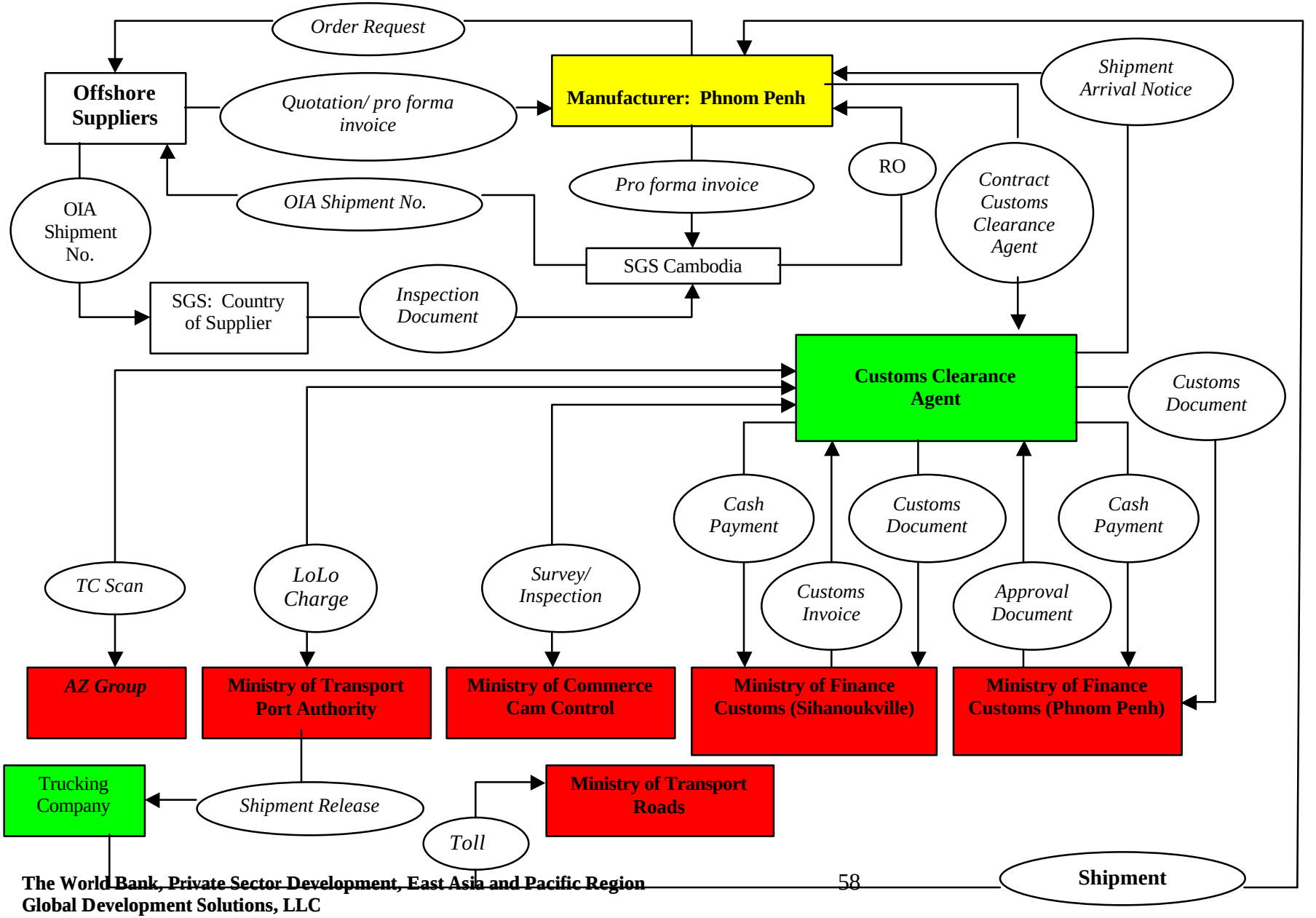
According to the breakdown of administrative and transport costs, the import of inputs and export of cured tobacco costs nearly $2,459 for a 40 foot container. A standard 40 foot container can hold as much as 19.8 tons of cured tobacco.

Costs associated with importing inputs and the export of cured tobacco, and the transporting costs constituted 25.5% and 25.6% respectively. In particular, costs associated with customs clearance accounted for over 12% of all costs. Part of the reason why transport costs were high was because this cost also reflects administrative costs which the trucking companies must pay to

government official during delivery. Furthermore, as the chart below indicates, customs clearance procedures for importing input material for the tobacco industry is extremely complex. The entire clearance process requires as much as 22 separate documents to be signed and stamped (Chart 8).

Chart 8

Manufacturer of Cigarettes Requiring Imported Inputs



In addition, port clearance charges for importing WMS were also high (8.7% of the overall costs). A breakdown of this data suggests that port clearance charges alone accounted for 54% of the total clearance charges, and another 37% of the costs were accounted for by TC Scan charges assessed by the AZ Group, a private contractor to the Port Authority, responsible for providing security scanning of cargo.

In summary, the biggest challenges faced by the tobacco industry in Cambodia can be summarized as follows (Table 28).

Table 28

Administrative and Market Barriers Hindering Competitiveness in the Tobacco Industry

	Critical Issues	**Impact**
Business Environment	Complex customs clearance procedures High customs clearance and permit charges High import tax on ancillary products Uneven implementation of tax stamp legislation Lack of regulatory enforcement Disequilibrium between import duty and tax on import of ancillary products and cigarette manufacturing Distributional monopoly Absence of support institutions, particularly as it relates to on-farm training and skills development	Production delays Discourage further investments in out grower schemes to support rural farmers Discourage further investments in expanding production and supporting local goods and service providers Reduce competitiveness of locally grown tobacco in the export market Encourage illegal sales of cigarettes Encourage import trade rather than local production High input cost, particularly fertilizers Lack of mobility among farmers in response to market opportunity
Supply Chain	Absences of affordable medium and long-term financing	Discourage farmers from employing modern farming practices Lack of mobility among farmers in response to market opportunity
Infrastructure	Uncompetitive energy policy High fuel costs High electricity costs	Discourage further investments in new and existing operations Reduce yield per hectare and thus income earning potential of rural farmers Exacerbate income disparity between small holder farmers and medium size farmers

Garment Industry: Core Historical Growth Industry

The garment industry is currently one of the most important industry for Cambodia, particularly in the context of employment and foreign exchange generation. Furthermore, when considering the membership of Cambodia to the WTO and the elimination of the quota system at the end of 2004, much focus has been placed on and written about the garment industry. The intent of this analysis is to place emphasis on the administrative barriers to competitiveness of the garment industry as industry have identified the heavy handedness of the government in the industry as the principal barrier to growth.

Cambodia's total export volume is estimated to be about $1.44 billion, of which 77 percent or $1.11 billion is represented by the garment industry. In this context, U.S. is the biggest market for Cambodian garment exports, where 71 percent of all garments produced in Cambodia are exported to the U.S., 27 percent to the EU, and the remainder distributed among a range of European and Asian countries. In short, Cambodia's export industry as well as the garment industry is dominated by sales to the U.S. Consequently, the elimination of the quota system is bound to have a profound impact on the Cambodian economy.

Currently there are over 186 garment factories that employ over 200,000 workers in Cambodia. As 90 percent of the workers in garment factories come from rural areas, the garment industry has a substantial impact on rural poverty and employment creation. While the labour force in the garment industry represents a mere 3.7 percent of the total labour force, it also commands over 67 percent of the labour force in the budding manufacturing sector.

With the average wage rate of approximately $55/month, the labour component of garment production remains highly competitive among countries such as China, Philippines, Sri Lanka and Thailand. The garment industry in Cambodia is represented predominately by foreign rather than local investors. Specifically, the largest investments in the industry come from Hong Kong, Taiwan, China, Singapore, South Korea and the U.S. Currently, slightly over 8 percent (15 companies) of the companies operating in Cambodia command over 50 percent of total garment exports. This suggests that the garment industry is highly volatile and susceptible to changes in the market environment.

1. Reliance on the GSP Quota System

Interviews with industry representatives in Cambodia suggest that the sustained growth of the garment industry in Cambodia is largely driven by the country's increasing access to the U.S. market through the MFN/GSP. While Cambodia has MFN/GSP relationships with a number of countries in industrialized markets[17] and countries with economies in transition[18], the single most important export market continues to be the U.S. In terms of volume of exports, trousers/pants,[19] and women's cotton shirts/blouses dominate Cambodian exports to the U.S. As evident from the table below, since 2000 Cambodia has consistently maximized its quota with the U.S. and has enjoyed ever increasing levels of quota for the two largest volume items such as trousers/pants and T-shirts (Table 29).

[17] Countries include: Australia; Canada; South Korea; Japan, New Zealand; Norway; Switzerland; U.S. and EU

[18] Countries include: Belarus; Bulgaria; Czech Republic; Hungary; Poland: and Slovakia

[19] Brand names such as Levi Straus, Original, Old Navy, Union Day, No Boundaries, Santo, and LA. Jeans are some of the more popular brands manufactured in Cambodia.

Table 29

Cambodian Garment Exports to the U.S. Measured in Dozens

	2000	2001	2002
Trousers/pants (% of quota filled)	2,956,500 (83.9%)	3,855,021 (84.5%)	3,071,350 (98.6%)
T-shirts (% of quota filled)	3,427,800 (100%)	4,323,388 (76.5%)	3,685,620 (75.7%)

Cambodia's exports to the EU primarily consist of pullovers and T-shirts. But the value of exports to the EU is only 38 percent of what is exported to the U.S. market. The heavy dependence of the garment industry on a single market, and a limited number of major investors (15 companies) raises a critical question regarding whether the industry in Cambodia can maintain its competitiveness after 2004, and whether government policies are effectively geared to support the transition from a quota based market.

In addition, very little evidence exist both in the private sector and within the Government regarding whether enterprises in the garment industry will or are capable of shifting production to penetrate the non-quota markets.

2. Crucial Competitiveness Issues

Taking denim jeans as an example, the basic cost structure for the production of a high-end 5 button 10/12 weight denim jeans is as follows (Table 30):

Table 30

Basic Cost Structure for Manufacturing Denim Jeans in Cambodia

	Cost	% of Total
Materials and accessories	$4.42	65%
Labour	$1.02	15%
Other inputs	$1.22	18%
Profits	$0.14	2%
Total Cost	$6.80	100%

While Cambodia's competitive labour costs is a critical selling point for attracting and retaining investments in the country, the cost of labour constitutes a mere 15% of the total input. Consequently, even if dramatic labour productivity improvements were introduced, that alone would have limited if any impact on the overall competitiveness of Cambodian garment exports. Thus, focus must also be directed at understanding factors that contribute to reducing material input costs, which dominate the overall cost of production.

As discussed in an earlier section on cotton and textiles production, ample opportunities exists to develop a robust textile industry in Cambodia. However, as with the case of imported materials, administrative costs associated with import transactions continue to place a burden on local manufacturers.

Table 31

Government Administrative Costs Associated with Manufacturing and Exporting a 40 Foot Container of Denim Jeans

Stages of Production	Administrative Costs
Pre-production Import clearance Transport	$448.20 (44%)
Production Cutting/layering Sewing/assembly	$30.83 (3%)
Finishing Finishing Packing/loading	$132.08 (13%)
Post Production Transport Export document process Export clearance	$406 (40%)
Total	**$1,017.37**

Source: Based on interviews conducted by Global Development Solutions, LLC

More broadly, based on a value chain analysis reveals that administrative costs associated with importing denim material and accessories, producing and exporting denim jeans in a 40 foot container may cost as much as $1,017.37 before transport costs and GSP quota fees[20] (Table 31).

3. Benchmarking Cambodia's Transport and Import Clearance Charges

To assess the relative cost of transport and import clearance charges incurred by enterprises operating in Cambodia, the following table provides a benchmark of costs based on import of a standard 40 foot container (FCL)[21]. The combined transport and import clearance charges for Cambodia, excluding costs associated with Cam Control was estimated to be $858 (Table 32). Charges incurred by enterprises operating in Cambodia were 55% higher than Hong Kong, and 2.8 times the cost incurred by similar operations in Malaysia.

The only area where Cambodia was consistently lower than other Asian countries was in the area of terminal handling charges.[22]

[20] A 40 foot container can carry approximately 2,250 dozen trousers.
[21] FCL (full container load).
[22] No reasonable explanation was found to explain this anomaly.

Table 32

Benchmarking Transport and Import Clearance Charges Between Cambodia and Selected Countries (40 Foot Container)

	Cambodia	**Hong Kong**	**Malaysia**	**Sri Lanka**	**Madagascar**
Trucking	$ 160	$ 210	$ 130	$ 71	$ -
Customs	$ 285	$ -	$ -	$ 4	$ 50
Lifting	$ 118	$ -	$ -	$ 73	$ 25
Terminal handling charges	$ 100	$ 330	$ 166	$ 285	$ 247
Documentation	$ 15	$ 15	$ 13	$ -	$ 35
Container scanning	$ 80	$ -	$ -	$ 30	$ -
Other expenses	$ 100	$ -	$ -	$ 21	$ 10
TOTAL	**$ 858**	**$ 555**	**$ 309**	**$ 484**	**$ 367**
Cam Control	0.10%	0	0	0	0

4. Undocumented Administrative Costs

As the garment industry continues to lead the export sector in Cambodia, it is common to hear allegations of high undocumented administrative costs that enterprises operating in Cambodia must incur. What has not been clear is the extent and magnitude of charges imposed on local companies.

Interviews indicate that nearly all invoices issued by freight forwarder to its clients are consolidated and offer no itemized listing of charges incurred by the freight forwarder. While there is indication that collusion is taking place between government officials, particularly in customs, and a number of freight forwarding companies, virtually nothing has been documented on undocumented administrative costs.[23]

A wide range of interviews with local and international freight forwarding companies help shed light on the magnitude of undocumented administrative costs incurred by local enterprise. As an example, data on import of a consolidated 40 foot container containing textile material was collected (Table 33).

[23] Interviews suggest that some freight forwarding companies have two forms of payment to government officials. First, a lump sum payment ranging from $25,000 to as much as $100,000 is made to one or more government officials who then distribute this sum to others collaborators in the 'network'. This form of payment allows freight forwarders free entry of cargo without inspections. These costs are then past on to its clients using a consolidated invoice. The second form of payment is much more cumbersome and is based on individual shipment. Under this scheme, payments must be made to both low level inspector, which are usually marginal but required, and another payment made to supervisors with authority to sign or stamp a clearance document. As numerous documents, stamps and signatures required, the second form of payment is often much more time consuming and labour intensive. Consequently, such informal barriers encourage freight forwarders to enter into a lump sum type payment agreement with government officials.

Table 33

Undocumented Administrative Charges for Import of a 40 Foot Container

	Customs/Camcontrol: Phnom Penh	**Riel**	**$**	**Ministry**
1	Declaration & document control	65,000	$ 16.25	Min. of Finance: Customs
2	Tax accountant	30,000	$ 7.50	Min. of Finance: Customs
3	Accountant for income bill/tax receipt	15,000	$ 3.75	Min. of Finance: Customs
4	Office & branch stamp	10,000	$ 2.50	Min. of Finance: Customs
5	Customs control (SGS)	280,000	$ 70.00	Min. of Finance: Customs
6	Other expenses	80,000	$ 20.00	Min. of Finance: Customs
7	Chief/Vice Chief of Customs Office	60,000	$ 15.00	Min. of Finance: Customs
8	Customs Director	80,000	$ 20.00	Min. of Finance: Customs
9	Camcontrol Inspector	80,000	$ 20.00	Min. of Commerce: Camcontrol
10	Economic police/border police	40,000	$ 10.00	Min. of Interior: Police
11	TC Scan clearance	200,000	$ 50.00	AZ Group
12	Customs fee	40,000	$ 10.00	Min. of Finance: Customs
13	**TOTAL**	**980,000**	**$ 245.00**	
	Camcontrol: Phnom Penh	**Riel**	**$**	
1	Camcontrol tax	108,800	$ 27.20	Min. of Commerce: Camcontrol
2	Camcontrol communication charges		$ 20.00	Min. of Commerce: Camcontrol
3	Other expenses	8,500	$ 2.13	Min. of Commerce: Camcontrol
4	**TOTAL**	**117,300**	**$ 49.33**	
	Customs/Camcontrol/Port Authority: Sihanoukville			
1	Kamsap change bill of goods	12,000	$ 3.00	
2	Port bill	16,000	$ 4.00	Min. of Transport: Port Authority
3	LOLO: station chief	6,000	$ 1.50	Min. of Transport: Port Authority
4	Camcontrol	4,000	$ 1.00	Min. of Commerce: Camcontrol
5	Border police/port security	16,000	$ 4.00	Min. of Interior: Police
6	Truck entry/exit fee	12,000	$ 3.00	Min. of Transport: Port Authority
7	National Road Security	40,000	$ 10.00	Min. of Transport: Roads
8	LOLO/Storage fee		$ 235.00	Min. of Transport: Port Authority
9	**TOTAL**	**106,000**	**$ 261.50**	
	GRAND TOTAL		**$ 555.83**	

These figures suggest that undocumented administrative charges incurred by local enterprises, particularly in the garment sector, range anywhere from 54% - 64% of the consolidated invoice that local enterprises receive from freight forwarders. What is interesting to note, is when undocumented administrative charges as indicated above is discounted from the transport and import clearance charges used to benchmark Cambodia against other prominent garment producing countries, the actual administrative costs come into alignment with other competing countries.

In addition, the high undocumented administrative costs associated with the Ministry of Transport is largely due to delays in customs clearance and reflects excess storage costs associated with this delay (Chart 9). Consequently, in absence of these charges, these figures suggest that the highest undocumented administrative charges are assessed by the Ministry of Finance and the Ministry of Commerce.

5. Administrative Interventions During Production

Much of the administrative costs are incurred during import and exporting stages of production. Specifically, very little administrative interventions tends to take place during production as very few laws and regulations controlling production and manufacturing are currently in place in Cambodia. As a result, interaction between government officials and factory mangers are limited and thus provide little opportunity for direct rent seeking opportunities.

At the same time, however, government interventions, particularly by the Ministry of Commerce/Cam Control and Ministry of Finance/Customs, during packing and loading finished goods were often cited by factory managers as disruptive and unnecessary. In some cases, government inspectors would arrive late for inspections while containers were already being loaded to meet a shipping deadline. In such instances, loaders are required to unload the already filled container to allow inspectors to check the cargo. In another instance, inspectors come to the factory site merely to inspect the quality of the boxes in which the finished goods are being packed. Such disruptions are contributing to investor frustration, as well as costly delays, both resulting from overtime payments for factory workers and inspectors, and sometime even missing shipments.

Chart 9

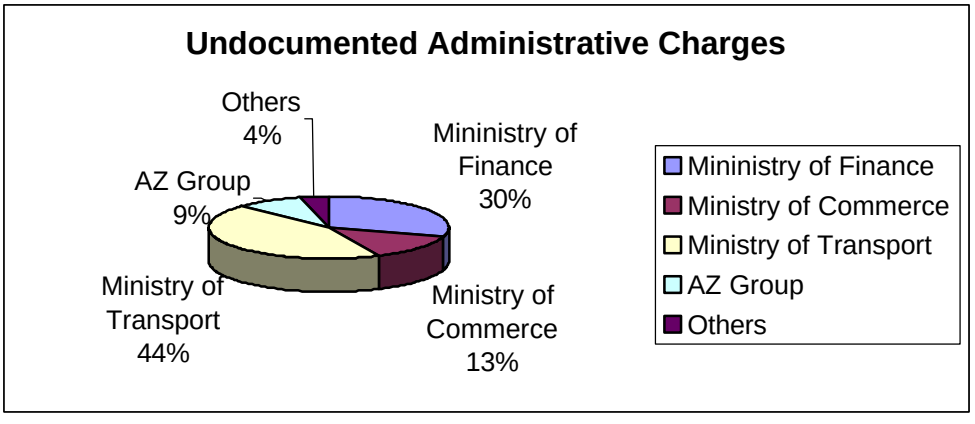


Table 34

Denim Jeans Production and Export to U.S.: Administrative Cost Matrix for 40 Foot Container

	Pre-Production		Production		Finishing		Post-Production				
	Import Clearance	Transport	Cutting/ Layering	Sewing/ Assembly	Finishing	Packing/ Loading	Transport	Export Doc Processing	Export Clearance/ Checking	**Total Cost**	**% of Total**
CDC				$ 0.83						$ 0.83	0%
MoT											23%
Port Auth	$ 187.93								$ 21.00	$ 208.93	21%
Roads		$ 14.00					$ 14.00			$ 28.00	3%
MoC											30%
Cam Control	$ 30.51					$ 110.00			$ 104.00	$ 244.51	24%
GSP			$ 10.00					$ 53.00	$ -	$ 63.00	6%
MoF: Customs	$ 125.00					$ 15.00		$ 33.00	$ 135.25	$ 308.25	30%
MoInt: Police	$ 10.76								$ 15.00	$ 25.76	3%
MoL				$ 10.00						$ 10.00	1%
MoInd: CPO			$ 10.00					$ 31.00		$ 41.00	4%
MoE					$ 7.08					$ 7.08	1%
MoFA										$ -	0%
AZ Group	$ 80.00									$ 80.00	8%
Total Administrative Cost	$ 434.20	$ 14.00	$ 20.00	$ 10.83	$ 7.08	$ 125.00	$ 14.00	$ 117.00	$ 275.25	**$1,017.37**	100%
% of Total	43%	1%	2%	1%	1%	12%	1%	12%	27%		
MoC											
GSP Quota Fee*										**$2,812.50**	
Total Freight Charge (import and export freight charges)				**$ 280.00**							
Total Administrative Cost including Freight Charges				**$1,297.37**							
Grand Total including GSP Quota Fee				**$4,109.87**							

NOTES:

Quota fee for 347 to U.S./dozen ($) 1.25

# of dozens/40 ft container 2,250

Source: Based on interviews conducted by Global Development Solutions, LLC

As evident from Table 34, problems surrounding administrative costs associated with government interventions occur principally during import clearance and export clearance/checking procedures. Specifically, 70 percent of administrative costs associated with importing and exporting denim jeans occurred during these two phases of the value chain.

Further analysis of these areas of administrative interventions revealed that a number of factors contribute to the high administrative costs (Table 35).

Table 35

Three Highest Costs Associated With Import and Export Clearance for Denim Jeans

Import Clearance	**Costs**	**Export Clearance/Check**	**Costs**
Load-on/Load-off charges (MoT: Port Authority)	$118	Customs inspection (MoF: Customs)	$60
Import permit (MoF: Customs)	$50	Cam inspections (MoC: Cam Control)	$50
Document processing fee (MoF: Customs)	$50	Cam control (MoC: Cam Control)	$40

In addition to high administrative costs, import clearance procedures were also found to be time consuming and cumbersome. Shipments used by the garment industry often contain a number of different materials and accessories in a 40 foot container. Consequently, the shipment falls under what is often referred to as a loose cargo. Such cargo is subject to much more cumbersome custom clearance procedures than a consolidated cargo which contains a single item. In some instances, import clearance may require as many as 24 separate documents, and 15 or more signatures.

Ample opportunities exists to reduce and consolidate the number of steps required for import clearance, not only to help reduce the time and resources required to process all of the required documents, but also to reduce the number of opportunities where rent seeking opportunities can take place.

6. Benchmarking Cambodia's Transport and Export Clearance Char ges

The benchmarking of Cambodia's transport and import clearance charges revealed a substantial difference between administrative costs incurred by enterprises operating in Cambodia when compared to other prominent garment producing countries. What is even more dramatic, however, is a similar comparison between the cost of transport and export clearance charges for a 40 foot FCL with the same garment producing countries.

As the Table 36 indicates, transport and export clearance charges incurred by enterprises in Cambodia are as much as 2.2 times higher than Sri Lanka, and 4.4 times more than Hong Kong.

Table 36

Benchmarking Export Clearance Charges Between Cambodia and Selected Countries (40 Foot Container)

	Cambodia	**Hong Kong**	**Malaysia**	**Sri Lanka**	**Madagascar**
Trucking	$ 200	$ 210	$ 85	$ 71	$ 50
Customs	$ 280	$ -	$ -	$ 68	$ 25
Lifting	$ 21	$ -	$ -	$ 29	$ 50
Inspection (at factory)	$ 100	$ -	$ -	$ -	$ -
Overtime charges	$ 230	$ -	$ -	$ 6	$ 247

Terminal handling charges	$	100	$	30	$	176	$	285	$	35
Documentation	$	15	$	15	$	13	$	-	$	-
Customs inspection fee	$	150	$	-	$	-	$	30	$	10
Misc. charges	$	30	$	-	$	-	$	16		
TOTAL	**$**	**1,126**	**$**	**255**	**$**	**274**	**$**	**505**	**$**	**417**

Deepening the supply chain to integrate cotton and textile production with the garment industry may offer a solution to reduce overall cost of production, and thus enhance the competitiveness of finished products in the garment and textile industry. But the exorbitant transport and export clearance charges when compared with other prominent garment producing country is likelihood to hinder the competitiveness of garment exports, even when productivity improvements and reduction in inputs costs are realized.

Yet another alarming factor contributing to expenses associated with operating a garment factory in Cambodia is the payment of GSP quota fees to the Government. Specifically, the current quota fee for the U.S. is set at $1.25/dozen for exports to the U.S. and $0.35/dozen to the EU. Such fees are collected by the Ministry of Commerce and is said to be directly transferred to the Treasury.[24]

According to interviews, the GSP quota fee for a 40 foot container of denim jeans shipped to the U.S. would be approximately $2,812.50. In short, the total administrative cost associate with exporting 2,250 dozen denim jeans from Cambodia to the U.S. in a 40 foot container is approximately $4,109.87:

Administrative costs:	$1,017.37
Freight charges:	$280.00
GSP Quota fees:	$2,812.50
Total:	$4,109.87

It should be noted that the total administrative cost, including freight and GSP quota fee is equivalent to the 2 percent profit margin that many garment manufacture are left with after the transaction.

[24] Based on a quota fee of $2,812.50/40 ft. container of trousers, revenue from GSP quota collected by the Government in 2002 should be, at minimum $3,839,187. In addition, revenue from government administrative charges in 2003 (including packing/loading, transport, export documentation, and export clearance) for the export of trousers should be approximately $725,156.

7. Summary of the Administrative Costs Associated with the Garment Industry

Although imported inputs continues to be high, Cambodia's garment industry continues to be competitive. However, as evident from the discussions to this point, import and export clearance costs play a prominent role in contributing to the overall cost of garment exports. Specifically, import of inputs, export clearance charges, export document processing, and packing and loading impose the highest cost to garment manufacturers in Cambodia.

Input Imports
Administrative cost analysis suggests that trucking, customs and 'other' costs constitute over 66% of the imported input costs. 'Other' costs principally represents late charges imposed by government inspectors. For example, government inspectors charge 'after hours' inspection costs as a means of generating additional personal revenue. As a result, input materials do not arrive on time to the factory to begin production. This often places unnecessary pressure at the factory to speed up production at a cost of sacrificing quality of output.

Trucking
The price of diesel fuel and more broadly, the energy pricing policy of the country requires reconsideration as fuel and electricity costs continues to be a cross-cutting issue for numerous industries that contributes to discounting the competitiveness of value-added Cambodian products in the international market.

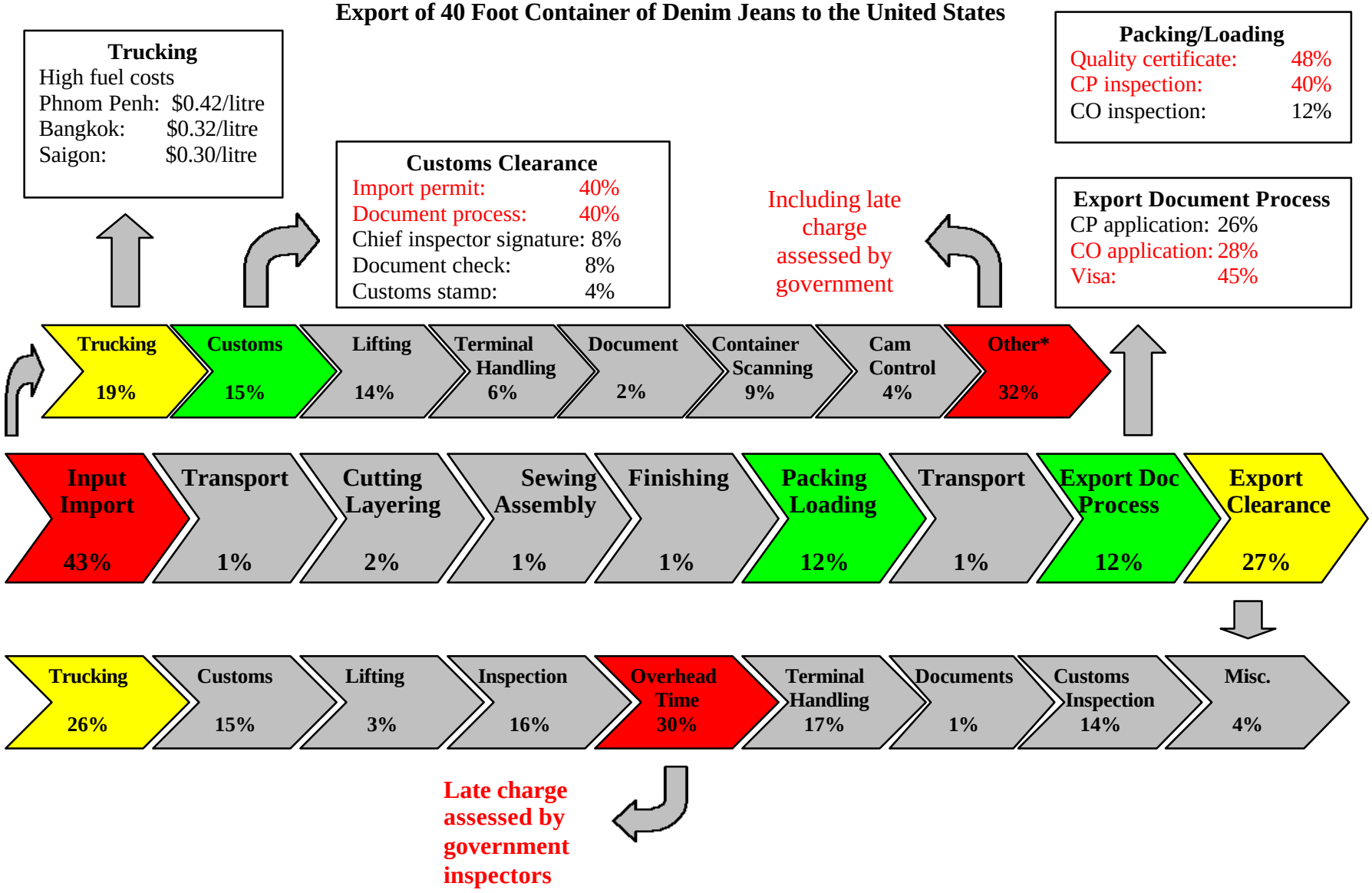
Customs Clearance Charges
All imported inputs face a relatively high import clearance charge. In the case of garments, 80% of the clearance charges incurred by local enterprises reflects the cost of import permit and document processing costs. As discussed in a previous section, unofficial costs continue to be high and discount the competitiveness of finished products as well as to discourage new investments, both local and foreign.

High Export Clearance Charges
High diesel fuel price and overhead time associated with delays caused by government inspections constitute over 56% of the cost incurred by enterprises operating in Cambodia. Delays caused by inspections and clearance procedure at the port is known to delay cargo, sometime requiring personnel from the exporting company to be present to ensure that delivery time is met.

Export Documentati on and Packing and Loading Costs
According to interviews, inspectors from Cam Control and Ministry of Industry come onto the shopfloor of the factory to inspect packing and loading of finished goods. At times when goods are already packed, inspectors require the exporting company to unload a container and unpack boxes for inspection. Such unnecessary inspections have been the cause of substantial frustration and cost to enterprises in the garment industry.

Chart 10

Administrative Interventions Analysis for the Production and Export of 40 Foot Container of Denim Jeans to the United States



Administrative and market barriers to competitiveness faced by the garment exporting sector can be summarized as follows.

Table 37

Administrative and Market Barriers to Competitiveness

	Critical Issues	**Impact**
Business Environment	Industry is dependent on high cost imported material, partly due to high import administrative charges Unnecessary in-factory inspections High export clearance charges Cumbersome export procedure	Inability to remain competitiveness in the export market, particularly with WTO accession High undocumented administrative charges, which increases non-transferable costs Delays in shipment, increased production costs and contribute to unpredictability of getting goods to market
Supply Chain	Over 50% of the exports are dependent on a small number of foreign companies, all of which have virtually no vertical market linkage Absence of support industries Quota dependent industry Lack of incentives and support for backwards linkage to deepen the supply chain	Highly volatile market with limited number of medium and large scale enterprises to support an efficient supply chain structure No incentive to invest in non-quota items and to introduce product diversity
Infrastructure	Uncompetitive energy pricing policy High cost of electricity High cost of diesel	High transfer of goods and operating cost Discourage investments in diversification

Motorcycle Industry: Potential for Regional Integrated Production

As in many poor Asian countries, motorcycles is one of the principal form of transportation for both individuals, families and commerce. As such it is common to find large volumes of motorcycles in both rural and urban areas. In Cambodia, however, not only are motorcycles an important mode of transportation, but the potential to produce spare parts locally and the consequent development of the motorcycle industry has the potential for acting as a springboard for the evolution a light and medium industry.

Currently, motorcycles from Japan, Korea and China are available in the Cambodian market, where it is estimated that approximately 20,000 new motorcycles and over 100,000 used motorcycles are sold. The most popular motorcycles are those made by Japanese manufacturers, which on average costs about $1,200. Similarly, Chinese imports are selling for as little as $500 - $600. Given the intensive and wide ranging use of motorcycles in Cambodia, the average lifecycle of a Japanese motorcycle is approximately 5 – 6 years, which retains a resale value of nearly 50%. On the other hand, the cheaper Chinese models are said to develop mechanical and structural problems after only 6 – 9 months of intensive use.

As the Cambodian economy continues to grow and its exposure to industrialized countries intensifies, two separate consumer markets are beginning to emerge. First, the traditional market, where the motorcycle serves as a workhorse for family and commerce, and the second and relatively new market is the youth segment. With the development of an affluent social sector, children of the current generation who are fashion conscious and seek out new trends, are creating demand for new motor cycle models and designs, where a new motorcycle is bought and sold within 1 – 2 years period. Such purchasing behaviour represent only a fraction of the total demand for motorcycles in Cambodia, but is playing an important role in defining the relevance of market segmentation, brand image, industrial design, and other market drivers otherwise not prominent in the industry.

Even within the region, product segmentation is evolving. For example, in Thailand and Vietnam, seats on motorcycles are short where the principal role of the motorcycle is to facilitate the travel needs of an individual. On the other hand, nearly all models sold in Cambodia feature long seats that can accommodate several family members as well as for the transport of goods.

Currently, only two Japanese manufacturers, Honda and Suzuki, assemble motorcycles in Cambodia. Otherwise, most motorcycles, particularly the 100 cc model which are the most popular in Cambodia, are imported from Thailand and Vietnam where a number of major motorcycle manufacturing and assemble plants are located. Larger 125 – 500 cc motorcycles are primarily imported from Japan.

1. Market Challenges

According to motorcycle manufacturers operating in Cambodia, due to wage differences and a number of other factors, the cost of motorcycle assembly is 1.3 – 1.5 times higher in Vietnam when compared with the current cost of assembly in Cambodia. And yet, the development of motorcycle assembly in Cambodia continues to be limited.

For companies that assemble motorcycles in Cambodia, the cost of electricity and fuel costs continue to be high. As with many companies, motorcycle assemblers gain access to electricity off the grid, principally relying

on their own on-site generators.[25] Consequently, the high cost of fuel oil was also raised as a critical market barrier to expanding operations in Cambodia.

Other factors contribute to the slow evolution of the motorcycle industry in Cambodia, but the principal factor is the high level of smuggling that takes place in the market. For example, due to high VAT and other import duties on motorcycles, a 100cc motorcycle sold legally in the market would cost approximately $900, while a smuggled motorcycles are sold for less than $600. In a market where a well paying assembly job pays a wage of $80 per month, consumer price sensitive for motorcycles is estimated to be about $50. As a result, market for motorcycles sold legally have very little opportunity for growth.[26] In fact, it estimated that after paying both official and undocumented fees to Government official, local motorcycle dealership are left with a profit margin of less than 1 percent.

Given the porous borders between Cambodia and Thailand and with Vietnam, a regular and systematic motorcycle smuggling operation continues to flourish. A manager from one manufacturer recently visited a Thai-Cambodian border where in a single night he witnessed nearly 200 motorcycles being smuggled into Cambodia. In such instance, a Thai driver drives a motorcycle across the boarder into Cambodia where there is a waiting truck. The driver is paid $30 per motorcycle and returns to Thailand where he picks up another motorcycle to drive into Cambodia. It is estimated that a single driver can makes as many as 5 trips per evening, earning him $150, nearly twice the monthly salary of a factory worker in one evening.

Equally problematic to the development of the motorcycle industry is the smuggling of second hand motorcycles. Current estimates suggest that sales of smuggled second hand motorcycles outpace the sales of new motorcycles by 5 to 1. According to local motorcycle dealers, second hand motorcycles can be purchased for as little as $50 and up to about $1,200 for larger engine models.

Some estimates suggest that illegal motorcycle sales, both new and used, may account for as much as $62.5 million in lost GDP contribution, and a loss in public sector income from administrative charges and import tax equally $10.4 million per year.

While these are staggering figures, equally important is the impact that illegal sales of motorcycles has on companies already operating in Cambodia. All the while production costs are increasing in Thailand and Vietnam, the unfavorable business operating environment in Cambodia has done little to win the confidence of companies considering possible investments in spare part production in Cambodia. In addition, in the absence of investments in spare part production, the evolution of support industries and light manufacturing will continue elude the Cambodian economy.

2. Administrative and Legal Barriers

In addition to a host of market based problems, a wide range of administrative and legal barriers plague the motorcycle industry in Cambodia. Generally, CKD kits arrive from Thailand by sea freight in 40 foot containers, which can hold as many as 60 complete kits. So, in order to understand administrative and assembly costs associate with operating a motorcycle assembly operation in Cambodia, a value chain analysis was conducted on a shipment of eight 40 foot containers holding 100cc motorcycle from Bangkok to Phnom Penh. Preliminary data from the analysis suggest that administrative costs associated with importing CKDs

[25] Usually, the cost of electricity for manufacturers with their own generators are above $0.18/kwh.

[26] Survey's conducted by motorcycle manufacturers found that while consumers tend to favor purchasing motorcycles in the legal market so that ownership and registration as well as license documents are current, given the low average income level, price difference of more than $50 dollars is enough to impact consumer purchasing decision in favor of smuggled motorcycles.

represent more than 15 percent of the FOB value of a motorcycle (not inclusive of VAT).

Table 38

Breakdown of Import and Assembly Charges Per Motorcycle in Cambodia

	Pre-Assembly		Assembly		
Administrative Costs	**Import Clearance**	**Transport**	**Assembly**	**Total Cost ($)**	**% of Total**
MoT					2%
Port Authority	$ 1.96			$ 1.96	2%
Roads		$ 0.42		$ 0.42	0%
MoC					
Cam Control	$ 0.60			$ 0.60	1%
MoF: Customs	$ 100.17			$ 100.17	96%
AZ Group	$ 1.33			$ 1.33	1%
ADMINSTRATIVE COSTS	**$ 104.07**	**$ 0.42**		**$ 104.49**	**100%**
FREIGHT/SHIPPING CHARGES					
Freight Forward (Thailand)		$ 1.70			7%
Import Agent		$ 1.33			6%
Shipping Company		$ 16.78			72%
Trucking (SIH-PP)		$ 3.48			15%
FREIGHT/SHIPPING CHARGES		**$ 23.30**			**100%**
% of Total					
Operating Costs					
Labour			$ 12.30		1%
Fuel/Utilities			$ 3.68		0%
Over head			$ 38.49		4%
Value/unit CKD (FOB Bangkok)			$ 683.22		79%
OPERATING COSTS			**$ 714.77**		**100%**
TOTAL COST	**$ 104.07**	**$ 23.71**	**$ 737.69**	**$ 865.47**	
% of Total	**12%**	**2.7%**	**85.2%**	**100%**	

Source: Based on interviews conducted by Global Development Solutions, LLC

A closer analysis of the administrative costs revealed that import tax and custom clearance charges made up more than 99 percent of the total administrative cost (Table 38). Interviews with motorcycle importers suggest that taxes are high, particularly for 125 – 250 cc class motorcycles, where taxes can be as high as 94% of the value of the motorcycle. In one instance, high administrative and import tax forced one motorcycle importer to face a loss of over $900 per unit. Consequently, to avoid facing losses, some importers informally negotiate payments to customs official so that tax rates are reduced to 30 – 50 percent of the value of the motorcycle.

To help reduce administrative charges associated with importing motorcycles into Cambodia, a group of foreign companies operating in Cambodia signed agreements with the Ministry of Finance to obtain 'SGS-

free status', where each enterprise is required to pay between $15,000 - $25,000 to the Ministry of Finance to bypass SGS certification on all shipments. Currently, the official tax rate assessed by customs for shipments without a SGS stamp is 83.43 percent, plus 7 percent penalty against the value of each shipment.

In addition to the high administrative cost associated with importing CKD kits, it was noted that the complexity of the import procedure and the number of signatures and stamps required continues to be problematic (Chart 11). Specifically, a review of shipping documents from motorcycle assemblers suggests that for each container load of 60 CKD units, 13 separate signatures and 7 stamps spread over 15 documents were required. While the actual process of clearing shipment once it arrived in Sihanoukville Port is about 10 days, document preparation prior to clearance is said to be cumbersome.

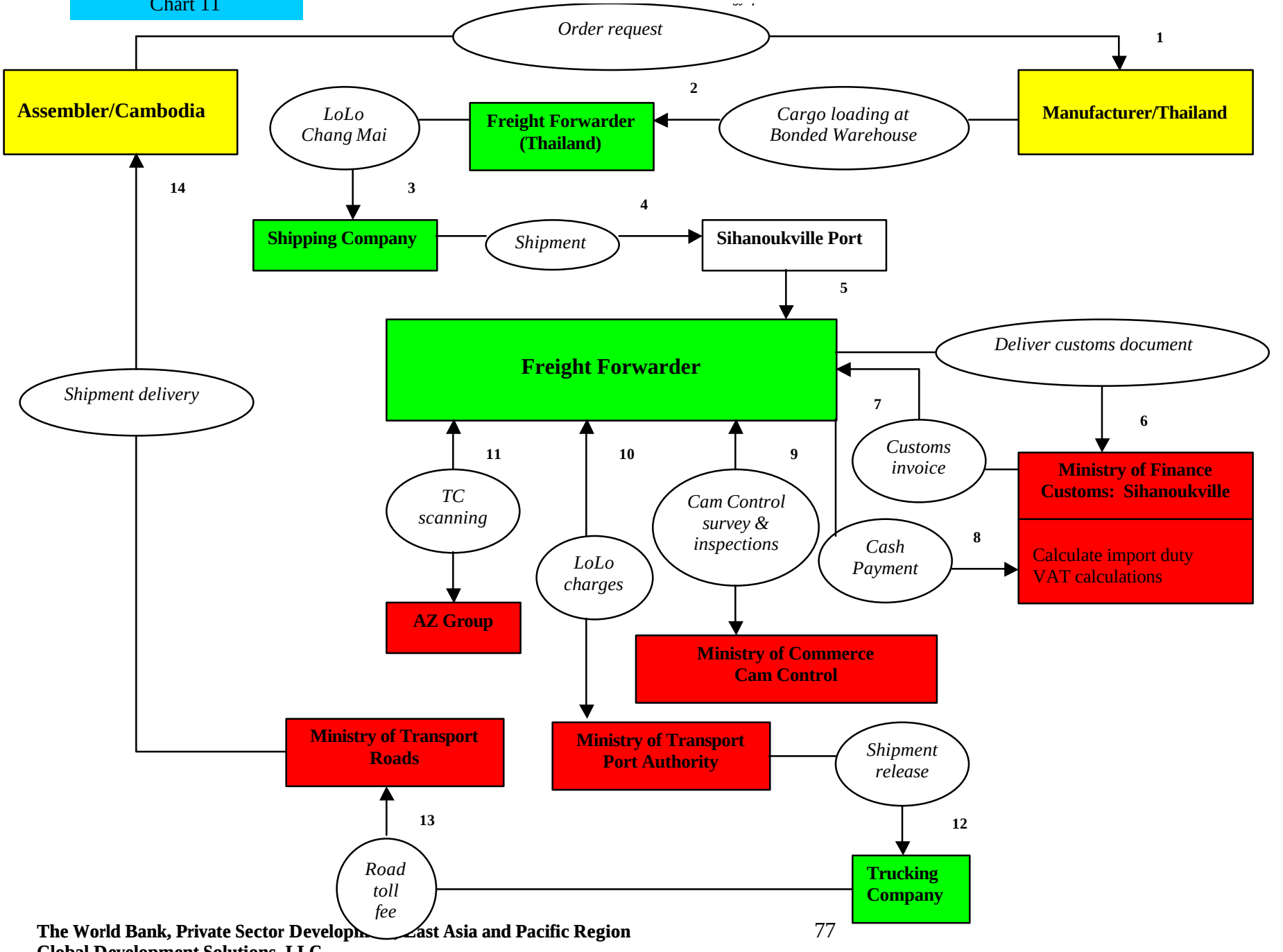
Once a CKD unit arrives and is assembled and sold in the market, other administrative issues continue to dampen the competitiveness of the motorcycle industry. With increasing demand for new models and shorter periods between design changes, copyright infringement and violation of intellectual property rights have become a major issue for the motorcycle industry in Cambodia. According to local motorcycle dealers, once a new design is introduced into the Cambodian market, within three weeks, an exact copy is available in the market through Chinese manufacturers for a fraction of the cost and quality. Such incidents are on a rise, and given the weak legal framework and enforcement history in Cambodia, limited if any recourse is available for businesses trying to operate a legitimate business. These incidents not only discourage existing operators from considering further investments in the industry, but also contributes to weakening the image of the country as a favorable investment site.

As the manufacturing sector in Cambodia begins to develop, yet another challenge is beginning to appear. Currently, two companies perform assembly of complete knock- down (CKD) motorcycle units in Cambodia. While tax regulations exists for CKD assembly, the market is absent of similar regulations for other types of partial assembly and local production such as complete built-up (CBU) and incomplete knock-down (IKD). As a result, companies are not encouraged to explore further investment and value-added activities in Cambodia.

Finally, according to interviews, a number of motorcycle manufacturers operating in Cambodia are requested to donate as much as $10,000 per year to customs official during holiday seasons, particularly during 5 major holidays. These unofficial charges are in addition to other non-receipt payments which companies must make to government officials in conjunction with importing CKD units.

Customs Clearance Map for a Motorcycle Assembler Operating in Cambodia with a Bounded Warehouse in Thailand

Chart 11



3. Local Production and Assembly Potential

After taking into account both market and administrative barriers that confront companies in the motorcycle industry in Cambodia, there continues to be possible options for expanding the current market activities to include further value-added production and assembly in the country. Assuming that the Government is responsive to the removal of some market and administrative barriers raised above, some manufacturers interviewed suggested that they would consider a phased introduction to value-added production of spare parts and sub-assembly in Cambodia.

In such a scenario, a two phased approach is envisaged by some manufacturers. First, is to explore opportunities for local spare parts production. Specifically, the production of a number of non-strategic components such as rubberized parts (handle bar cover and foot rest); plastic parts (fenders and mud and wind guard); light frame welding; and paint were mentioned. Once spare parts production is established, manufacturers would explore the possibility of shifting from CKD to partial local production.

In addition to the market and administrative barriers already mentioned, another barrier inhibiting the growth of the motorcycle industry is the absence of local support industries. For example, while Cambodia is endowed with a rich source of natural rubber, the type of rubberized products used for manufacturing motorcycle parts require a mixture of natural rubber and synthetic material, which Cambodia does not have. Consequently, given the current situation in the market, manufacturers would need to export natural rubber, have it mixed with synthetic material and re-shipped to Cambodia before manufacturing of rubberized components can begin. The same could be said with the production of plastic parts. In short, the absence of support industries would effectively eliminated the competitive advantage that Cambodia can potentially offer.

While some manufacturers currently operating in Cambodia would consider expanding local value-added activities to include spare parts production and possibly sub-assembly activities, interviews suggest that substantial support is required to help upgrade labor skills. Specifically, strengthening technical shopfloor skills such as mechanical and engineering capability associated with metal working, plastic fabrication and equipment repair and maintenance, as well as soft business skills such as management, accounting, booking, and human resources management.

All things considered, manufacturers currently operating in Cambodia estimate that given improved labour skills and access to technology and equipment, locally produced spare parts can compete effectively with Chinese products, particularly with respect to quality. At the same time, however, prevailing market and administrative barriers preclude any possibility of locally produced products competing with Chinese products on the basis of cost.

Administrative and market barriers to competitiveness faced by the motorcycle industry can be summarized as follows (Table 39).

Table 39

Administrative and Market Barriers to Competitiveness

	Critical Issues	**Impact**
Business Environment	Lack of regulatory enforcement, particularly as it relates to customs Complex and costly import clearance procedure High unofficial administrative charges	High level of illegal sales is discouraging companies from aggressively exploring investment opportunities in spare parts production Discourage companies from exploring expanding operations in IKD and CBU assembly Dampen growth opportunities among local companies as higher costs incurred by importers are past on to local merchants
Supply Chain	Complete absence of support industries Lack of access to equipment and technology Lack of access to long-term financing Absence of training institutions	High cost of imported spare parts encourage the growth of the informal markets Discourage investments in spare parts production Encourage trading rather than production based market growth Lack of technically competent skilled labour discourage development of support industries and vertical market integration
Infrastructure	Uncompetitive energy pricing policy High cost of electricity High cost of diesel	High cost of assembly discourage companies from exploring investments in IKD and CBU assembly Discourage investments

In short, a number of key elements were identified as essential to stimulate growth and development of the motorcycle industry as well as other light manufacturing industries in Cambodia include the following:

- Administrative reform, particularly with respect to reducing the cost and complexity of customs clearance;
- Strengthening the enforcement of intellectual property, trade mark and copyright regulation;
- Strengthening the enforcement of border patrol to curtail smuggling;
- Introducing competitive electricity pricing;
- Improving the cost of fuel for power generation and transport;
- Strengthen local training institutions to deliver technical and business training;
- Provide incentives to stimulate growth of support industries relevant to the development of the manufacturing sector, and more specifically relevant to the motorcycle industry.

Canned Milk: Local Investments Dampened by High Inflow of Contraband Products

The consumption of milk, while relatively small compared to other Asian countries (3 kg/day), has become an important dietary component for Cambodians, particularly among the urban population. It is estimated that nearly 3 million cans of canned milk and 1.3 million cans of condense milk is sold each month in Cambodia.

According to local sources, the potential consumer base for milk in Cambodia is estimated to be approximately 3.5 million people. Of this population, a growing population of consumers consume approximately 2 cans of milk each day. When purchased by the case, each can of milk costs approximately 800 Riel ($0.2/can) or 1,000 Riel/can when purchased by the can. Taking into account that rural income, particularly among farmers is no more than about $1/day, a large population of consumers are concentrated in urban areas.

Until recently, Nestle operated a canned milk facility in Phnom Penh, however, smuggling and other market constraints has forced Nestle to close down its facility and switch to importing from Thailand all of the canned milk sold in Cambodia[27]. Since closing down the milk processing facility in Phnom Penh, Nestle, the largest trader of milk and milk products in Cambodia, must now truck milk from Bangkok. But companies like Nestle that import goods from Thailand face a number of challenges.

1. Transporting Canned Milk

Canned milk is usually transported in a 20 foot container, which can hold up to 800 cases of canned milk.[28] All importers and distributors of canned milk outsource their transport needs to local and regional trucking companies. In the case of canned produced in Thailand, it is trucked from Bangkok to Phnom Penh via Poipet.

Cases of milk are loaded on to a container in Bangkok using a wooden pallet. But once in Poipet, the cases are unloaded from the truck and reloaded without pallets onto a truck operated by a Cambodian trucking company. One explanation given by Cambodian freight companies for not using pallets is that freight companies are paid according to the number of cases transported rather than by the truck load. Current Cambodian law places a weight limit on truck cargo, which is equivalent to approximately 600 cases per 20 foot container. But according to local sources, some transporters haul as much as 1,000 cases per 20 foot container.

Such violations contribute to further damaging already poor roads that exists between Poipet and Phnom Penh. In fact, the physical distance from Bangkok to Poipet is approximately 300 km, the same distance from Poipet to Phnom Penh. While it takes 6 hours to travel from Bangkok to Poipet, it takes Cambodian transporters as much as 3 days to make the journey from Poipet to Phnom Penh. In addition, because trucks are loaded in excess of its capacity without the use of pallets, the cargo damage rate is nearly 8% of each load. This translates to nearly two full truck load of goods which must be disposed of

[27] With a processing capacity of 200,000 tons, Nestles' operations in Thailand is the largest milk processing facility in the world.

[28] Each case of canned milk weighs approximately 18kg.

due to damage occurring during transport each month.

Once a truck arrives at a warehouse in Phnom Penh, as the canned milk is not on pallets, it must be unloaded manually. Consequently, it takes 20 workers to unload a 20 foot container and move the contents to a warehouse. With nearly 6 trucks of cargo arriving each day, more productive use of human resources is seen as vital to the operation.

2. Illegal Imports and Customs

According to local sources, 5 – 6 truck loads of canned milk enter Cambodia illegally from Thailand, and another 2 – 3 truck loads arrive from sources in the Philippines and Malaysia each day. Consequently, companies like Nestle compete against their own products, which accounts for between 20 – 40 percent of all canned milk sold in Cambodia. To avoid the sales of contraband products, the Customs Department now requires 2 stamps per case of canned milk, which cost producers approximately 100 Riel/case.

While the initiative to monitor the entry of contraband products using a double stamp system is commendable, according to local sources, such stamps are readily available for purchase by local distributors. Furthermore, at the local level, customs inspectors have been found to be colluding with local shopkeepers so that unstamped canned milk can be sold at a discount.

Local sources suggest that a large majority of contraband products, including canned milk sold in Cambodia are brought into the country by selected members of the Cambodian military which operate an efficient and wide ranging informal trading operation. Some insiders suggest that the military is making a mere $7,000/month on contraband milk, while companies like Nestle forgo as much as $500,000/month in sales thanks to the sales of contraband Nestle products.

Preliminary analysis suggest that for companies like Nestle, administrative and transport costs associated with importing 800 cases of canned milk using a 20 foot container is approximately $2,091.67. Nearly 51 percent of this cost is reflected in customs administration charges, principally import tax and customs declaration charges. In fact, import tax constitutes nearly 36 percent of the overall cost of importing canned milk.[29] Taking into account that smugglers of contraband products pay no import duty, this administrative cost alone preclude 'legal' operators from effectively competing in the Cambodian market (Table 40).

It is estimated that widespread consumption of contraband canned milk in Cambodia,

is contributing to a minimum of $30 million in forgone GDP contribution annually. In addition, given current government administrative charges associations with customs and Cam Control inspections costs, the Government is forgoing approximately $3 million in public sector revenue on canned milk imports alone.

What is important to note is that the lack of regulatory enforcement is not only dampening public sector revenue flows from legitimate business transactions, but more importantly, it has discouraged private sector investments in the economy. Specifically, widespread sales of contraband canned milk not only placed a holt to Nestle's investment in local milk production, but has also discouraged other investments in areas such as packaging and labeling, and other support industries from taking place in the economy. In the absence of good governance, investments that deepen the supply chain as well as to stimulate horizontal integration is unlikely to take place.

[29] According to interviews, the period between filing a claim for repayment of VAT repayment can be as much as 120 days or more. Furthermore, import duties and VAT must be paid in advance. Consequently, the opportunity cost of capital for large volume importer like Nestle is substantial.

Table 40

Administrative and Transport Costs for Import and Sales of Canned Milk

	Pre-Sales			
Administrative Costs	**Import Clearance**	**Transport**	**Total Cost ($)**	**% of Total**
MoT: Roads				
Toll		$ 16.17		
Subtotal		***$ 16.17***	***$ 16.17***	1%
MoC: Cam Control				
Cam control inspection	$ 10.00			
Cam control permit	$ 55.00			
Subotal	***$ 65.00***		***$ 65.00***	3%
MoF: Customs				
Import tax	$ 742.00			
Import permit	$ 17.50			
Customs declaration	$ 300.00			
Subtotal	***$1,059.50***		***$1,059.50***	51%
Total Administrative Charges				
Freight/Transfer Charges				
Freight Forwarder (Thailand)		$ 80.00		4%
Import Agent	$ 210.00			10%
Trucking Company (BKK - Poipet)		$ 250.00		12%
Trucking (Poipet - PP)		$ 411.00		20%
Total Transport/Transfer Charges		**$ 741.00**	**$ 741.00**	
TOTAL CHARGES	**$ 1,334.50**	**$ 757.17**	**$ 2,091.67**	
% of Total Value	**64%**	**36%**		

Source: Based on interviews conducted by Global Development Solutions, LLC

Companies like Nestle must adhere to international accounting standards. Consequently, dealing with customs, particularly with regarding to undocumented charges continues to pose operational challenges. As freight is outsourced to local companies, much of the 'hidden' costs are principally absorbed by trucking companies, and past on to Nestle using consolidated invoices. This is reflected in the fact that trucking costs, both from Bangkok to Poipet, and from Poipet to Phnom Penh represent 12 percent and 20 percent of overall import costs respectively. In the case of trucking cost from Poipet the Phnom Penh, fuel costs and the length of time required to travel 300 km on poor roads also contribute to the higher cost.

Yet another unsuspecting hidden cost incurred by importer is the high inspection fee that the Ministry of Finance had negotiated with SGS. Specifically, inspection fees are charged at 0.8 percent of the value of the cargo, but importers are assessed a minimum fee of $210. Consequently, the minimum charge of $210 places a premium on importing products which are bulky or have substantial weight. This may also be a contributing factor for trucking companies to

overload their trucks so that they can maximize the value of their cargo.

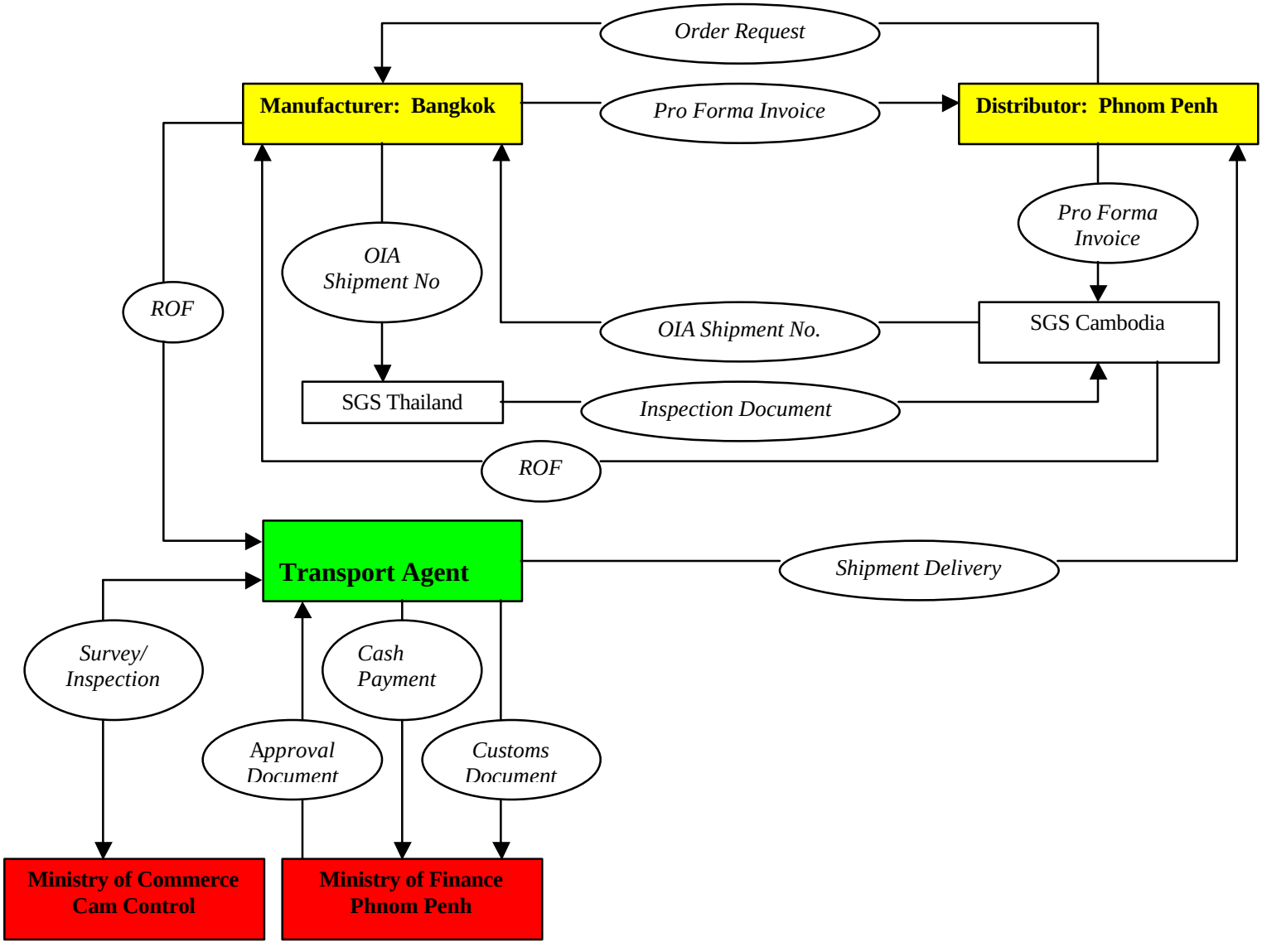
As companies like Nestle have substantial experience and know-how related to importing and transport logistics, the process for ordering, clearing and transporting is well established. However, customs clearance procedures and document requirements are demanding and time consuming. While the administrative clearing map is relatively streamlined (Chart 12), it is estimated that as many as 15 documents and equal number of signatures are required to import a truck load of canned milk.

In addition to the slow and cumbersome custom clearance procedures, the Cambodian Government recently instituted a warehouse inspection procedure. As a response to the high volume of contraband products currently sold in the market, Customs authorities have begun conducting random warehouse checks whereby distributors must present to customs officials individual import documents for each case of canned milk. As there is only one import documents for each 20 foot container containing 800 cases of canned milk, importers like Nestle are required to assist distributors in compiling import documentation for each case of canned milk by its distributor to customs authorities.

In one instance, for example, a major local distributor had its warehouse sealed off by customs official for over a week while the distributor and Nestle were required to account for import documents for an entire warehouse of canned milk and other commodities. Rather than developing counter smuggling measures at the border or through already well known sources, this reactive measure to countering smuggling has created yet another barrier to operating a business in Cambodia, and further contributing to tarnish the image of the country as a favorable environment for international business.

Import of Consumer Goods by Truck from Bangkok

Chart 12



Administrative and market barriers to competitiveness faced by the canned milk industry can be summarized as follows (Table 41).

Table 41

Administrative and Market Barriers to Competitiveness

	Critical Issues	**Impact**
Business Environment	Lack of and ineffective regulatory enforcement High import costs High import tax Ineffective public-private partnerships as evident from SGS charges negotiated by the Ministry of Finance Cumbersome import clearance procedures	Discourage investments in local production Foregone GDP contribution and public sector revenue Discourages investments in and development of local support services Discourage local distributors from working with legitimate business Encourage the expansion of contraband sales while at the same time penalizing legitimate business transactions
Supply Chain	Poor quality of freight services	Contributes to increase in cost and product damage, and discourages investments in the country
Infrastructure	Poor road conditions Uncompetitive energy pricing policy High cost of electricity High cost of diesel	Increase cost and product damage, which must be absorbed by either the consumer or importer Taint the country as an attractive investment location High cost of transport discourage new investments in the economy

IV

Sources of Administrative Distortions: Examples of Laws and Regulations Requiring Refor m

There are a number of key Cambodian laws and regulations that contribute to the administrative distortions outlined in this report. Some sections of laws are not implemented at all while others sections are selectively over implemented. This part of the report will highlight a number of examples of laws and regulations, and cite specific sections that contribute to some of the administrative distortions identified thus far.

The report identified a number of cross-cutting issues that contribute to administrative distortions across several sectors. In this context, there are at least five laws of principal concern when considering actions to reduce administrative distortions. These laws include:

- Law Regarding Duties on Exported and Imported Goods (Customs and Excise Department)
- Sub-decree on the Standard and Management of Agricultural Material (Ministry of Agriculture, Forestry, Hunting and Fishery)
- Regulation on the Implementation of Pre-Shipment Inspection Services (Ministry of Finance and Economy/SGS)
- Organization and Functioning of the Ministry of Public Works and Transport (Port Authority)
- Cambodia Department of Control of Imported and Exported Merchandise and Suppression of Falsification (Camcontrol)

The following matrix provides citations from each law that requires consideration for reform activities.

Law Regarding Duties on Exported and Imported Goods (Royal Code No. 0196/18, January 24, 1996) - Customs[30]

Citation	Critical Issue
Chapter 2[31], Article 8: The value shall be calculated with regard to goods for export/import shall be the wholesale price excluding duties at the exporting/importing points	Article 8 is an overlapping function with Article 5.2 of Regulation on the Implementation of Pre-Shipment Inspection Services (SGS)
Chapter 2, Article 9 (1): Reduction in duty shall be applied to the damage or loss of goods in the course of transportation or loading with plausible reasons certified by the competent authorities	This Article is under-employed by companies like Nestle and others that import goods for resale or as inputs for finished goods production
Chapter 2, Article 10: Duties on exported and imported goods shall be collected only one time	Article 10 provides the necessary legal framework for the introduction of a single, non-cash invoice payment system
Chapter 2, Article 11: Control and duty collection on exported, imported goods shall be implemented in zones and checkpoints determined by the government	Article 11, unless it was nullified or amended, would prohibit unannounced in-factory/warehouse customs checks that many importers and distributors currently, including those affiliated with Nestle (per example provided in the report)
Chapter 2, Article 11: In the two situation mentioned above, if there is no official paper attached specifying that all duties have been paid for the imported or exported goods, the owner of the goods shall be required to pay and shall be subject to punishment in accordance with this law.	Article 11 is an example of where the law is selectively implemented, giving a blind eye to smuggling operations, while over enforcing the law with 'legitimate' business operations
Chapter 3[32], Article 13 (1): Duly implement in accordance with the determination of Customs authority to do the goods declaration, keep records of accounting, follow procedures of transport and warehouse the goods	Ibid – no set fees or charges are established under this law, and yet numerous complaints about high customs charges suggest high undocumented administrative charges
Chapter 4[33], Article 14: Customs officers shall implement properly the recommendation of the state to collect customs duties for the State budget, conduct the examination of goods, confiscate the goods for evidence, control and use the printed documents for collecting duties	Article 14 is poorly enforced and customs lacks capacity to properly implement its duties under Article 14
Chapter 4, Article 15 (3): Examine the goods in warehouses and in stores of export- import business, and business stores which are under the control of customs and excises authority	Article 15 is an overlapping function with Article 14, Sub-decree 54 of CAM Control
Chapter 4, Article 16 (4): Customs authority shall be able to sell the confiscated goods which are perishable, with the approval from superiors on domicile inspection	Tighter provisions on resale required as current provisions encourages confiscation. Furthermore, statement on proceeds from sales must be clearly stated
Chapter 4, Article 18: Customs offices who have done a good work shall be awarded with the allowance determined by the Ministry of Finance Local authorities, military forces shall assist the Customs authority as requested to examine the offense on exported and imported goods.	Little evidence to suggest that this incentive structure is functional. The entire Article requires reconsideration as the private sector views the military as apart of the problem associated with importation of contraband goods.

[30] The list of duties can be found in the Annex of this law
[31] Chapter 2: Procedures on Duties Collected on exported Imported Goods
[32] Chapter 3: Duty Obligations of Exporters/Importers
[33] Chapter 4: Rights and Obligations of Customs Officers

Local authorities, military forces, individuals who have done a good work to assist the customs authority in implementing the law shall be awarded with the allowance determined by the Ministry of Finance	
Chapter 5,[34] Article 21: Anyone who tries to avoid or commit fraud on the duties on exported and imported goods shall be punished and pay 2 times the amount that the offender tries to avoid or misrepresent. In the event it is repeated many times, the punishment may be up to 5 times of the amount that the offender tries to avoid or commit fraud. In addition to paying the penalty fee, the offender shall pay all other duties that the offender tries to avoid or misrepresent. In the event the avoidance or fraud is serious or if is organized, the offender shall be subject to imprisonment from 3 months to 3 years. The means of transport that was used to commit the offense shall be confiscated.	Article 21 is not enforced, particularly due to the lack of political will, as well as the absence of capacity within Customs to implement.
Chapter 5, Article 23: Anyone who export or import, transport, stockpile or sell prohibited goods, with reference to the types of offense must be punished as follows: • Confiscation of goods • Confiscation of goods and the means of transport that was used in committing the offense. The offender shall be imprisoned from 2 months to 10 years and confiscation of goods and the means of transport that was used to commit the offense. In the event the offense is serious, the offender shall be imprisoned up to 20 years.	Ibid
Chapter 5, Article 26: Customs officers commit embezzlement or steal export or import duty money, or abuse their positions or power to ask for bribes or to act as bribery agents, shall be punished in accordance with laws in force	Ibid

Sub-decree on the Standard and Management of Agricultural Material (Royal Code No. 69 ANKr – BK)

Citation	**Critical Issues**
Chapter 1[35], Article 1: The present sub-decree has the purpose to ensure a high quality of agricultural materials so as to strengthen and increase the agricultural production with high effectiveness and stability in the Kingdom of Cambodia	Article 1 is ineffective in ensuring 'high quality' agricultural material, principally due to the lack of monitoring capability and system
Chapter 1, Article 3 (1) - Standards of agricultural materials: Maximum quality degree acceptable for agricultural materials mentioned in this sub-decree and generally having: the specificity of materials and the measures of control of quality such as registration, packing up, labeling, etc.	Quality control, registration, packaging and labeling standards are not in place nor is the Ministry exhibited capacity to enforce Article 3
Chapter 1, Article 4 -Registration: provision of approval letter by the Ministry of Agriculture, Forestry, Hunting and Fishing for any agricultural	The distributional monopoly that currently exists suggest that registration and licensing procedures (Article 5) lacks transparency

[34] Chapter 5: Penalty Provisions
[35] Chapter 1: General Provisions

material, trade, distribution and domestic use or exportation	
Chapter 1, Article 5 - Business license: letter of authorization given by the Ministry of Agriculture, Forestry, Hunting and Fishing to individuals or companies producing, trimming or improving, supplying, selling wholesale, wrapping-up again, stocking up, importing and for exporting for trade of agricultural materials	Article 5 addresses wholesale distributors, but no provisions exist to cover retail sales, where a large share of the violations occur during repacking that result in poor quality fertilizers being sold to small holder farmers. Labeling standards are not adhered to at the retail level (also refer to above).
Chapter 1, Article 3 (10) - New packing up: Transfer of agricultural materials from their original wrapping to another smaller one for sale.	Provision for proper repackaging exists but is not implemented principally due to lack of enforcement capacity
Chapter 1, Article 3 (11) - Falsified fertilizer: Fertilizer mixed with non chemical substances lessening the feeding rate and inappropriate to the fixed standard.	Ibid
Chapter 2[36], Article 5: A natural person or a legal person or any company that wants to produce or import or export fertilizers shall have authorization from the Ministry of Agriculture, Forestry, Hunting and Fishing	Refer to comments on Chapter 1 Article 14
Chapter 2, Article 7: Fertilizers displayed for sale shall be wrapped up in a packing material which is weather - resistant, not torn or pierced, solid to stand up to transport, stocking and use. The new wrapping up in small bags for sale can be performed only when there is a letter of authorization from the Ministry of Agriculture, Forestry, Hunting and Fishing.	Article 7 is not enforced and is a source of poor quality fertilizer sold at the retail level, particularly to small holder farmers
Chapter 2, Article 8: Every bag shall be labeled to give sufficient clear information in Khmer to users, according to the instructions of the Ministry of Agriculture, Forestry, Hunting and Fishing. It is forbidden to sell any fertilizer without label or with label but illegible.	Article 8 is not enforced, particularly at the retail level and is a contributing factor to the sales of poor quality fertilizer
Chapter 2, Article 9: It is forbidden to import, stock and sell any falsified fertilizer	Article 9 is clearly not enforced, partly due to the lack of political will, as well as the lack of enforcement capacity
Chapter 2, Article 10: The sale of non-specific fertilizer or fertilizer with poor quality shall be authorized by the Ministry of Agriculture, Forestry, Hunting and Fishing and shall be performed according to the instructions of the Ministry of Agriculture, Forestry, Hunting and Fishing on the business of those fertilizers	Article 10 contradicts and legitimizes the sales of substandard fertilizer, which in turn is contributing to the low yield factor among farmers
Chapter 4[37], Article 27: Natural or legal persons who want to produce seeds with certificates or division of plant seeds to engage in trade shall make registration with Ministry of Agriculture, Forestry, Hunting and Fishing and observe the technology instructed for production and keeping of those seeds	Ministry of Agriculture lacks the technical capacity to assess new untested varieties, which may contribute to the responsiveness of farmers effectively responding to shifting market demand

[36] Chapter 2: Fertilizers
[37] Chapter 4: Seeds and Division of Plant Seeds

Chapter 7[38], Article 35 (3) & (4): In writing warning the natural or legal persons having done business of falsified agricultural materials with poor qualities different from those registered and set forth in article 6,9, 22, 29, 32 and 34, and then preparing the file and sending it to Court. In case of re-offending, definitively taking back the letter of authorization to do business. In writing warning the natural or legal persons having done business of agricultural materials in showing disrespect to wrapping up standard as set forth in article8, 19, 20, 29 and 33 and forcing them to enter in contract of correction with in 15 days. Temporarily withdrawing the letter of authorization to do business in case of second offense.	Provisions under subsections 3 & 4 are not enforces, partly due to the lack of political will, as well as the lack of enforcement capability. Furthermore, the provision is principally targeted at wholesale rather than retail sales, where many violations are taking place that impact small holder farmers.
Chapter 8[39], Article 36: Natural or legal persons who want to do business of newly imported agricultural materials shall apply for registration of those agricultural materials with the Ministry of Agriculture, Forestry, Hunting and Fishing from the day this sub-decree comes into force.	Refer to comments on Chapter 1, Article 4

Regulation on the Implementation of Pre-Shipment Inspection Services

(Announcement No. 599 shv - Rbk dated August 31, 2000)

Citation	Critical Issues
Chapter 1[40], Article 1.7: 0.80% ad-valorem of the FOB value of the goods inspected as declared in the exporter's final or pro-forma invoice and indicated in the Report of Findings, applicable for all goods with the exemption of bulk petroleum products. *USD 0.30 per metric tine applicable for bulk petroleum products only inspected as declared in the exporter's final or pro-forma invoice and indicated in the Reports of Findings* SGS shall be entitled to its fees regardless of whether, after an inspection of the goods, the exporter or importer does not provide the information of documents necessary for the issuance of a ROF or, for any reason, does not process with the shipment of the goods.	Costs associated with Article 1.7 considered high, particularly in the context of bulk petroleum products. Also, some issues regarding whether rates were effectively negotiated with SGS. The entire fee structure may require reviewing to consider competitive nature of the charges
Chapter 2[41], Article 2.2 - Inspection of Goods: All goods imported into the Kingdom of Cambodia from the date of 2nd October 2000 shall be subject to Pre-shipment Inspection by the Inspection Company in the relevant country of supply prior to shipment to the Kingdom of Cambodia.	While Article 2.2 provide provisions for requiring inspection, enforcement is weak due to the lack of capacity in Customs Department
Chapter 3, Article 5[42]: Required Tasks	Functions of Article 5 overlap with Chapter 2,

[38] Chapter 7: Penalty
[39] Chapter 8: Transitory Provisions
[40] Interpretation
[41] Article 2: Goods Subject to Pre-Shipment Inspections

The Inspection Company or its affiliate in the country of supply of the goods shall perform the following tasks in relation to the goods using all information at its disposal: a) Pre-shipment Inspection, b) Price verification c) Verification of the total value of the goods, d) Determination of the dutiable value of the goods in accordance with the Tariff Nomenclature, e) Calculate duties and taxes payable on the goods in the Kingdom of Cambodia	Article 8 of the Customs Regulations (refer to reference on customs regulations)

Organization and Functioning of the Ministry of Public Works and Transport (Royal Code No. 0196/03, January 24, 1996 – Decision No. 053, January 17, 1997 on Defining the Promulgation on the Regulation of Dues & Charges of the Port Authority of Sihanoukville) – Port Authority

Citations	**Critical Issues**
Chapter 2, Article 16: Container lift-on and lift-off charges: i. 20 ton container "full": US$46 for yard-truck, and US$57 for yard-train; ii. 20 ton container "empty": US$23 for yard-truck, and US$28 for yard-train; iii. 40 ton container "full": US$62 for yard-truck, and US$78 for yard-train; and iv. 40 ton container "empty": US$44 for yard-truck, and US$55 for yard-train.	Charges prescribed in Article 16 understates actual costs incurred by importers and exporters.

Cambodia Department of Control of Imported and Exported Merchandise and Suppression of Falsification (Royal Code No. 0196/16, January 24, 1996. Based on the Law on Establishment of the Ministry of Commerce, Sub-decree No. 54, September 22, 1997 on Organization and Functioning of the Ministry of Commerce - Sub-decree No. 54 Article 4(D)(3) of Sub-decree to form Camcontrol)

Citation	**Critical Issues**
Article 14 - Camcontrol inspection: Authorizes Camcontrol to check import and export of merchandise.	Article 14 is overlapping with Chapter 4, Article 14 (3) of the Laws Regarding Duties on Import/Export Goods (Customs Department)
Article 15: The Law Regarding Duties on Exported and Imported Goods (Customs Law), July 20, 1989: Provides for custom inspection by custom officers over imported-exported goods.	Custom Law does not grant any general powers to the Ministry of Economy and Finance to set fees for inspection of imported-exported goods.

[42] Article 5: Pre-shipment inspection of goods