



Analyzing the trade competitiveness of Indian coconut sector in the liberalization regime

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Abstract

Coconut export sector in India of late gained an outward orientation, especially since the Coconut Development Board was elevated to the status of export promotion council in the year 2009. In the recent period, the growth rate experienced in the coconut based value added products has been stupendous. Since there is an attempt for global value chain up-gradation at the production node of the sector, it is imperative to analyse our strengths in the world market in comparison with the major competitors. We have used the Revealed Comparative Advantage (RCA) methodology to analyse India's competitiveness in the exports of major coconut value added products traded across the world. The study revealed that, as far as the coconut value added products are concerned, India is comparatively a very small player with paltry export market shares. The analysis of RCA revealed that comparative advantage of India is lower than the major coconut exporting countries like Philippines, Indonesia and Sri Lanka. The Philippines is the dominant player with highest RCA indices in most of the coconut value added product lines. The study suggests the need to formulate plausible strategies to reach the overseas market and capture the optimal share in market segments. Though we have a strong domestic market base, it is an indubitable fact that in the near future due to the evolving trade agreements even in the domestic sector we may confront fierce price competition from the overseas imports. Hence, we need to chalk out modalities and execution plans to elevate our export competitiveness and comparative advantage.

Keywords: Coconut sector, comparative advantage, export competitiveness, market share

Introduction

Coconut sector in the country supports the livelihoods of twelve million people. Coconut in the recent times has been confronted with unprecedented crises on account of various macro and micro level factors. It is noteworthy that, post World Trade Agreement (WTA) and ASEAN Treaty regime witnessed integration of coconut economies across the globe that resulted in fierce competition among producing countries. On the other hand, there are umpteen reasons for the right kind of preparedness in the international spectrum of coconut and value added products of coconut. The European Union (EU) which is the major importer of coconut products has a set of regulations that can impact on most aspects of the coconut industry. They relate to health, food safety and other regulations such as those related to packaging, waste

recycling and labour laws. In this regard, entrepreneurs who wish to enter this market should give cognizance to the regulations governing market entry. It is pertinent to note that the failure to respond to changing patterns in the world trade in coconut products will have adverse effects on employment and revenue of the sector, especially in a changed regime wherein the sector is orienting towards export promotion. The present paper attempts to highlight the position of India *vis-a-vis* other competing countries with respect to the trade of coconut value added products. The paper examines whether India has comparative advantage in the exports of value added products of coconut.

Data and methodology

The present study depends on Asia and Pacific Coconut Community (APCC) Statistical year book-

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2014 and Coconut Development Board (CDB) database respectively for the international and domestic data requirements. The paper examines the global trade scenario through the lens of market share analysis. The competitiveness of India *vis-a-vis* other competing countries with respect to important coconut products has been studied employing Revealed Comparative Analysis (RCA) method. It is striking that the concept of RCA has been widely in use and most of the studies used the share of exports as the major variable for analysis of comparative advantage. A majority of these studies use data on export shares. (Balassa, 1977; Yeats, 1992; Hiley, 1999; Yue and Hua, 2002; Ferto and Hubbard, 2003; Kanna, 2010; Joseph and George, 2015). The RCA measures (or at least indicates) the sectoral competency of a particular country in a particular item (commodity) of export. The assumption of RCA is that the exports from a particular country to different destinations reflects the competitiveness of that country in a particular commodity *vis-a-vis* other competing countries. The pioneering work on comparative advantage was by Balassa (1965) wherein he defines the comparative performance of a country in a particular commodity as the ratio of share of that particular commodity in the country's total exports to the world and the world share of that commodity in the total exports of the world.

The RCA index for a particular commodity (m) and country (v) is calculated as:

$$\begin{aligned} & \text{(Revealed Comparative Advantage)}_{mv} \\ & = (E_{mv}/E_{wv}) / (E_m/E_w) \end{aligned}$$

where,

E_{mv} = export of commodity 'v' by country 'm'

E_{wv} = total world export of commodity 'v'

E_m = country 'm's total export

E_w = world export (total)

Here we use ex-post export (and import) data to construct the RCA index. If a particular country's comparative advantage index is greater than one then we may infer that the country has revealed its comparative advantage in that particular sector/commodity. However, the magnitude of a particular country's comparative advantage is comparable with other countries.

Results and discussion

World and National Scenario

Coconut is scattered all around the world in more than 90 countries. Having said this, it is noteworthy that major share of the total 12.2 million hectare of coconut in the world is contributed by India, Indonesia, Philippines and Sri Lanka (Table 1). In a similar fashion the world exports of coconut and coconut products are also highly concentrated with less than six countries accounts for the major chunk of world exports. India stands 3rd in world area of coconut and first in production with the share of 17 per cent and 31 per cent respectively. Indonesia holds largest area in coconut (29%) followed by Philippines. As far as the productivity is concerned, Brazil holds the highest figure (11630 nuts ha⁻¹) followed by India (10119 nuts ha⁻¹).

Table 1. Area and production of coconut in the world (2013-14)

Country	Area (000 ha)	Per cent share	Production (million nuts)	Per cent share	Productivity (nuts ha ⁻¹)
Indonesia	3610	29.6	16354.0	23.4	4530
Philippines	3502	28.7	14696.0	21.1	4196
India	2141	17.5	21665.0	31.0	10119
Sri Lanka	440	3.6	2870.0	4.1	6523
Brazil	251	2.1	2919.1	4.2	11630
Papua New Guinea	221	1.8	1483.0	2.1	6710
Thailand	206	1.7	1001.0	1.4	4859
Others	1825	15.0	8848.3	12.7	5662
Total	12196	100.0	69836.0	100.0	5777

Source: Asia and Pacific Coconut Community (APCC) Statistical Year Book 2014

Table 2. Coconut: National scenario

State	Area (000 ha)	Production (million nuts)	Productivity (nuts ha ⁻¹)
Andhra Pradesh	105.9	1463.5	13808
Karnataka	515.0	5141.1	9982
Kerala	649.8	4896.6	7535
Tamil Nadu	465.1	6917.4	14873
Other States	239.0	1911.0	7295
India	1975.8	20439.6	10345

Source: CDB, 2016

In the year 2014-15, India has produced 20.4 thousand million nuts from an area of 1.97 million ha with a productivity of 10345 nuts per hectare (Table 2). Tamil Nadu is the major producer of coconut, contributing around 34 per cent of the total production in the country. Coconut is predominantly cultivated in small and marginal holdings in the country. The coconut holdings in the country, of late has become economically less significant as it fails to provide assured employment and revenue generation. The unpredictable price fluctuations cater to economic risk in the sector coupled with uncertain markets for coconuts and its value added products. A reoriented approach for the coconut sector in the country deserves paramount importance in the present context.

Trade scenario of Indian coconut sector

In the year 2009, CDB was elevated to the status of Export Promotion Council. It is to be noted that after this the growth rates in export has been stupendous and in the year 2015-16 the total value of exported of coconut kernel products was amounted to ₹ 14502 million (Table 3). During the year 2015-16 the total value of imports of coconut kernel products to the country was ₹ 3833 million, that is around 12 per cent less than that of the previous year's import (₹ 4216.6 million in 2014-15). The major two coconut products imported to the country were oil cake (85%) and coconut oil (11%). It is pertinent to note that there has been substantial decrease in total imports of coconut oil to the country in the recent times. The surge in exports of the coconut and its value added products is very well linked with the promotion council status of the development board and thereby indicates the positive externality of a policy change in the sector.

Table 3. Trade of coconut products from India

Sl. No.	Year	Export value (₹ million)	Import value (₹ million)
1	2007-08	690.1	559.3
2	2008-09	1798.0	1030.8
3	2009-10	2197.5	1071.6
4	2010-11	4959.2	1207.7
5	2011-12	9432.9	2098.8
6	2012-13	10223.6	1908.0
7	2013-14	11561.2	2301.4
8	2014-15	13123.8	4216.6
9	2015-16	14502.4	3832.6

Source: CDB, 2016

On the other hand, it was observed that the import intensity of the coconuts and coconut products are at low levels (Table 4), and thereby will not influence the domestic price behaviour of the product. Moreover, as far as the international trade is concerned India can boast a robust domestic market in comparison with other competing counterparts. It is not a matter of complacency that the coconut products (and coconut itself) are as of now excluded from reduction commitments of the ASEAN free trade agreement owing to the reason that, the review committee of ASEAN-FTA may any time revoke the policy and the sector may fall into the trap of ruthless competition (Jayasekhar *et al.*, 2014; Veeramani *et al.*, 2011). It is apparent that the overarching principle of the FTAs is open competition and therefore the exclusion lists are to be viewed only as a temporary relief. What is more important for the coconut sector is the wedge between domestic and international prices, wherein Indian prices are always slightly higher than the

Table 4. Coconut production, imports and import intensity

Year	Production (million nuts)	Import (₹ million)*	Value output (₹ million)	Import intensity**
2009-10	16918.4	1071.7	203020.8	0.53
2010-11	16942.9	1207.8	203315.0	0.59
2011-12	23351.2	2098.9	280214.6	0.75
2012-13	22680.0	1908.5	272160.4	0.70
2013-14	21665.2	2301.4	259982.3	0.89

Notes: *HS Code: 0801, EXIM data bank, Dept of Commerce Production (NHB (Various years)

**Quantity of Import as percentage of production

Table 5. Market share of major countries in the coconut products export

Country	Coconut Oil	Desiccated coconut	Coconut milk	Copra meal	Shell charcoal	Coir/Coir products
India	0.3	1.2	-	0.004	7.0	25
Indonesia	35.2	19.7	50.7	34	70.2	10
Malaysia	8.6	2.2	-	-	-	-
Philippines	41.4	24.7	3.6	64	20.3	-
Sri Lanka	-	11.6	-	-	2.5	42
Vietnam	-	9.1	45.4	-	-	-
Others	14.5	30.6	0.3	1.996		23
World (MT)	2190911	440983	38343	866441	355288	331021

Source: Author's calculation from APCC Statistical year book 2014

Note: Figures are in percentage share of the world total

'-' represents insignificant/nil

average world prices (although there is a tendency to integrate) which can cause flood of cheap imports in the case of removal of coconut and coconut products from the list of excluded commodities.

International trade: Export scenario

The Philippines and Indonesia are the leading coconut oil exporters, wherein they together contribute 77 per cent of the total world export (Table 5). The share of India is insignificant (0.3%). In this context, we indeed need to develop adequate strategies to catch the potential and developed markets of coconut oil across the world. Copra meal is an important commercial by-product of copra, which has got significant use in the large scale production of commercial cattle feed. We may observe that the world export market of copra meal almost falls into the category of oligopoly, wherein Indonesia and Philippines together contributes 96 per cent of the total exports. India never developed an efficient export chain of copra meal, chiefly due to the huge absorption of this by-product into the domestic market as cattle feed.

The Philippines and Indonesia are the major global exporter of desiccated coconut, accounting for 44 per cent of the exports. Though India is the largest producer of raw coconut in the world, desiccated coconut export is only to the tune of 1.2 per cent of the global exports. Nevertheless, during the year 2015-16 India exported 4261 MT desiccated doconut worth ₹ 52.6 crores. In comparison with the export figure of previous year, India achieved an increase to the tune of 63 per cent, which is indeed remarkable. Coconut milk and

cream are high value commercial products for the higher end consumer market across the world. Coconut milk is an excellent substitute for the dairy milk and of late the health conscious consumer segment are much aware of the comparative benefits of this product. Sri Lanka and Indonesia together contributes 96 per cent of total export share of the coconut milk/cream and India is an insignificant player in this segment.

Indonesia has almost monopolized the shell charcoal export market in the world with 70 per cent contribution of the total exports, while Philippines follows with 20 per cent share in the world exports. India too shows positive signals in the export segment of shell charcoal with a share of seven per cent in the total exports.

International trade: Import scenario

The international import scenario of major coconut products are depicted in Table 6. It is striking that the major importer of coconut products is European Union (EU) followed by America (including USA). In the case of coconut oil 72 per cent of the world import is accounted by the EU and USA, while in the case of desiccated coconut (DC) 68 per cent world import share accounted by EU and USA. Analyzing the coir yarn import, it was observed that 54 per cent of the world import is taken place to the EU; even in the case of value added coir products EU is the major importer accounting 47 per cent of the international import. It is noteworthy that the high end market for value added products of coconut are developed countries and this is, as a matter of fact, both a challenge and

Table 6. Import share of coconut products by major countries/regions

Country	Coconut oil	Desiccated coconut	Coir yarn	Coir mats/Rugs
Europe	45	48	54	47
America	27	20	15	34
Asia	25	17	19	-
Africa	2	12		-
Others	1	3	12	19
World (MT)	2065444	502148	9381	38250

Source: Author's calculation from APCC Statistical year book 2014

Note: Figures are in percentage share of the world total; '-' represents insignificant/nil

opportunity for the coconut products in the long run. The major challenge is the emerging stringent food safety requirements in the EU under the ambit of Sanitary and Phyto-Sanitary requirements, which is difficult to comply. On the other hand, the economic growth in these region and dietary shifts in favour of coconut products create ample opportunity for further market spread and penetration.

Global competitiveness

It is imperative to have a look at the international trade scenario of coconut value added product exports. While comparing with other major global exporters, the share of India in coconut product exports is meagre. Though it is an accepted fact that, India holds a robust domestic market in the coconut sector, it is high time that we emerge as a major export player by upgrading our position in the global value chain of coconut exports. The Philippines and Indonesia together contributes the major world export share of coconut oil, copra meal and desiccated coconut. Sri Lanka too contributes

substantially to the international exports of coconut milk, shell charcoal and coir products.

It is noteworthy that almost major proportion of the domestic production of coconut in India is consumed in the domestic market itself. On the other hand, Philippines consume only 25 per cent of its coconut production domestically. The economic logic always point towards the correlation between the domestic consumption and export growth. In most of the cases when you have market surplus you need to develop outward market orientation and thereby in long run you will develop a robust export market for your product and you will certainly have a first mover advantage as well. This is exactly happened with Philippines and now they are the most competent exporter with respect to coconut and coconut products. Nevertheless, India, of late, has been making concerted effort to penetrate their products in the high value export segments.

Competitiveness analysis of coconut and coconut products to export destinations through employing RCA methodology indicates that comparative advantage of India is lower than major coconut exporting countries like Philippines, Indonesia and Sri Lanka (Table 7). The Philippines clearly dominates in most of the coconut value added product lines. The analysis suggests the need to formulate plausible strategies to reach the overseas market and capture the optimal share in market segments. Though we have a strong domestic market base, it is an indubitable fact that in the near future due to the evolving trade agreements even in the domestic sector we may confront fierce price competition from the overseas export. Hence we need to chalk out modalities and execution plans to elevate our export competitiveness and comparative advantage.

Table 7. Revealed Comparative Advantage of India in export of coconut products

Country	Coconut oil	Desiccated coconut	Activated carbon	Virgin coconut oil	Coconut milk
India	2.1	1.8	6.9	1.1	na
Indonesia	21.2	4.9	26.2	16.1	na
Malaysia	12.0	4.2	10.6	5.2	5.2
Philippines	32.3	29.1	28.1	38.0	na
Thailand	1.6	5.6	12.6	8.1	39.2

Note: Figures are RCA indices; na-not available

Conclusions

We have found that, as far as the export markets of coconut value added products are concerned, India is comparatively a very small player with paltry export market shares. As a matter of fact, the processing and value addition in the coconut sector has to be scaled up manifold. India is lagging far behind in processing for value addition and export even in comparison with countries like Sri Lanka. In this regard, formation of coconut parks across the major hubs can provide new impetus to the coconut industry by ensuring economic enhancement of the farmers and other stakeholders through large scale activities. Moreover, in recent times due to the fast pace in urban life, there is considerable growth in the Indian confectionery industry (25 per cent year⁻¹). It is an indubitable fact that products like desiccated coconut and neera are high potential breakthrough products, which can bring in a paradigm shift in domestic coconut sector of India. Hence, there is tremendous potential in the domestic market as well wherein a meticulous plan to tap this potential would benefit the coconut industry in a big way. For better trade relations among the APCC it is imperative to form a regional coconut trade agreement among the APCC countries. The modalities of such a commodity specific trade agreement should be worked out with utmost care wherein we should end up in a win-win situation. In this respect we need to thoroughly analyze the existing the tariff structure of each APCC countries, and an unbiased tariff reduction schedule should be proposed. It is also important to consider the existing tariff structures of close substitutes/competing products of each countries and there by arriving at a consensus.

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