

## STATUS OF CASHEW PRODUCTION AND TRADE IN THE WORLD AND AVENUES FOR INCREASING CASHEW PRODUCTION IN INDIA

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### ABSTRACT

Cashew is an evergreen tree grown mainly in the tropical regions. Origin of cashew is believed to be the North East region of Brazil. Cashew has spread to different parts of the world by the activities of Portuguese colonials, Spanish sailors and the birds like bats. Currently, cashew has attained the status of an important tree nut crop in the world. Historically, India, Brazil and African countries dominated cashew production and trade. After 2006, Vietnam became the world leader in cashew with a significant increase in cashew production and earnings from export. In the cashew cultivation area, CÔte d'Ivoire stands first with 26% and India stands second with 17% area of global cashew. Vietnam earns foreign exchange worth the US \$ 2 billion which is nearly three times that of India's earnings of US \$ 0.7 billion. Global per capita consumption of cashew kernels has risen by about 47%. Cashew production in India can be increased with a multipronged approach involving area expansion, increasing crop productivity and processing efficiency. To address these issues associated with lower production various research and extension effort apart from government initiatives on area expansion have been taken up in India.

### INTRODUCTION

The cashew tree (*Anacardium occidentale* L.) is a perennial evergreen tree grown mainly in the tropical regions of the world. The cashew tree belongs to the *Anacardiaceae* family and *Anacardium* genus. The word *Anacardium* is originated from the Greek words 'ana' implicating "upwards" and 'cardium' implicating "heart", which refers to the nut of the fruit located outwardly.

The centre of origin of cashew is believed to be the North East region of Brazil. From Brazil, it has spread to different parts of the world by the Portuguese colonials, Spanish sailors and the birds like bats (Johnson, 1973). Cashew was introduced into different parts of the world primarily to stop soil erosion and to alleviate the wasteland and barren lands. Portuguese introduced cashew to India between 1563 and 1570 in the west coast region (Archak et al., 2003). Gradually it has spread to the east coast region, plain tracts and islands of India. Then, cashew was introduced into South-Eastern Asia and Africa. Cashew has been introduced to Australia and some parts of the North American continent relatively recently.

Currently, cashew has attained the status of an important tree nut crop and a key plantation crop of India. Cashew has been the source of revenue to the farmers and employment

to the rural poor in the different parts of the world including India (CashewInfo.com, 2019). The main economic part of cashew nut is the kernel. The salted whole kernels are consumed as snacks whereas the broken kernel and bits are utilized in bakery products and confectionary preparations. The kernel oil is also gaining economic significance in the cosmetic industry. The cashew apple, a pseudo-fruit, is also edible and contains juice. However, the presence of astringency in the cashew apple discourages raw fruit consumption. Its processed products like cider, beverages, jam, and jellies are gaining popularity among consumers. Cashew nut shell contains a caustic liquid called Cashew nut shell liquid (CNSL) and is extracted as a byproduct while cashew nut processing. CNSL has several applications in industry and automobiles as insulating varnishes, brake linings, waterproofing of boats, etc. (Panda, 2013).

### HISTORY OF CASHEW TRADE

Cashew trade was started in the early 20<sup>th</sup> century which is relatively new compared to the trade of other tree nuts. The international cashew trade started with importing of small amounts of cashew kernels from India by the USA. In the early 1920s, the representatives of the General Food

Corporation of The USA visited India which paved the way for world cashew trade. Steadily, Indian cashew export extended to a number of European countries, mostly to the United Kingdom and the Netherlands. Traditionally, India, Brazil and African countries dominated cashew production and export market with the USA being the major consumer. In recent decades, the number of cashews producing countries and cashew consuming countries has increased resulting in expansion of world cashew area and trade.

Recent trends in world cashew production indicate that the traditional cashew producers viz. India, CÃte d'Ivoire, and Brazil have been replaced by newly emerging countries like Vietnam and Philippines. After 2006, cashew production in Vietnam has shown a significant increase whereas in India the growth is almost unchanged and in Brazil production has been reduced (Cashew Export Promotion Council of India, 2013).

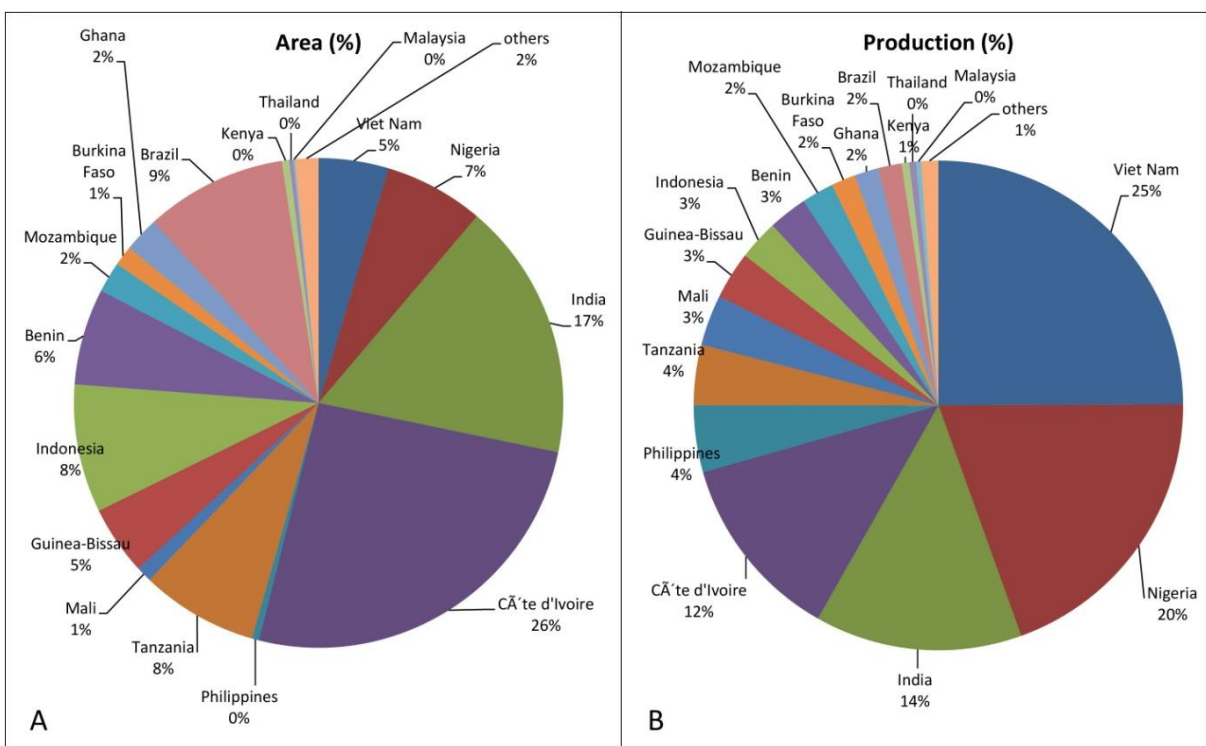


Figure 1: Cashew production trend over the decade in the major cashew producers of the world

**GLOBAL CASHEW PRODUCTION, AREA, AND PRODUCTIVITY**

Currently, cashew is grown in over 30 countries in Asia, Africa, and America continents on an area of 6.08 million hectares. The primary producers of cashew are Vietnam, Nigeria, India and CÃte d'Ivoire (Fig. 1) over the years the cashew production has increased in the world and in 2016, 4.89 million tons of cashew was produced in the world. In cashew production, Vietnam contributing 25% (1.22 million tons) of the world cashew production is the world leader in cashew production, it is followed by Nigeria contributing 20% to the world cashew (0.96 m tons) and India stands third contributed 14% to the world production (0.67 m tons). In the cashew cultivation area, CÃte d'Ivoire stands first with 26% of world cashew cultivation area (1.56 m ha) followed by India with 1.04 m ha (17%) area under cashew

cultivation (Fig. 1). In productivity, newly emerging countries like the Philippines and Vietnam have better performed compared to the traditional cashew growing countries like India. India with a national average yield of 648 kg/ha stands in 20<sup>th</sup> position in terms of cashew productivity. The higher productivity achieved in South East Asian countries like Philippines and Vietnam was mainly through the improved production technologies and it suggests a vast scope for enhancing cashew productivity in India. The production trend in the major cashew growing countries is shown in the Fig. 2.

**CASHEW MARKET AND INCREASING DEMAND FOR CASHEW**

India was the first country to set up organized cashew processing industries with skilled labor. It dominated the

global cashew market over a long period by being the world's primary importer of raw nuts and exporter of processed nuts. The raw cashew nuts were imported mainly from the African countries and the processed nuts were exported mainly to the USA and a few European countries. In the year 2006, Vietnam took over India in the cashew kernel exports and since then there is a steady rise in the export quantity and earnings of Vietnam while in India cashew export has been reduced significantly. Currently, earnings from the export of cashew kernels in Vietnam is

about the US \$ 2 billion which is nearly three times that of India's earnings of US \$ 0.7 billion. The main reason for enhanced of cashew kernel exports from Vietnam are the lower kernel prices due to the cheaper processing costs compared to India. Additionally, in India, the domestic consumption of cashew has increased and a large proportion of the processed nuts consumed domestically compared to the earlier decades whereas in Vietnam the domestic consumption is low (The Economic Times, 2017).

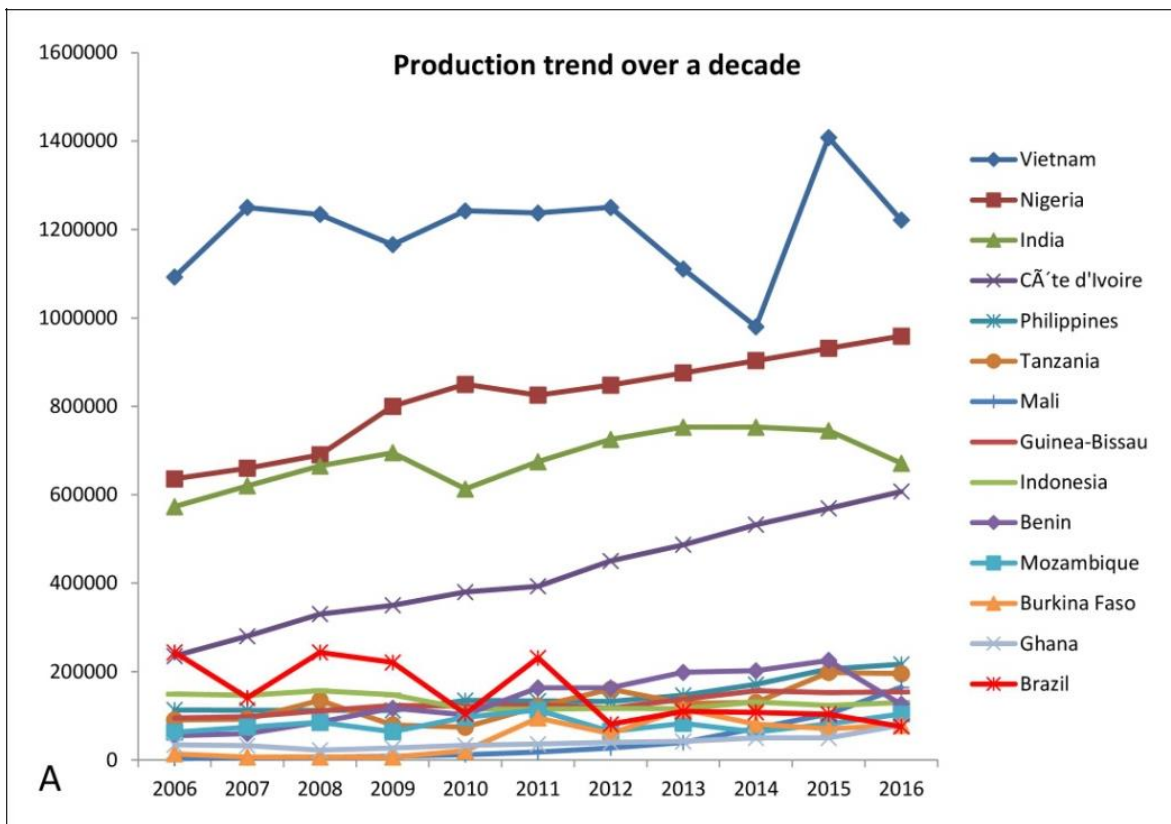


Figure 2: Percentage of area (A) and production (B) of cashew in the major cashew growing countries of the world

In India and Vietnam, the two leading processors of cashew which together 92 percent of the world's supply of cashew nuts (Kahlmann and Kohn, 2018). The cashew nut processing capacity in these two countries is much higher compared to their domestic productions whereas the African countries which produce cashew significantly have a poor processing infrastructure. Therefore, raw cashew nuts are imported by India and Vietnam from the African countries. The import of raw cashew nuts has increased in both Vietnam and India over the years and currently, Vietnam is the leading importer of raw cashew nuts. In the near future, India may face a severe shortage of raw cashew nuts supply from the African countries as Vietnam is competing with India for the raw nuts and also the African countries have

envisaged promoting domestic processing up to 50% by 2025 (Cashew Export Promotion Council of India, 2018). The foreign exchange spent by India on importing the raw cashew nuts has considerably exceeded the earnings from the export of kernels.

Global per capita consumption of cashew kernels has risen by about forty-seven percent i.e. 0.072 kg/year in 2007 has increased to 0.106 kg/year in 2016. In India also an increasing trend is found in the per capita cashew consumption and during the last decade it has risen by about 5.5 times i.e. from 0.041 kg/year in 2007 to 0.228 kg/year in 2016 (INC 2012, 2017). Between 2015 and 2016 i.e. in a year the global consumption for cashew kernels has

increased by 7% indicating the demand for cashew growing at a faster rate. Likewise, in India, consumption of cashew is rising by 15-20% each year and it is estimated that the raw cashew nut requirement of the country to be about 40-50 lakh tonnes or even more by 2050 at the current rate of increase in demand for cashew. The above-discussed facts reveal the pressing need for increasing domestic cashew production in India not only to meet the growing domestic demand for cashew products but also to expand exports and earning of foreign exchange.

### **IMPROVING DOMESTIC CASHEW PRODUCTION IN INDIA: CHALLENGES AND STRATEGIES**

Cashew production in India can be increased with a multipronged approach involving area expansion, increasing crop productivity and processing efficiency (Saroj and Rupa, 2014). In India, over the last few years, area under cashew cultivation has remained unchanged and the cashew crop productivity has been low for a very long period of time. The major challenges for cashew production are the widespread use of low yielding cultivars, losses from the insect pest damages and the poor agronomic management of the crop (Bhoomika and Rani, 2018). In the traditional cashew growing states of India like Karnataka, Kerala and Odisha, old senile plantations growing old low yielding cultivars exist in large and the replacement rate of older cultivars new high yielding cashew cultivars has been slow due to either lower multiplication of cashew planting material or the ignorance of the farmers about the modern cultivars (Maruthi Prasad *et al.*, 2011). In cashew, two major insect pests exist viz. tea mosquito bug (TMB) and cashew stem and root borers (CSRB) which cause major losses in the yields if the infestations cross the threshold levels. TMB attacks the new flush and panicles resulting in drying and malformation of infested parts while CSRB bores into the cashew tree root and stem resulting in the death of the plant due to the cessation of supply of food through the phloem tissues (Sahu and Sharma 2008; Navik and Godase, 2019). Further, cashew is grown mainly in waste and degraded lands with low fertility compared to the other fruit crops as earlier it was not considered as the main crop by the farmers. Furthermore, the gaps in the extension of modern cashew production technologies developed at research stations to the farmers have been lagging behind resulting in the poor management of the crop.

To address these issues associated with lower production, the appropriate approaches which include replacement of old senile plantations with high yielding varieties and expansion of cashew area to the prospective nontraditional

cashew growing regions, wastelands, etc., and increasing crop productivity timely transfer of know-how on advanced cashew production technologies viz. planting of quality plant materials, high and ultra-high density planting, integrated nutrient management, integrated management of TMB and CSRB, drip irrigation, canopy management and appropriate soil conservation measures (Saroj and Rupa, 2014).

The government of India has initiated measures to expand the area under cashew cultivation in the country and it has aimed at increasing cashew cultivation area by 1.20 lakh hectares in 13 states by the three years. In the first year, 60,000 ha was targeted mainly in The North-East States such as Tripura and Meghalaya, and few parts of Jharkhand, Chattisgarh, Gujarat, Karnataka, Tamil Nadu, Andhra Pradesh, and Odisha states, Under the RKVY-RAFTAAR program, cashew area expansion has been initiated by GOI and financial support has been given for purchasing quality planting material, demonstration, and dissemination of cashew production technologies and for initial establishment and maintenance.

One of the challenges for area expansion is the supply of quality planting material due to lower multiplication rates of plant graft and moreover it is season dependent. The same challenge is faced for replacement of the old plantations along with an unwillingness of farmers to remove old plantation as in the new establishment, initial financial investment is involved and the regular income from plantation will be ceased for 3-4 years. To meet the demand for the supply of good quality planting material, developing efficient micropropagation method provides the solution. Micropropagation allows rapid multiplication of a huge number of plants from a small quantity of plant material and allows round the year supply of disease-free planting material.

Cashew processing costs form a significant component of the market price of the cashew. Vietnam exports cashew at a much competitive price compared to India as costs of processing are much lesser due to improved mechanization of processing industries (Waring, 2017). Therefore, to compete in the global cashew trade apart from enhancing production and productivity of cashew, improved mechanization of processing is required. Further systematic efforts are needed towards the product value addition and diversification, by-product utilization and post-harvest management of cashew is needed to enhance the income from the cashew cultivation and processing (Saroj and Rupa, 2014).

Due to the growing demand for cashew and its by-products cashew cultivation has attained great economic significance than ever before. At present, economically cashew is the second most important tree nut crop. Over the years, the global cashew production and trade have changed with the entry of new potential players. Cashew not only brings foreign currency but also supports the livelihood of rural communities.

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