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Composite Index of Market Access for the export of rice from Thailand



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LIST OF ABBREVIATIONS AND ACRONYMS

AFTA - ASEAN Free Trade Agreement

ASEAN - Association of South East Asian Nations

BMA - Barriers to market access

CIF - Cost, insurance and freight

CIMA - Composite Index Market Access

EU - European Union

FOB - Free on board

GI - Geographical Identification

GMP - Good Manufacturing Practice

HACCP - Hazard Analysis Critical Control Point .

HS - Harmonised System Classification

ISO - International Organisation for Standardisation

MFN - Most Favoured Nation

OECD - Organisation for Economic and Co-operation and Development

OAE - Office of Agricultural Economics

SPS - Sanitary and phytosanitary

TBT - Technical barriers to trade

TRQs - Tariff rate quotas

US - United States

WTO - World Trade Organization

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FOREWORD

Trade barriers are often opaque and difficult to compare. All too often, an exporter faces costs well in excess of a simple tariff when seeking entry to a market. The principles underlying the WTO's July 2004 Framework Agreement, the 2001 Doha Declaration and the Agreement on Agriculture commit Members to reducing barriers to their markets and lowering their tariffs. However, to date, there exist few tools to measure the changes in market access that will take place at the conclusion of the Doha Round, or those that may result from any other trade agreement. The Composite Index of Market Access (CIMA) has been conceived as a tool to help trade policy-makers and other stakeholders to address this challenge.

As part of a work programme that resulted from a dialogue organized with the Institute for International Trade Negotiations in Salvador de Bahia, Brazil, ICTSD commissioned a methodology paper by Prof. Timothy Josling as well as pilot country studies by other experts. The methodology and country studies have been reviewed by government officials, academics, and civil society at two meetings Washington DC. An Advisory Panel has helped refine the CIMA methodology and recommended a list of products and markets to study as part of a set of pilot studies. This study is the first in the series of pilot studies.

The World Bank and IMF have developed a number of indices aimed at measuring trade restrictiveness, as a result of work they conducted to understand the impact of structural adjustment programmes on recipient countries' policies. Additionally, the OECD's Producer Support Estimate (PSE) provides a methodologically consistent means of comparing the level of domestic support on agriculture amongst its members. These tools, though useful for their intended purpose, fail to address the needs of developing country exporters trying to assess the costs they face in entering a given market. CIMA is intended to provide a clear and concise tool for this purpose.

The CIMA project is not intended to provide a comparison of the barriers faced by different tropical products. Rather, the project is meant to illustrate the actual costs faced by exporters of selected tropical products when trying to penetrate markets. While liberalisation through tariff reduction may partially achieve the aim of facilitating access for tropical products, the CIMA project highlights the fact that tariff reductions are only a part of the puzzle that trade policy has to solve.

The findings of the CIMA project can be used in many ways, including ensuring a more rational management of actual barriers to access, and hence, enhancing developing country opportunities to trade. It can also be useful in negotiations for further liberalization. Using the CIMA approach would help shift the focus from the number and complexity of support measures, as well as standards, to a uniform and comparable index so that negotiators may conclude more transparent and equitable trade agreements in the future. We hope this study, and the CIMA initiative, is of import to the reader and of help to the policy-maker.



Ricardo Meléndez-Ortiz
Chief Executive, ICTSD

EXECUTIVE SUMMARY

This study of the Composite Index of Market Access (CIMA) of the rice industry of Thailand is part of the International Centre for Trade and Sustainable Development (ICTSD) pilot project on market access for three selected countries - Uruguay, the United States and Thailand. The objective of this project is to create an indicator of market access of main rice importing countries that would include not only tariffs but also other barriers affecting market access for the agricultural product such as sanitary and phytosanitary (SPS) measures, technical barriers to trade (TBT), private standards, excise taxes in importing countries and other non-tariff barriers. This tool should be of assistance in trade negotiation and give a clear indication of whether any particular negotiated outcome results in effective liberalization.

In Thailand's case the three import markets which are the US, the Philippines and South Africa have been selected. These countries are major markets for three major types of rice which Thailand exports to international markets, Thai Jasmine rice, white rice and parboiled rice respectively.

All data used in this study are from official, private and international sources. Mainly, official data are secondary data compiled by the Office of Agricultural Economics (OAE) under Ministry of Agriculture and Cooperatives and Customs Department under Ministry of Finance. Private data are collected by interviewing the rice business entrepreneurs both processors and exporters in Thailand. Additionally, an international data is from the WTO secretariat and the trademap website: www.trademap.org.

This study is comprised of 8 chapters as follows:

Chapter 1 describes the introduction of this study, including the data sources being used, the selected period and the unit of measurement.

Chapter 2 illustrates how Thai rice industry is important to Thailand due to the fact that there are around 16 million Thai people with only 2.4 - 3.2 hectares per household making a living and depending on this sector. Thailand produces 29.61 - 32.09 million tonnes of long grain rice (Indica type) annually with 9.18 - 9.24 million hectares of cultivation areas.

Rice processing and exporting in Thailand are operated by private sector. Regarding rice processing, there are more than 40,000 mill houses in Thailand. A major type of rice exporting commodity of Thailand is white rice. Around 45 percent of total rice productions are exported worldwide.

Thailand has potential to export all rice qualities whether or not premium quality like Jasmine rice, medium to low quality like white rice and parboiled rice.

Barriers to trade for rice export perceived by Thailand are high level of applied tariff rate, monopolised state - trading enterprises and domestic supports for rice commodities by developed countries.

Chapter 3 describes price level of rice within market chain such as farmers' selling price, Free on board (FOB) and Cost, insurance and freight (CIF) price.

Chapter 4 gives an overview of cost stemming from export procedure including cost of production, cost of processing, cost of domestic transportation, cost of international transportation and other costs.

Chapter 5 highlights tax rate domestically applied to rice commodities, domestic support. This chapter indicates that Thailand has no tax rate or domestic support applied to rice commodities. In addition, it also describes how major importing markets imposed import tariff and other fees and duties to these commodities.

Chapter 6 and 7 illustrate the construction of the price ladders and the calculation of CIMA in three selected markets. It reveals that the average Barriers to Market Access (BMA) are 7.95, 25.8 and 0.13 percent for the US, the Philippines and South Africa, respectively. This also corresponds to the average CIMA of the three markets of 92.05, 74.2, 99.87 percent accordingly.

Chapter 8 gives details about the summary of this study. It also shares the constraints found by researchers such as the problem in estimation of cost of export in each level. Moreover, it also indicates that the calculated CIMA lacks power to explain the trade barriers from tariff rate quotas (TRQs) policy, import commodities specification and import licensing auction by some importing countries.

1. INTRODUCTION

This study of the Composite Index of Market Access (CIMA) of the rice industry of Thailand is part of the International Centre for Trade and Sustainable Development (ICTSD) pilot project on market access for three selected countries (Uruguay, the US and Thailand). The objective of the project is to create an indicator of market access of the main rice importing countries that would include not just tariffs but other barriers that affect market access for agricultural product as sanitary and phytosanitary (SPS) measures, technical barriers to trade (TBT), private standards, excise taxes in importing countries and other, non-tariff barriers. This tool should be useful and helpful in trade negotiation and lead to a clear indication of the actual outcomes for effective increases in market access.

This study is a pilot project. In the case of Thailand, the only three import markets are selected which are the US, the Philippines and South Africa. These countries are the major export markets for the three major types of rice that Thailand exports to the International market, Thai Jasmine rice, white rice 25%, and parboiled rice respectively.

1.1 Measurement Unit Used

Rice volume on this study are mainly expressed in milled rice equivalent, using the conversion rate provided by the Office of Agricultural Economics (OAE), Thailand, which is one ton of paddy rice equivalent to 0.66 ton of milled rice.

1.2 Selected Period

The calendar years 2006, 2007 and 2008 have been selected for this study.

1.3 Data Sources

All data used in this study are from official, private and international sources. Mainly, official data are secondary data compiled by OAE under Ministry of Agriculture and Cooperatives and Customs Department under Ministry of Finance. Private data are collected by interviewing rice business entrepreneurs both processors and exporters in Thailand. And international data are from the WTO secretariat and Trademap (<http://www.trademap.org/>).

2. THAILAND RICE SECTOR

2.1 Structure of the Industry

Rice is the most important staple crop for Thailand because farmers around from 3.72 million households (16 million people) or 65 percent of total agricultural households (5.76 million households) are in this industry. Most of them are small-scale with farmland around 2.4 - 3.2 hectares (15 - 20 rai*) per household.

Thai farmers cultivate rice twice a year: in a rainy season, which is known as major rice, and in summer, known as second rice. Total farmland for major rice cultivation in 2006 - 2009 is around 10.82 - 11.23 million hectares in average. Major rice accounts for 9.18 - 9.24 million hectares or 84 percent of total cultivation area. Second rice, which is around 1.58 - 2.059 million hectares, composes 16 percent of total cultivation area (See Table 1).

Thailand produced between 29.61 - 32.09 million tonnes of rice between 2006 - 2008. Four to five percent of total paddy production is traditionally kept as seeds for the next crop. Of total production, rice mill houses receive forty percent, middlemen thirty percent, agricultural institutes eight percent and the government mortgage scheme seventeen percent. Some of paddy rice will be kept as seeds for next cultivation. The rest is processed into milled rice. Private mills, co-operatives and a small scale village mills will sell half of their product to wholesalers for export. The other half is used for domestic consumption and stocks through wholesalers and retailers (See Diagram 1).

Over the last 30 years, Thailand has been the largest exporter of rice in the world. In the average of the last three years (2006 - 2008), Thailand rice exports were around 40 - 45 percent of paddy rice production. Thai rice export tends to increase from 7.494 to 10.216 million tonnes - milled equivalent or a 36.32 percent increase from the previous year. Thai Jasmine rice, white rice, parboiled rice and glutinous rice are exported, on average, 2.7, 4.0, 2.0 and 0.3 million tonnes - milled rice

equivalent, respectively (See Table 2). Thai regulations require that exported rice be in a form of white rice, therefore, the bulk of rice exported from Thailand is in white milled form due to lower domestic milling costs and ease of handling.

During 2006-2008 the Government of Thailand launched a rice pledging scheme aimed at resolving sales price deterioration faced by farmers during the harvest season. However, due to the 2007-2008 price spike caused by the plunges in world rice stocks and rumoured export bans by Vietnam and India, Thailand benefited from gains in exports - both in price and quantity. Under normal conditions, the prices during harvest season are lower than the average annual price due to the surplus supply during that period. Farmers were requested to bring their product to pledge with a concerned government agency at a mortgage price that was determined using average annual prices of the previous year. Farmers were able to redeem their product when the market price was higher than the mortgage price. It is found that the mortgage price is not very different from actual Thai average annual prices which, in turn, are the same as world price. As a result, it may be concluded that the rice pledging schemes cannot be categorised as a market distorting domestic support scheme (See Table 3).

*Rai is unit of land in Thailand: 1 hectare = 6.25 rai

2.2 Nature of the Commodity Traded

Rice cultivated in Thailand is mainly an Indica type long grain. It is categorised into:

- Non - glutinous rice: Thai Jasmine rice, in particular which is the highest grade of Thai rice. It is soft and sought by consumers but its yield is quite low. Thai Jasmine rice is possible to cultivate only in the Northeastern part of Thailand and only during the "major" rice season.

- **Glutinous rice:** This has a white or black colour. Production is geared towards domestic consumption with a limited amount exported. Some rice grown, such as Doi Saket rice and Keaw Ngoo sticky, is marked by Geographical Indicators (GI) for sale in niche markets.

Thai rice is a high grade and possible to process into non - glutinous rice in compliance with international standards for all grades of products from highest grade "no broken rice", to 5, 10 and 15 - 25 percent broken rice and lower grades of broken rice. This is due to the presence of many mill houses efficient in processing rice in accordance with standards such as, Good Manufacturing Practice (GMP), International Organisation for Standardisation (ISO) and Hazard Analysis Critical Control Point (HACCP).

2.3 The Process of Exporting

Basic steps in the process of exporting Thai rice are:

Cultivation

Rice cultivation in Thailand is classified as follows:

- **Major rice cultivation** is defined for rice cultivated from May 1st to October 31st except in the southern part of Thailand where rice is cultivated from June 16th to February 28th. Farmer's cultivation relies mainly on rainfall for up to 75 percent of total cultivated area. Only twenty five percent of total cultivated area is irrigated. Major rice can be planted across the Thai peninsula. Between 2006 and 2008, the areas planted with rice declined from 9.24 million to 9.18 million hectares because rice cultivation has been replaced by bio-fuel crops, for example oil palm and para rubber. Total rice paddy production shrank from 23.53 million tonnes in 2006 to 23.30 million tonnes in 2008 due to the smaller cultivation area and the lower yield caused by a drought in the cultivation period
- **Second rice cultivation** is defined for rice cultivated from November 1st to April 30th except in the southern part of Thailand where rice is cultivated from March 15th to June 15th. This kind of cultivation usually occurs in areas with irrigation, such as canal and waterway. This helps farmers to cultivate two to three times a year with considerably less risk from drought compared to major rice cultivation. In the past three years, the rice planted areas, rice product and yield tended to increase due to the increase in planted areas from 1.58 to 2.04 million hectares, rice product increasing from 6.75 to 8.79 million tonnes and yield increasing from 4.26 to 4.29 tonnes per hectare. In 2009 the estimated rice cultivation area, production and yield were 1.98 million hectares, 8.41 million tonnes and 4.24 tonnes per hectare respectively. They all declined from 2008 around to 3.12, 4.28 and 1.2 percent accordingly due to an outbreak of brown plant hopper (See Also Table 1).

Harvesting

Starting from the rice flowering period, farmers will check water level, insects and other pests in the paddy field so as to plan to harvest around 28 - 30 days after that. Once water has been drained out completely from the paddy field, harvesting will be carried out by manual labour and machines that can harvest and thresh simultaneously according to their cost management. Harvesting periods are as follows:

- For major rice crop this is through July to May of the next year. About 95 percent of its production will be harvested between November and December.

- For the second rice crop this is through February to November. About 60 percent of its production will be harvested from March to July.

Milling

There are more than 40,000 mill houses located in across Thailand. Most of non - glutinous rice mill houses are located in the North-eastern part of Thailand. Their capacities range from three to five tonnes per day to more than 1,000 tonnes per day. All mill houses in Thailand have total potential capacities to mill total rice product only in 1 month since their capacities are more than the amount of paddy rice which farmers can potentially produce in a given period. After being harvested, paddy rice is transported to mill houses. Approximately one third of milled rice is sold domestically, around one half exported and about seven percent kept as stock and ten percent used for further processing.

Trade

Thai rice exports in 2006 - 2008 were around 7.5 - 10.2 million tonnes or 50 percent of total rice production. Major Thai rice export markets classified by its quality are:

- High quality rice export markets for Jasmine rice and white rice, are the US, China, Malaysia and Singapore (See Table 4).
- High quality rice export markets for white rice are Iraq, Ivory Coast, Mozambique and Japan (See Table 4).
- Medium quality rice export markets are Malaysia, Indonesia, Australia and Republic of Korea (See Table 5).
- Low quality rice export markets are the Philippines, Senegal, Ivory Coast and the Netherlands (See Table 5).
- Parboiled rice export markets are Benin, South Africa, Russia and Belgium (See Table 6).
- Glutinous rice export markets are Indonesia, Malaysia, the US and Taiwan (See Table 6).

Domestic consumption

Each year, around 15 - 16 million tonnes paddy (9.9 - 11.0 million tonnes equivalent milled) is for domestic use. About 40 - 50 percent of total rice production is for domestic utilisation in terms of consumption, seeds for next crop, raw material for animal feed industry and processing products. The rest is for export and keeping as stock for domestic food security.

2.4 The Main Barriers as Seen By the Industry

The main barriers as seen by the Thailand's rice exporter association in 2006 - 2008 are prioritised as follows:

• Tariff barriers

Rice is one of the most protected commodities other than sugar, dairy products and beef according to document prepared by the WTO Secretariat (Product Specific AMS, 2006). Import tariff rates implemented by trading countries, in particular developed countries which are valuable markets, are set quite high. This becomes one of the most powerful barriers to rice export by Thailand (See Table 7).

• Monopoly importers

State trading enterprises, government agencies with a monopoly on the import of rice, present a unique trade barrier. Thailand's trading partners using this mechanism are Japan, Taiwan, China, South Korea, the Philippines, Indonesia and Malaysia. Measures used by monopoly importers are categorised into 3 types:

- (1) **Quota restriction:** Rice faces a TRQ in countries using a monopolised importer system. Rice import in-quota quantities are restricted solely by monopoly importers, which are not reflected to real demand to import. Out of quota imports hardly occur due to high out of quota tariff rates.

(2) Rice import specification restriction:

Some trading partners do not allow imports to meet actual domestic demand by curtailing high quality imports. Often, the specific types of rice imported in significant quantities are not major rice types for domestic consumption. For instance, Japan, Taiwan and South Korea limit rice imports only to those used by the processed food industry and do not allow high quality rice imports for household consumption. Other partners, such as the Philippines, allow to imports only of low quality 25 percent broken rice. Limiting imports to a few specific types of rice becomes a major constraint for Thailand to export large quantities of high quality rice to the Philippines and other leading trading partners.

(3) Rice import auction: Rice imports sometimes require an import license from government authorized rice importers.

Such licenses can be acquired by auction. Consequently, rice importers bear a higher cost due to paying for the import license. In some cases, this cost brings the rice import price and domestic rice price nearly at the same level.

- **Domestic subsidies by developed countries**

Rice is an agricultural commodity that is heavily subsidised by developed countries. According to the Organization for Economic Cooperation and Development (OECD), between 2002 - 2004 member countries applied domestic subsidies to rice made up nearly 75 percent of total agricultural income. Domestic subsidies to rice by developed countries have distorted international rice markets by encouraging rice producers in developed countries to produce more than their potential capacity. Additionally, this has led rice prices on world markets to be lower than they otherwise would be.

3. PRICE LEVELS

3.1 Price to Farmers (Farm Gate Price)

Farm gate prices are used as prices to farmers in this study. The farm gate prices vary depending on kind and quality of rice. Farm gate prices of five percent paddy and Jasmine paddy in 2006 - 2007 are as follows:

- Farm gate price of five percent paddy increased from 6,533 baht per tonne (173 USD per tonne) to 9,848 baht (298 USD per tonne) in 2009 or by 31.25 percent.
- Farm gate price of Jasmine paddy increased from 8,032 baht per tonne to 12,536 baht/tonne (379 USD per tonne) in 2009 or by 24.93 percent (See Table 8-10).

3.2 Price at the Processor Level

Wholesale prices in the Bangkok market for milled rice are used here due to the fact that this price is normally set by exporters on behalf of rice brokers who go between millers and wholesalers in Bangkok and/or exporters. In addition, rice brokers and millers have the same business owner. Rice brokers have the same information about buying prices of exporters and selling prices of millers. So, they can facilitate them to make a deal between millers and exporters or millers and Bangkok wholesalers. Also, they will estimate sale and service cost, transportation cost and profit in order to set mill house price.

3.3 Export Price

These prices are quoted by exporters. Normally, this price will be posted in terms of FOB price at ports in Thailand. It will be determined by demand and supply inside or outside Thailand, competition in the world market and exchange rates. For instance, FOB price for five percent milled rice increased from 11,583 baht per tonne (307 USD per tonne) in 2006 to 11,210 baht per tonne (327 USD per tonne) in 2007. Value in USD term was high but

low in baht terms due to the appreciation of the baht (See Table 8 - 10).

3.4 Price in Importer Markets

- CIF prices are used here. The average unit value is calculated from volume and value of import statistics from trademap (<http://www.trademap.org/>) developed by the International Trade Centre UNCTAD/WTO (ITC).
- Excise taxes, value added taxes, other fees and duties are compiled from documents prepared by the WTO secretariat (Trade Policy Review 2003, 2005 and 2008).
- Profit margin is estimated by the author that is around 30 percent according to normal business profit which is composed of importer's profit and other expenses, for instance, custom fee and transportation cost to distributors. Due to the business confidential information, these are estimated by the author.
- Price premium for meeting private standards is not available according to the interview with Thai rice exporters. According to practical trade, most standards requirement cost and other expense are included in export prices set by the importers. Price premium set by the importers also varies among the importing markets. Thai entrepreneurs are only concerned with the export prices they will receive. They do not take into consideration the price premium in each import markets.

3.5 Exchange Rates

Used in this research are annual reference rates from the Bank of Thailand database. For the analyzed period, the USD - Baht exchange rate used was 37.7296, 34.2813 and 33.0915 baht for the years 2006, 2007 and 2008, respectively.

4. COSTS

4.1 Cost of Production

These will be categorised into 3 groups according to cultivation methods:

- The first method is labour intensive with the highest cost relative to the rest because farmers have to cultivate rice seedlings in advance and transplant them into the paddy field. It also requires proximity to water sources for cultivation areas to allow farmers to control the water level appropriately in their areas. Production yield by this method is quite high.
- The Second method is quite similar to the first one but requires germinated seeds instead of rice seedlings. In order to prepare those seeds, farmers have to soak them into water in covered storage to prepare to sow them in cultivation areas. This method also requires convenient access to water. Most of farmers using this method are in irrigated areas.
- The last method requires only rain as a source of water. Most of them are used in high plateau or plain areas with limited water sources. Nearly 70 percent of total farmers in Thailand are using this method. Farmers using this method are exposed to risk from drought or flood, seeds with low possibility to grow and pests. This method has a high cost of production because of the low yield compared to other methods. Although Thailand is the number one rice exporting country in the world, they have lower average yields relative to other countries due to the vulnerability of cultivated areas insufficient access to water.

According to production factors, such as organic fertilizers, pesticides, herbicides, plant diseases and fuels used in water pumping machines, cost of production depends on farmers' budget. Moreover, household labour is often unavailable in harvesting period due to heavy demand. As a result, farmers rely heavily on harvesting machines with higher

cost as a substitution for labour. If paddy is ready for harvest and harvesting machines are unavailable at that time, rice production will be of low quality and farmers will get low prices due to higher percentage of broken rice.

It is worth acknowledging the diversity of costs of production in Thailand. This paper uses farm gate prices or farmers' selling prices compiled by the Office of Agricultural Economic of Thailand as a criteria in calculation of cost of production for milled rice in terms of Jasmine rice, white rice 25% and parboiled rice as follows (See Table 11):

- **Cost of production of Jasmine rice** in 2006, 2007 and 2008, which are farmers' selling prices of milled rice, equal to 323, 392 and 574 USD per tonne, respectively.
- **Cost of production of white rice 25% and parboiled rice** in 2006, 2007 and 2008 equal to 262, 291 and 542 USD per tonne, respectively.

4.2 Cost of Transportation

When millers sell products to exporters or importers, transportation costs, which depend on distance to wholesalers' and exporters' warehouses, will be, on average, 500 baht per tonne (15.11 USD per tonne).

4.3 Cost of Processing

Due to the unavailability of data from most private processors, the estimation of processor costs and the incurred processor selling price will be as follows:

- When millers have received offer prices from exporters, they will set their buying prices of paddy from farmers by excluding milling cost according to rice conditions and their milling cost which varies depending on their milling technology. Once paddy is milled, its main products will be head rice and by-products such as husk, grist and bran.

When paddy passes the milling process, the main product will be head rice, for instance, rice 100% and 5%. In this system, there will be a colour sorter to clean the rice and to whiten it so as to get premium grade rice. When buying paddy, millers will take into account the moisture content of head rice and paddy rice, which is not more than 15 percent. The higher the paddy moisture content, the lower buying price farmers receive.

Moreover, there will be sales and services costs incurred from by-products such as husk. The processing price is derived from a sum of the milling cost, selling expenses, management costs and profit.

Milling costs are different for parboiled rice and white rice due to the complicated processing of the former. Before milling, parboiled rice will be passed a steaming process. Then it has to be exposed to sunlight and steaming again to reduce humidity. When paddy is processed it is milled and the rice generally does not break. But there will be less grist. Also, millers take care of sales and services expenses since

they request middlemen to be responsible for sending products directly to exporters. Parboiled rice is for export only since Thai consumers do not eat this kind of rice.

4.4 Cost of Overseas Shipping

This cost is estimated from the margin between CIF and FOB prices. The freight cost to transporting ship is approximately 385 - 400 baht per tonne (11 - 12 USD per tonne).

4.5 Cost of Compliance

This cost is a burden to exporters. It is separated into 2 parts which are:

- Cost to process according to the importers' specification. DNA inspection cost in case of Jasmine rice will be included and charged 1,400 baht per 21.5 tonnes of first shipment and 18 baht per tonne (0.54 USD per tonne) for the rest.
- SPS costs such as fumig cost which are charged at 30 baht per tonne (1.00 USD per tonne).

5. SUBSIDIES AND TAXES

5.1 Taxes and Subsidies in Exporting Countries

Thailand has no domestic tax and no domestic subsidies for rice.

5.2 Taxes in Importing Countries

In this paper, three major rice export markets with one major rice commodity each are the US - the number one export market for premium quality rice, Jasmine rice, the Philippines - the number one export market for low quality rice, twenty five percent broken rice and South Africa - the number two export market for parboiled rice. Benin as the number one export market for parboiled rice is not selected because Benin re - exports to Nigeria and data is unavailable for the period in question.

- **US**

The US applies an import tariff rate for Thai rice under HS 1006.30 - white rice at the 11.2 percent MFN rate. They do not impose excise

taxes for rice commodities. Some states collect sales taxes with an exemption for food commodities.

- **Philippines**

Although Thailand and the Philippines are ASEAN member countries, the Philippines still categorises rice under a sensitive list which is accorded limited market access under the ASEAN Free Trade Agreement (AFTA). They apply an import tariff rate for Thai rice under 1006.30 - white rice with at the 50 percent MFN rate. Moreover, they classify rice under the minimum market access rules of Annex 5 of the Agreement on Agriculture from the Uruguay Round. As a consequence the Philippines imports rice solely under a quota system. They do not impose an excise tax for rice.

- **South Africa**

South Africa applies an import tariff rate of zero on rice. They impose a value added tax of 14 percent for all goods and services.

6. PRICE LADDERS OF THAI RICE

(See Table 12 - 14)

7. CALCULATION OF THE CIMA

The Barriers to Market Access (BMA) identified by Thailand to export rice for the three market analysis are:

$$\text{BMA} = \text{EDT} + \text{MTD} + (\text{PLC} - \text{PLP}) + \text{SPC}$$

Where

EDT: Excise tax importing countries;

MTD: Import duties and other charge;

PLC: Cost of meeting private standard for export;

PLP: Price premium for meeting private standard;

SPC: Cost of meeting health and safety standards;

The BMA as a percentage is calculated as:

$$\text{BMAP} = \text{BMA} / \text{PRX} * 100$$

Where

PRX: Final selling price for the importer.

This allows the CIMA to be calculated as the degree of market access.

$$\text{CIMA} = 1 - \text{BMAP}$$

7.1 The CIMA of Thai Jasmine Rice Exports to the US Are

(See Table 15)

7.2 The CIMA of Thai White Rice 25% Exports to the Philippines Are

(See Table 16)

7.3 The CIMA of Thai Parboiled Rice Exports to South Africa Are

(See Table 17)

The summary of the BMAP and CIMA are:
(See Table 18)

8. CONCLUSIONS

This paper aims to demonstrate the CIMA calculation for three major types of Thai rice which are Jasmine rice, twenty five percent white rice and parboiled rice, exporting to three major markets which are the US, the Philippines and South Africa respectively.

It is not so surprising that the estimated CIMA is quite high in a free trade market like South Africa (CIMA = 99.87) followed by the US which has a moderate degree of market access (CIMA = 92). And the lowest degree of market access is the Philippines with closed market policy (CIMA = 74).

It is obvious to notice two constraints found in this research:

First is the estimation of processor and export cost. Due to the fact that Thai rice exports are operated by private sector, this required information is secret for each business. Thus, they often give the estimated data arbitrarily according to our survey. It is not possible to find reference documents for research.

Second is the estimation of costs for meeting standards for export and costs of meeting health and safety standards. Although Thai

exporters did not realize these costs as their burden, still they did not mention these costs in any documents or surveys due to their trade secrets. However, in the year 2009, they were requested to inform their rice conversion cost to meet export standard which is around 37.87 - 50.49 USD/ton in order to buy rice in government stock.

There are other constraints, for instance, time constraints to find actual prices and costs in importing countries. So, it would be better to do further research on this matter in the future.

However it would be better to further develop CIMA to explain international trade barriers faced by Thai rice exporters, particularly in the case of the rice import licensing auction system utilised by importing countries operating under monopoly state owned enterprises. This auction cost is burdensome to some importers. However, they transmit this cost to Thai rice exporters by requesting a lower price. Consequently, Thailand as a rice producing and exporting country gains lower prices than it otherwise would. Unfortunately, this mentioned auction cost cannot be shown in CIMA according to its formula.

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ANNEX

Table 1. Cultivation areas, production and yield of major rice and second rice in 2006 - 2009

Unit: Of milled equivalent						
Descriptons	2006 (2005/06)	2007 (2006/07)	2008 (2007/08)	% Growth rate (+/-)	2009 (2008/09)	%Change 2009-2008
Rice cultivation area (million hectares)	10,828	10,819	11,230	1,838	11,172	-0,52
-Major rice	9,244	9,207	9,182	-0,336	9,188	0,06
-Second rice	1,584	1,612	2,048	13,694	1,984	-3,12
Production (million tonnes of milled equivalent)	19,993	19,564	21,185	2,939	20,889	-1,40
-Major rice	15,536	15,074	15,383	-0,492	15,335	-0,31
-Second rice	4,457	4,489	5,802	14,096	5,554	-4,28
Yield (tonnes of milled equivalent/ hectare)	1,846	1,808	1,886	1,085	1,870	-0,87
-Major rice	1,680	1,637	1,676	-0,138	1,669	-0,39
-Second rice	2,813	2,785	2,833	0,351	2,799	-1,19

Source: Office of Agricultural Economics, Thailand.

Table 2. Rice export by Thailand in 2006 - 2008

Unit: Million tonnes of milled equivalent				
Type	2006	2007	2008	%Growth rate
Jasmine rice	2,599	3,068	2,516	-1,61
White rice	3,000	4,472	4,680	24,90
Parboiled rice	1,604	1,878	2,722	30,27
Glutinous rice	0,291	0,175	0,298	1,20
total	7,494	9,593	10,216	16,76
Public	0	0,653	0,073	
Private	7,494	8,940	10,143	16,34

Table 3. Paddy rice 5% broken pledging scheme

Unit: Baht/Tonne (USD/Tonne)			
Year	Annual Average Price	Pledging Scheme Price	Price Differece
2006	5 771,8 (173,0)	6 188,8 (185,5)	-417,0 (-12,5)
2007	6 405,7 (192,0)	6 228,9 (186,7)	176,8 (5,3)
2008	9 942,2 (298,0)	6 665,9 (199,8)	3 276,2 (98,2)

Remark: Reference exchange rate: 33,363 baht/USD

Table 4. Export market for high quality rice of Thailand in 2008

Country	Jasmine rice		Country	White rice 100% - 5%	
	Quantity Million tonnes	Value Million baht (Million USD)		Quantity Million tonnes	Value Million baht (Million USD)
1. US	0,350	10 025 (300)	1. Iraq	0,537	8 412 (252)
2. China	0,167	3 917 (117)	2. Ivory Coast	0,239	2 901 (87)
3. Malaysia	0,110	2 611 (78)	3. Mozambique	0,167	2 060 (62)
4. Singapore	0,108	3 071 (92)	4. Japan	0,115	1 781 (53)
5. Others	1,040	28 974 (868)	5. Others	2,248	41 427 (1 242)
Total	1,775	48 598 (1 457)	Total	3,306	56 581 (1 696)

Remark: Reference exchange rate: 33,363 baht/USD

Table 5. Export market for medium and low quality rice of Thailand in 2008

Country	Medium quality (White rice 10% - 15%)		Country	Low quality (White rice > 20%)	
	Quantity Million tonnes	Value Million baht (Million USD)		Quantity Million tonnes	Value Million baht (Million USD)
1. Malaysia	0,112	3 195 (96)	1. Philippines	0,491	9 868 (296)
2. Indonesia	0,020	201 (6)	2. Senegal	0,279	6 452 (193)
3. Australia	0,064	201 (6)	3. Ivory Coast	2239,000	3 474 (104)
4. Republic of Korea	0,013	277 (8)	4. Netherlands	0,040	704 (21)
5. Others	0,006	786 (24)	5. Others	-2237,023	25 952 (778)
Total	0,190	4 660 (140)	Total	2,787	46 450 (1 392)

Remark: Reference exchange rate: 33,363 baht/USD

Table 6. Export market for parboiled and glutinous rice of Thailand in 2008

Country	Parboiled rice 100%		Country	Glutinous rice	
	Quantity Million tonnes	Value Million baht (Million USD)		Quantity Million tonnes	Value Million baht (Million USD)
1. Benin	0,645	11 313 (339)	1. Indonesia	0,045	709 (21)
2. South Africa	0,541	10 506 (315)	2. Malaysia	0,042	717 (21)
3. Russia	0,093	1 787 (54)	3. US	0,021	464 (14)
4. Belgium	0,037	680 (20)	4. Taiwan	0,014	237 (7)
5. Others	1,485	33 754 (1 012)	5. Others	0,095	1 672 (50)
Total	2,801	58 041 (1 740)	Total	0,217	3 799 (114)

Remark: Reference exchange rate: 33,363 baht/USD

Table 7. Tariff rates for rice imports by trading countries

Country	Tariff rate
China	65%
EU	416 EUR/tonne
Japan	341 Yen/kg
US	11,20%

Source: WTO Secretariat

Table 9. Farmers' selling price of Jasmine rice, wholesale price and FOB export price in 2006 - 2008

Year	Farm gate price (Padding)		Wholesale price		FOB price		Exchange rate
	baht	USD	baht	USD	baht	USD	Baht - USD
2006	8 032	213	17 960	476	18 096	480	37,7296
2007	8 875	259	18 038	526	19 267	562	34,2813
2008	12 536	379	25 766	779	30 083	910	33,0910
Growth rate (%)	24,93	33,39	19,78	27,93	28,93	37,69	197,87

Source: OAE

Table 10. Comparing prices between Farmers' selling price of paddy 5% broken and mortgage price in 2006 - 2008

Year	Farmers' selling price		mortgage price		difference	
	Baht	USD	Baht	USD	Baht	USD
2006	6 533	173	7 600	186	1067	13
2007	6 587	192	6 400	187	-187	-5
2008	9 848	298	6 600	199	-3248	-99

Source: OAE

Table 11. Production ladder costs comparisons among Jasmine rice, white rice 25% and parboiled rice in 2006 - 2008

Unit: USD/tonne of milled rice									
Descriptions	Jasmine rice			White rice 25%			Parboiled rice		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
FOB price	480	562	910	270	305	609	310	340	733
Wholesales price	476	526	779	263	291	583	281	308	663
Farm gate price	323	392	574	262	291	542	262	291	452
CIF price	607	693	948	307	371	865	339	355	741

Source: Own elaboration based on the OAE data

Table 12. Price ladder of Thai Jasmine rice exports to the US in 2006 - 2008

Unit: USD per tonne				
Descriptions	2006	2007	2008	Remarks
Importer price (PRX)	878	1 002	1 370	Duty - paid price + profit of importer (30%)
Duty - paid price	675	771	1 054	C.I.F. + tariff (11.2%)
C.I.F. price	607	693	948	The average unit value is calculated from volume and value of import statistics from website: www.trademap.org .
F.O.B. price	480	562	910	Processed good price + Domestic cost to port of export + Cost of meeting health and safety standards + Exporter profit
Processed good price	427	527	780	COP + TAX + Cost of meeting private standard for export + Processing cost + Processor profit
Producer level price	323	392	574	
Exporter government taxes less subsidies (Tax)	0	0	0	Thailand has no domestic tax and no domestic subsidies for rice.
Cost of production (COP)	323	392	574	Farm gate prices are used as COP in USD per tonne of white rice.

Table 13. Price ladder of white rice 25% exports to the Philippines in 2006 - 2008

Unit: USD per tonne				
Descriptions	2006	2007	2008	Remarks
Importer price (PRX)	599	724	1 686	Duty - paid price + profit of importer (30%)
Duty - paid price	461	557	1 297	C.I.F. + tariff (50%)
C.I.F. price	307	371	865	The average unit value is calculated from volume and value of import statistics from website: www.trademap.org.
F.O.B. price	270	305	609	Processed good price + Domestic cost to port of export + Cost of meeting health and safety standards + Exporter profit
Processed good price	263	291	539	COP + TAX + Cost of meeting private standard for export + Processing cost + Processor profit ; In 2007, processor price is lower than farm gate price due to the decline of world price of low quality rice. However, their business remained viable because of profit from by - products sales.
Producer level price	231	332	505	
Exporter government taxes less subsidies (Tax)	0	0	505	Thailand has no domestic tax and no domestic subsidies for rice.
Cost of production (COP)	231	332		Farm gate prices are used as COP in USD per tonne of white rice.

Table 14. Price ladder of parboiled rice exports to South Africa in 2006 - 2008

Unit: USD per tonne				
Descriptions	2006	2007	2008	Remarks
Consumer price	503	571	1 098	South Africa applies 14% of VAT.
Importer price (PRX)	441	501	963	Duty - paid price + profit of importer (30%)
Duty - paid price	339	385	741	Soth Africa applies 0% tariff for rice import.
C.I.F. price	339	355	741	The average unit value is calculated from volume and value of import statistics from website: www.trademap.org.
F.O.B. price	310	340	733	Processed good price + Domestic cost to port of export + Cost of meeting health and safety standards + Exporter profit
Processed good price	281	308	663	COP + TAX + Cost of meeting private standard for export + Processing cost + Processor profit; In 2007, processor price is lower than farm gate price due to the decline of world price of low quality rice. However, their business remained viable because of profit from by - products sales.
Producer level price	231	332	505	
Exporter government taxes less subsidies (Tax)	0	0	0	Thailand has no domestic tax and no domestic subsidies for rice.
Cost of production (COP)	231	332	505	Farm gate prices are used as COP in USD per tonne of white rice.

Table 15. CIMA Calculation for Jasmine rice exports to the US

Year	EDT ^{1/}	MTD ^{2/}	PLC ^{3/}	PLP ^{4/}	SPC ^{5/}	BMA	PRX	BMAP	CIMA
	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	%	%
2006	0	68	1	0	1	70	878	7,97	92,03
2007	0	78	1	0	1	80	1 002	7,98	92,02
2008	0	106	1	0	1	108	1 370	7,89	92,11

Note:

1/ The US do not impose excise tax for rice commodities. Some states collect sale taxes with exemption for food commodities.

2/ The US apply import tariff rate for Thai rice under HS 1006.10 - white rice with 11.2 percent of MFN rate.

3/ Exporters have to pay for the DNA inspection expenses for Jasmine rice about 1 USD/tonne.

4/ No data available.

5/ SPC in this case is rice fuming cost about 1.0 USD/tonnes)

Table 16. CIMA Calculation for White rice 25% exports to the Philippines

Year	EDT ^{1/}	MTD ^{2/}	PLC ^{3/}	PLP ^{4/}	SPC ^{5/}	BMA	PRX	BMAP	CIMA
	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	%	%
2006	0	154	0	0	1	155	599	25,88	74,12
2007	0	186	0	0	1	187	724	25,83	74,17
2008	0	432	0	0	1	433	1 686	25,68	74,32

Note:

1/ The Philippines do not impose excise tax for rice commodities.

2/ The Philippines apply 0% import tariff rate for white rice 25%.

3/ White rice has not to pass DNA inspection.

4/ No data available.

5/ SPC in this case is rice fuming cost about 1.0 USD/tonnes)

Table 17. CIMA Calculation for Parboiled rice exports to South Africa

Year	EDT ^{1/}	MTD ^{2/}	PLC ^{3/}	PLP ^{4/}	SPC ^{5/}	BMA	PRX	BMAP	CIMA
	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	USD/ tonne	%	%
2006	0	0	0	0	1	1	503	0,2	99,8
2007	0	0	0	0	1	1	571	0,18	99,82
2008	0	0	0	0	1	1	1 098	0	100

Note:

1/ South Africa does not impose excise tax for rice commodities.

2/ South Africa applies 0% import tariff rate for parboiled rice.

3/ White rice has not to pass DNA inspection.

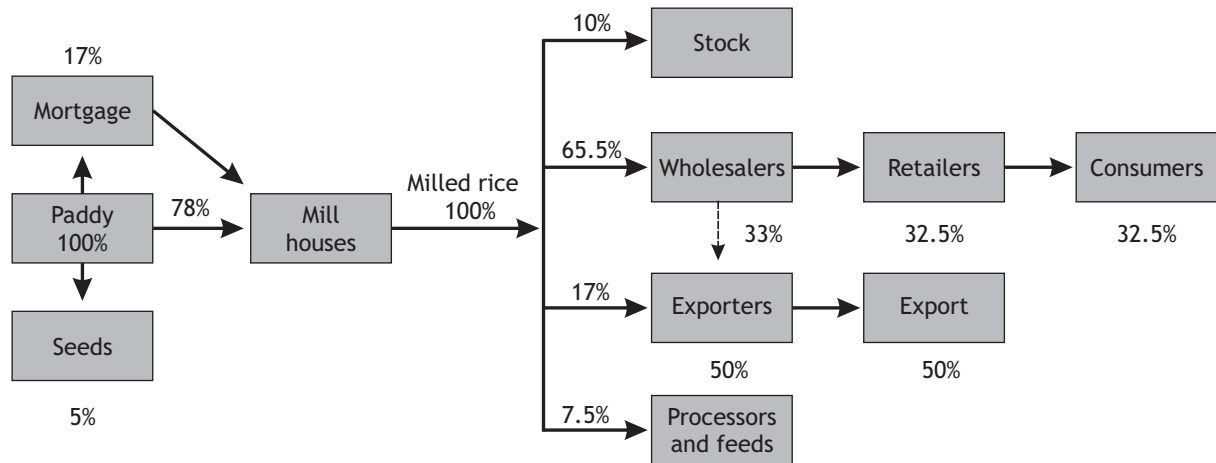
4/ No data available.

5/ SPC in this case is rice fuming cost about 1.0 USD/tonnes)

Table 18 Summary of the BMAP and CIMA

Unit: percent						
Decriptions	BMAP			CIMA		
Country - Rice Type	2006	2007	2008	2006	2007	2008
The US - Thai Jasmine rice	7,97	7,98	7,89	92,03	90,02	92,11
The Philippines - White rice 25%	25,88	25,83	25,68	74,12	74,17	74,32
South Africa - Parboiled rice	0,2	0,18	0	99,8	99,82	100

Diagram 1. Rice production distribution



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Founded in 1996, the International Centre for Trade and Sustainable Development (ICTSD) is an independent non-profit and non-governmental organization based in Geneva. By empowering stakeholders in trade policy through information, networking, dialogue, well-targeted research and capacity building, the centre aims to influence the international trade system such that it advances the goal of sustainable development.