Areca nut

'Arecanut', botanically known as Areca catechu, is a tropical plant found all over South East Asia. This tree belongs to the palm tree species and is from the Arecaceae family. The fruit (nut) of this tree is popularly known as the betel nut or supari in India. This is an important commercial crop of the region and also forms part of ritual offerings in Hindu religion. Areca is taken up from the Malayan language which means 'cluster of nuts'.

Globally it is primarily grown in India, Bangladesh, China, Indonesia and Myanmar. India leads the production followed by China and Bangladesh. In India it is grown in Karnataka, Kerala, Assam, Maharashtra, West Bengal and parts of Tripura.

History

The exact origin of the nut cannot be traced back but it probably originated in Malaysia or Philippines. The use of nut for chewing started in Vietnam and Malaysia, primarily, for the 'stimulating' effect of the alkaloids present in the nut.

These areas still have the widest variety of the plantation belonging to the 'Areca' genus. From this region, the crop traveled to the rest of Asia where it is cultivated as a cash crop.

In India areca nut is mentioned in Ayurveda, and also finds mention as far back as 2,000 years. Marco Polo also mentioned about areca nut in the 13th century. Chewing arecanut with betel leaf (or paan) with some other ingredients is an old habit in the daily life of the Indians.

Cultivation

Arecanut is a crop in areas where abundant rainfall is present as it cannot tolerate drought or low rainfall. It grows well in temperature climates within the range of 14 – 36 degree C.

The tree grows approximately 30 m in height and starts giving fruit from the 5^{th} to 8^{th} year till up to an average lifespan of 60 years. The economic life is on an average of about 40 years. Though the deep clay loam soil is more suitable for its growth, it also grows in alluvial, lateritic or red loamy soil.

Agronomy

Soil: Arecanut is essentially a plantation crop grown in clay loamy soils under tank command. The pH of the soil should be slightly acidic to neutral. Lime ought to be added if the soil pH goes below 5.0.

Altitude: The altitude at which areca palm grows depends to some extent on the latitude. In the northeastern regions (Assam, West Bengal) it is grown on the plains because at higher elevation the winter temperature will have adverse effect on plant growth. Though the palm can be cultivated up to 1000 m above sea level, the quality of nuts at higher altitude is not good.

Agro-climate: Arecanut flourishes well in tracts with high rainfall such as Malnad of Karnataka (=4500 mm) as well as the low rainfall areas like the plains of Karnataka (=750 mm). In areas where there is prolonged dry spell, the palm requires supplementary irrigation.

Temperature: Arecanut grows in areas with a wide range of temperature, from a minimum of 4°C (e.g. Mohitnagar, West Bengal) to maximum of 40°C (Vittal in Karnataka & Kannara in Kerala). However, the palm flourishes well in temperature ranges of 25 to 35°C. Diurnal fluctuations of temperatures of over 5°C with low humidity can cause severe foliage damage.

Relative Humidity: Range of humidity from 70 to 95% is found ideal for areca growth.
Harvesting: The pre-bearing age of palms ranges is between 5 to 8 years. Though inflorescence initiation has been observed in every leaf axel, only about 5 per cent results in seed set. The color of pericarp of fruit changes during its growth from green to shades of yellow and upon ripening it turns red. Tender nuts are harvested from July to December and ripe nuts from December to March or from May to July. Three or four plucking/ harvests are required during the whole season.

Harvesting and Processing

Harvesting of nuts at right maturity is important for obtaining good quality produce. White chali is prepared by sun drying of ripe nuts for 40-45 days. Proper drying of nuts prevents fungal contamination or quality deterioration. If the requirement of the market is tender processed nuts, then harvesting green fruits at an appropriate stage of about 6 months maturity is essential.

Types of Arecanut Processing

There are mainly two types of processing of arecanut, viz., chali (ripe sun dried nuts) and red boiled type (tender or mature nuts). Chali is mainly produced in Dakshina Kannada and parts of Uttara Kannada districts. Chali is used in the preparation of scented supari and is greatly demanded in Northern India. Different types of red boiled nuts are prepared in other parts of the state to meet market demand. About 20 per cent of total areca production in the country is consumed as ripe fruit.

The following factors influence the areca nut market

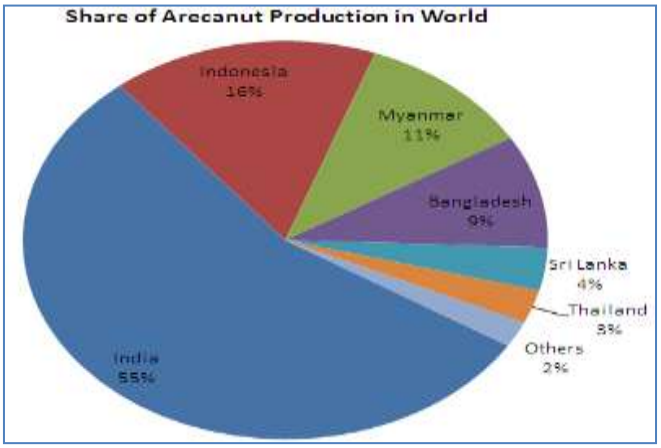
- Weather conditions
- Government policies over the pricing of betel nut
- Carryover stocks
- Growth of the consumer industries
- Government policies over the consumer industries

Global Scenario of Arecanut **(Production in MT)**

Sr No.	Country	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
1	India	483300	476000	481300	478000	478000	482000	609000
2	Indonesia	161274	168494	171500	180000	183100	187000	181000
3	Myanmar	98500	115600	115800	126200	121003	122000	119500
4	Bangladesh	101240	97947	105448	91681	92589	108000	101000
5	Sri Lanka	25870	26840	27860	29880	31600	37700	38742
6	Thailand	39000	35000	41000	22000	31203	35000	30000
7	Nepal	3922	3972	3977	4266	7620	9188	11560
8	Bhutan	6569	3842	6375	7280	7352	10500	10500
9	Malaysia	2200	2035	618	650	646	672	705
10	Kenya	111	122	97	70	110	112	115
11	Maldives	3	6	9	9	10	10	3
12	China	134497	144595	142636	131737	129316	0	0
13	Taiwan	0	0	0	0	0	135000	0
	Total	**1056486**	**1074453**	**1096620**	**1071773**	**1082549**	**1127182**	**1102125**

Source: Food & Agricultural Organisation (FAO)

Production of Arecanut in the world was about 11.02 lakh tones in 2013-14. India ranks first in terms of production (55.26 per cent) of arecanut. The other countries which produce arecanut in the world are Indonesia (16.42 per cent), Myanmar (10.84 per cent) and Bangladesh (9.16 per cent). It is also cultivated in Sri Lanka, Thailand and Nepal on a smaller scale. The world productivity of arecanut stood at 1.21 tonnes/ha. Indian productivity is also on par with the world productivity (1.27 tonnes/ha), (DGCI&S, Kolkata).

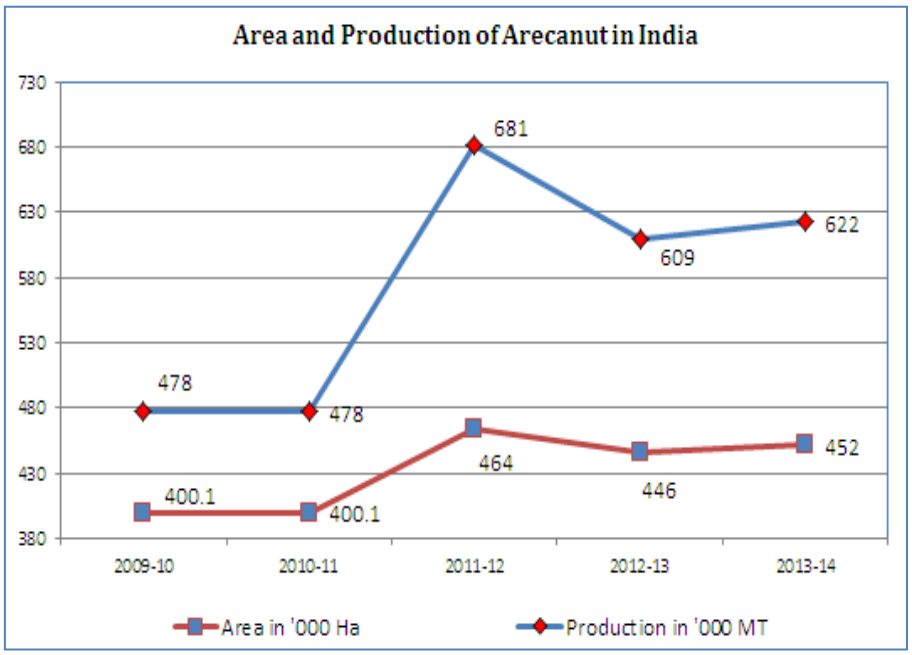


Indian Scenario

India is the major producer and consumer of arecanut in the world. Production is concentrated in six states, namely Karnataka, Kerala, Assam, Meghalaya, Tamil Nadu and West Bengal. Arecanut is the major plantation crop of coastal and southern districts of the country under assured irrigation facility. The ever increasing demand for areca products like paan, supari and gutkha has led to continuous increase in arecanut prices worldwide. The processing methods, maturity and consumer preferences influence the types of arecanut products prepared. Area and production shares show that Karnataka leads with 46 per cent of area and 47 per cent of production, followed by Kerala with 24 and 23 per cent, respectively. Assam, West Bengal and Meghalaya are of minor importance in terms of area and production shares during 2013-14.

Area and Production Shares of Major Arecanut Producing States in India

Arecanut is mainly grown in the states of Karnataka, Kerala and Assam. Among these, Karnataka and Kerala account for about 70 per cent of the country's production. Tamil Nadu, Maharashtra, A.P., West Bengal and Odisha are the other important producing states which have expanded arecanut cultivation in the recent past. The relative area share of Karnataka has increased from 30 to 50 per cent between triennium ending periods of 1980 and 2013. Kerala and Assam marginally lost their relative shares between the two periods under study, although in real terms the area has expanded in all these states.



Shifts in Relative Shares of Arecanut Production

In terms of production also, Karnataka stood 1st for the triennium ending periods of 1980 and 2013 contributing over 40 per cent to country's production. The relative shares increased by six per cent between these two periods. While Meghalaya's relative production share increased by 2 per cent both Kerala and Assam have shown decline in their relative production shares.

Karnataka Scenario

Karnataka is the largest producer of arecanut in India covering about 180.7 thousand hectares with a production of 269.2 thousand MT constituting about 45.8 per cent of total area and 51.3 per cent of total production in the country in 2013-14. The districts of Shimoga, Chikmagalur, Tumkur Uttara Kannada and Dakshina Kannada are the major arecanut producers of Karnataka which together account for 60 per cent of the area and 65 per cent of production in the state. Shimoga ranks first in area and production (23 per cent and 21 per cent, respectively) followed by Chikmagalur (21 per cent and 20 per cent respectively), Dakshina Kannada (15 per cent and 12 per cent, respectively) and Uttara Kannada (8 per cent and 14 per cent, respectively).

Assembling of Nuts: The prevalence of long chain of intermediaries on the one hand and ignorance of growers on the other are the main difficulties in arecanut marketing. Growers generally are not aware of commercial grades, moreover, they presume it is not economical to grade when marketed surplus is less. Therefore, producers sell arecanut in the primary market after traditional grading. Labour shortages for processing nuts have led producers to sell in the form of immature unhusked, sundried ripe nuts, boiled and dried nuts, (with or without grading) and outright sale of crops (crop contracting). Therefore, further processing, which needs expert handling is undertaken by assemblers.

Varieties of Arecanut

Varieties of the several species of the genus *Areca, Areca catechu* is the most commonly cultivated species. There is no systematic classification of Varieties. Different varieties exist exhibiting variable nut characters as shape,. size, attachment to spadix, taste, texture, bearing period and yield. The indigenous arecanut cultivars are known by the place where they are grown.

Normal Varieties:

1. South Kanaka: It is largely grown in South Kanara district of Karnataka and Kassaragod district of Kerala. It is characterised by large nuts and uniform bearing. The average yield is 1.5 chali /palm/year (7 kg. ripe nuts).

2. Thirthahali: It is grown extensively in Maland area of Karnataka. It is preferred for tender nut processing and not as dry nut. Its yield is comparable to South Kanara.

3. Sree Varjdhan or Rotha: It is predominantly grow in coastal Maharashtra. The nuts are oval, in shape and the yield is 1.5 kg chali (7kg ripe nuts) per palm per year. The kernal colour when cut is marble white. Its endosperm is tastier than other varieties. It starts bearing after 6-7 years of planting.

4. Mettupalayam: It is grown widely in Mettupalayam area of Tamil Nadu, the nut size is very small.

5. Kahikuchi: This is grown in North East India.

6. Mohitnagar: This is grown in the Northern part of West Bengal. The nut is very big and uniform and much similar to Kahikuchi. It yields better than other selections. At Kidu farm in Karnataka it yielded 3.7 kg. chali (19.5 Kg. ripe nuts) per palm per year.

High Yielding Selection:

1. Mangala (VTL - 3): It is a selection, from China and released for cultivation by Arecamit Research Station, Vittal (Kerala). It is semi-tall type and bearing starts after 3-5 years of planting. It has a number of desirable characters such as early bearing, early stabilization, high fruit set and yield. Its mean yield is 2 kg. chali (10 Kg ripe nuts) per palm per year. The nut possesses good quality attributes.

2. Sumanagala (VTL-11): It is introduced from Indonesia. It has all the desirable characters of VTL 3. Its mean yield is 33 Kg., Challi (17:5 Kg rupee nuts) /palm /year. This selection is also reported to be tolerant to burrowing nematode,*Radopkolus similes.*

3. SreeMangala (VTL - 17): It is a selection from Singapore. Its annual mean yield *is* 3.1 Kg Chali (15.6 Kg raw nuts)/palm/year. It also tolerates *Radopholns similes.*

Marketing

Arecanut is a notified commodity in about 32 regulated markets of Karnataka. There are more than 15 co-operative marketing societies handling arecanut in this state. The co-operative societies have been fairly successful in their functioning and about 30 per cent of the marketable surplus in the state being handled by them. All these co-operatives are functioning as the agencies of CAMPCO (Cocoa and Arecanut Marketing and Processing Co-operative) Ltd., Mangalore. Shimoga is a major market for the red boiled type of arecanut in the country.

The pre-bearing age of the palm ranges from 5 to 8 years. Though inflorescence initiation has been observed in every leaf axil, there is absorption of inflorescences to about 5 per cent. The plant is monoecious, producing both male and female flowers on the same tree. The spadix of a grown-up palm produces on an average, 294 female flowers. The colour of the fruit during its growth changes from green to different shades of yellow and red during ripening. In some places, tender nuts are mature nuts are harvested. Tender nuts are harvested from July to December and ripe nuts from December to March or from May to July. Three or four plucking is done during the whole season.

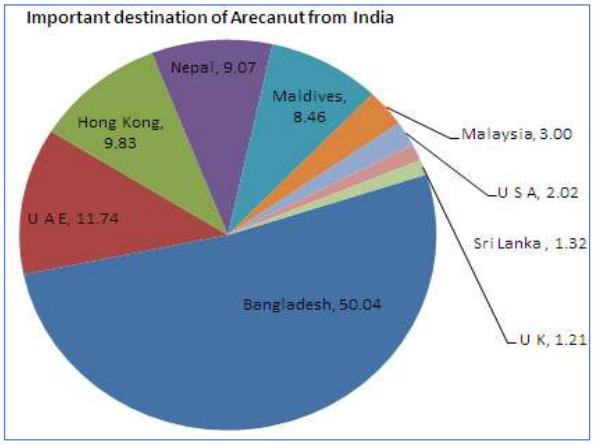
Export of Arecanut from India

Export & Import of Arecanut, India

Years	Export	Imports
2007-08	2,293.49	23,158.64
2008-09	2,531.41	44,776.35
2009-10	2,885.06	41,805.84
2010-11	4,709.94	76,041.39
2011-12	3,643.64	73,982.99
2012-13	6,819.37	99,686.46
2013-14	5,756.19	80,419.48
2014-15 (April - February)	8,154.81	94674.14

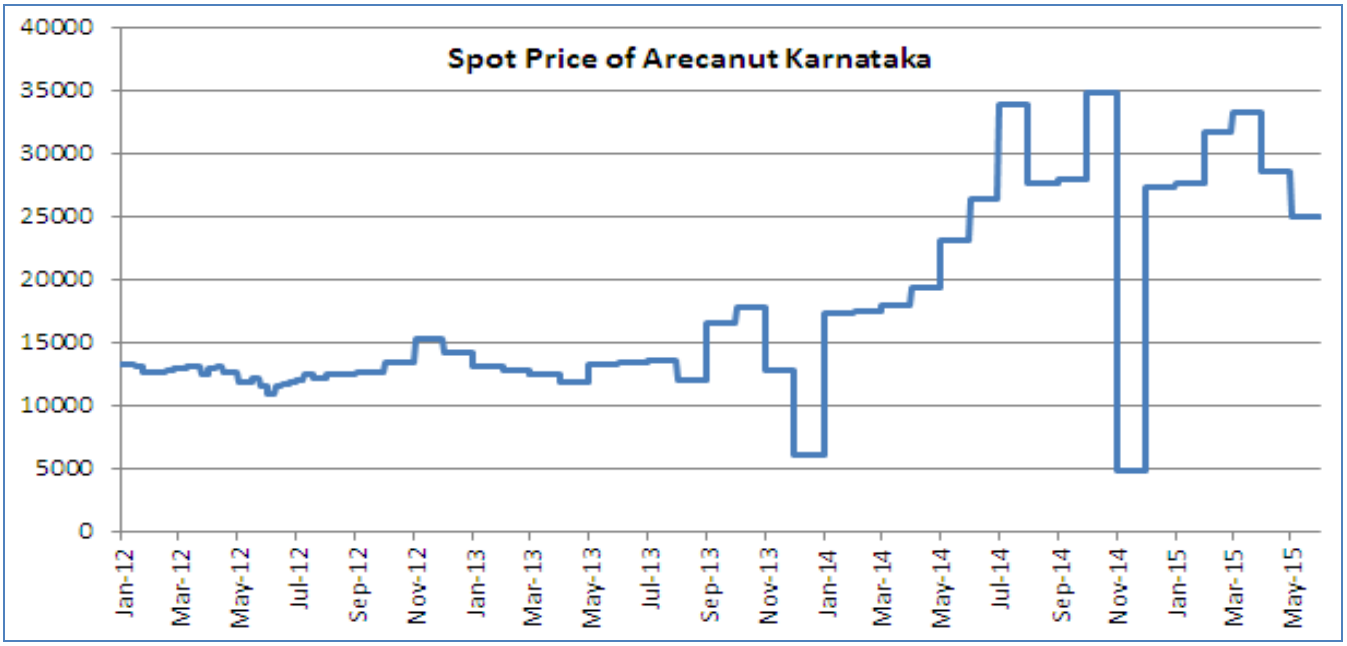
Source: APEDA

The new season for arecanut (betel nut) has commenced with prices moving in the southward direction owing to subdued demand in major consuming centers. The decline in prices of new arecanut is attributed to a combination of factors that include ban on gutkha in several states and flooding of inferior and cheap variety from Bangladesh and Nepal. The north Indian markets are flooded with imported arecanut from Bangladesh and there is no demand for good quality arecanut grown in southern states. We have seen about 24 per cent decline in our sales this year. As a result, we are unable to pass on higher prices to our farmer members. Drastic increase in imports was hurting arecanut growers. The imports have gone up ever since the government of India allowed duty-free import of arecanut from least developed countries in the SAARC region. Particularly, imports from Bangladesh have gone up seven times to 53,000 MT in 2012-13 (till December) as against 7,600

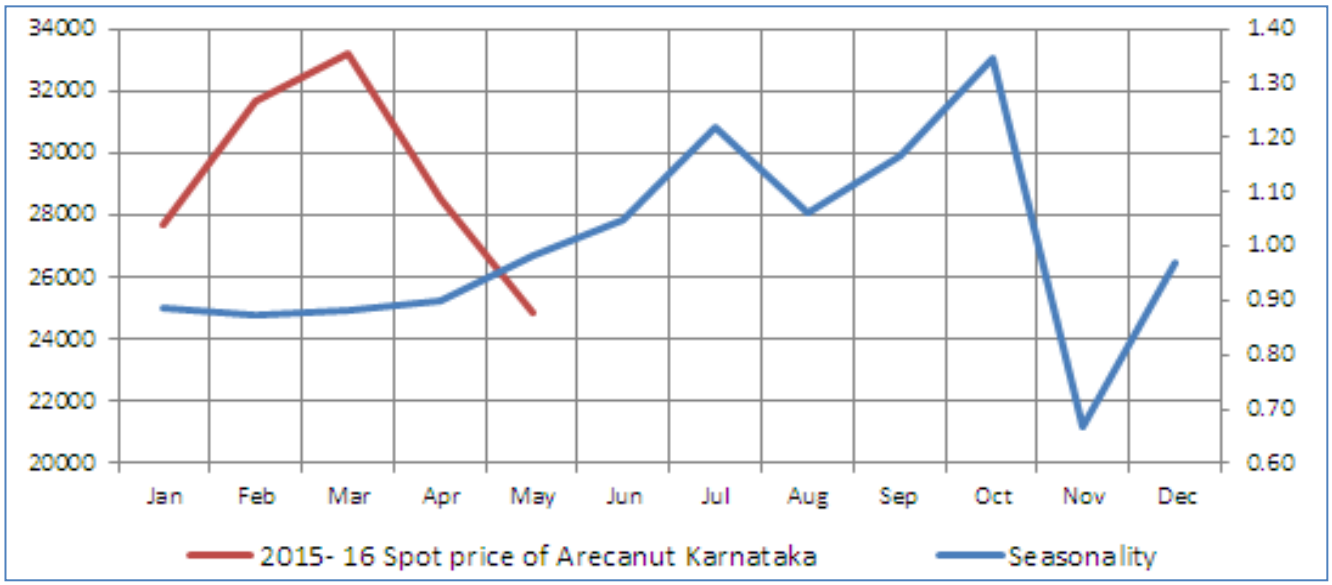


MT in 2009-10. The government of India allowed duty-free imports from November 9, 2011. Prior to allowing duty-free imports, Indian traders were importing arecanut from Indonesia paying an import duty of 108 per cent. However, in last two years, imports from Indonesia have reduced to 6,000 MT as against 29,000 MT in 2009-10. One of the main factor affecting the price is that the demand for areca nut, which has been increasing, despite a ban on sale of gutkha and pan masala products in several states. As of June 2014, 26 states and five union territories had implemented a ban on the sale, manufacture, storage and distribution of gutkha and pan masala. These states included Madhya Pradesh, Bihar, Haryana, Chhattisgarh, Himachal Pradesh, Jharkhand, Maharashtra, Gujarat, Rajasthan, Andhra Pradesh and Tamil Nadu, according a report, Smokeless Tobacco in India, published by Euro-monitor India. Karnataka is the latest state to ban Asian-style chewing tobacco.

Price Trend Analysis



Prices of all varieties of arecanut have of late considerably slumped causing panic among growers owing to the increase in imports. The falling trend of the prices is likely to continue for another 2-3 months after which, the fresh arrival would come in leading to stability in the prices. Currently, arecanut farming has turned out to be a burden for the farmers in Karnataka and Kerala states of India. Farmers in South Canara, so called arecanut hub of India are no longer interested in arecanut farming where 70 per cent of India's arecanut is grown.



India's arecanut imports from Bangladesh and the countries which are signatories to South Asian Preferential Trade Arrangement (SAPTA) are turning out to be a nightmare for domestic arecanut farmers. Major Arecanut consuming regions of North India have been dumped with cheap quality/variety arecanut imported at zero per cent duty from Bangladesh. Apart from the heavy imports from Bangladesh, the poor market prices followed by acute labour shortage and higher labour charges are haunting arecanut farmers.