



Centre for ASEAN Studies



Centre for International Management
and Development Antwerp

ISSN-2031-4027

Market Profile:
Thailand's export potentials of tamarinds to the USA¹

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ASEAN Business Case Studies No 33

August 2013

¹ A first draft of this paper was prepared as a group assignment for the course "International Business Marketing", International College, National Institute of Development Administration, Bangkok, Thailand, May 2013.

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Executive summary

This market profile reviews the US market for “Fruits, dried, not elsewhere specified” from Thailand; especially for tamarinds and its prospects for new suppliers entering the market.

More recently, Thailand has become a major producer of tamarind, with sweet and sour cultivars in production. Thailand is particularly prominent due to the availability of the sweet types. The sweet varieties come in 20 varieties. The popular varieties are Si Thong, Muenjong, Inthapalam, Srichompoo, etc. The total hectare planted for tamarinds growing (48 provinces) in Thailand was 28,904 ha in 2012.

Though Thailand is the second largest producer in the world for Tamarinds, it ranks as the largest exporter in the world for “Fruits, dried, n.e.s., with the world market share of 42.7%. Thailand exported 393.22 million US\$ with the quantity of 156 thousand tons in 2012. Thailand's exports have grown by 54% from 2008 to 2012, while the world market has grown by 23%. The 54% is larger than 23%, thus Thailand is GAINING market share in the world market.

The United States of America is a great potential market because it provides 0% Total Advolrem Equivalent Tariff on Tamarinds from Thailand due to the preferential tariff for GSP countries like Thailand. The US imported value of dried fruits from Thailand for was US\$ 10.1 million or 26% growth rate in 2012, while the average growth rate from 2008-2012 was 8%.

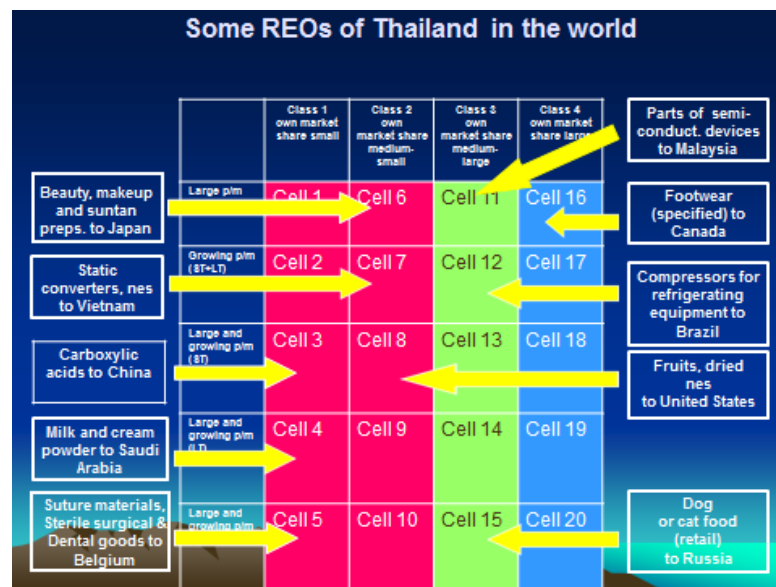
The overall imported value of tamarinds of the USA in 2012 was almost US\$ 4.9 million. Thailand ranks first among tamarind suppliers in the US import market in 2012 by beating Mexico which was the market leader in 2011. Importing tamarinds from Thailand values US\$ 3.17 million or counts as the market share of almost 65%.

Demand for dried fruits in the USA has grown slowly. This growth was spurred by heightened consumer interest in healthy diets and the new trend of home cooking. Producers are taking their cues from the snacks industry to find innovative ways to give fruit and vegetables a prominent role in snacking occasions. Breeding fruits and vegetables to be snack-sized, like the mini-sized, skinless kiwi, “snacking tomato”, or packaging fruit in snack-sized packs like the 1.5oz Blueberry Snack pack, will be the fruit and vegetable industry's response to the realities of today's consumers.

1. Introduction

The present market profile starts from the realistic export opportunities (REOs) as detected using the decision support model approach (see Cuyvers, Steenkamp and Viviers, 2012). Together with other opportunities, “dried fruits, not elsewhere specified” HS 081340, was found to offer interesting export potentials in the United States.

Figure 1: Some REOs of Thailand in the world according to Thailand's market position and import market characteristics



According to Figure 1, the export opportunity investigated is in a large import market which in the past couple of years has been growing rapidly. Moreover, Thailand is already exporting the products which belongs to HS 081340 to the US market, as it has already a moderately low market share in the United States (see Cell 8 in Figure 1).

In the recent past world imports of dried fruits n.e.s. have been growing at an annual rate of 22,2 %, and during the 2003-2007 period world imports expanded at an annual rate of 7.5 %. The growth of the US import market of dried fruits n.e.s. is well above the minimum growth threshold values of 17.8 % and 6% for long term and short term growth, which were set in the DSM calculations.

Moreover, although Thailand cannot be considered as really specialized in exporting HS 081340, the country's market share of this product group in the world exports is ca. 73 % of its average

market share in world exports.⁷ Taking the average value of the US dried fruits n.e.s. imports of the exporting countries which represent 80 % of the total US imports of this product group as an indicator of the potential export value of the REO for Thailand, this amounts at 25,054,000 US\$.

According to the results of the DSM, import market concentration of the US market of dried fruits n.e.s., which is measured by the Herfindahl-Hirschman index (see Cuyvers, Steenkamp and Viviers, 2012) is 0.41, and therefore also passes the assigned threshold values of import market concentration.

No attempt was made to assess and quantify the various factors affecting market access for dried fruits n.e.s., but rather to look at the index for revealed absence of trade barriers

$$m_{i,j} = \frac{\frac{X_{Indo,i,j}}{X_{Indo,j}} + \frac{X_{Mal,i,j}}{X_{Mal,j}} + \frac{X_{Fil,i,j}}{X_{Fil,j}} + \frac{X_{Sing,i,j}}{X_{Sing,j}}}{\frac{X_{World,i,j}}{X_{World,j}}}$$

where $X_{k,i,j}$ stands for the exports of country k (Indonesia, Malaysia, Philippines, Singapore, or the world, respectively) of product i (here HS 081340) to country j (here USA), $X_{k,j}$ for total exports of country k to country j (Cuyvers, Steenkamp, Viviers, 2012:10). It appears that only Indonesia and the Philippines are exporting dried fruit n.e.s. to the USA and that $m_{i,j} = 0,34$, which is well below the threshold value of 0.95 used (Cuyvers, Steenkamp, Viviers, 2012: 11). It implies that neither Indonesia, nor the Philippines have a comparative advantage in the US market for dried fruit n.e.s. It cannot be excluded that the relative low value for $m_{i,j}$ is due to low market accessibility, which will be investigated further.

For reasons which will be explained we have restricted much of the following market profile analysis to tamarind (Thailand National Tariff Line Code 08134020). It should also be noted that the market profile is often using alternative data and information sources than these used in the DSM.⁸

⁷ This percentage is measured by the so-called "revealed comparative advantage index": $RCA = (X_{HS081340}^{Thailand} / X_{HS081340}^{World}) / (X_{total}^{Thailand} / X_{total}^{World})$, where $X_{HS081340}^{Thailand}$ and $X_{HS081340}^{World}$ stands for total exports of HS 081340 of Thailand and the world, respectively, and where $X_{total}^{Thailand}$ and X_{total}^{World} denotes total exports of Thailand and of the world respectively. A country is considered as having a revealed comparative advantage if $RCA \geq 1$. Thailand's RCA for dried fruits n.e.s. is, however, 0.73.

⁸ Also the statistical data used are more up to date, as the identification of the REO considered in the present paper was carried out in 2010 and is based on international trade data up to 2007.

2. The product description and international market situation

This market profile applies to the USA market for tamarind and is intended for the use of producers and exporters of tamarind in Thailand, as well as for export promotion organisations in Thailand.

2.1 Definition and description of product and its applications

Tamarind is a versatile pod fruit, which can be used for many purposes. Its sweet and sour flavour is unique and the pulp has a high acid and sugar content. It is also rich in vitamin B and in calcium. The fruit is consumed in fresh, dried, and other processed form. It is generally not a dessert fruit, although the sweet tamarind is often eaten fresh directly from the pod. The pulp is usually removed from the pod and used to prepare juice, jam, syrup and candy. More commonly, the acidic pulp is used as a favourite ingredient in culinary preparations such as curries, chutneys, sauce, ice cream and sherbet in the countries where the tamarind tree grows naturally.

Tamarind is very popular in tropical cuisine, but is still widely unknown in the United States. However, it is very much an “ethnic food” and importing countries tend to have large populations of Asians, Africans and West Indians. Tamarind comes in many forms and is used differently by different cultures. Surprisingly, tamarind is found in the USA, as ingredient of Worcestershire sauce and also barbecue sauce.

For non-culinary use, tamarind pulp has long been used for many medicinal purposes and continues to be used by many people in Africa, Asia, and America. Tamarind pulp alone or in combination with lemonade, honey, milk, dates, spices or camphor is used as a digestive and a carminative, and as a remedy for biliousness and bile disorders and febrile conditions. It is said to reduce loss of appetite.

Moreover, American pharmaceutical drug organizations utilize 100 tons of tamarind pulp annually in the manufacturing of blood sugar-managing medicines.

There are two main types of tamarind; **sour varieties and sweet varieties**. Most tamarinds in the Americas are of the sour type that is a shorter, more acidic variety. South Florida and Hawaii are the primary places where tamarind is grown in the United States. In Hawaii, the sour tamarind pulp is used as primary ingredients for drinks, chutney and curry. The sour varieties are generally more suited for cooking and for drinks.

The sweet varieties come from Thailand (known as Makhamwaan) and are perfect eaten out-of-hand. They have very low acid and are not suitable for drinks. In Thailand, the fruits are also sold

fresh, with sweet varieties, earning more than double the price of the sour varieties. The fresh fruits of the sweet tamarind cultivars are sold by weight for direct consumption.

2.2 HS Code, NTL(s) for importing country and NTL(s) for Thailand

Specific codes to identify the dried fruit n.e.s. are as follows:

HS (Harmonized System) Code

081340 - Fruits, dried n.e.s.

National Tariff Line Code for Thailand

0813 - Fruit, dried, other than that of headings 08.01 to 08.06; mixtures of nuts or dried fruits of this Chapter.

081340	- Other fruit
08134010	- Longans
08134020	- Tamarinds
08134090	- Other
08134090001	- Durians, dried
08134090002	- Lichees, dried
08134090090	- Other

National Tariff Line Code of the United States of America

08134010	- Papayas, dried
08134015	- Barberries, dried
08134020	- Berries except barberries, dried
08134030	- Cherries, dried
08134040	- Peaches, dried
08134080	- Tamarinds, dried
08134090	- Fruit n.e.s., dried, other than that of headings 0801 to 0806, and excluding mixtures

2.3 Production

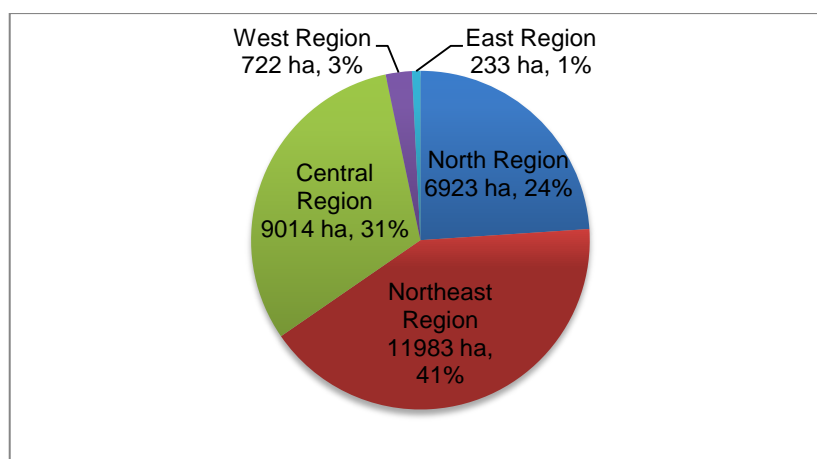
2.3.1 World production

The top four producers of tamarind in the world are: India annually exporting over 300,000 tons, Thailand exporting around 150,000 tons, Mexico exporting about 29,600 tons. Other minor exporters Costa Rica and Puerto Rico, as well as Africa. (Pacific Agribusiness Research & Development Initiative).

2.3.2 Thailand's production

According to the report of the Department of Agricultural Extension Thailand, production areas for tamarind in 2012 are presented in Figure 2. The Northeast Region is the leading growing area of tamarind representing 41 % (11,983 ha). The Central Region follows with 31 % (9,014 ha) and the North Region with 24 % (6,923 ha). The tamarinds cultivation area of the West Region and the East Region of Thailand represents only 3 % (722 ha) and 1 % (233 ha) respectively. The total hectare tamarinds planted (48 provinces) in Thailand during 2012 was 28,904 ha.

Figure 2: Production areas of tamarinds in hectares, 2012



Source: Department of Agricultural Extension Thailand

More recently, Thailand has become a major producer of tamarind, with sweet and sour cultivars in production. The country is particularly prominent due to the availability of the sweet types grown here. The sweet varieties come in 20 varieties. Popular varieties are, among others, Si Thong, Muenjong, Inthapalam, and Srichompoo.

As Thailand is the second largest producer of tamarind in Asia of which 30% is the sweet variety, sweet tamarind is grown on a commercial scale for export both in fresh and processed forms. There is good demand for it as a dried fruit, which is packed into boxes weighing 10-15 kg and sold on the open market in Thailand. The fresh pods are also valued and large sweet pods are highly priced, particularly during the dry season.

3. Potential import markets and market conditions

3.1 World trade characteristics for HS 081340

According to the Global trade overview of Fruits, dried n.e.s., HS 081340, world imports were valued at about US\$ 835 million or 319,000 tons. World imports have grown at 16% from 2008 to 2012. We also observe that the world growth rate in value of 16% was much higher than the growth

rate in quantity of 1%. Thus, the unit value of this product has increased during the same period. Worldwide, approximately 220 countries were listed as being importers of dried fruits while there were only 150 countries listed as exporters.

3.2 World imports characteristics

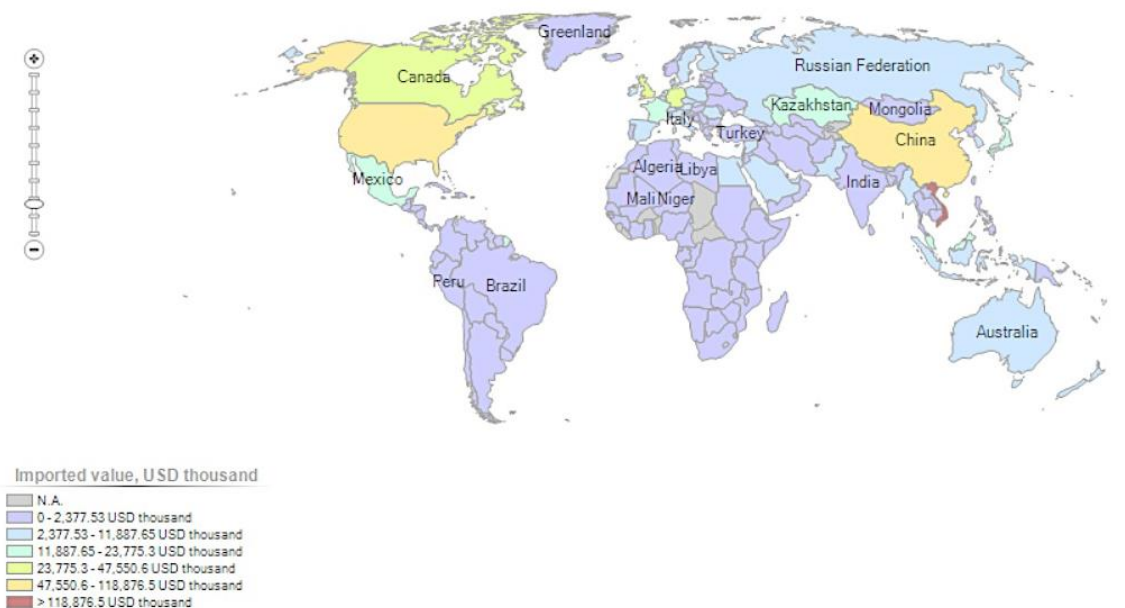
The five largest importers of dried fruits in 2012 were Vietnam, the United States of America, China, the United Kingdom and Germany with a share in world imports of 28.5%, 11.5%, 10.3%, 5.0% and 5.0% respectively. It follows that together, the top five importers have a combined share of 60%, i.e. are good for more than half of world demand.

Table 1: The main importers according to share in value of Fruits (dried n.e.s.) in 2012

Importers	Value imported in 2012 (USD thousand) ▼	Trade balance in 2012 (USD thousand) i	Quantity imported in 2012	Quantity Unit	Unit value (USD/unit) i	Annual growth in value between 2008-2012 (%) i	Annual growth in quantity between 2008-2012 (%) i	Annual growth in value between 2011-2012 (%) i	Share in world imports (%) i	Average tariff (estimated) applied by the country (%) i
World	834,671	86,284	319,803	Tons	2,610	16	1	38	100	
Viet Nam	237,754	-235,967	60,735	Tons	3,915	245	116	1174	28.5	34.3
United States of America i	95,636	-21,914	21,618	Tons	4,424	6	2	18	11.5	2.5
China i	85,903	6,112	58,850	Tons	1,460	6	-20	-4	10.3	27.4
United Kingdom i	42,004	-35,679	6,736	Tons	6,236	17	7	0	5	0.5
Germany i	41,953	15,875	8,451	Tons	4,964	-1	-13	-18	5	0.5
Canada i	27,507	-23,345	3,464	Tons	7,941	7	4	6	3.3	0
Mexico i	18,916	-14,255	2,629	Tons	7,195	36	30	-13	2.3	20
France i	17,600	1,198	2,332	Tons	7,547	9	4	-2	2.1	0.5
Japan i	15,364	-14,703	3,226	Tons	4,763	15	13	22	1.8	5.7
Kazakhstan i	13,962	-13,422	18,127	Tons	770	151	162	247	1.7	7.8
Malaysia i	12,640	-10,789	21,320	Tons	593	34	15	-26	1.5	2.4
Netherlands i	12,276	-1,739	2,531	Tons	4,850	-1	-11	-19	1.5	0.5
Hong Kong, China i	12,110	-9,414	2,246	Tons	5,392	15	-12	-43	1.5	0
Australia i	11,028	-10,014	2,488	Tons	4,432	20	14	3	1.3	3.3

Source: Trade Map

Figure 3: Map of the main importers of dried fruits according to value in 2012



Source: Trade Map

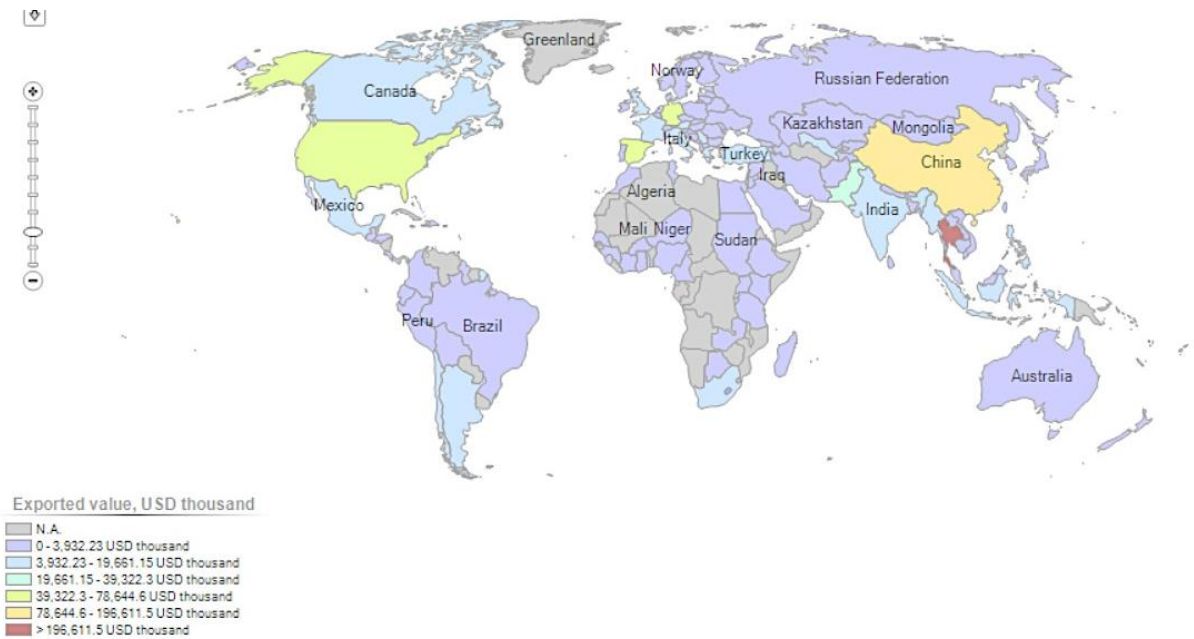
Table 2: The main exporters according to share in value of Fruits (dried n.e.s.) in 2012

Exporters	Value exported in 2012 (USD thousand) ▼	Trade balance in 2012 (USD thousand) ⚡	Quantity exported in 2012	Quantity Unit	Unit value (USD/unit) ⚡	Annual growth in value between 2008-2012 (%) ⚡	Annual growth in quantity between 2008-2012 (%) ⚡	Annual growth in value between 2011-2012 (%) ⚡	Share in world exports (%) ⚡
World	920,955	86,284	380,742	Tons	2,419	23	5	14	100
Thailand ⚡	393,224	391,620	156,185	Tons	2,518	54	6	28	42.7
China ⚡	92,015	6,112	17,278	Tons	5,326	3	-1	5	10
United States of America ⚡	73,722	-21,914	22,745	Tons	3,241	15	21	5	8
Spain ⚡	65,827	57,576	61,994	Tons	1,062	28	34	16	7.1
Germany ⚡	57,828	15,875	3,026	Tons	19,110	13	-5	15	6.3
Pakistan ⚡	33,695	28,692	3,023	Tons	11,146	21	6	48	3.7
France ⚡	18,798	1,198	1,712	Tons	10,980	12	32	-7	2
India ⚡	18,033	17,466	21,184	Tons	851	34	7	-41	2
Myanmar	15,477	12,114	20,543	Tons	753	0	-33	78	1.7
Uzbekistan	14,316	14,298	16,309	Tons	878	55	98	201	1.6
Netherlands ⚡	10,537	-1,739	2,452	Tons	4,297	-9	-6	-14	1.1
South Africa ⚡	9,242	7,612	1,896	Tons	4,874	28	20	-23	1

Source: Trade Map

Figure 4 shows the main exporters of dried fruits. The main exporters are indicated in red, while yellow and light green countries were lower ranked dried fruits exporting countries. Interestingly, large countries like China and the USA are playing important roles in both exporting and importing. Since the countries' areas are very large, different areas may produce different kinds of fruits.

Figure 4: Map of the main exporters of dried fruits according to value in 2012



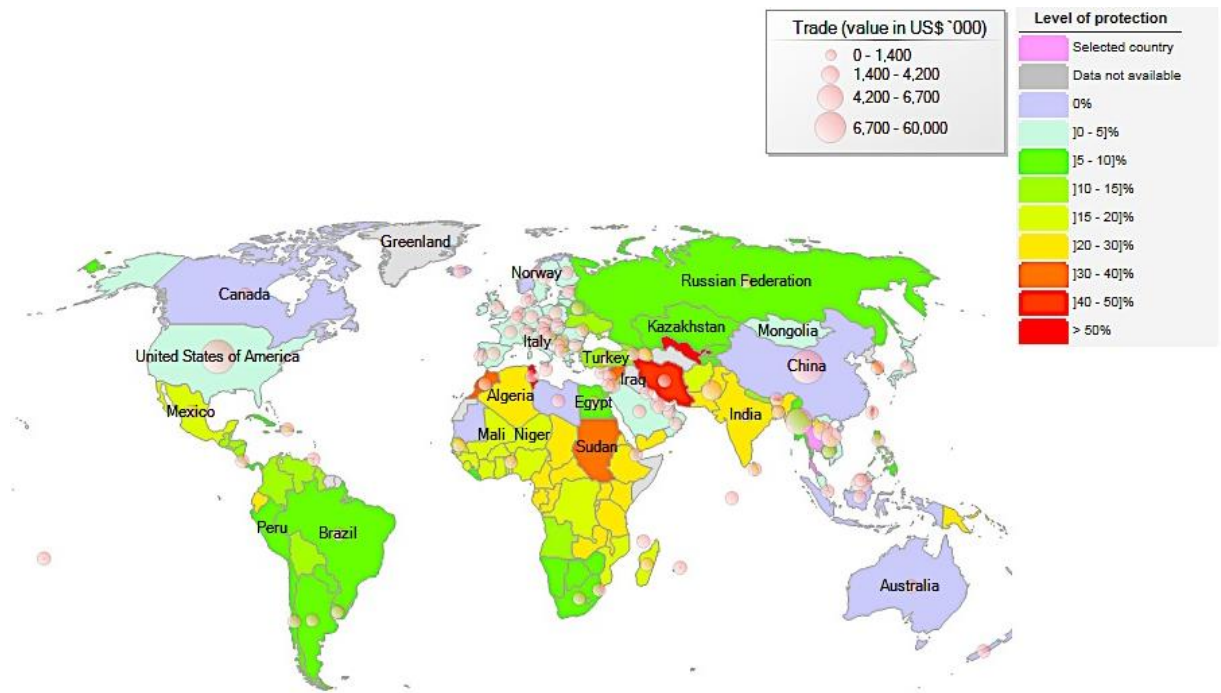
Source: Trade Map

3.3 Thailand's export performance for the selected product

Thailand being the first and largest exporter in the world for fruits, dried n.e.s., the country exported 393.22 million US\$ or 156 thousand tons in 2012. Thailand's exports have grown by 54% from 2008 to 2012, while the world market has expanded by 23%. This implies that Thailand is gaining market share in the world market. Table 3 shows that the three largest importers of dried fruits from Thailand (in US\$ value) in 2012 are Vietnam (US\$ 235 millions), China (US\$ 105 millions) and the USA (US\$ 7.2 millions).

Regarding market accessibility, it is found that the Equivalent Ad Valorem Tariff applied by importing countries to the product HS 081340, "Fruits, dried n.e.s." originating from Thailand is quite different among countries as shown in Figure 5. In Asia, Thailand faces high tariffs in the Republic of Korea, Bhutan and Taiwan, with levels of protection on dried fruits which are larger than 40%. However, a low level of protection (0-5%) is found in the mentioned top-three importing countries.

Figure 5: Equivalent Ad Valorem Tariffs that importing countries apply to the product (081340) “Fruits, dried n.e.s.” originating from Thailand



Source: www.macmap.org from ITC

Interestingly, comparing Table 1 and 3, it can be seen that Vietnam, China and the USA are the major importers of dried fruits, but that the USA ranks second as importing country in the world, while ranking third as importing from Thailand. This tentatively shows that there is room for Thailand to improve its performance in the US market further.

Table 3: Main importing countries of dried fruits from Thailand in 2012

Importers	Exported value 2012 (USD thousand) ↓	Trade balance 2012 (USD thousand) ↓	Share in Thailand's exports (%)	Exported quantity 2012	Quantity unit	Unit value (USD/unit) ↓	Exported growth in value between 2008-2012 (% p.a.) ↓	Exported growth in quantity between 2008-2012 (% p.a.) ↓	Exported growth in value between 2011-2012 (% p.a.) ↓	Ranking of partner countries in world imports ↓	Share of partner countries in world imports (%) ↓	Total import growth in value of partner countries between 2008-2012 (% p.a.) ↓	Average distance between partner countries and all their supplying markets (km) ↓	Concentration of exporting countries in partner countries imports ↓	Tariff (estimated) faced by Thailand (%) ↓
World	393,224	391,620	100	156,185	Tons	2,518	54	6	28		100	16			
Viet Nam	235,270	235,270	59.8	57,735	Tons	4,075	260	130	1241	1	28.5	245	855	0.98	5
China	105,742	104,758	26.9	61,378	Tons	1,723	31	-7	-58	3	10.3	6	2,855	0.8	0
United States of America	7,212	7,008	1.8	2,926	Tons	2,465	13	7	32	2	11.5	6	9,116	0.13	2.8
Hong Kong, China	4,528	4,528	1.2	635	Tons	7,131	-6	-38	27	13	1.5	15	5,705	0.28	0
United Arab Emirates	3,997	3,997	1	3,322	Tons	1,203	43	10	29	16	1.2	13	3,184	0.32	5
Russian Federation	3,918	3,918	1	2,236	Tons	1,752	137	117	3	19	1	-10	2,929	0.16	7.5
Myanmar	3,363	3,254	0.9	4,211	Tons	799	94	55	11	33	0.4	93	633	1	10
Philippines	3,261	3,261	0.8	508	Tons	6,419	52	9	279	51	0.2	42	3,285	0.77	5
Canada	2,384	2,383	0.6	834	Tons	2,859	19	3	76	6	3.3	7	5,560	0.32	0
Malaysia	2,215	2,215	0.6	1,414	Tons	1,566	44	21	51	11	1.5	34	2,163	0.21	0

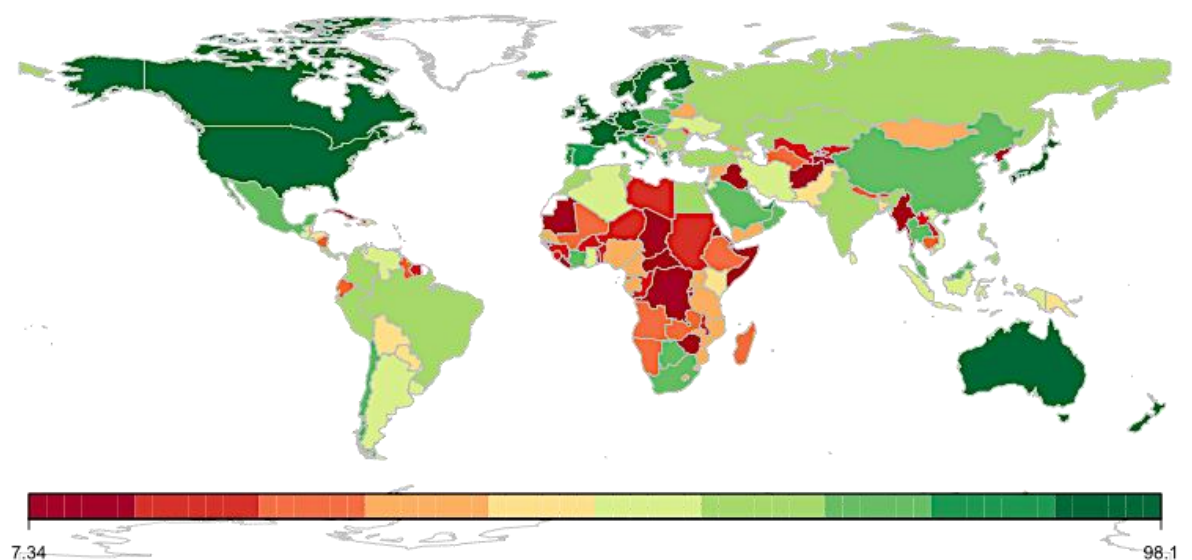
3.4 Potential markets: market screening

The Market Attractiveness Index (MAI) used below was compiled to take more than one factor into account, such as import growth, import value, tariffs and tariff advantages, distances to transport cargo, etc.. The MAI consists of two main sub-indices; a market demand index and a market access index. Various demand indices and the risks of doing business are taken into account. Using data from Trade Map, all these factors were used to compile the Market Attractiveness Index (see Table 4).

Table 4: Market Attractiveness Index

Importers	MAI	Market Access Index	Country Demand Index	Imported value in 2012 (US\$ 000)	Average distance between partner countries and all their supplying markets (km)	Concentration of exporting countries in partner countries imports	Country Risk
Viet Nam	95	95	95	237754	855	0.98	4
USA	59	50	68	95636	9116	0.13	1
Philippines	55	63	47	1589	3285	0.77	4
Israel	45	51	38	6259	10132	0.88	3
Spain	40	45	34	8251	4215	0.16	4
Myanmar	38	44	32	3363	633	1	10
Jordan	38	47	28	1699	4108	0.35	7
United Kingdom	37	41	33	42004	3492	0.12	1
Indonesia	36	34	38	3735	3582	0.47	4
China	35	37	34	85903	2855	0.8	3

Figure 6: Mean country risk from 2000-2011, Euromoney data



Source: Euromoney

4. The USA as target market for Thailand's tamarind exports

4.1 Rationale for the target market

The market for dried fruits imports in the USA was growing annually with 6% in the 2008-2012 period (Table 1) and Table 4 shows that among the top-three import markets, the USA is the only one with a low market concentration of only 0.13, while Vietnam's and the Philippines's concentration rates are 0.98 and 0.77 respectively. In addition and in contrast to Vietnam and the Philippines, the USA is a low risk country risk according to Euromoney's mean country risk in 2000-2011,(Figure 6).⁹

4.2 Thailand's trade performance in the target market

Thailand is already exporting to the USA. The US imported value of dried fruits from Thailand amounted to US\$ 10.1 million and showed 26% growth in 2012, while the average growth rate from 2008-2012 was 8%. Thailand ranks third in the list of US imports (based on value) of dried fruit, after China and Chile. Thailand is rapidly gaining market share, which was 10.6% in 2012 as seen in Table 5.

Table 5: The US trade of importing Fruits, dried n.e.s., HS 081340

Exporters	Trade Indicators 📊															Tariff (estimated) applied by United States of America (%) ⬇️
	Imported value 2012 (USD thousand) ⬇️	Trade balance 2012 (USD thousand) ⬇️	Share in United States of America's imports (%)	Imported quantity 2012	Quantity unit	Unit value (USD/unit) ⬇️	Imported growth in value between 2008-2012 (%) p.a. ⬇️	Imported growth in quantity between 2008-2012 (%) p.a. ⬇️	Imported growth in value between 2011-2012 (%) p.a. ⬇️	Ranking of partner countries in world exports ⬇️	Share of partner countries in world exports (%) ⬇️	Total export growth in value of partner countries between 2008-2012 (%) p.a. ⬇️	CO2 emission (tons) ⬇️	Average distance between partner countries and all their importing markets (km) ⬇️	Concentration of importing countries in partner countries exports ⬇️	
World	95,636	-21,914	100	21,618	Tons	4,424	6	2	18		100	23	n/a			
China	24,500	-21,944	25.6	3,005	Tons	8,153	-13	-19	-25	2	10	3	n/a	6,159	0.17	4
Chile	16,611	-15,009	17.4	4,526	Tons	3,670	70	97	73	16	0.6	12	n/a	9,775	0.28	0
Thailand	10,145	-9,563	10.6	4,262	Tons	2,380	8	2	26	1	42.7	54	n/a	2,055	0.43	2.8
Germany	9,592	-6,037	10	2,409	Tons	3,982	28	7	140	5	6.3	13	n/a	2,723	0.1	4
Argentina	5,783	-5,783	6	1,688	Tons	3,426	28	19	89	19	0.5	3	n/a	6,547	0.39	2.8
France	4,657	-4,470	4.9	169	Tons	27,556	54	-35	1030	7	2	12	n/a	4,240	0.21	4
Serbia	4,279	-4,279	4.5	1,005	Tons	4,258	30	21	4	17	0.6	12	n/a	6,724	0.59	2.8
Mexico	4,164	7,852	4.4	1,456	Tons	2,860	37	0	42	21	0.5	44	n/a	1,666	0.95	0
Morocco	3,406	-3,406	3.6	200	Tons	17,030	148	61	-17	27	0.4	77	n/a	7,224	0.99	0
Canada	1,959	16,114	2	278	Tons	7,047	39	42	53	23	0.5	15	n/a	4,389	0.31	0
Egypt	1,389	-1,365	1.5	184	Tons	7,549		138	-58	68	0	-14	n/a	2,048	0.24	2.8
Turkey	1,321	-295	1.4	419	Tons	3,153	23	30	-6	22	0.5	-6	n/a	5,020	0.2	2.8
Peru	1,238	-1,217	1.3	462	Tons	2,680	237	266	277	54	0.1	92	n/a	9,541	0.19	0
Brazil	744	-538	0.8	71	Tons	10,479	-3	-32	-1	26	0.4	-5	n/a	12,383	0.21	2.8
Ecuador	743	-737	0.8	82	Tons	9,061	135	136	186	36	0.2	120	n/a	8,400	0.21	0
Pakistan	632	-612	0.7	187	Tons	3,380	9	5	125	6	3.7	21	n/a	4,788	0.32	2.8
South Africa	609	-515	0.6	116	Tons	5,250	35	14	3	12	1	28	n/a	9,563	0.16	1.2
Colombia	518	-167	0.5	196	Tons	2,643	0	32	-16	33	0.2	52	n/a	8,087	0.2	0
Republic of Korea	498	5,145	0.5	40	Tons	12,450	16	-8	157	39	0.2	40	n/a	9,397	0.68	4

4.3 Competition in the target market

The US market for imported dried fruits is worth over US\$ 95 million. About 21,618 tons of dried fruits were imported by the USA in 2012, which translates into an average unit value of US\$

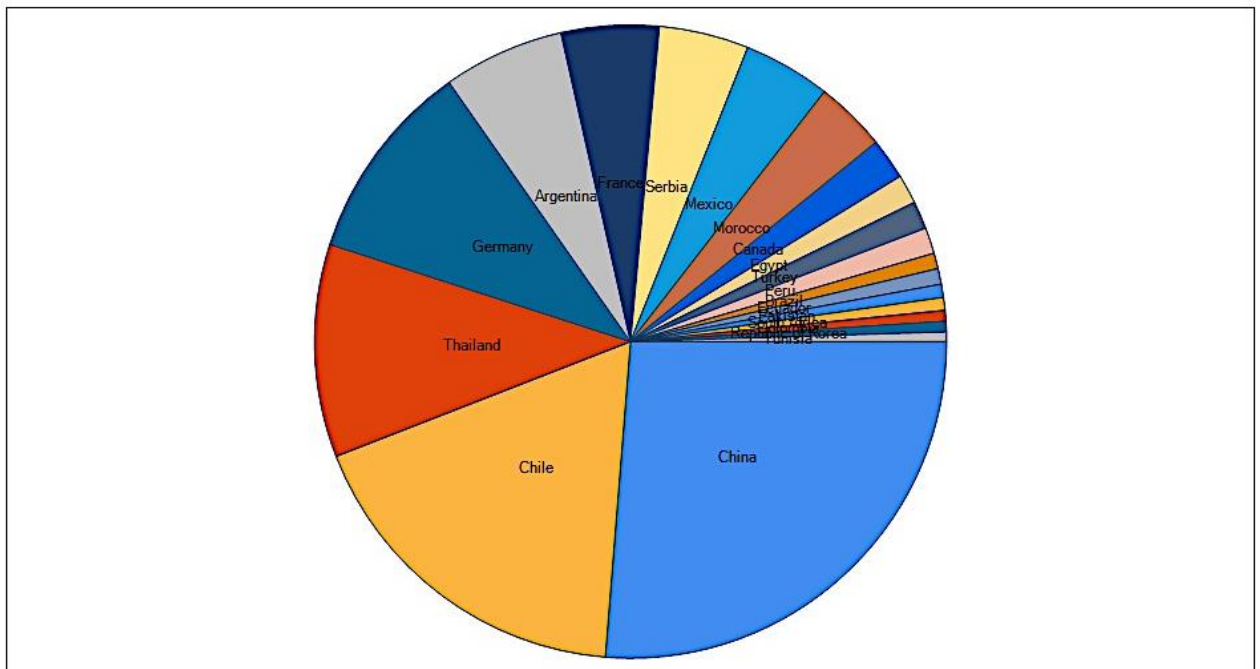
⁹ This is also evidenced by the *Office du Ductroire* risk scores, which are used in the first screening filter of the DSM.

4,424/ton. As mentioned before, the average annual growth rate of these imports from 2008-2012 was 6%.

The US market is not much concentrated. None of the suppliers is enjoying a monopoly or quasi-monopoly. Many exporting countries are supplying the market. Thailand's main competitors are China, Chile and Germany with a market share of 25.6%, 17.4% and 10% respectively. Together with Thailand, these countries account for over 60% of the US imports of dried fruits n.e.s. (see Figure 7).

China is, however, losing market share, while the other main suppliers are gaining market shares. Chile in particular showed rapid average growth of about 70% from 2008-2012 and even of 73% from 2011-2012.

Figure 7: Supplying markets of the US in 2012 for Fruits, dried n.e.s. HS 081340



Source: Trade Map

4.4 Specific product in the target market

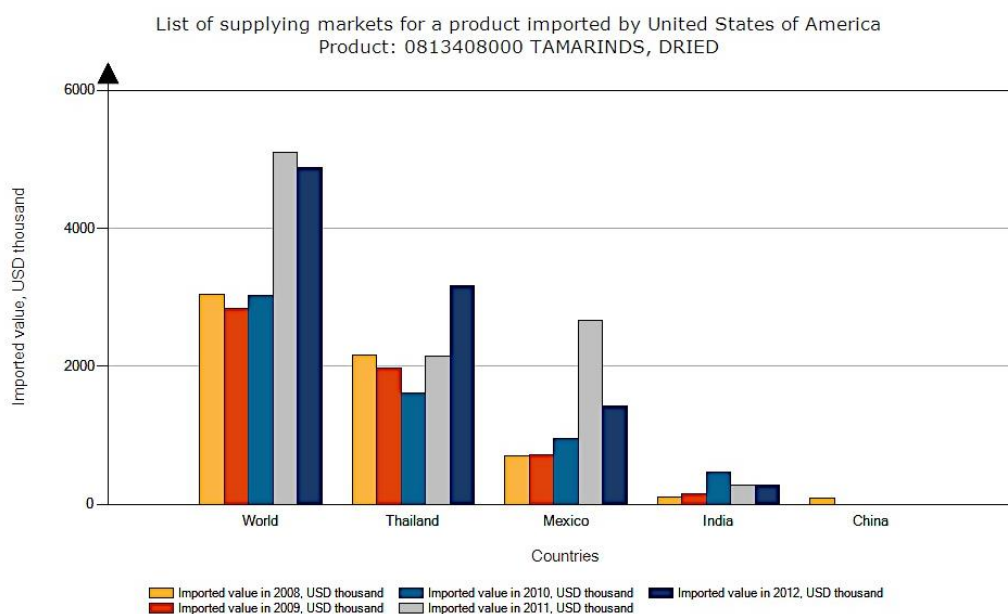
Since the trade between Thailand and the USA in Fruits, dried n.e.s. HS 081340 consists of several kinds of fruits as seen in Table 6, and taking into account the specificity of tamarind for Thailand, it was decided to focus on this product. Moreover, tamarind exports to the US have experienced high market growth during the three latest years, following the trend of "fruits, dried n.e.s.".

Table 6: Lists of the products under HS 081340 Fruits, dried n.e.s.

Product code	Product label	United States of America's imports from Thailand			United States of America's imports from world		
		Value in 2010	Value in 2011	Value in 2012	Value in 2010	Value in 2011	Value in 2012
0813401000	PAPAYAS, DRIED	4,534	3,787	4,822	4,661	3,931	4,958
0813408000	TAMARINDS, DRIED	1,618	2,149	3,172	3,033	5,098	4,876
0813409000	FRUIT, DRIED, OTHER THAN THAT OF HEADINGS 0801 TO 0806, NESOI	1,554	1,607	1,442	12,360	13,306	16,150
0813402060	BERRIES, DRIED, EXCEPT BARBERRIES AND BLUEBERRIES	819	505	709	40,542	50,060	64,165
0813403000	CHERRIES, DRIED	0	0	0	646	1,732	1,663
0813404000	PEACHES, DRIED	0	0	0	1,851	3,419	1,377
0813401500	BARBERRIES, DRIED	0	0	0	247	252	39
0813402010	WILD BLUEBERRIES, DRIED	0	0	0	1,298	516	624
0813402020	CULTIVATED BLUEBERRIES, DRIED	0	0	0	723	2,869	1,784

4.5 Thailand's performance for tamarinds in the USA

The overall imported value of tamarinds of the USA in 2012 amounted to almost US\$ 4.9 million. The main suppliers are Thailand, Mexico, India and China. Thailand ranks first as tamarind exporting country to the US market in 2012, beating Mexico, the market leader in 2011. Imports of tamarinds from Thailand values US\$ 3.17 million, representing a market share of almost 65%.

Figure 3: Supplying countries and import values for tamarind imported by the USA

5. The U.S. market

5.1 Economic factors

The US is the largest and most technologically powerful economy in the world, with a per capita GDP of \$49,800.

The sub-prime mortgage crisis, falling home prices, investment bank failures, tight credit, and the global economic downturn pushed the United States into a recession by mid-2008. The US recession, which ended in 2009 ultimately, proved to be the longest lasting since the Great Depression. Growth resumed in 2010 but the rebound made only a modest dent in unemployment and unused capacity. Real GDP grew by 1.8% in 2011 and 2.2% in 2012.

US consumer and business spending have risen while unemployment, though still high, has fallen. The savings ratio has been rising since the recession and amounted to 9.2% of disposable income in 2012. The ratio is expected to drop to 9.1% in 2013.

In 2012, the real value of consumer expenditure per capita rose by 0.8% to US\$ 34,541. The real value of per capita disposable income rose by 0.4% in 2012 when it amounted to US\$ 37,941 (Euromonitor report).

As the world's biggest consumer market, the USA's dependence on exports is low. Exports represented 9.9% of GDP in 2012, up from 9.0% in 2008. Exports (in dollars) rose by 4.5% in 2012. Real GDP grew by 2.2% in 2012 and gains of 1.9% are expected in 2013. Ease of doing business ranks fourth (out of 185).

5.2 People

Total population of the USA has been rising at just over 1% per year and reached 316 million people in January 2013. The USA is a highly urbanized country where about 82% of the population lives in cities and large towns like New York, Los Angeles, Chicago, Miami, and Washington, D.C. (capital) (CIA Factbook, 2013).

The median age of the population was 37.4 years in 2012. Although American society is ageing, this process is at least partially offset by the continuous inflow of immigrants (Euromonitor). The country is multi-ethnic, with 79.96% of the population being white, 12.85% black, 4.43% Asian. (July 2007 estimate) (CIA Factbook, 2013).

Consumer trends are quite different from many other developed countries. Despite the slow commitment for healthy lifestyle, US people seem to become increasingly health-conscious and concerned about organic and ethical foods. Dried fruits and other snacks are rising in demand, due to the increasing awareness of the benefits of healthy and nutritious eating. However, the US leads the world in acceptance of genetically-modified food.

Despite being continually bombarded via all types of media with nutritional and fitness advice and information about the benefits of living a healthier lifestyle, US consumers generally have been

slow to commit themselves to developing and maintaining habits that would raise their levels of health and well-being. For example, CBS WebMD reported on a 2011 survey by Gallup that “the percentage of people who had five or more servings of fruits and vegetables at least four days in the previous week before being polled dropped from 57.8% [in 2010] to 55.9% [in 2011]”, with consumption decreasing most among young adults, seniors, women and Hispanics. Moreover, the survey also suggested that more Americans are smoking and that the percentage of Americans who exercised physically for half an hour or more at least three days a week declined, adding even more to the unhealthy burden

(<http://www.cbsnews.com/stories/2011/06/15/health/webmd/main20071353.shtml>).

In spite of the above, the situation may be improving. The 2011 Survey of Health Care Consumers conducted by the Deloitte Center for Health Solutions noted that, among other findings, “participation in healthy living/wellness programs is low but on the rise: 19% in 2009, 22% in 2010, and 25% in 2011. As well, 56% of consumers surveyed said they had chosen particular foods in the past 12 months because of the health benefits they provided. Thirty-four per cent said they consume nutritional foods such as probiotic yogurts and foods that reduce cholesterol (<http://www.deloitte.com/us/2011consumerism>).

According to a survey in the Food Marketing Institute (FMI) 2010 US Grocery Shopper Trends report, 55% of grocery shoppers said that they prepared more meals at home in 2010. For the most part, US consumers said they were eating at home more often because it costs them less. Still others report that they eat at home more often because they believe that what they choose to eat at home is healthier than when dining out. Many health-conscious eat-at-home consumers are increasingly turning to foods, including prepared foods, which offer health benefits, such as those with high fibre, less fat and sugar and increased vitamins and proteins (<http://www.fmi.org/news-room/news-archive/view/2010/10/28/fmi-grocery-shopper-trends-2010-consumers-are-savvy-and-informed-bargain-hunters-when-it-comes-to-grocery-shopping>).

At the same time, for many US consumers food choices are shaped by the limitations of the household budgets and many more expensive organic foods don't easily find their way on to grocery shopping lists. Indeed, a recent Thomson Reuters-NPR Health Poll revealed that 54% of those who said they preferred non-organic food also said price was the primary driver of that preference (<http://www.npr.org/blogs/health/2011/07/20/138534183/organic-foods-have-broad-appeal-but-costs-temper-demand>).

Also, a growing number of US consumers are seeking out so-called ethical food, i.e., foods that are produced with more respect toward animal or human welfare and the environment. According to data compiled by Innova Market Insights and recently published on the industry website

FoodProcessing.com, shows the US market accounted for 25% of all new global products tracked with a 'FairTrade' positioning" (<http://www.foodprocessing.com/industrynews/2011/ethical-food-defies-recession.html>)

Dried fruits and snacks such as potato chips, tortilla chips, cereal snacks, pretzels, popcorn, cheese snacks, snack crackers, meat snacks, pork rinds, snack nuts, party mix, corn snacks, pellet snacks, fruit snacks, snack bars, granola, snack cakes and cookies, among others, are the primary snacks American consumers reach for when they get hungry or when they entertain. The increasing awareness among American consumers of the benefits of healthy and nutritious eating is now having an impact on the snack food segment. Healthier snack products are seeing increased consumer demand. According to the Snack Food Association, 83% of consumers said they eat snacks for their nutritional benefit while 40% said they seek benefits beyond basic nutrition. Examples of healthy snacks include vegetable chips, dried fruits and energy bars.

Producers are taking their cues from the snacks industry to find innovative ways to give fruit and vegetables a prominent role in snacking occasions.

6. Market access

6.1 Tariffs

Looking from Table 7, the US normally charges a 6.8% ad valorem Most Favoured Nation duty for Normal Trade Relations (NTR) and a 35% tariff duty for non-NTR which applies to the imports from a small number of countries that do not enjoy NTR duty status. However, the USA market is open for tamarind dried fruit, which enter duty free, and Thailand receives a tariff advantage under the US GSP.

Table 7: 2013 tariff and most recent annual US import information for Tamarinds

HTS code		08134080
Brief description		Tamarinds, dried
Tariff treatment		
Beginning effective date (most recent date <i>any</i> part of this HTS item's tariff treatment changed)		01/01/2013
Ending effective date (date <i>any</i> part of this HTS item is next scheduled for tariff treatment change)		12/31/2013
1st unit of quantity (Q1)		Kilograms
2nd unit of quantity (Q2)		
2013 Normal trade relations (NTR) duty rate (formerly known as the Most Favoured Nation (MFN) duty rate)	MFN text rate	6.8%
	Duty calculation	(Ad Valorem Rate) times (Value)
	Ad Valorem (per cent of value) component	6.8%
	Specific (per unit) component	\$0
	Other duty component	\$0
	Binding Status	Bound in World Trade Organization
"Column 2" (non-NTR) duty rate (applies to imports from a small number of countries that do not enjoy NTR duty status)	COL2 text rate	35%
	Duty calculation	(Ad Valorem Rate) times (Value)
	Ad Valorem (per cent of value) component	35%
	Specific (per unit) component	\$0
	Other duty component	\$0
Preferential (duty-free or reduced rate) tariff program applicability to this HTS item		
GSP (Generalized System of Preferences)	Status	Eligible: code "A"
	Countries excluded from GSP eligibility on this item	

Source: USITC (United States International Trade Commission)

Table 8: Tariff applied for tamarinds from Thailand in the US Market

Tariffs applied by **United States of America**

Product: **08134080 - Tamarinds, dried**

Partner: **Thailand**

Data source: **ITC (MacMap)**

Year: **2011**

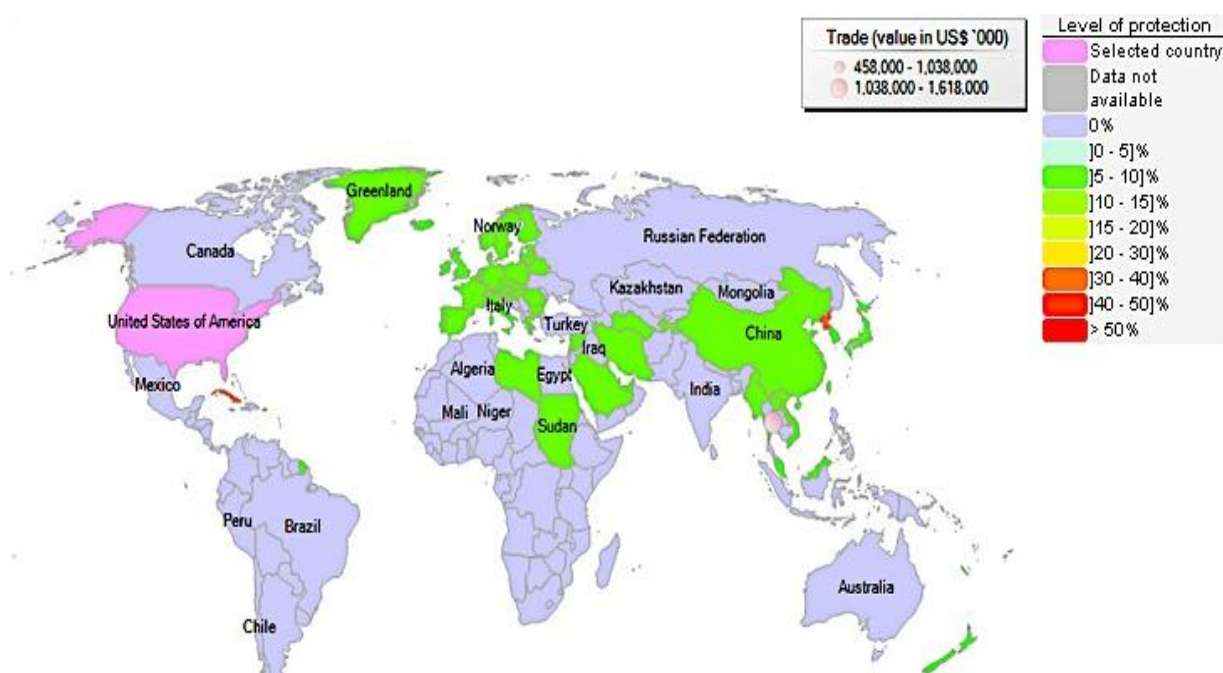
Nomenclature: **HS Rev.2007**

AVE Methodology: **AVE based on the World Tariff Profile (WTP)**

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Tariff regime	Applied tariff	Total ad valorem equivalent tariff
MFN duties (Applied)	6.8%	6.8%
Preferential tariff for GSP countries	0%	0%

Figure 9: Geographical distribution for tariffs applied by the USA to all exporting countries

Source: Trade Map

6.2 Non-tariff barriers

There are two measures which are playing an important role regarding food. There are the requirements under the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, and the licensing requirement for fruit and vegetables according to the Plant Quarantine Act assuring no insects are inside¹⁰. Furthermore fruit and vegetables must be clean from pesticides.

¹⁰ <http://www.aphis.usda.gov/favir/info.shtml>

The Thai importer into the USA must request a Certificate of Pesticide Residues from the Department of Agriculture, Ministry of Agriculture. However this measure is except for some kinds of fruits, among which tamarind¹¹.

6.3 Packaging and labelling regulations

The packaging regulations in the USA are not mandatory. Dried fruit is normally shipped in boxes, also in wooden crates and/or bags. Dried fruit should be free of mould and foreign matter (stalks, sand, pests, especially mites) and be clean. Fruits are graded by colour and size. Mould is caused by high humidity and possible wetting before shipment. Improper drying may also lead to mould, making the produce inedible. Heat and pressure will cause crystallization and lumping together. Dried fruit should be stowed away from wet, moist and odorous goods.

Under the Federal Food, Drug and Cosmetic Act (FDCA), the US Food and Drug Administration (FDA) has jurisdiction over all food labels, except meat, dairy, and egg products. FDA food label regulations include requirements concerning mandatory declarations of most information contained on food labels, such as the statement of identity, net quantity, ingredients, nutrition facts, allergen risks, and food label claims. FDA regulations also permit certain conventional food labels and beverage labels to bear various types of food label claims, such as nutrient content claims, structure or function claims, and health claims, under strictly regulated conditions and requirements.

To comply with FDA food regulations, most food labels and beverage labels must contain Nutrition Facts declarations that conform to very specific requirements related to formatting, nutrient names and amounts, and per cent daily value calculations.

Under the Nutrition Labelling and Education Act of 1990 (NLEA), the FDA standardized and limited the types of claims permitted on food labels to include health claims, nutrient content claims, and structure or function claims.

Health claims characterize the relationship between a substance and a health-related condition (e.g., "A diet low in sodium may reduce high blood pressure.").

Nutrient content claims characterize the level of a nutrient in food (e.g., "Good source of protein."). Structure or function claims describe how a food or beverage affects the structure or function of the body (e.g., "Supports healthy blood circulation.")

¹¹http://www.dft.go.th/Portals/0/ContentManagement/Document_Mod682/SPS_US_March%202012@25550320-1431132292.pdf

7. Prices

Products sold in local markets are usually in the form of fresh fruits, pulp, juice, sauce and paste. Products in international markets include pulp, juice, paste and TKP (Tamarind Kernel Powder) and the USA is ranked first as importing country of tamarinds from Thailand with an imported value in 2012 of 3.2 million US dollars, up from US\$ 2.1 million in 2011, i.e. an almost 50% growth rate (see table 9).

The market price of tamarind has fluctuated according to the season and the quality. During summer the demand of sour tamarind will increase. Thailand's domestic market price is about 15 – 45 Baht per kilogram, or around US\$ 0.5-1.5/kg (the current exchange rate is about THB 30/US\$). In the USA, tamarind pulp without seed is sold at US \$ 4.00-5.50/kg. The FOB price of sweet tamarind grade A amounts at US \$ 1.7-2/kg and that of sour tamarind is US \$ 0.5-2/kg, thus leaving a considerable margin.

Table 9: List of supplying markets for tamarinds imported by the USA (unit: thousand dollars)

Exporters	Imported value in 2008	Imported value in 2009	Imported value in 2010	Imported value in 2011	Imported value in 2012 ▼
World	3,045	2,843	3,033	5,098	4,876
Thailand	2,167	1,974	1,618	2,149	3,172
Mexico	695	723	957	2,669	1,421
India	97	146	458	280	283
China	86	0	0	0	0

8. Distribution channels

Exports and imports of the United States are mostly entering the country by sea or air. Figure 10 below shows 24 departure ports in the United States.

Figure 10: Map of the US ports

The top 5 busiest ports in the United States based on container traffic are Los Angeles Port and Long Beach Port in California, New York Port in New York City, Savannah Port in Georgia, and Oakland Port in California. In 2012, the top 5 busiest airports were as shown in Table 10.

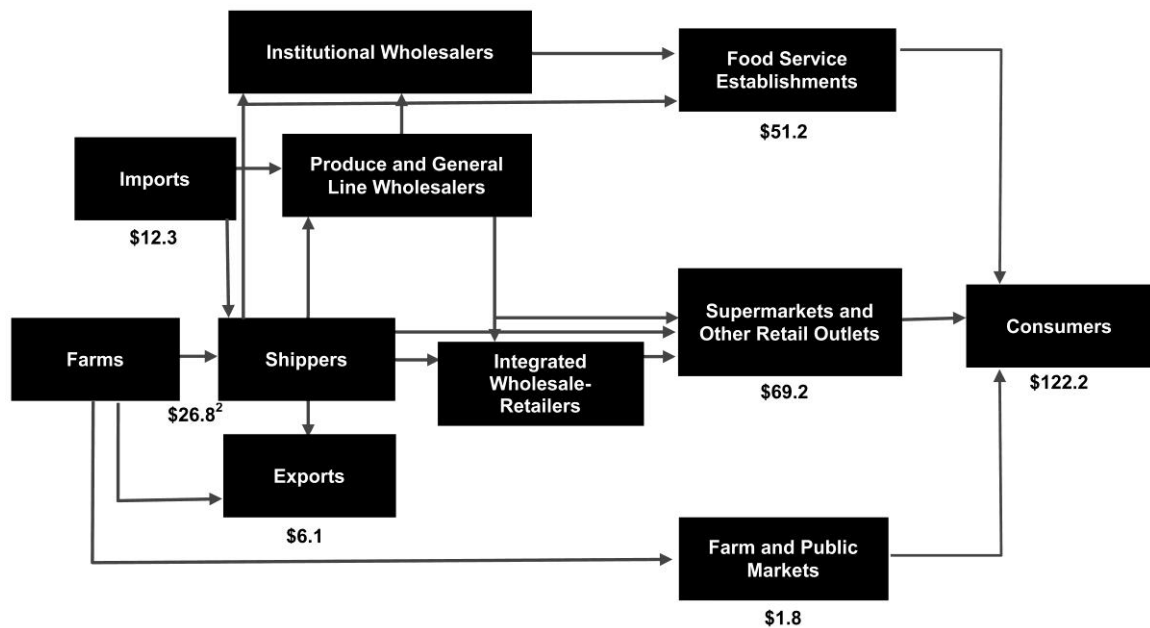
Table 10: Top 5 busiest airports in United States in 2012

Global rank	North America rank	City
2	1	Memphis TN
5	2	Anchorage AK
7	3	Louisville KY
11	4	Miami FL
14	5	Los Angeles CA

The physical distribution of tamarind from Thailand can be effectuated using either ocean or air cargo. However, sea freight is suitable for large products or high quantities such as machines, completed cars, or rice. The sea freight cost is cheaper, but it takes a longer time from the port of departure to the port of arrival. For example, cargo shipped by sea from Thailand to Los Angeles, takes 21 days to arrive. In contrast, airfreight is suitable for high value products or relative small quantities such as digital cameras or accessories. The cost of airfreight is more expensive, but the time of transportation is only 4 to 5 days from Thailand to Los Angeles.

There are many channels of distribution through which products can be marketed in the United States, as illustrated by Figure 11 below, which shows the value chain of fruits in the United States.

Figure 11: Sample value and supply chain of fruits in the USA



¹ Excludes nuts and pulses, and frozen or canned fruits and vegetables.

² This value is larger than the farm gate value reported in Table 1 since it includes a supplemental estimated value for fresh-market fruit and vegetable production not captured by NASS/USDA.

Sources: Compilations by Kristen Park, Roberta Cook, and Edward McLaughlin based on U.S. Retail Census, ERS/USDA, NASS/USDA, U.S. Department of Commerce, and other data.

It also should be taken into account that the distribution channel system of the United States is dominated by many middle-men. Firstly, food distributors purchase products from a manufacturer or from another distributor and sell and distribute the products to retailers, food-service companies, and other distributors. Secondly, food brokers acting as food manufacturers' representatives are facilitating sales between manufacturers and retailers, without, however, taking ownership or physical possession of the products. Thirdly, food wholesale distributors are very similar to distributors, but they do not perform as many services, such as stocking and managing retail shelves. Fourthly, self-distributing retailers are large retailers, such as Albertsons, Fred Meyer, Safeway, and Wal-Mart, who have their own distribution centres. Manufacturers deliver directly to these centres. The retailer then distributes the product to individual retail stores. (Johnson, 2006)

9. Export promotion

The realistic export opportunity of Thailand associated with the exports of tamarinds to the United States belongs to Cell 8 of the matrix of Figure 1. By 2007 (the last year on which the DSM results are based), Thailand had already achieved a medium small market share. According to Cuyvers, De Pelsmacker, Rayp and Roozen (1995) such opportunities require an offensive export promotion strategy of market exploration (in contrast to opportunities showing a market presence for Thailand

which is medium large and which require an offensive strategy of market expansion). As the imported volumes are large and have been growing rapidly in the recent past, Thailand's export promotion efforts should focus on growing and consolidating (see Cuyvers, Viviers, Sithole-Pisa and Kühn, 2012, 187). The export promotion strategy should combine elements that will allow the potential exporters of tamarind and other dried fruits to enter the market or the exporters that are present in the USA to increase their market presence. The dissemination of market information and participation of the potential exporters in high-profile trade missions, supported by media campaigns has to be combined with more aggressive instruments, among which financial, which will allow the potential exporters to improve their competitive advantage further (e.g., matchmaking with exporters of complementary products and giving incentives for piggy-back export systems). Also inviting key-decision makers in the target country (major importers or distributors) or facilitating outgoing foreign direct investment to the target economy can be an effective instrument (Cuyvers, Viviers, Sithole-Pisa and Kühn, 2012, 189).

Participation in local specialized trade fairs, and financial incentives given to the potential or actual exporters for this purpose, is a widely used instrument. Participation in trade fairs is both an instrument to expand exports and to prospect the market. The following exhibitions can be targeted for this purpose:

1. The annual trade show **Americas Food and Beverage Show & Conference**, which gathers the largest selection of foods and beverages from around the world. This event brings buyers, suppliers, and industry experts together. Also, it is supported by the National Association of State Departments of Agriculture (NASDA).

Trade Show: 17th Americas Food and Beverage Show & Conference

Date: October 28-29, 2013

Location: Miami Beach Convention Center, Hall C

1901 Convention Center Drive

Miami Beach, Florida 33139

Website: <http://www.americasfoodandbeverage.com/>

2. **Trade Show: SNA Annual National Conference 2013 - School Nutrition Association**

Date: 07/14/2013 - 07/17/2013

Location: Kansas City Convention Center

301 West 13th Street

Kansas City, MO 64105

Website: <http://docs.schoolnutrition.org/meetingsandevents/anc2013/events.asp>

3. Trade Show: NATURAL PRODUCTS EXPO WEST 2014

Date: March 06 - 09, 2014

Location: Anaheim Convention Center

800 W. Katella Ave.

Anaheim, CA 92802 USA

Website:

<http://www.expowest.com/ew13/public/Content.aspx?ID=1039244&sortMenu=103000>

4. Trade Show: SWEETS & SNACKS EXPO 2013

Date: May 21 - 23, 2013

Location: McCormick Place

2301 S. Lake Shore Drive

Chicago, Illinois 60616 USA

Website: <http://www.sweetsandsnacks.com/>

5. Trade Show: IFT13 Annual Meeting + Food EXPO

Date: July 13-16th, 2013

Location: McCormick Place, South Chicago, Illinois USA

Arranged by: Institute of Food Technologists

525 W. Van Buren, Ste 1000, Chicago, IL 60607

Website: <http://www.am-fe.ift.org/cms/>

6. Trade Show: China World Fruit & Vegetable Trade Fair 2013 (ChinaFVF 2013)

Date: 2013/11/28 - 2013/11/30

Location: Shanghai Everbright Convention & Exhibition Center (SECEC)

No.88, Caobao Road, Shanghai

Website: http://www.chinaexhibition.com/Official_Site/11-3366-ChinaFVF_2013_-_China_World_Fruit_and_Vegetable_Trade_Fair_2013.html

Although this is not a local trade fair, many US importers are visiting this one. It is therefore appropriate to "be there".

7. Trade Show: FRUIT LOGISTICA: International Trade Fair for Fruit and Vegetable Marketing

Date: February 06 – 08, 2013

Organizer: Messe Berlin Exhibition Grounds (Berlin ExpoCenter City)

Location: Messe Berlin GmbH, Messedamm 22

14055 Berlin, Germany

Website: <http://www.fruitlogistica.de>

The same observation as for China World Fruit & Vegetable Trade Fair applied here.

Also, e-marketing or Internet marketing should be considered. Potential customers should be able to check and purchase the products online.

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